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INVENTIONS PATENTED.

NOTE.—Patents are granted for 18 years. The term of years for which the fee has been paid, is given after the date of the patent.

No. 40,809. Machine for Weaving Wire Mattresses.

(Machine pour tisser les sommiers en fil de fer.)

Hard Brothers & Company, assignees of Charles H. Hard, Orrin G. Franks and Albert Edward Loomis, all of Oneida, New York, U.S.A., 2nd November, 1892; 6 years.

Claim. 1st. In combination with the prolonged horizontal fabric supporters adapted to receive between them the wire in process of weaving, a wire coiler in range with the space between said supporters, a vertically reciprocating cutter at the ends of the supporters, a threader arranged to enter the coiled wire into the previously woven wire and a vertically movable arm carrying the threader and connected with the reciprocating cutter to move the threader with the cutter as set forth. 2nd. In combination, with the main supporting frame, the longitudinally grooved rollers disposed horizontally and parallel side by side and connected by gears to rotate in unison, a ratchet wheel on one of said rollers, an arm hung on the journal of the latter roller, a pawl connected to said arm and engaging the aforesaid ratchet wheel, a rotary shaft journaled in the aforesaid supporting frame a cam on said shaft, a lever actuated by said cam, and a pitman connecting said lever with the arm hung on the aforesaid rollers, substantially as described and shown. 3rd. In combination with the main supporting frame, the longitudinally movable frame and fabric supporters mounted on the latter frame and adapted to receive between them the twisted wire in process of weaving as described, a rotary shaft on the supporting frame, an oscillatory arm pivoted to the supporting frame, a cam on said rotary shaft actuating the oscillatory arm, and a lever fulcrumed to the supporting frame and transmitting motion from the said arm to the aforesaid movable frame, substantially as set forth. 4th. In combination with the main supporting frame, longitudinally movable frame, and fabric supporters mounted on the latter frame and adapted to receive between them the wire in process of weaving, a rotary shaft journaled on the main supporting frame, an arm extending from said shaft, a cam projecting from the side of the arm, an oscillatory arm pivoted to the supporting frame and having its free end in the path of said cam, a latch pivoted to said end of the oscillatory arm and also in the path of the cam and operated thereby, stops on the latter arm limiting the movements of the latch and in positions to support the latch so as to cause the cam to engage alternately opposite sides of the latch during the rotation of the aforesaid shaft and thereby push the oscillatory arm toward and from the shaft, and a lever fulcrumed to the supporting frame and transmitting motion from the oscillatory arm to the aforesaid movable frame, substantially as described and shown. 5th. In combination with the main supporting frame, fabric supporters, threader and reciprocating cutter, a rotary shaft journaled in the said supporting frame, a cam on said shaft, a lever pivoted to said frame and having one end in the path of the cam, a lever connected with

the cutter, and a pitman connecting the said two levers as and for the purpose set forth. 6th. In combination with the wire feeding rolls and gear wheels connected thereto, the driving gear wheel formed with a blank segmental portion in its periphery, an arm pivoted concentric with the said driving gear wheel, and having its free end occupying a portion of the aforesaid blank portion of the driving gear wheel, and formed with cogs corresponding to those of the wheel, a spring holding the free end of said arm normally in the advance end of the aforesaid blank portion of the wheel, and an intermediate gear wheel transmitting motion from said driving gear to the gear wheel of the feeding rolls, substantially as and for the purpose set forth. 7th. In combination with the wire feeding rolls and gear wheels connected thereto, the driving gear wheel formed with a blank portion in its periphery, a cogged section detachably connected to one end of the aforesaid blank portion, an arm pivoted concentric with said driving gear wheel and having its free end occupying a portion of the said blank portion of the wheel and formed with cogs corresponding to those of said wheel, a spring holding the free end of said arm normally in the advance end of the blank portion of the wheel, and an intermediate gear wheel transmitting motion from said driving gear to the gear wheel of the feeding rolls, substantially as described and shown. 8th. In combination, with the supporting frame, wire feeding rolls and gear wheels connected to said rolls, the driving gear wheel formed with a blank portion in its periphery, an arm pivoted concentric with the latter wheel and having its free end occupying a portion of the blank portion, and formed with cogs corresponding to those of the wheel, a spring holding the free end of the said arm normally in the advance end of the blank portion, a latch on the wheel adapted to engage the aforesaid arm, and cam on the frame in the path of the latch to actuate the same, substantially as described and shown. 9th. In combination, with the wire feed rolls and the vertical reels, wheels secured horizontally to the axis of the reels and having frictional side faces, a rotary shaft extending diametrically across said wheels, vertically disposed friction wheels secured to said shaft and bearing on the frictional side faces of the horizontal wheels, adjusting screws disposed parallel with the aforesaid rotary shaft, nuts on said screws, and arms extending from said nuts and engaging the hubs of the vertically disposed friction wheels, substantially as and for the purpose set forth. 10th. In combination, with the fabric supporters, reels, wire feed rolls and wire twistors and cutters, the driving pulley mounted loosely on its shaft, a clutch adapted to tie said pulley on its shaft, lever shifting said clutch, a spring operating said levers and thereby holding the clutch in engagement with the driving pulley, a latch operating the levers in opposition to the spring, an armature having a catch adapted to hold the latch in its operative position, electro magnets opposite said armature, an electric battery energizing said magnets, the supporting frame in circuit with said battery, and electrodes extending lengthwise of and in proximity to the weaving space between the aforesaid fabric supports and in the aforesaid circuit, substantially as and for the purpose set forth.

No. 40,810. Process of and Apparatus for the Manufacture of Gas. (Procédé et appareil pour la fabrication du gaz.)

The Acme Liquid Fuel Company, of the City of New York, assignees of James S. Rogers and James H. Baker, both of Saratoga Springs, all in New York State, U.S.A., 2nd November, 1892; 6 years.

Claim. 1st. The method of producing by a fixed gas from hydrocarbons, which consists in heating the hydrocarbons, conveying the heated hydrocarbons in small jets or quantities from the heater and converting it into vapour, and then superheating the vapour, substantially as shown and described. 2nd. The method of producing

a fixed gas from hydrocarbons and steam, which consists in first heating the hydrocarbons, conveying the same in small jets or quantities from the heater and converting it into vapour, and then superheating the vapour, whereby the vapour is converted into a fixed gas by superheating it, and then uniting the fixed gas formed from the steam with that formed from the hydrocarbon, substantially as shown and described. 3rd. The method of producing gas from hydrocarbons and hydrogen, which consists in first heating the hydrocarbons; second, converting the heated hydrocarbons into vapour; third, mingling hydrogen with the vapour of the hydrocarbons, and fourth, superheating the product, substantially as shown and described. 4th. In an apparatus for producing gas from hydrocarbons, the combination with a hydrocarbon heater, of a vaporizer in communication therewith, and a retort in communication with the vaporizer above the bottom thereof, substantially as shown and described. 5th. In an apparatus for producing gas from hydrocarbons, the combination with a hydrocarbon heater, of a vaporizer in communication therewith, a retort in communication with the vaporizer at or near the bottom thereof for carrying away residuum or substances that cannot be vaporized, substantially as shown and described. 6th. In an apparatus for producing gas from hydrocarbons, the combination with a furnace, of a retort located therein, a vaporizer in combination therewith by means of a pipe as 13, and a hydrocarbon supply and heater, also in communication with the vaporizer by means of a small jet pipe, substantially as shown and described. 7th. In an apparatus for producing gas from hydrocarbons, the combination with a retort furnace and retort located therein, of a hydrocarbon supply, a vaporizer having an inner and an outer tube or casing, and an annular space between said tube or casings closed at the top and bottom, the inner tubes or casing being open at the top and bottom, and the annular space being in communication with the hydrocarbon supply and with the retort, substantially as shown and described. 8th. In an apparatus for producing gas from hydrocarbons, the combination, with a retort furnace and hydrocarbon supply, of a vaporizer consisting of an inner and an outer tube or casing, and having an annular space closed at the top and bottom between said tubes or casings, a steam coil within said space, and means for conducting the products of combustion from the furnace through the central tube or casing, substantially as shown and described. 9th. In an apparatus for producing gas from hydrocarbons, the combination, with a retort furnace, of a vaporizer having an inner and an outer tube or casing, and an annular space between said tubes or casings closed at the top and bottom, the inner tube being open at the top and bottom and grooved or corrugated, and provided with projections on its outer surface, and means for conducting the products of combustion from the retort furnace through the inner tube of the vaporizer, substantially as shown and described. 10th. In an apparatus for producing gas from hydrocarbons, the combination, with a furnace, of a vaporizer having an inner and an outer casing, and an annular chamber between said casings, a retort located within the furnace in communication with the annular chamber, and escape flues communicating with the furnace and with the inner casing of the vaporizer, substantially as shown and described. 11th. In an apparatus for producing gas from hydrocarbons, the combination, with a furnace, of a vaporizer having an inner and an outer casing, and an annular chamber between said casings, a retort within the furnace communicating with the annular chamber, escape flues communicating with the furnace and with the inner casing of a vaporizer, substantially as shown and described. 12th. In an apparatus for producing gas from hydrocarbons, the combination, with a furnace, of a vaporizer having an inner and an outer casing, and an annular chamber between said casings, a retort within the furnace communicating with the annular chamber, a steam coil located in said annular chamber and a steam coil within the furnace in communication therewith, substantially as shown and described. 13th. In an apparatus for producing gas from hydrocarbons, the combination, with a furnace, of a vaporizer having an inner and an outer casing, and an annular chamber between said casings, a retort within the furnace communicating with the annular chamber, a steam coil arranged within said chamber in communication with a steam coil within the retort furnace, and means for conducting the products of combustion from the retort furnace through the central casing of the vaporizer, substantially as shown and described. 14th. In an apparatus for producing gas from hydrocarbons, the combination, with a furnace, of a vaporizer consisting of an inner and an outer tube, and having an annular chamber between said tubes, a steam coil arranged within said chamber, a hydrocarbon supply and heater communicating with said chamber, a retort within the furnace and communicating with the steam coil within the annular chamber of the vaporizer, and means for conducting the hot gases of combustion through the central tube of the vaporizer, substantially as shown and described. 15th. In an apparatus for producing gas from hydrocarbons, the combination, with a furnace having a retort located therein, of a vaporizer having a steam coil located therein, and a hydrocarbon supply and heater communicating with the vaporizer, the vaporizer being located outside of the furnace and in communication with the retort, the construction being such that the hydrocarbon is admitted to the vaporizer in small jets or quantities, substantially as shown and described. 16th. In an apparatus for producing gas from hydrocarbons, the combination, with a furnace, of a vaporizer having a steam coil arranged therein in communication with a steam coil arranged within the furnace, also

in communication with the vaporizer, and a hydrocarbon supply and heater in communication with the vaporizer, substantially as shown and described. 17th. In an apparatus for producing gas from hydrocarbons, the combination, with a furnace and retort, of a vaporizer consisting of an inner and an outer casing and having an annular chamber between said casings in communication with the retort, a steam coil located in said chamber, and a hydrocarbon supply and a heater communicating with said annular chamber, substantially as shown and described. 18th. In an apparatus for producing gas from hydrocarbons, the combination, with a retort, consisting of a U-shaped pipe, of a series of vaporizers in communication with one branch of the retort, another vaporizer consisting of an inner and an outer tube or casing forming an annular chamber also in communication with the same branch of the retort, and means for connecting the retort with the inner tube or casing of the last mentioned vaporizer, substantially as shown and described. 19th. In an apparatus for producing gas from hydrocarbons, the combination of two or more vaporizers, one of which consists of an inner and an outer tube or casing, forming an annular chamber, a gas retort in communication with said vaporizers, and means for conducting the heated gases from the retort through the inner tube or casing of one of said vaporizers, whereby the heated gases from the retort are caused to assist in the process of vaporization, substantially as shown and described. 20th. In an apparatus for producing gas from hydrocarbons, the combination of two or more vaporizers, one of which consists of an inner and an outer tube or casing, forming an annular chamber between said tubes of casings, a steam coil arranged in said annular chamber, a gas retort in communication with each of said vaporizers, and means for conducting the heated gases from the retort through the inner tube of the vaporizer having the inner and the outer tube or casing, substantially as shown and described. 21st. In an apparatus for producing gas from hydrocarbons, the combination with a vaporizer consisting of an inner and an outer tube or casing, and an annular chamber between the same, of a gas retort having a series of branches, one of which is in communication with the annular chamber of the vaporizer, and one of which is in communication with the inner tube or casing, substantially as shown and described. 22nd. In an apparatus for producing gas from hydrocarbons, the combination with a furnace, of a series of vaporizers provided with steam coils, in communication with steam coils arranged within the furnace, a retort within the furnace, and means for conducting the heated gases from the retort through one of said vaporizers, substantially as shown and described. 23rd. In an apparatus for producing gas from hydrocarbons, the combination with a furnace, of a series of vaporizers consisting of an inner and an outer tube or casing, and an annular chamber between the same, steam coils arranged within the furnace, a gas retort in communication with the annular chamber in each of said vaporizers, and means for conducting the heated gases from the retort through the inner tube or casing of one of said vaporizers, substantially as shown and described. 24th. In an apparatus for producing gas from hydrocarbons, the combination with a furnace, of a series of vaporizers each of which is provided with a steam coil, in communication with a steam coil or coils arranged within the furnace, and a retort within the furnace in communication with each of the vaporizers, substantially as shown and described. 25th. In an apparatus for producing gas from hydrocarbons, the combination with a retort furnace of a series of vaporizers each of which is provided with a steam coil in communication with a steam coil or coils within the furnace in communication with each of said vaporizers, and means for conducting the products of combustion from the furnace through one or more of said vaporizers, substantially as shown and described. 26th. In an apparatus for producing gas from hydrocarbons, the combination with a furnace and retort located therein of a series of vaporizers, each of which is in communication with the retort, one or more of said vaporizers being provided with a steam coil in communication with a steam coil arranged within the furnace, and means for conducting the heated gases from the retort through one of said vaporizers, whereby said heated gases are caused to assist the steam in the process of vaporization, substantially as shown and described. 27th. In an apparatus for producing gas from hydrocarbons, the combination with a retort furnace, of a series of vaporizers provided with steam coils arranged therein in communication with steam coils arranged within the furnace, each of said vaporizers being in communication with the gas retort located within the furnace flues or passages by which the products of combustion are conducted from the furnace through one or more of said vaporizers, and means for conducting the heated gases from the retort through one of said vaporizers, whereby the products of combustion and the hot gas from the retort are each caused to assist the steam in the process of vaporization, substantially as shown and described. 28th. In an apparatus for producing gas from hydrocarbons, the combination with a furnace, of a vaporizer, a retort within the furnace in communication therewith, in which the vapour is superheated, a steam supply, and means for superheating the steam and a pipe, as 24, in communication therewith for conducting the superheated steam into the gas retort, and mingling the same with the superheated gas formed from the hydrocarbons, substantially as shown and described. 29th. In an apparatus for producing gas from hydrocarbons, the combination, with a furnace, of a retort located therein, a vaporizer in communication therewith by means of a pipe, as 13, and a hydrocarbon supply and heater in communication with the vaporizer by means of

a small jet pipe, the vapour being superheated and reduced to a fixed gas within the retort, a steam supply and superheater in which the steam is reduced to a fixed gas, and means for mingling the fixed gas formed from the steam with that formed from the hydrocarbons, substantially as shown and described. 30th. In an apparatus for producing gas from hydrocarbons, the combination, with a furnace, of a vaporizer, a heater in communication therewith, a retort within the furnace consisting of a series of pipes, one of which is in communication with the vaporizer, and a steam supply and superheater in communication with one pipe of said retort by means of a pipe, as 24, substantially as shown and described. 31st. In an apparatus for producing gas from hydrocarbons, the combination, with a furnace, of a retort, a vaporizer in communication therewith, the retort being provided with an inner inclosed tube, as 23, an annular space closed at one end being formed between the walls of the retort and said tube, and a superheated steam supply pipe communicating with said annular space, substantially as shown and described. 32nd. In an apparatus for producing gas from hydrocarbons, a retort consisting of two or more pipes, one of which is provided with diaphragms or plates, as 21, and the other with a tube, as 23, forming an annular space within the retort closed at one end, and a superheated steam supply pipe, as 24, communicating with said annular space, substantially as shown and described. 33rd. In an apparatus for producing gas from hydrocarbons, the combination, with a furnace, of a retort arranged therein, a vaporizer outside of said furnace and in communication with the retort, the furnace being provided with a central longitudinal opening or chamber G, H, and flues or passages in communication therewith and with the vaporizer, whereby the escaping products of combustion are conducted through the vaporizer, substantially as shown and described. 34th. In an apparatus for producing gas from hydrocarbons, the combination of a furnace and vaporizer, the furnace having the longitudinal opening or chamber G, H, the flues 26, in communication with the chamber G, H, the flues 27 in communication with the flues 26, and the flues 29, in communication with the flues 27, the flues 27, being also in communication with the vaporizer, substantially as shown and described. 35th. In an apparatus for producing gas from hydrocarbons, a furnace having the central longitudinal opening or chamber G, H, the flues 26, in communication therewith, the flues 27, in communication with flues 26, and the flues 29, in communication with the flues 27, in combination with a retort and vaporizer, and means for conveying the products of combustion through the vaporizer, substantially as shown and described. 36th. In an apparatus for producing gas from hydrocarbons, a retort furnace having the central longitudinal opening or chamber G, H, the diving flues 26, communicating with said chamber G, H, the flues 27, communicating with said flues 26, and extending backward, downward and forward, and the flues 29, communicating with each end of flues 27, substantially as shown and described. 37th. In an apparatus for producing gas from hydrocarbons, a retort furnace provided with the central longitudinal chamber G, H, the diving flues 26, communicating with the top of said chamber, the flues 27, extending backward, downward and forward, and in communication with the flues 26th, the flues 29, in communication with the flues 27, and the hot air chambers or flues 32 extending backward, downward and forward, in communication with the chamber G, H, by means of the passages 34, substantially as shown and described. 38th. A vaporizer consisting of an inner and an outer tube or casing, an annular space closed at the top and bottom between said tubes or casings, the inner tube being grooved and provided with a steam coil, substantially as shown and described. 39th. In an apparatus for producing gas from hydrocarbons, the combination of a vaporizer, a gas retort consisting of two or more tubes, one of which is in communication with the vaporizer, and a second vaporizer consisting of an inner and outer casing forming an annular chamber, also in communication with the said tube of the retort, the inner casing being open at both ends, and a pipe or pipes forming a communication between another tube of the retort, and the said central casing of the vaporizer, substantially as shown and described. 40th. In an apparatus for producing gas from hydrocarbons, the combination of a vaporizer having an inner and an outer tube or casing, a gas retort, one end of which is in communication with the space between said casings and a pipe or pipes connecting the other end of the retort with the central tube or casing of the vaporizer, whereby the heated gases from the retort are caused to assist in the process of vaporization, substantially as shown and described. 41st. In an apparatus for producing gas from hydrocarbon, the combination of a vaporizer, and the retort consisting of the pipes or branches C, D, one of which is in communication therein, the other branch of the retort being provided with an inclosed tube, as 23, one end of which is enlarged or flanged so as to fit tightly the inner wall of the retort, and a superheated steam pipe in communication with the annular space between the walls of the retort and the inner tube 23, substantially as shown and described. 42nd. The combination, in an apparatus for producing gas from hydrocarbons, of a hydrocarbon heater in communication with a hydrocarbon supply, a vaporizer in communication with the heater by means of a pipe, a hydrogen box or receptacle in communication with a hydrogen supply and with the vaporizer by means of pipes, and a retort also in communication with the vaporizer above the bottom thereof, substantially as shown and described. 43rd. The combination, in an apparatus for producing gas from hydrocarbons, of a hydrocarbon heater in communication with a

hydrocarbon supply, a vaporizer in communication with the heater, a hydrogen box or receptacle in communication with a hydrogen supply, with the vaporizer and with a seal, and a retort also in communication with the vaporizer above the bottom thereof, the construction being such that the residuum, or substances that cannot be vaporized, is discharged from the vaporizer through the hydrogen box, substantially as shown and described. 44th. In an apparatus for producing gas from hydrocarbons, the combination, with a hydrocarbon vaporizer and means for supplying hydrocarbons thereto, of a hydrogen box or receptacle in communication therewith, and with a hydrogen supply, and provided with a steam coil located therein, substantially as shown and described. 45th. The combination, in an apparatus for producing gas from hydrocarbons, of a hydrocarbon vaporizer in communication with a hydrocarbon supply, a hydrogen box or receptacle in communication therewith, and with a hydrogen supply, the hydrogen box or receptacle being also provided with a steam coil located therein, communication with a steam supply, the hydrogen supply being in communication with a perforated tube or pipe located within the box or receptacle, substantially as shown and described. 46th. The combination, with the vaporizer B, of the hydrogen supply receptacle in communication therewith, provided with a pipe 42, in communication with the receptacle near the bottom thereof, and with a seal 43, and the pipe 44, in communication with the receptacle near the top thereof, and with the pipe 52, substantially as shown and described. 47th. The combination with the hydrocarbon vaporizer B, in communication with a hydrocarbon supply, of a hydrogen box or receptacle in communication therewith near the bottom thereof, and also in communication with a hydrogen supply, a seal connected with the receptacle by means of a pipe which communicates therewith near the bottom thereof, and with a pipe which communicates therewith near the top thereof, substantially as shown and described. 48th. The combination with a vaporizer B, of a hydrogen receptacle, as 35, in communication therewith, the receptacle being provided with a steam supply 49, and with a discharge pipe 42, substantially as shown and described. 49th. In an apparatus for producing gas from hydrocarbons, the combination with a series of vaporizers in communication with a hydrocarbon supply, of a hydrogen supply, and a seal in communication with the hydrogen receptacle by means of communicating pipes, one of which communicates with said receptacle at or near the bottom thereof, substantially as shown and described. 50th. In an apparatus for producing gas from hydrocarbons, the combination with a series of vaporizers each of which is in communication with a hydrocarbon supply, of a hydrogen receptacle in communication with a hydrogen supply and with each of the vaporizers, near the bottom thereof, and a seal in communication with the hydrogen box or receptacle, and the receptacle being also provided with means whereby the residuum or substances that cannot be evaporized are discharged from the vaporizer through the hydrogen box or receptacle into the seal, substantially as shown and described.

No. 40,811. Apparatus for Assisting Parturition.

(Appareil pour aider la parturition.)

Peter McCahey, Philadelphia, Pennsylvania, U.S.A., 2nd November, 1892; 6 years.

Claim.—1st. The hereinbefore described method of assisting parturition, which consists in applying to the head or other desired part of the child a cup, exhausting the air in said cup and moving the child by operating said cup. 2nd. In an apparatus for assisting parturition, in combination, a cup or similar receptacle having a yielding edge, and means, substantially as described, for exhausting the air from said cup. 3rd. In an apparatus for assisting parturition, in combination, a cup or similar receptacle formed of a yielding substance, and means, substantially as described, to exhaust the air from said cup. 4th. In an apparatus for assisting parturition, in combination, a cup or similar receptacle formed of rubber, and means, substantially as described, to exhaust the air from said cup. 5th. In an apparatus for assisting parturition, in combination, a cup or similar receptacle formed of a yielding substance, and means, substantially as described, to exhaust the air from said cup, and a handle secured to said cup. 6th. In an apparatus for assisting parturition, in combination, a cup or similar receptacle having a yielding edge, means, substantially as described, for exhausting the air from said cup, and a handle secured to said cup. 7th. In an apparatus for assisting parturition, in combination, a cup or similar receptacle formed of rubber, means, substantially as described, to exhaust the air from said cup, and a handle secured to said cup. 8th. In an apparatus for assisting parturition, in combination, a cup or similar receptacle formed of a yielding substance, means, substantially as described, to exhaust the air from said cup, a handle secured to said cup and an orifice through said handle. 9th. In an apparatus for assisting parturition, in combination, a cup or similar receptacle having a yielding edge, means, substantially as described, for exhausting the air from said cup and a handle secured to said cup and an orifice through said handle. 10th. In an apparatus for assisting parturition, in combination, a cup or similar receptacle formed of rubber, means, substantially as described, to exhaust the air from said cup, a handle secured to said cup and an orifice through said handle. 11th. In an apparatus for assisting parturition, in combination, a cup or similar receptacle having a yielding edge, and means, substantially as described, for exhausting the air from said cup and a plunger connected with said cup. 12th. In an apparatus for

assisting parturition, in combination, a cup or similar receptacle formed of a yielding substance, and means, substantially as described, to exhaust the air from said cup and a plunger connected with said cup. 13th. In an apparatus for assisting parturition, in combination, a cup or similar receptacle formed of rubber, and means, substantially as described, to exhaust the air from said cup and a plunger connected with said cup. 14th. In an apparatus for assisting parturition, a cup or similar receptacle formed of a flexible material and provided with a broad concave base or lower edge. 15th. In an apparatus for assisting parturition, a cup or similar receptacle formed of rubber and provided with a plunger and a broad concave base or lower edge, substantially as described. 16th. In an apparatus for assisting parturition, a cup or similar receptacle formed of a flexible material and provided with a broad concave base or lower edge, the sides of said cup decreasing in thickness from said base, and provided with a plunger extending into said cup. 17th. In an apparatus for assisting parturition, a concave rubber disc provided with a plunger. 18th. A concave rubber disc, the wall of said disc decreasing in thickness from the base, said disc being provided with a plunger. 19th. In combination, a cup or similar receptacle provided at its lower edge with flaps of a yielding substance and a plunger adapted to force the air from said cup. 20th. In an apparatus for assisting parturition, in combination, a cup or similar receptacle formed of a rigid substance, flaps formed of a yielding substance secured to the bottom of said cup, an opening in the top of said cup, and means, substantially as described, to exhaust the air in said cup. 21st. In an apparatus for assisting parturition, in combination, a cup or similar receptacle formed of a rigid substance, flaps of rubber secured to the bottom of said cup, an opening in the top of said cup, and means, substantially as described, to exhaust the air in said cup.

No. 40,812. Brake. (*Frein.*)

Christopher Columbus Reynolds, Henry William Hooton and Matilda Matsey Mercy Busby, all of Salt Lake City, Utah, U. S. A., 2nd November, 1892; 6 years.

Claim.—1st. In a brake, the combination of the vehicle tongue C, the rod D, having the bifurcated forward end *d*, brake beam B, carrying shoes B¹, B¹, the diagonal rods F F pivoted to the rod D and likewise to the brake beam and the beam supports J J bolted to the vehicle axle, said supports being provided with nuts located on each side of the axle whereby the supports may be adjusted to compensate for wear on the brake shoe, substantially as described. 2nd. In a brake, the combination of the hollow vehicle tongue C, the rod D enclosed within the same and having a bifurcated forward end *d*, the brake beam B carrying shoes B¹, B¹, the diagonal rods F F pivoted to the rod D and likewise to the brake beam, the beam supports J J bolted to the vehicle axle, said supports being provided with nuts located on each side of the axle whereby the supports may be adjusted to compensate for wear on the brake shoes, the pivoted lever G, the connecting rod H, pivoted thereto, the part I fastened to the brake beam together with the locking devices with which the lever G is provided. 3rd. In a brake, the following parts in combination: the hollow tongue C, the rod D enclosed within the same and having a bifurcated forward end *d*, the brake beam B carrying shoes B¹, B¹, the diagonal rods F F pivoted to the rod D and likewise to the brake beam, the beam supports J J bolted to the vehicle axle, said supports being provided with nuts, located on each side of the axle, the pivoted operating lever G for the brake beam, provided with locking devices, the connecting rod H pivoted thereto, the part I, the supplemental lever G¹ secured to the upper end of the lever G, and the cord *i* connected to the locking devices of said lever G, substantially as described.

No. 40,813. Door for Elevators.

(*Porte pour Elevateurs.*)

William E. Marlett, La Salle, Illinois, U. S. A., 2nd November, 1892; 6 years.

Claim.—1st. The combination with doors for elevator shafts such doors provided with cogs of an elevator cage provided with racks and gearing intermediate the doors and cage whereby the former are operated by the latter as set forth. 2nd. The combination with doors for elevator shafts such doors provided with cogs arranged in the arc of a circle of an elevator cage provided with racks and gearing intermediate the doors and cage whereby the former are operated by the latter as set forth. 3rd. The combination with doors for elevator shafts carrying quadrant shaped frames provided with cogs of a shaft formed with a screw an elevator cage provided with a rack and gearing intermediate the cage and shaft whereby the latter is operated by the former as set forth. 4th. The combination, with a shaft formed with a screw pinions mounted upon the ends of the shaft pinions meshing therewith and cogs of a cage provided with a rack to engage the cogs and doors carrying quadrant shaped frame provided with cogs to engage the screw as set forth.

No. 40,814. Apparatus for Distilling Oils.

(*Appareil pour la distillation des huiles.*)

Evan Alfred Edwards, Toledo, Ohio, U. S. A., 2nd November, 1892; 6 years.

Claim. 1st. In an apparatus for distilling oil, the combination, with a suitable receptacle, of a series of vaporizers arranged in the

same, a steam and an oil supply pipe connecting therewith at one end, and a series of condensing traps connected therewith at the opposite end. 2nd. In an apparatus for distilling oil, the combination, with a flue boiler, of a series of vaporizers arranged in the flues of the same, an injector having an air inlet carried by one end of the said vaporizers and connecting with a steam and oil supply pipe, a series of condensing traps, and a tortuous duct connecting the vaporizers and condensing traps. 3rd. In an apparatus for distilling oil, the combination, with a flue boiler, of a series of vaporizers arranged in the flue of the same, a supply tank, a cistern, means for forcing the water from the cistern to the tank, a pipe connecting the vaporizers and supply tank, and a series of condensing traps connected with the vaporizers. 4th. In an apparatus for distilling oil, the combination, with a flue boiler, of a series of vaporizers arranged in the flues of the same, a steam and an oil supply pipe connecting therewith at one end, a series of condensing traps connecting therewith at the opposite end, a burner, and a pipe connecting the connecting the condensing traps and burner.

No. 40,815. Tailors' Stove. (*Poêle de tailleur.*)

Albert Lundstrom, New Glasgow, Pictou, Nova Scotia, Canada, 2nd November, 1892; 6 years.

Claim.—1st. A tailors' stove consisting of two sheet iron boxes placed one within the other, having a cool air space between them, substantially as and for the purposes hereinbefore set forth. 2nd. A tailors' stove consisting of two sheet iron boxes placed one within the other, having a cool air space between them, each box having a hinged cover, and the outer box having air inlets *d, d, d*, the inner box having a perforated iron bottom *g*, resting the bricks *a, a*, and an iron bar, the inner box having a row of brick *b, b*, resting on the inside of the bottom on which the tailors' irons are placed for heating, substantially as and for the purpose hereinbefore set forth. 3rd. In a tailors' stove, the combination of two sheet iron boxes, one within the other, having a cool air space all around the ends back and front, and an air space between the covers of said boxes, each box having a hinged cover, the outer box having air inlets, a smoke hole, a space in front for the ash pan, an ash pan, bricks and an iron bar upon which rests the inner box, the inner box having a perforated iron bottom, a smoke hole; a row of bricks resting on the inside of the bottom of the inner box upon which the tailors' irons are placed, substantially as and for the purposes hereinbefore set forth. 4th. A tailors' stove, comprising in its make up and having in combination the following parts, two sheet iron boxes, one within the other, having a cool air space all around the ends, back and front, and an air space between the covers of said boxes, each box having a hinged cover, the outer box having air inlets, a smoke hole, a space in front for the ash pan, an ash pan, bricks, and an iron bar upon which rests the inner box, the inner box having a perforated iron bottom, a smoke hole, a row of bricks resting on the inside of the bottom of inner box, upon which the tailors' irons are placed, substantially as and for the purposes hereinbefore set forth.

No. 40,816. Machine for Changing Money.

(*Appareil pour changer la monnaie.*)

Samuel J. Taylor, St. Thomas, North Dakota, U. S. A., 2nd November, 1892; 6 years.

Claim.—1st. The combination, in a device of the class described, of a frame having side pieces 2, with cross bars, top and floor therefor, slots 9 arranged in the said side pieces, key rods, and the removable notched guide plates arranged in sections and adapted to be held in the slots of said frame, substantially as described. 2nd. The combination, in a device of the class described, of a supporting frame having high sides 2, with cross and brace bars therefor, the top 25¹, having guide ribs 25, the key and key rods, guide plates 10 and 12 notched to receive said rods, said plates being removably secured in said frame, the levers 14 having their upper ends confined by said guide ribs 25, lugs 13 in connection with said key rods and adapted to engage said levers, coin receptacles arranged beneath said keys, slides 19 arranged directly beneath the several compartments thereof, adjustable links connecting the lower ends of said levers 14, and said slides 19, and a grooved floor 50 wherein said slides are adapted to operate, substantially as described. 3rd. The combination, in a device of the class described, of levers 14 with coin receptacles having ejecting slides 19 adapted to be operated by said levers, guides 25 for the upper ends of said levers, keys B, arranged in the upper part of the machine, key rods 8, lugs 13 arranged in connection therewith, and adapted to engage said levers 14, the frame sides and the notched sections 10 arranged in the front and back of the frame and adapted to support said key rods, substantially as described. 4th. The combination, in a device of the class described, of the frame with the notched sections 10 and 12 arranged in the front and back of the same, the key rods 8 having a rectangular cross section and held in the notches or openings 11 of said sections, keys B on the forward ends of said rods, coin receptacle slides 19 therefor, levers 14 linked thereto and extending up between said key rods, the lugs 13 formed upon said keys, the reach connections 15, said keys and rods being arranged in inclined banks as described, whereby space is economized, substantially as described. 5th. The combination, in a device of the class described, of the key rods and keys arranged thereon, with longitudinal guides for said rods, levers 14 adapted to be operated by the movement of said keys,

and means for holding said keys in the forward position, said keys being one hundred in number and in a group numbering (10) ten on a side, the arrangement being such that the last figures of the numbers on any given bank of keys are the same, whereby an index of position is established, substantially as described. 6th. The combination, in a device of the class described, of a supporting frame with keys, and rectangular key rods, guides therefor, in the sectional front and rear plates, levers 14, lugs arranged on said rods and adapted to engage said levers, reaches 15, springs 27 extending between the frame and said levers 14, slides 19 and adjustable links 20 connected therewith, and with the lower ends of said levers 14, as and for the purpose specified. 7th. The combination, in a device of the class described, of levers 14, pivoted on the shaft 16, coin receptacles 39, having their lower ends in the same plane, means for distributing coins to said receptacles, the solid floor 50, having openings 51, coincident with those of the receptacles, grooves in said floor, and slides 45, having openings 47, means for drawing the same forward, springs 52, and slides 19, having holes normally coincident with said receptacles, said slides 19, arranged upon the slides 45, and linked to said levers, substantially as described. 8th. The combination, in a device of the class described, of the frame made up of the side pieces 2, and cross portions 3, 4, 5 and 6, and the solid top 25, and floor 50, with levers 14, pivoted on the shaft 16, guides 25, coin receptacles and coin assorts in connection therewith, the slides 19 and 45, adjustable links 20, springs 52, openings 51 in said floor 50, and a discharge pan or chute 49, substantially as described. 9th. The combination, in a device of the class described, of coin receptacles 29, the coin chute having openings 31, in its lower portion and arranged above said receptacles, the ridge 33, and a slot or opening 36 therein, substantially as described. 10th. The combination, in a device of the class described, of receptacles 29, arranged integrally, the chute floor 32, having openings 31, of varied widths, the ridge 33, the tops of the receptacles and the partitions and bracket portions 38, depending from said floor pieces 32, and adapted to rest upon the receptacle tops, substantially as described. 11th. The combination, in a device of the class described, with receptacles 29, adapted to receive different sized coins, with the coin chute 32, having openings 31, said chute being slanted or inclined as described, partitions and brackets 38, said chute secured upon the tops of said receptacles, the upper and rear walls of the receptacles being cut down to form shoulders 39, and lugs 40, arranged upon the inner walls of said receptacles, substantially as described. 12th. The combination, in a device of the class described, of the receptacles, with the coin assorts or chute arranged above the same, shoulders 39, lugs 40, and a chute 43, substantially as described. 13th. The combination, in a device of the class described, of the coin assorts or chute having openings 31, and the ridge 33, and the coin cup arranged upon the upper ends of said coin chute, the walls 70, 71, 72 and 73, being arranged in the angles described, and the slot 74, provided in the walls 73, substantially as described. 14th. The combination, in a device of the class described, of the frame 2, with the keys and key rods, guide sections 10 and 12, notched to receive said ends, and arranged in the front and rear of said frame, shoulders 14, guides 25 therefor, lugs on said rods adapted to engage said levers, springs 27, coin receptacles, and coin chute having openings 31, the ridge 33, the top for said chute, the coin cup 30, the perforated floor 50, slides 19 and 40, arranged in grooves therein and having openings 47 and 48 respectively, said slides 19 adjustably linked to said levers 14, a chute or pan 49, registering devices and levers 64, connected therewith and adapted to be operated when the coin or coins are ejected from beneath said receptacles, substantially as described. 15. The combination, in a device of the class described, with the slides 2, of the removable and interchangeable sections 10 and 12, arranged in vertical slides therein, key rods 8 of a rectangular form arranged in horizontal notches or openings in said sections, shoulder thereon adapted to engage the same, levers 14, lugs 13, rods 15, and the rod 28 adapted to support the lower tier or bank of lugs and reaches, said key rods being arranged in inclined banks, substantially as described. 16th. In a device of the class described, receptacles 29 formed integrally, and having graduated glass faces through which the coins within the same may be observed, substantially as described. 17th. The combination, in a device of the class described, of the receptacle 29 with vertical slots arranged in the faces thereof, and a plate of glass arranged to close the same, and secured upon said receptacles, substantially as described. 18th. A coin receptacle for a device of the class described, formed entirely of transparent glass and having graduations upon its face, as described. 19th. The combination, in a device of the class described, of key and key rods, with levers 14, lugs on said rods adapted to engage the same, the floor 50, the slides 19, 19', and 45 arranged in grooves in said floor and beneath the lower ends of the said receptacle, said slide 19, 19', adapted to be operated by the movement of said levers 14, and said slides 45, to be operated by hand. 20th. In a device of the class described, the combination, with the series of coin receptacles, and the slides for removing the coins therefrom, of a series of registering wheels provided with operating levers arranged to be engaged by the coins as they are moved out of said receptacles, substantially as described. 21st. The combination, in a device of the class described, of a series of coin receptacles, with slides 19 arranged beneath the same as described, the registering wheels 60, and the levers 64, having pawls engaging the ratchets on said wheels, said levers 64 extending down before the receptacles and engaging said slides, and the coins therein when the

same is operated, substantially as described. 22nd. The combination, in a device of the class described, of a coin receptacle with two or more slides arranged in connection therewith, registering wheel, ratchets thereon and an operating lever 64 extending from each slide and having a pawl engaging a ratchet on said wheel, substantially as described.

No. 40,817. Machine for Bushing Mortises.

(Machine pour garnir les mortaises.)

Franklin H. Wright, Toronto, Ontario, Canada, 2nd November, 1892; 6 years.

Claim.—1st. In a machine for bushing mortises, the combination, of intermittent mechanism for feeding felt into the mortises and a conductor for delivering steam upon the said felt, substantially as shown and described. 2nd. In a machine for bushing mortises, the combination, of intermittent mechanism for feeding a felt strip into a mortise, and reciprocating mechanism for thereafter cutting from said strip the portion in said mortise, substantially as shown and described. 3rd. In a machine for bushing mortises, the combination, of intermittent mechanism for feeding a felt strip into a mortise, a conductor for delivering steam upon said felt, and reciprocating mechanism for cutting from said strip the portion in said mortise, substantially as shown and described. 4th. In a machine for bushing mortises, the combination, of intermittent mechanism for feeding a strip of felt into a mortise, and a valved conductor suitably timed for delivering steam upon the said felt after it has entered the mortise, substantially as shown and described. 5th. In a machine for bushing mortises, the combination, of intermittent mechanism for feeding a strip of felt into a mortise and a valved conductor suitably timed for delivering steam upon the said felt after it has entered the mortise, and reciprocating mechanism suitably timed for thereafter cutting from said strip the portion in said mortise, substantially as shown and described. 6th. In a machine for bushing mortises, the combination, of intermittent mechanism for feeding felt into a mortise and reciprocating mechanism for pressing said felt against the wall of the mortise, substantially as shown and described. 7th. In a machine for bushing mortises, the combination, of intermittent mechanism for feeding a strip of felt into a mortise, and reciprocating mechanism for cutting from said strip the portion in said mortise and pressing said portion against the walls of said mortise, substantially as shown and described. 8th. In a machine for bushing mortises, the combination, of intermittent mechanism for feeding felt into a mortise, a conductor for delivering steam upon the said felt, and reciprocating mechanism for pressing the said felt against the walls of the mortise, substantially as shown and described. 9th. In a machine for bushing mortises, the combination, of intermittent mechanism for feeding a felt strip into a mortise, conductor for delivering steam upon the said felt strip, and reciprocating mechanism for cutting from said strip the portion in said mortise and pressing said portion against the walls of said mortise, substantially as shown and described. 10th. In a machine for bushing mortises, the combination, of intermittent mechanism for feeding felt into the mortises, and a conductor for delivering steam upon the said felt, and a centering pin for centering said mortises, substantially as shown and described. 11th. In a machine for bushing mortises, the combination, of intermittent mechanism for feeding a felt strip into a mortise, and reciprocating mechanism for thereafter cutting from said strip the portion in said mortise, and a centering pin for centering said mortise, substantially as shown and described. 12th. In a machine for bushing mortises, the combination, of intermittent mechanism for feeding a felt strip into a mortise, a conductor for delivering steam upon the said felt after it has entered the mortise, and a centering pin for centering said mortise, substantially as shown and described. 13th. In a machine for bushing mortises, the combination, of intermittent mechanism for feeding a felt strip into a mortise, and a conductor suitably timed for delivering steam upon the said felt after it has entered the mortise, and a centering pin for centering said mortise, substantially as shown and described. 14th. In a machine for bushing mortises, the combination, of intermittent mechanism for feeding a strip of felt into a mortise and a conductor suitably timed for delivering steam upon the said felt after it has entered the mortise, and reciprocating mechanism for thereafter cutting from said strip the portion in said mortise, and a centering pin for centering said mortise, substantially as shown and described. 15th. In a machine for bushing mortises, the combination, of intermittent mechanism for feeding felt into a mortise and reciprocating mechanism for pressing said felt against the walls of the mortise, and a centering pin for centering said mortise, substantially as shown and described. 16th. In a machine for bushing mortises, the combination, of intermittent mechanism for feeding a felt strip into a mortise, and reciprocating mechanism, for cutting from said strip the portion in said mortise and pressing said portion against the walls of said mortise, and a centering pin for centering said mortise substantially as shown and described. 17th. In a machine for bushing mortises, the combination, of intermittent mechanism for feeding felt into a mortise, a conductor for delivering steam upon the said felt, reciprocating mechanism for pressing the said felt against the walls of the mortise, and a centering pin for centering said mortise, substantially as shown and described. 18th. In a machine for bushing mortises, the combination, of intermittent mechanism for feeding a

felt strip into a mortise, a conductor for delivering steam upon the said felt strip, reciprocating mechanism for cutting from said strip the portion in said mortise and pressing said portion against the walls of said mortise, and a centering pin for centering said mortise, substantially as shown and described. 19th. In a machine for bushing mortises, the combination of duplex intermittent mechanism for feeding felt into a mortise, and a conductor for delivering steam upon the said felt, substantially as shown and described. 20th. In a machine for bushing mortises, the combination of duplex intermittent mechanism for feeding the ends of felt strips into a mortise, and reciprocating mechanism for cutting from said strip the portions thereof, in said mortise, substantially as shown and described. 21st. In a machine for bushing mortises, the combination of duplex mechanism for feeding the ends of felt strips into a mortise, and a reciprocating plug for entering said mortise, between said strips to press the latter against the walls of said mortise, substantially as shown and described. 22nd. In a machine for bushing mortises, the combination with means for feeding felt into a mortise, of an inclined bed for supporting the article containing the mortise and an inclined nozzle having a steam outlet at its higher end and a water outlet at its lower end, substantially as shown and described. 23rd. In a machine for bushing mortises, the combination with means for feeding felt into a mortise, of an inclined bed for supporting the article containing the mortise and an inclined nozzle having a steam outlet at its higher end and a water outlet at its lower end, and means for centering said mortise, substantially as shown and described. 24th. In a machine for bushing mortises, the combination of the inclined bed A, arched arm A¹ rising from said bed, the felt feeding mechanism supported by said arm, and the inclined double ended steam nozzle arranged with its higher end directed toward the position of the mortise to be bushed, substantially as shown and described. 25th. In a machine for bushing mortises, the combination of the inclined bed A, arched arm A¹ rising from said bed, the felt feeding mechanism supported by said arm, and the inclined double ended steam nozzle arranged with its higher end directed toward the position of the mortise to be bushed, and means for centering said mortises, substantially as shown and described. 26th. In a machine for bushing mortises, the combination of the inclined bed A, arched arm A¹ rising from said bed, the felt feeding mechanism supported by said arm, and the inclined double ended steam nozzle arranged with its higher end directed toward the position of the mortise to be bushed, and a centering pin for entering the lower end of said mortise, substantially as shown and described. 27th. In a machine for bushing mortises, the combination of the inclined bed A, arched arm A¹ rising from said bed, the felt feeding mechanism supported by said arm, and the inclined double ended steam nozzle arranged with its higher end directed toward the position of the mortise to be bushed, and a reciprocating centering pin, substantially as shown and described. 28th. In a machine for bushing mortises, the combination, with a suitable support for the article containing the mortise, of feeding mechanism containing guides and feed wheels for intermittently moving the strips of felt along said guides into the mortises, substantially as shown and described. 29th. In a machine for bushing mortises, the combination of means for supporting the article containing the mortises, a driving shaft and intermittent felt feeding mechanism suitably connected with said driving shaft, substantially as shown and described. 30th. In a machine for bushing mortises, the combination of means for supporting the article containing the mortises, a driving shaft and intermittent felt feeding mechanism suitably connected with said driving shaft, and a plunger arranged to follow said felt and also suitably connected with said driving shaft, substantially as shown and described. 31st. In a machine for bushing mortises, means for supporting the article containing the mortises, a driving shaft, intermittent felt feeding mechanism suitably connected with said driving shaft, and a reciprocating centering pin also suitably connected with said driving shaft, substantially as shown and described. 32nd. In a machine for bushing mortises, means for supporting the article containing the mortises, a driving shaft, intermittent felt feeding mechanism suitably connected with said driving shaft, and a reciprocating centering pin also suitably connected with said driving shaft, and a plunger arranged to follow said felt and also suitably connected with said driving shaft, substantially as shown and described. 33rd. In a machine for bushing mortises, the combination, of means for supporting the article containing the mortises, a driving shaft, intermittent felt feeding mechanism suitably connected with said driving shaft, a valved steam delivery mechanism having its valve suitably connected with said driving shaft, substantially as shown and described. 34th. In a machine for bushing mortises, means for supporting the article to be mortised, a driving shaft, intermittent felt feeding mechanism, valved steam delivery mechanism having its valve suitably connected with said driving shaft, and a plunger arranged to follow said felt and being also suitably connected with said driving shaft, substantially as shown and described. 35th. In a machine for bushing mortises, the combination, of the bed A, arched arm A¹ rising from said bed, driving shaft A², supported by said bed and having cams, intermittent felt feeding mechanism supported by said cam A¹, and suitable parts leading from said feeding mechanism to said cams, substantially as shown and described. 36th. In a machine for bushing mortises, the combination, of the bed A, arched arm A¹ rising from said bed, driving shaft A², supported by said bed and having cams, intermittent felt feeding mechanism supported by said arm A¹, and

suitable parts leading from said feeding mechanism to said cams, and a plunger arranged to follow the felt and suitable parts connecting said plunger with said cams, substantially as shown and described. 37th. In a machine for bushing mortises, the combination, of the bed A, arched arm A¹, rising from said bed, driving shaft A², supported by said bed and having cams, intermittent felt feeding mechanism supported by said cam A¹, and suitable parts leading from said feeding mechanism to said cams, and a plunger arranged to follow the felt and suitable parts connecting said plunger with said cams, and valved steam delivery mechanism supported by said arm and suitable parts connecting the valve of said steam delivery mechanism with said cams, substantially as shown and described. 38th. In a machine for bushing mortises, the combination of the bed A, shaft A² supported by said bed and having cams, intermittent felt feeding mechanism supported by said cam, and a reciprocating centering pin and suitable parts connecting said centering pin with said cams, substantially as shown and described. 39th. In a machine for bushing mortises, the combination of means for supporting the article containing the mortises, guide plates directed toward the position for the mortise to be operated upon, a feed wheel leading into the path formed by said guides, and means for intermittently turning said wheel, substantially as shown and described. 40th. In a machine for bushing mortises, the combination of the reciprocating guides and feed wheels and stationary dogs for intermittently turning said feed wheels, substantially as shown and described. 41st. In a machine for bushing mortises, the combination, with the arm A¹, of a reciprocating yoke D, feed mechanism supported by said yoke, and stationary dogs for intermittently operating said feed mechanism, substantially as shown and described. 42nd. In a machine for bushing mortises, the reciprocating feed mechanism having a yielding connection with the driving mechanism, and a plunger having an unyielding connection with the driving mechanism, substantially as shown and described. 43rd. In a machine for bushing mortises, the combination, with suitable driving mechanism, of a plunger C supporting knives C², and a plug C¹ located between said knives, substantially as shown and described. 44th. In a machine for bushing mortises, a plunger C embodying knives C², and an adjustable plug C¹ located between said knives, substantially as shown and described.

No. 40,818. Rocket. (Fuse.)

Patrick Cunningham, New Bedford, Massachusetts, U.S.A., 2nd November, 1892; 6 years.

Claim.—1st. The combination, with the charge carrying tube of a rocket, of a line carrying tube attached to and supported by the base of the same, said line carrying tube tapering at its forward end toward the point of connection, as set forth. 2nd. The combination, of a metal rocket case, a metal choke, a metal fuse piece having a central conical deflector formed integral with said fuse piece, and a surrounding series of diverging vents opening on the rear surface of the fuse piece. 3rd. The combination, with the explosive carrying tube provided with a perforated disc D at its rear end, of a line carrying tube attached to said disc and entirely in the rear of the same, substantially as set forth. 4th. A line carrying rocket charge, the base of the head being provided with an external screw threaded projection, in combination with a carrying tube having a tapering head engaging with said screw threaded projection, as set forth, and containing a coiled line to be paid out as the rocket passes through the air, substantially as shown and described. 5th. The combination, with the firing head, of a hollow line carrying tube, said tube being substantially the same diameter as the head, and being connected with said head at the centre of the base thereof, the extremity of the carrying tube next to the firing head tapering at an angle nearly coincident with the vents for the propelling gases in the base of said head, substantially as shown and described. 6th. In a rocket of the character herein specified, a hollow line carrying tube forming the tail of the rocket, said tube consisting of a body H, screw threaded at g, for engaging with a tapering cap G, cap G, provided with internal cross bar G¹, said cap having a screw threaded perforation therein for engaging with the projection from the base of the head carrying the firing charge, substantially as shown and described. 7th. The combination, with the body A, carrying the firing charge, of the plug D, having perforations d passing therethrough at an angle to its axis, external screw threaded projection E, and the line carrying tube engaging with said projection, substantially as shown and described. 8th. The combination, of an explosive carrying tube, a line carrying tube attached thereto, a line located within said latter tube, and a non-conducting jacket or casing between said line carrying tube and said line, for the purpose set forth. 9th. A primer for rockets, or equivalent devices, consisting of a tube for containing fulminate and powder, and means for igniting the same, said tube having an offset, button or washer for engaging with the interior of a fuse piece, substantially as shown and described. 10th. A primer for rockets, provided with means near its inner end for engaging with a fuse piece. 11th. The combination, with the fuse piece of a rocket, of a primer tube provided with an engaging washer or button near its inner extremity, and a cork, or its equivalent, for removably holding the primer in place, substantially as shown and described. 12th. The combination, with the fuse piece of a rocket, of a primer for firing the same. 13th. A combined holding box and firing chute for rockets, substantially as

shown and described. 14th. A combined carrying box and firing chute for rockets, having a movable cover and end piece, substantially as shown and described. 15th. A combined carrying box and firing chute for rockets having a movable cover and end piece, and spurs for preventing the shifting of the chute when in position for firing the rocket, substantially as shown and described. 16th. In a combined carrying box and firing chute for rockets, a hinged cover provided near one extremity with a groove, adapted and arranged to receive a tongue or fillet upon the edge of a hinged end piece, when the cover is closed, substantially as shown and described. 17th. A combined carrying case or box and firing chute for rockets, in which is comprised a body, provided with a hinged cover bearing hasps adapted and arranged to engage with staples fixed in the side of the box, when the cover is closed, a hinged end piece held in place by the closed cover, and spurs secured to the bottom of the body of the box or case, at the extremity opposite to the movable end, substantially as shown and described. 18th. A firing chute for rockets, provided with spurs or equivalent devices, adapted and arranged to prevent the shifting of the chute when in position for firing the rocket.

No. 40,810. Telephone Toll Box and Register.

(*Registre et boîte de timbre pour téléphones.*)

Charles E. McCluer, Richmond, Virginia, U.S.A., 2nd November, 1892; 6 years.

Claim.—1st. In combination, with a telephone bell box, an escutcheon and chute or tube, a curved tongue or strip D, swinging loosely in front of an opening in the edge of the tube A, substantially as and for the purpose described. 2nd. In combination, with a telephone call bell box, an escutcheon and a chute or tube, stationary and movable electrical contact springs arranged with openings in the edges and sides of the chute or tube, the movable contact springs being attached to and moving with a switch lever, substantially as and for the purpose described. 3rd. In combination, with a law system telephone call bell, an escutcheon and tube, a stationary contact piece I, in electrical connection with the call wire, and a movable armature L, supporting the contact piece O, in electrical connection with the subscribers' wire, the two contacts so adjusted with relation to each other as to be capable of being electrically connected through openings in the tube A, by a metallic coin or token inserted in the tube with an electro magnet N, arranged to operate the movable contact piece O, substantially as and for the purpose described. 4th. In combination, with a telephone toll box and call bell, a front to the bell box furnished with dowel pins *s*¹, to fit into the holes *s*¹, and a metal piece U, bent at right angles and secured at one end to the inside surface of the box front and the other end passing beneath the partition T, and secured to it by a hook V, engaging with the screw eye W, with a separate hinged front to the money compartment or till P, closing down upon the right angled metal piece U, and secured by lock and key, substantially as and for the purpose described. 5th. In combination, with an escutcheon and a coin tube or chute, fixed and adjustable electrodes arranged within apertures made in the sides and edges of the tube, with a switch lever attached to and operating the adjustable electrodes, substantially as described.

No. 40,820. Kiln for Bricks. (*Four à briques.*)

Henry Warrington, Stoke-on-Trent, Stafford, England, 2nd November, 1892; 6 years.

Claim.—1st. The combination, in a kiln, of a central flue or chimney, an imperforate floor and channels under said floor communicating with furnace and chimney, whereby the gases or products of combustion do not come into contact with the articles in the oven, substantially as described. 2nd. The combination, in a kiln, of a chimney communicating at the top or dome with the interior of the kiln, an inner and outer wall separated from each other to form a space or passage way communicating at the bottom with the furnace, and at the top with the interior of the kiln and through the latter with the said chimney, substantially as described. 3rd. The combination, in a kiln, of a chimney, an imperforate floor, channels under said floor communicating with furnace and chimney, an inner and outer wall separated from each other to form a space or passage way communicating at the bottom with the furnace and at the top with the interior of the kiln, and a chimney communicating at the roof with the same, substantially as described.

No. 40,821. Coin Operated Sight Testing Apparatus.

(*Appareil actionné par une pièce de monnaie pour faire l'épreuve de la vue.*)

Bruce Green, No. 57, Chancery Lane, Middlesex, England, 2nd November, 1892; 6 years.

Claim.—1st. In a coin freed sight testing apparatus, the combination of two discs or frames geared to revolve in unison, and each provided with a circle of lenses, a pair of eye orifices at the front of the machine, a vertically sliding shutter located at the rear of the lenses and adapted to normally intercept the line of sight, a disc located at the back of the case and provided with a circle of indicating numbers corresponding with the lenses of the discs and geared to revolve in unison with the latter and means for rotating the lens discs and the indicating disc, substantially as herein shown and

described, and for the purpose stated. 2nd. In a coin freed sight testing apparatus, the combination of a number of lenses of varying power adapted to be brought into the line of sight, means for moving such lenses, a vertically sliding shutter located at the rear of the lenses, and adapted to normally intercept the line of sight, a suspension chain at one end connected with the shutter and at the other end provided with a counterbalance weight, a spirally grooved or chain wheel around which the chain passes, a stud upon such wheel, a weighing beam or lever adapted to be depressed by a coin passed into the machine and a tooth or projection upon the weighing beam or lever normally engaging the stud of the grooved or chain wheel and means for raising the counterbalance weight, substantially as herein shown and described, and for the purpose stated. 3rd. In a coin freed sight testing apparatus, the combination of a wheel provided with a stud thereon and controlling the action to be freed, and a weighing beam or lever provided with a tooth normally engaging the stud of the wheel, substantially as herein shown and described. 4th. In a coin freed sight testing apparatus, a vertically sliding shutter, a suspension chain at one end connected with the shutter and at the other end provided with a counterbalance weight, means for raising the counterbalance weight to lower the shutter, a spirally grooved or chain wheel around which the suspension chain passes, a stud upon such wheel, a counterbalanced weighing beam or lever furnished with a tooth or projection normally engaging the stud of the chain wheel, a pocket upon the end of the lever or weighing beam, into which a coin passed into the machine is conducted, a stop upon the sliding shutter engaging the weighing beam or lever, and preventing its full depression, a fixed plate for preventing the discharge of the coin from the pocket until the weighing beam has been fully depressed and a guide hinged to the pocket for diverting superfluous coin, substantially as herein shown and described and for the purpose stated. 5th. In a coin freed sight testing apparatus, the combination of a vertically sliding shutter, a weighing beam or lever for controlling the descent of the shutter and a stop upon the shutter for preventing the descent of the weighing beam and discharge therefrom of the coin until the shutter has fallen, substantially as herein shown and described. 6th. In a coin freed sight testing apparatus, the combination of a vertically sliding shutter, a weighing beam or lever for controlling the descent of the shutter, a stop upon the shutter to prevent the full descent of the weighing beam and discharge therefrom of the coin until the shutter has fallen and a guide hinged to the pocket at one end of the weighing beam for diverting any coins inserted in the machine subsequently to the descent of the weighing beam upon the stop, substantially as herein shown and described. 7th. In a coin freed sight testing apparatus, a vertically sliding shutter a suspension chain at one end connected with the shutter and at the other end connected with a tubular spindle, a guide for the said spindle, a hollow counterbalance weight loosely mounted upon the spindle and held in place thereon by a flange or projection upon the spindle, a lever at one end forked to engage the hollow weight, a pedal lever located at the base of the machine and connection from the pedal lever to the weight lever, substantially as herein shown and described and for the purpose stated. 8th. In a coin freed sight testing apparatus, the combination of an issuing orifice, a table, a reservoir for a column of cards, a pusher for delivering the cards, means for automatically advancing the pusher, means for retracting the pusher upon the depression of the pedal lever, and a coin freed stop for preventing the full retraction of the pusher until a predetermined coin has been inserted into the machine, substantially as herein shown and described. 9th. In a coin freed sight testing apparatus, the combination of an issuing orifice, a table, a reservoir for a column of cards, a pusher for delivering the cards, a weight or spring for automatically advancing the pusher, a bell crank lever acted upon through suitable connections or means from the pedal lever for retracting the pusher, a spring interposed in said connections or means, a counterbalanced lever provided with a tooth or stop for normally preventing the full retraction of the pusher until the insertion into the machine of the proper coin, and a tray upon the stop lever to receive the coin, substantially as herein shown and described and for the purpose stated.

No. 40,822. Method of Making Curled Hair.

(*Méthode de faire des cheveux frisés.*)

Peter Woll, Philadelphia, Pennsylvania, U.S.A., 2nd November, 1892; 6 years.

Claim.—1st. The method of manufacturing curled hair, which consists of combing the hair and forming it into a sliver, twisting the sliver to form a gasket, curling the gasket or spiralling it upon itself and then setting the curled product, substantially as described. 2nd. The method of manufacturing curled hair, which consists of combing the hair and forming it into a sliver, twisting the sliver to form a gasket, curling the gasket or spiralling it upon itself, then setting the curled product, and then teasing the hair, substantially as described.

No. 40,823. Pneumatic Tire. (*Bandage pneumatique.*)

Thomas Dunn, Brixton Hill, Surrey, England, 2nd November, 1892; 6 years.

Claim.—1st. In a pneumatic tire, a protecting band capable of readily undergoing slight longitudinal contraction and expansion when in use at a number of points throughout its length, and flat or

straight and rigid in cross section, and a strip of elastic material, such as india-rubber, of plano-convex form in cross section secured at its flat side to said protecting band, so as to form therewith a combined protecting band and elastic strip, substantially as herein described for the purpose specified. 2nd. In a pneumatic tire, a protecting band composed of sheet metal corrugated transversely throughout its length, and flat or straight and rigid in cross section, and an outer strip of elastic material of plano-convex form in cross section, substantially as herein described for the purpose specified. 3rd. In a pneumatic tire, a protecting band composed of sheet metal corrugated transversely throughout its length, and flat or straight and rigid in cross section, and a strip of elastic material of plano-convex form in cross section, and in which said protecting band is molded or embedded, so as to form therewith a combined protecting band and elastic strip, substantially as herein described for the purpose specified. 4th. In a pneumatic tire, the combination, with an outer covering or tube forming or inclosing the air tube or chamber of the tire and an inner protecting band capable, when said tire is in use, of readily undergoing slight longitudinal contraction and expansion at a number of places throughout its length, of an elastic strip arranged between the protecting band and the outer covering or tube, so as to be constantly subjected to the pressure of the air within said air tube or chamber, substantially as herein described for the purposes specified. 5th. In a pneumatic tire, the combination of an outer covering forming or inclosing the air tube or chamber, a protecting band composed of transversely corrugated sheet metal, and an elastic strip of plano-convex cross section arranged between said air tube or chamber and outer covering and surrounding said protecting band, substantially as herein described for the purpose specified. 6th. In a pneumatic tire, the combination of an outer tubular covering forming the wall of an air tube or chamber, a strip of flexible material located within and secured at its edges to said tubular covering, a protecting band capable, when in use, of readily undergoing slight longitudinal contraction and expansion at a number of points throughout its length and arranged between said tubular covering and said strip of flexible material, and an elastic strip of plano-convex cross section arranged between said protecting band and outer tubular covering, substantially as herein described. 7th. A pneumatic tire, comprising a tubular covering composed of suitable material, such as canvas, having on each side a layer of india-rubber and forming an air tube or chamber, a strip of flexible material located within and secured at its edges to said tubular covering, a strip of india-rubber arranged between said flexible strip and tubular covering, and a protecting band composed of transversely corrugated sheet metal embedded within said strip of india-rubber, substantially as herein described for the purposes specified.

No. 40,824. Cultivator. (Cultivateur.)

Orrin R. Baldwin, Detroit, Michigan, U.S.A., 2nd November, 1892; 6 years.

Claim.—1st. In a wheel cultivator, the combination with the main frame and axle, of a lever arm pivotally secured to the axle, the rear portion of which is provided with a lateral extension, a shovel frame jointedly suspended from the main frame at its front end, and from the lateral extension of said lever arm toward the rear end, and laterally vibratory on said lateral extension, and an operating lever to engage with said lever arm adapted thereby to elevate and lower the shovel frame, substantially as described. 2nd. In a wheel cultivator, the combination with the main frame, of a shovel frame jointedly suspended at its forward end therefrom, a lever arm pivotally secured to the axle of the cultivator, the rear end of which is provided with lateral extension, a lever for operating said arm, a toggle arm jointedly connecting the said lever arm and operating lever, whereby the lower end of the operating lever may be thrown past the centre to lock the frame in an upward position, said cultivator frames being provided with handles, the construction of the whole being such that a driver by seizing said handles may throw the cultivator frame into a locked upward position, without grasping the operating lever, substantially as described. 3rd. In a wheel cultivator, the combination with the main frame, of the shovel frame flexibly suspended therefrom at its front end whereby it may be moved longitudinally thereto, a lever arm pivotally secured to the axle, the rear end of which is provided with a lateral extension, a link pivotally secured to the shovel frame at its lower end, and engaging with and laterally movable upon the extension of the lever arm, and a lever for operating the front end of said lever arm, substantially as set forth. 4th. In a wheel cultivator, the combination with the main frame, provided with standards, each bifurcated at its lower end and provided with means for attaching it to an axle, a lever arm pivotally secured to the axle within said bifurcation, a shovel frame suspended from the main frame at its front end and from the rear end of said arm, substantially as set forth. 5th. In a wheel cultivator, the combination with the frame, of a substantially U-shaped lever arm, one arm of which is perforated in a line with a perforation at the end of the other arm and is extended, the extended portion of the arm being also perforated, the axle passing through the end of the shorter arm and through the perforation of the other arm in a line with said end, and a cultivator frame suspended from said arm and from the main frame, and means for operating the same, substantially as described. 6th. In a wheel cultivator, the combination with a main frame and axle, of a shovel frame having at its rear end a vertically and laterally mov-

able connection therewith, a lever arm for controlling the vertical movement of the shovel frame, and an operating lever connected with the lever arm for raising and lowering the shovel frame, substantially as described. 7th. In a wheel cultivator, the combination with a main frame and axle, of a shovel frame having at its rear end a vertically and laterally movable connection therewith, a lever arm for controlling the vertical movement of the shovel frame, an operating lever, a toggle arm connecting the lever arm with the operating lever and means to hold the operating lever in a given position, substantially as described. 8th. In a wheel cultivator, the combination with a main frame and axle, of a shovel frame having at its rear end a vertically and laterally movable connection therewith, a lever arm fulcrumed to an axle connection and extended forward from its fulcrum for controlling the vertical movement of the shovel frame, and an operating lever connected with the forward projecting end of the lever arm, substantially as described. 9th. In a wheel cultivator, the combination with a main frame and axle, of a lever arm, a shovel frame jointedly suspended from the main frame at its forward end and suspended upon said lever arm at its rear end, an operating lever, a toggle arm jointedly connecting the operating lever with the lever arm, whereby the lower end of the operating lever may be thrown past the centre to lock the shovel frame in position, substantially as set forth. 10th. In a wheel cultivator, the combination with a main frame and axle, of a lever arm, a shovel frame jointedly suspended from the main frame at its forward end, and supported upon said lever arm at its rear end, an operating lever connected with the lever arm, whereby the lower end of the operating lever may be thrown past the centre to lock the shovel frame in an upward position, the construction being such that a driver by seizing the shovel frame may throw it into a locked position without grasping the operating lever, substantially as described. 11th. In a wheel cultivator, the combination with the main frame and axle, of a shovel frame having at its rear end a vertically and laterally movable connection therewith, an operating lever to lift the rear end of the shovel frame, into an upward position, and means for locking the frame in an upward position, substantially as described. 12th. In a wheel cultivator, the combination with a main frame and axle, of a lever arm, a shovel frame jointedly suspended from the main frame at its forward end, and supported on said lever arm at its rear end, an operating lever, a toggle arm connecting the operating lever and lever arm, locking mechanism to hold the operating lever in desired position, the construction being such that the shovel frame may be locked in a downward position, substantially as described.

No. 40,825. Potato Planter. (Semoir à patates.)

Gustav Hoffmann, Tischdorf, Prussia, 2nd November, 1892; 6 years.

Claim.—A potato planting machine having a horizontal shaft *n*, with hole digger *k* thereon, together with the feeding tubes *d*, the hinged lid *g* of which on being struck is momentarily opened, whereupon the book formed pins *x, x*, seated on the hinged lid *g* pass into the interior of the feeding tubes in order to prevent the falling of more than one seed potato at a time, substantially in the manner and for the purposes hereinbefore described and illustrated in the drawings hereunto annexed.

No. 40,826. Combined Low Water Alarm and Water and Steam Gauge. (Indicateur d'eau et de vapeur combinés.)

Isaac Willam, Detroit, Michigan, U.S.A., 2nd November, 1892; 6 years.

Claim.—1st. In combination, a water gauge provided with alarm mechanism, and a float to control the operation of the water gauge and alarm mechanism, said gauge provided with a dial and an index finger traversing said dial, substantially as described. 2nd. In combination, a float, a water gauge having a rotatable spring case, and alarm mechanism operated by the movement of said spring case, said gauge provided with a dial and an index finger traversing said dial, substantially as described. 3rd. The combination of the float, the arm C, made tubular at its upper end, the water gauge provided with a rotatable spring case connected with the float, alarm mechanism communicating with the interior of said gauge, and a controlling valve operated by the movement of the spring case, substantially as described. 4th. The combination of the float, the arm C, made tubular at its upper end, the water gauge provided with a rotatable spring case connected with the float, alarm mechanism communicating with the interior of said gauge, and a self-closing controlling valve arranged to be opened by the movement of said case, said valve provided with a valve stem projecting to the exterior, substantially as described.

No. 40,827. Car Truck. (Châssis de chars.)

George Martin Brill, Philadelphia, Pennsylvania, U. S. A., 2nd November, 1892; 6 years.

Claim.—1st. In a motor truck, the combination, with a stationary frame supported upon the running gear, said frame having sections extending outwardly from the axle, of a movable frame supported upon said truck, spiral springs located between the movable and stationary frames, and elliptical springs located between the extended sections of the said rigid frame and the movable frame, substan-

tially as described. 2nd. In a truck, a spring supporting frame supported upon the running gear by saddles and having sections extending outwardly from the axles, a movable frame having like extensions, spiral springs located between the saddles and movable frame, and elliptical springs located between the spring supported frame and the movable frame, substantially as described. 3rd. In a truck, a stationary frame supported upon the running gear of said truck having sections extending outwardly from the axles, a movable frame carried by said truck, springs located between the stationary and movable frames and between the extended sections of both frames, and a brace for said extended sections of the stationary frame, secured to said extended sections and supported upon the running gear of the truck, substantially as described. 4th. In a truck, a stationary frame supported on its running gear by saddles and having sections extending outwardly from the axles, a movable frame with extending sections, springs located between the stationary and movable frames and between their extended sections, and a brace for said extended sections of the stationary frame, secured to such sections and supported upon the said saddles, substantially as described. 5th. In a truck, a stationary frame having sections extending outwardly from the axles, saddles secured to stationary frame and supported on the axle boxes, a movable frame having outwardly extending sections, spiral springs located between the saddles and the movable frame and the extended sections of the stationary frame, and a brace for said extended sections, supported upon the saddles, the ends of which are secured to said extended sections, substantially as described. 6th. A spring supporting frame for a truck, comprising the saddles adapted to straddle the axle boxes, longitudinally extending beams extending between and secured to said saddles, additional beams secured to and extending outwardly from said saddles, and a brace supported upon said saddles and secured at its outer ends to the outwardly extending beams, substantially as described. 7th. A spring supporting frame for a truck, comprising the saddles 6 and 7, having projections for supporting the truck springs, outwardly extending lugs 49 on the saddles, central sections 12 of the side beams, secured to the saddles, outwardly extending sections 13, 14 of the side beams, secured to the said saddles, cross bars 15, 16 uniting the ends of the side beam sections, lugs 48 on the sections 13, 14 of the side beams, a brace 50 secured to said lugs 48 and extending over the lugs 49 on the saddles, and a turn buckle 51 for tightening said braces, substantially as described. 8th. In a truck, a spring supporting frame supported upon the running gear by saddles and having sections extending outwardly from the axles, a movable frame having like extensions, spiral springs located between the saddles and movable frame, and elliptical springs located between the spring supporting frame and the movable frame, and braces for the extended ends of the spring supporting frame secured thereto and resting on the saddles, substantially as described. 9th. In a truck, the combination of two frames, one stationary and supported upon the running gear, the other movable, and a plurality of springs located between the stationary and movable frames, some of said series being adapted to be compressed by the downward movement of said movable frame subsequent to the compression of other, of the series, substantially as described. 10th. In a truck, the combination of two frames, one stationary and supported upon the running gear of the truck, the other adapted to be moved toward said stationary frame, springs located between the ends of both frames, and springs otherwise disposed between the two frames, the end springs being adapted to be compressed subsequent to the compression of the other springs, substantially as described. 11th. In a truck, a stationary spring supporting frame having at its ends elliptical springs rigidly secured thereto, in combination with a movable frame supported by springs other than said elliptical springs, said movable frame being provided with devices for engaging said elliptical springs, the elliptical springs being adapted to be brought into action subsequent to the springs supporting the movable frame, substantially as described. 12th. In a truck, a spring supporting stationary frame mounted on the running gear of said truck, said frame being composed of a plurality of bars contiguously disposed, a saddle secured to the outer sections of said bars, an elliptical spring, the lower section of which rests upon said saddle, and a second saddle disposed over the first and the spring and secured to the first saddle, a movable frame, and a spring supported on the stationary frame and having devices for guiding the upper section of the elliptical spring, substantially as described. 13th. In a truck, the combination of two frames, the one stationary and supported upon the running gear, the other movable, said stationary frame having the contiguously disposed beams 14, a saddle 35, closed at the top and having legs 36 secured to the beams 14 and projections 38, a second saddle closed at the top and secured to the projections 38, an elliptical spring 34 held between the two saddles, and a cap 45 having downwardly extending legs 46 secured to the movable frame, the ends of which engage the upper section of said elliptical spring, substantially as described. 14th. A truck having running gear and a frame, and spiral springs for supporting the car body, supplemented by elliptical springs adapted to co-act therewith, the spirals being adapted to be compressed prior to the ellipticals, substantially as described. 15th. A truck having side beams disposed about the axle boxes, and a brace extending between the axle boxes and secured to the side beams, substantially as described. 16th. A truck having side beams disposed about the axle boxes, and a brace supported upon or above the axle boxes and secured to the side beams, substantially as described. 17th. The upper chord having the depending

cap 45, with downwardly extending legs 46, and elliptical springs held on the side beams adapted to move in said cap, substantially as described. 18th. The saddle 35, having the legs 36 secured to the side beams, and projections 38, and the waddle 34, provided with projections 42, secured to like parts on the saddle 35, substantially as described. 19th. The side beams on the axle boxes, axle box saddles 6, 7, having the lugs or projections 49 above the axle boxes, and a brace supported thereon and secured to the side beams, substantially as described. 20th. A truck having side beams disposed about the axle boxes, a brace supported upon or above the axle boxes, extending between them and secured thereto, and means for tightening the said brace, substantially as described. 21st. The side beams intermittent about the axle boxes, saddles for supporting the side beams on the axle boxes, and a brace supported on the saddles above the side beams and secured to the side beams, substantially as described. 22nd. The saddles 6, 7, supported on the axle boxes, lugs 49 on the saddles, side beam sections 12, 13, 14 secured to the saddles, and a brace 50 supported on the lugs 49 and secured to the sections 13, 14 of the side beams, substantially as described. 23rd. A frame for a truck, comprising the saddles 6, 7, having projections for supporting the truck springs, lugs 49 on the saddles, central side beam sections 12 secured to the saddles, outwardly extending side beam sections 13, 14 secured to the saddles, and a brace 50 secured to the sections 13, 14, and supported on the lugs 49 of the saddles, substantially as described. 24th. A frame for a truck, comprising the saddles 6, 7, having projections for supporting the truck springs, lugs 49 on the saddles, central side beam sections 12 secured to the saddles, outwardly extending side beam sections 13, 14, and supported on the lugs 49 of the saddles, substantially as described. 25th. The saddles 6, 7, straddling the axle boxes and open below the same, lugs 49 on the saddles, side beam sections 12, 13, 14 secured to the saddles, and a brace 50 secured to the side beam sections 13, 14, and supported on the lugs 49, substantially as described. 26th. The saddle 35 secured to the side beams, the saddle 40 secured to the saddle 35, and an upwardly extending elliptical spring held between the two saddles, substantially as described. 27th. In a truck, a stationary spring supporting frame mounted on the running gear of said truck, having outwardly extending sections and elliptical springs secured to the stationary frame, and a movable frame spring supported upon the said stationary frame, having a device for guiding the upper portion of the elliptical springs, substantially as described. 28th. Side beams secured upon the running gear and extending past the same, and a brace detachably supported upon the running gear or a portion thereof and secured to the extended ends of the side beams, substantially as described.

No. 40,828. Envelope. (*Enveloppe*.)

Samuel Cupples, assignee of James West, both of St. Louis, Missouri, U.S.A., 2nd November, 1892; 6 years.

Claim.—1st. The within described process of manufacture of envelopes, consisting in depositing intermitting lines of paste upon the opposite edges of a continuous strip of paper of uniform width, then forming continuous intumed flanges by turning in said edges against the body of the strip, then depositing other intermitting lines of paste upon the outer faces of the intumed flanges, then folding a portion of the paper upon a transverse line over and upon the other portion, then creasing the strip transversely opposite the edge of the turned down portion and finally severing the strip beyond said crease to form the flap, substantially as described. 2nd. The method of applying the gum to the strip at *z*, Figs. 12 and 13, and drying the same prior to cutting the strip transversely. 3rd. In a machine for making envelopes, the combination, of a support for a roll of paper, pasters arranged to apply paste at corresponding intervals on the opposite edges of the strip of paper as it travels through the machine, an edge folder blade whereby the opposite edges are turned in and down upon the body of the strip, pasters whereby the faces of the intumed flanges are coated with paste, a transverse folder whereby the sheet is doubled upon a transverse line at the termination of each of the inner lines of paste, a creasing device arranged to crease the paper transversely near the edge of the part folded over and a cutter arranged to sever the sheet transversely beyond the said edge, and paper folding rolls, substantially as described. 4th. The combination, with the pasters, one of which has curved type for part of a circle, edge and transverse folders and cutter, of a creaser arranged to crease the sheet adjacent to the edge of the back portion of the envelope, substantially as described. 5th. The combination, in an envelope machine, of an edge folder and rolls carrying pasters, a transverse folder, a creaser and a cutter, the first paster arranged to deposit lines of paste at intervals upon the opposite edges of a continuously moving sheet of paper, the edge folder arranged to turn in the said edges forming flanges, the second paster arranged to apply paste to said flanges, the transverse folder turning the end of the strip over onto the body to form the back of the envelope, the creaser creasing the strip adjacent to the edge of the said back and the cutter severing the strip transversely beyond said crease, substantially as described. 6th. The combination, in an envelope machine, of rolls carrying two sets of pasters, an edge folder arranged between the rolls and a transverse folder, creaser and cutter, substantially as described. 7th. The combination with the pasting roller, and with

the pasting disc carried by a shaft, of a paste box suspended to said shaft, and a transfer roller supported loosely in bearings carried by said box, substantially as described. 8th. The combination with the pasting and edge folding devices arranged to operate upon a continuous sheet, of a roll carrying clamps for seizing and holding the transverse folds of said sheet, and a shaft carrying a cutter for severing said sheet beyond the clamped portion, substantially as set forth. 9th. The combination with a roll provided with independent sheet clamps, of a shaft carrying a folding blade and cutter, and a separate shaft carrying an independent folding blade, substantially as set forth. 10th. The combination of the roll provided with independent clamps, of a roll carrying a folding blade arranged to fold an intervening strip of paper into one of the clamps, a second folding blade whereby the paper is folded into the other clamp, and a cutter arranged to sever the sheet beyond the point where it is seized by the second clamp, substantially as set forth. 11th. The combination of a shaft carrying a clamping device, of a spring arm connected with said clamping device, and a contact piece arranged to be struck by said arm as the shaft revolves, substantially as set forth. 12th. The combination with the roll carrying a rocking rod provided with a clamping blade, of a bent flexible arm extending from said rod, a contact piece, and a spring connected with said rod to rock it in one direction, substantially as set forth. 13th. The combination with the shafts carrying rolls G and H, of a clamp carried by one of the rolls and provided with a curved yielding arm arranged to contact with the shaft of the opposite roll, substantially as set forth. 14th. The combination with the roll G, carrying a cutter and folder blade, of a presser roll carrying two rock rods, each provided with blades co-acting with clamping faces of the roll, springs turning said rods in one direction, and yielding arms extending from the rod to contact with stationary bearings turn the rods in the opposite direction, substantially as set forth. 15th. The combination with the shafts 24, 25 and 26, of the clamps carried by one shaft, a cutter and folder blade carried by the other, and a folder blade and gummer carried by the remaining shaft, substantially as set forth. 16th. The combination with the envelope folding devices, and with the gummer for applying the gum to the flap, of a reverser for receiving the envelope after the flap is gummed, and for carrying it to another position and rolls arranged to partially bend down the flap and to receive the envelope from the reverser, substantially as set forth. 17th. The combination with the rolls feeding forward the gummed envelope, of a vibrating conductor and a pair of rolls for partially turning the flap of the envelope, and devices for reciprocating said conductor to carry it from the feeding to the turning rolls, substantially as set forth. 18th. The combination with the folding and creasing flap pasting and gumming devices, and a reverser 61, 62, 63, of rolls arranged to receive the envelope between them, but separated to prevent the flap from being pressed against the body of the envelope, substantially as set forth. 19th. The combination with the envelope forming and pasting and gumming devices, of a type cylinder, an impression roll having a recess to receive the upturned flap of the envelope and separated rolls 38, 41 for bending inward the flap, substantially as set forth. 20th. The combination with the impression roll and type cylinder and with the envelope forming the gumming devices, of the guide rolls 36, 37, carrying bands 60, arranged to press the edges of the envelopes against the impression roll and to guide the envelopes between said roll and the type cylinder, substantially as and for the purpose set forth. 21st. The combination with the devices for applying the gum transversely to the strip of a suitable heater 2, fig. 11, substantially as set forth. 22nd. The method and means of separating the overlapping articles by means of rolls N, O, rotating more rapidly than the movement of the feeding support for said articles, substantially as set forth in connection with fig. 15. 23rd. The construction of the envelope with its returned folds when the ends of the latter are pasted against the flap as in fig. 1, or down upon the back as in fig. 14.

No. 40,829. Type-Writing Machine. (*Clavigraphs*.)

The Type-Writing Machine Company, assignee of Samuel Cook Hurlbut, all of Hartford, Connecticut, U.S.A., 2nd November, 1892; 6 years.

Claim.—1st. A printing machine of the character substantially as set forth, comprising a movable and suitably guided carriage or support, a rotatable type drum carried on a frame which is spring supported and vertically movable on said carriage, a vertically movable and rotatable plunger shaft having an engagement with said drum carrying frame, the same being geared to the type drum thereon, whereby on the turning of the said shaft the drum may be turned, for the purpose set forth. 2nd. A printing machine of the character substantially as set forth, comprising a movable and suitably guided carriage or support, a rotatable type drum carried on a frame which is spring supported and vertically movable on said carriage, a vertically movable and rotatable plunger shaft having an engagement with said type carrying frame and geared to the type drum thereof and provided with an indicating dial and pointer, and also having devices acting in conjunction with said drum frame and said carriage for ensuring on each depression of said plunger and drum frame a forward movement of the carriage, for the purpose set forth. 3rd. A printing machine comprising therein in co-operative arrangement the following instrumentalities, viz.:—A suitable carriage and wheels for supporting same, a frame, spring supported and vertically

movable on said carriage, a type drum rotatable on said frame and a gear mounted on the arbor of said drum, a vertical plunger shaft fixed for rotation in said vertically movable frame and provided at one end with a handle knob and at its other with a gear meshing with said drum gear, substantially as described. 4th. A printing machine comprising therein in co-operative arrangement the following instrumentalities, viz.:—A suitable carriage and wheels for supporting same, a frame, spring supported and vertically movable on said carriage, a type drum rotatable on said frame and a gear mounted on the arbor of said drum, a vertical plunger shaft fixed for rotation in said vertically movable frame and provided at one end with a handle knob and at its other with a gear meshing with said drum gear, and a mechanism actuated and controlled by the movement of said frame and acting upon one of the carriage supporting wheels to propel same, for the purpose set forth. 5th. A printing machine comprising therein the following instrumentalities:—A carriage and wheels for supporting same, a frame, spring supported and vertically movable on said carriage, a type drum rotatable on said frame and a gear mounted on the arbor of said drum, an index pointer and a plunger shaft fixed for rotation on said vertically movable frame and provided at one end with a handle knob, at its other with a gear wheel meshing with said drum gear, and having fixed thereon a dial plate with an indication of characters thereon corresponding with and in the same relative arrangement as those of said type drum, and a mechanism actuated and controlled by the movement of said frame and acting upon one of the carriage supporting wheels, for the purpose set forth. 6th. A printing machine, consisting of a carriage comprising a horizontal platform and opposing pedestals each having journal bearings, and rearward and transverse portions, two side wheels mounted in said journals and a roller centrally mounted on and supporting said rear portion of the carriage, a frame spring supported and vertically movable on said carriage, a type drum rotatable on said frame and a gear mounted on the arbor of said drum, a vertical plunger shaft fixed for rotation in said vertically movable frame and provided at one end with a handle knob and at its other with a gear meshing with said drum gear, substantially as described. 7th. In a printing machine, the combination, with the carriage and the supporting side wheels one or both provided with the teeth or pins 47, and a rear wheel or roller, of the frame C, spring supported and vertically movable on said carriage, and one or more wheel rotating devices on one or both side portions of said frame and adapted to operate on said wheel pins, substantially as and for the purpose described. 8th. In a printing machine, the combination, with the carriage and the supporting side wheels, one or both provided with the teeth or pins 47, and a rear wheel or roller, of the frame C, spring supported and vertically movable on said carriage, one or more wheel rotating devices on one or both portions of said frame and adapted to operate on said wheel pins, and a spring click for each pallet, substantially as and for the purpose described. 9th. The combination, with the wheeled carriage B, of the frame C, spring supported and vertically movable thereon, having a rotatable type drum and a gear mounted on the axle thereof, a vertical plunger shaft fixed for rotation in said vertically movable frame provided at one end with a handle knob and at its other with a gear meshing with said drum gear, and a spring arm by one end attached on said frame and an inking disk centrally pivoted on the other end of said spring arm and bearing eccentrically on the periphery of the type drum, substantially as described. 10th. In a printing machine, substantially as described, the combination, with the vertically movable frame C, provided with a guide way, of an apertured guard plate *o*, having a stem fitting in said guide way and a spring for maintaining said guard depressed and an abutment to limit the downward depression of said guard, for the purpose set forth. 11th. In a printing machine, substantially as described, the combination, with one of the legs *i*, of the vertically movable frame and the tubular guide way 42, thereon provided with the slot 43, of the guard comprising the apertured plate *o*, and the stem 40, which plays through said tubular guide way and is provided with the stud 44, movable in said slot, and the spring 45, as described and shown. 12th. The combination, with the rear extension of the frame B, provided with the vertical bearing socket 12, and the pin 17, of the stirrup frame having the perforated extension 15, and the spindle 10, a roller carried by said stirrup frame and the spring applied on said spindle, and all substantially as and for the purpose described.

No. 40,830. Pipe Organ. (*Orgue à tuyau*.)

Jackson Pipe Organ Company, assignee of Richard Walter Jackson, all of Chester, Illinois, U.S.A., 2nd November, 1892; 6 years.

Claim.—1st. An octave coupler, consisting of a set of pipes having the octaves of any pipe grouped together, with air communication between the adjoining octaves, whereby when any pipe is caused to speak its octave or octaves will also respond. 2nd. An octave coupler, consisting of a set of pipes having air communication between the adjoining octaves, and partitions for preventing any other pipes than the said octaves from responding. 3rd. An octave coupler, consisting of a set of pipes having the octaves of any pipe grouped together, with diagonal grooves between the adjoining octaves, whereby when any pipe is caused to speak its octave will respond. 4th. An octave coupler, consisting of a set of pipes having the octaves of any pipe grouped together, with diagonal grooves between the adjoining octaves, and means for preventing any other

pipe than the said octaves from responding. 5th. An octave coupler, consisting of a set of pipes having the octaves of any pipe grouped together, with diagonal grooves between the adjoining octaves, and partitions for preventing any other pipe than the said octaves from responding. 6th. A pipe organ, having a set of pipes common to two stops or slides representing different qualities of tones of the organ, and means for affording air communication between the octaves of one stop and the octaves of another stop. 7th. A pipe organ, having a set of pipes common to two stops or slides, representing different qualities of tones of the organ, the pipe or pipes of any note and its octaves being grouped together, and diagonal grooves for affording communication between the octaves of one stop and the octaves of another stop. 8th. A pipe organ, having a set of pipes common to two stops or slides, representing different qualities of tones of the organ, the pipe or pipes of any note and its octaves being grouped together, and diagonal grooves for affording communication between the octaves of one stop and the octaves of another stop. 9th. A pipe organ, having a set of pipes common to two stops or slides, the air with communication between the octaves of one stop or slide and the adjoining octaves of another slide, valves operated by the keys controlling the admission of air to the pipes, and means for preventing the indiscriminate speaking of the pipes when the keys are actuated. 10th. A pipe organ having a set of pipes common to two stops or slides, means for affording air communication between the octaves of one stop and the octaves of another stop, valves operated by the keys controlling the admission of air to the pipes, and longitudinal partitions interposed between the said valves and slides. 11th. A pipe organ, having a set of pipes common to two stops or slides, the pipe or pipes of any note and its octaves being grouped together, means for affording communication between the octaves of one stop and the octaves of another stop, valves operated by the keys controlling the admission of air to the pipes, and longitudinal partitions interposed between the said valves and slats. 12th. A pipe organ having a set of pipes common to two stops or slides, diagonal grooves affording communication between the octaves of one stop and the octaves of another stop, valves operated by the keys permitting the admission of air to the pipes, and longitudinal partitions interposed between the said valves and slides. 13th. In a pipe organ, a partitioned valve seat, substantially as and for the purpose described. 14th. An organ having the octaves of the pipe or pipes of the different qualities of tones and notes arranged in groups, those of the same pipe and its octaves being arranged in the same group, whereby economy of space is secured. 15th. An organ having the pipe or pipes of the different qualities of tones and notes, and their octaves of the chromatic scale arranged in groups alternately at opposite sides of the organ, whereby economy of space is secured. 16th. An organ having the rollers or rock shafts of the roller board corresponding to the different keys arranged to bring the valves corresponding to the octaves of any note together in groups. 17th. An organ having the rollers or rocks of the roller shafts board corresponding to the different qualities of tones and notes, and their octaves of the chromatic scale arranged to bring the valves corresponding to the octaves of any note together in groups, alternately in groups, alternately on opposite sides of the organ. 18th. An organ having the rollers or rock shafts of its roller board composed of metal tubes with a plug in the ends thereof, and a journal pin extending from said plug, substantially as and for the purpose set forth. 19th. In a pipe organ, a rotary valve 82 having suitable perforations, substantially as and for the purpose described. 20th. The combination with the slides of an organ, of two stops for each slide, each of which stops is positively connected together and is pushed in or out by operating the other, and left in whatever position it is placed by the operation of the other, and connections intermediate the stops and slides, for the purpose described. 21st. The combination with the slides of an organ of two stops for each slide, a T-lever for each set of stops, to an arm of which T-lever each of the stops is respectively connected, and connections from the third arm of the T-lever to the slides, substantially as and for the purpose set forth. 22nd. In an organ, the combination of a bellows, means for actuating the same, an inflatable storage reservoir, and a plurality of pipes connecting the storage reservoir with the bellows at different points, whereby vibration of the storage reservoir is prevented. 23rd. In an organ, the combination of a bellows, and foot means or treadles for actuating the same by suitable connections, an inflatable storage reservoir at the bottom of the organ beneath the bellows, and means for affording air communication between the said bellows and reservoir and between the latter and the wind chest.

No. 40,831. Printers' Chase. (Châssis d'imprimeur.)

Elmer Heffelfinger, Shamokin, Pennsylvania, U.S.A., 2nd November, 1892; 6 years.

Claim.—1st. The combination, with a chase having side sticks with portions of their inner faces plane and other portions serrated, of a bar extending across the chase and having square ends bearing against said plane faces, catches connected to said bar, and means for projecting them beyond its extremities to engage said serrations and for retracting them, substantially as described. 2nd. The combination, with a chase, the inner edges of whose side sticks are provided with ratchet teeth inclining toward the centres from their ends, of a pair of bars extending across the chase, and catches at the

ends of said bars having bevelled outer faces detachably engaging said teeth, substantially as described. 3rd. In a printer's chase, the combination, with the chase having inwardly facing serrations on its side sticks, of a bar extending transversely across the chase, catches at the ends of said bar detachably engaging said serrations, the catches being pressed normally outward by springs, and handles connected to said catches and having their inner ends projecting from the bar, so as to be within reach of the operator, as and for the purpose set forth. 4th. In a printer's chase, the combination, with a chase, the inner edges of whose side sticks are provided with ratchet teeth, of a pair of bars extending across the chase, sliding catches at the ends of said bars, having bevelled outer faces detachably engaging the teeth, the catches at the ends of one bar only of the pair being pressed normally outward by coiled springs, flexible handles connected to said catches and passing through the springs, and loops at the projecting inner ends of said handles, as and for the purpose set forth. 5th. In a printer's chase, the combination, with the chase, its side sticks having grooves along their inner edges and serrations at the bottoms of said grooves, of a bar extending across the chase with its extremities resting in the grooves, said bar being recessed at its ends, a moving catch within each recess, and means for preventing the dislocation of the catches from said recesses in the bar, all as and for the purpose hereinbefore set forth. 6th. The herein described chase, the same composed of two parallel inner bars, two parallel outer bars, each comprising two members embracing the inner bars, and all the bars being provided with holes through their bodies at regular intervals, screws or pins detachably connecting the bars at their points of intersection, and bracing blocks outside said points, one end of each bracing block being reduced and the other end slotted to fit, respectively, between the members of the outer bar astride the inner bar, each and all as and for the purpose hereinbefore set forth.

No. 40,832. Apparatus for Casting Metals in Vacuo.

(Appareil pour la fonte des métaux dans le vide.)

William Speirs Simpson, London, England, 2nd November, 1892; 6 years.

Claim.—1st. The apparatus shown in the annexed drawings, consisting of an upper vessel with ladle, and a lower vessel with mould, the two vessels being separated by a fusible diaphragm, as described. 2nd. Arranging a ladle of molten in chamber, and placing the mould in another chamber, exhausting the air from both chambers, and providing the upper vessel with appliances for turning the contained ladle therein for the fluid metal to run into the lower vessel, as and for the purpose set forth.

No. 40,833. Door Check. (Arrête-porte.)

Charles H. Timms, John Day, Oregon, U. S. A., 2nd November, 1892; 6 years.

Claim.—1st. In a door stop and retainer, substantially as described, the combination, with the stops provided on its upper side with flanges, having corresponding longitudinal slats provided with an offset at their forward ends, of the slidable gravitating latch having a pivot, stud or lug projecting from opposite sides, and arranged to play in the slots and offsets of the flanges on the stop, substantially as and for the purpose specified. 2nd. In a door stop and retainer, substantially as described, the combination, with a bracket having an attaching flange, a semi-circular wall as *c*, and a lug arranged in advance of the wall *c*, and below the horizontal plane of the same, and provided with the vertical eye or aperture and the corrugated or ratchet like face, of the stop having the rounded lug *g* at its inner end, provided with a corrugated or ratchet like face adapted to engage the corresponding face of the bracket lug, and having an aperture corresponding with the aperture of said bracket lug, a pivot bolt taking through the aperture of the bracket lug, and the stop lug, and a wing nut mounted on said pivot bolt, substantially as specified. 3rd. The improved door stop and retainer described, comprising a bracket to be secured to the base or sill board of a room, a stop and a pivot bolt and a set nut for adjustably connecting the stop to the bracket, said stop being also provided on its upper side with flanges having corresponding longitudinal slots provided with an offset at their forward ends, and the slidable gravitating latch, having a pivot, stud or lug projecting from opposite sides, and arranged to play in the slots and offsets thereof, substantially as specified.

No. 40,834. Saw Straining Device.

(Appareil de tension pour les scies.)

Melvin Jinks, Cohocton, New York, U. S. A., 2nd November, 1892; 6 years.

Claim.—The combination of the saw frame constructed substantially as described with the strap *E*, having forwardly projecting eyes, the lever *F*, having a rearwardly projecting eye pivoted between those of the strap, the stirrup *G*, connected to said lever, and the straining rod *H*, all substantially as and for the purposes set forth.

No. 40,835. Block for Building or Paving.*(Bloc de construction ou de pavage.)*

George Maxwell Graham, Chicago Illinois, U.S.A., 2nd November, 1892; 6 years.

Claim.—1st. A building or paving block, having its sides 3, 4, 5, and 6, formed with interlocking projection 7, and recesses 8, of a segmental spherical form, and equal radii, substantially as set forth. 2nd. A building or paving block, having its sides 3, 4, 5, and 6, formed with rows or series of interlocking projections 7, and recesses 8, intermediately arranged or "staggered" and of a segmental spherical form, and equal radii, substantially as set forth.

No. 40,836. Veneer Box. (Boîte à bois de placage.)

Jeffery Thomas Ferris, Anderson, Indiana, U.S.A., 2nd November, 1892; 6 years.

Claim.—1st. The process of constructing a veneer box by mortising one set of veneer strips and notching another set, and then inserting one set of strips through the mortises of the other, one of which sets is wetted to expand them and the other condensed by seasoning, and then drying the strips to expel moisture and shrink one set upon the other, substantially as specified. 2nd. The process of constructing a box of veneer strips by mortising strips A across the grain of the wood in a moistened or expanded condition, notching strips B in a condensed or dry condition, inserting the notched strips B into the mortises of strips A as far as the notches, and then expelling the moisture from the expanded strips A until they shrink upon and grasp the neck of strips B, substantially as specified.

No. 40,837. Centre Board for Boats.*(Semelle pour embarcations.)*

Francis M. Eaton, West Tremont, Maine, U.S.A., 2nd November, 1892; 6 years.

Claim.—1st. The combination with a centre well, of a vertical rod rigidly mounted at one end of the well and having its lower end secured to the same, a centre board, a hinge having one leaf connected with the centre board and having its other leaf slidingly mounted on the rod, a vertical bar secured to the slidingly mounted leaf, and means for securing the upper end of the bar to the well, substantially as and for the purposes described. 2nd. The combination with a centre well, a vertical rod rigidly mounted at one end of the well and having its lower end secured to the same, a centre board, a hinge having one leaf provided with an eye and slidingly mounted on the rod, and having its other leaf secured to the centre board, a rod secured to the leaf and having the eye and provided at its upper end with an eye and with a perforation, a transverse pin arranged in the perforation and securing the bar to the centre well, substantially as described.

No. 40,838. Wagon for Advertizing.*(Voiure d'annonce.)*

William W. McCall, Kansas City, Missouri, U. S. A., 2nd November, 1892; 6 years.

Claim.—1st. In an advertising wagon, the combination with a revoluble shaft C, of a shaft L, supported vertically above and in alignment with shaft C through the medium of the sprocket wheels C and M connected together by chain N, substantially as and for the purposes set forth. 2nd. In an advertising wagon, the combination with an axle revoluble by means of the wheels D keyed thereon and an advertising cloth provided with advertisements on each side through the series of meshing gear wheels P, T, W, W, and Z, Z, operating suitable rollers around which said cloth passes, and the level gear wheels O and O' keyed on opposite ends of shaft L and alternately engaging the bevelled face teeth of the said gear P substantially as described. 3rd. In an advertising wagon, the openings on either side of the double advertising roll, the advertisements on each side of the cloth, exposed at opposite sides of the wagon at the same time passing either up or downward, substantially as described. 4th. In an advertising wagon, the peculiar combination and arrangement of the cog wheels O and O' and the means for throwing the same in and out of gear with mutilated cog wheel P and thus reversing the movement of the wheel P, and therefore the direction in which the advertisement roll is moving, substantially as set forth and described. 5th. In an advertisement wagon, the combination of the pinion T, with the mutilated cog wheel P, which has peripheral teeth Q, extending about one-third of the way around its circumference for the purpose of allowing the pinion T, and therefore the advertising cloth to pause until the peripheral teeth and mutilated cog wheel P are in engagement again with the teeth of the pinion T, substantially as set forth and described. 6th. In an advertisement wagon, the combination and arrangement of a series of guide rollers L', the roller O', provided with the projection N', of spring rollers a and a', the advertising cloth M, provided with the flexible metal strips m, with the notches on their edges, and the means of operating the same, substantially as described. 7th. In an advertising wagon, the combination, arrangement and construction of the spring rollers a and a', of the releasing for the same consisting of the hand lever H', and its connections, substantially as described. 8th. In an advertising wagon, the pivotal frame P', consisting of the parallel side bars or rods Q', Q', pivotally engaging at opposite ends the transverse rods T', and R', rod R', being extended and

pivotaly connected to the lever U', a suitable distance above its pivotal connection with the wagon, and the spring X', adapted to force and hold said lever into engagement with either one of the notches Z', A' or B', of the slot Y', of the wagon seat, substantially as described. 9th. The combination and arrangement of a pivotal rectangular frame P', operated by a suitable lever of a vertically curved bracket pivoted or bolted and provided with bearing arms concentric to said pivotal point, resting and adapted to oscillate upon similar concentric bearing plates secured in cross bar of wagon, substantially as described. 10th. The combination with a frame P', pivoted in a bracket S', of forward supporting casting S, and secured permanently at the middle portion of rear cross bar P', to a vertical bracket J, having at its upper end the short transverse shaft L, provided with a sprocket wheel and bevelled gear O and O', keyed or otherwise rigidly secured upon opposite ends of shaft L, substantially as described. 11th. The combination of a mutilated spur wheel P, meshing with and adapted to operate a series of gears and pinions or rollers, over which advertising cloth passes with the actuating power or rear wheels D of said wagon through the mechanism, described as set forth. 12th. The combination with the actuating or spur wheel P, of the alternate engaging gears O and O', through the operation of the lever V', substantially as described. 13th. The combination with a roller provided with circumferential projections, engaging equally spaced notches in the edge of advertisement cloth, with the spring rollers U and U', to which the opposite ends of said cloth is secured, substantially as described. 14th. The combination of the spring rollers, with the roller through the meshing gears V, W and F, and the advertising cloth, the said rollers being adapted to revolve at a reduced rate of speed as their diameters increase from the accumulation of cloth around them, substantially as described. 15th. The construction of a spring roller, consisting of the operating shaft, the loosely journalled hollow casings, the spring coiled round said shaft and fastened permanently at one end to the shaft, and at the opposite end engaging normally the perforation in the adjacent end of the casting, substantially as and for the purpose set forth. 16th. The combination and arrangement between the spring rollers a and a', through the medium of the advertising cloth, guided over suitably arranged rollers and shafts, and secured at opposite ends to said spring rollers, substantially as described. 17th. The combination with the said spring rollers, of the releasing device, consisting of the lever pivoted at its middle, the rearward projection on its lower end normally held out of engagement with the forward end of spring B', substantially as and for the purpose set forth.

No. 40,839. Stove. (Poêle.)

Joseph T. Robbins, Newton, Iowa, U.S.A., 2nd November, 1892; 6 years.

Claim.—1st. An auxiliary cylinder having an open ended branch extending laterally, in combination with a cylinder in a stove and an open ended tube outside of said cylinder for the purposes of heating and circulating air in a building. 2nd. The auxiliary cylinder A, having a branch D, in combination, with a cylinder B, and a tube F, substantially as shown and described for the purposes stated. 3rd. The combination, of the auxiliary cylinder A, having a branch D, and the open ended tube F, with the cylinder B, and the base G, to operate in the manner set forth for the purposes stated. 4th. The combination, of the jacket P, having a doorway P', and a hinged door r, with the fuel chamber J, and the reservoir s, to operate in the manner set forth. 5th. The grate support m, having radial projections extending downward and outward to engage the top portion of the cylinder B, in combination, with a fuel chamber J, having an open bottom to allow the fuel therein to rest upon a grate placed upon the support m, for the purposes stated.

No. 40,840. Wheel for Tracing Patterns.*(Roue pour tracer les patrons.)*

Samuel Newman, Buffalo, New York, U.S.A., 2nd November, 1892; 6 years.

Claim.—1st. A device for tracing patterns, consisting of a toothed wheel 4, pivoted within a surrounding holding piece 1, so as to turn therein and provided with a series of teeth, for the purpose described. 2nd. In a device for tracing patterns, the combination, consisting of a surrounding holding piece 1, a wheel 4, pivoted therein by a pin 3, and a series of inclined teeth on said wheel, for the purposes set forth.

No. 40,841. Ointment for Sore Breasts.*(Onguent pour poitrine.)*

Ann Brenner, Hartsmere, Ontario, Canada, 2nd November, 1892; 6 years.

Claim.—A composition of matter consisting of the oil extracted from eggs and olive oil mixed together in the proportion specified, substantially as and for the purpose set forth.

No. 40,842. Faucet for Beer. (Robinet pour la bière.)

Frank Anthony Frumviller, Detroit, Michigan, U. S. A., 2nd November, 1892; 6 years.

Claim.—1st. The herein described beer faucet, provided with means for attaching the same to the bung faucet and with an air

tube 21 located near its discharge end, substantially as specified. 2nd. The herein described beer faucet, the same being adapted to be inserted into the end of a bung faucet, and provided in rear of its extremity with a disc 7, and a packing disc B, combined with means for clamping the same upon the bung faucet, substantially as specified. 3rd. The herein described beer faucet, the same consisting of a discharge tube 6, having the packing disc and washer at its inner end, clamping yoke mounted on the tube in front of the disc, and extending rearwardly beyond the disc, and means for locking the yoke upon a bung faucet, substantially as specified. 4th. The herein described beer faucet, adapted at its inner end for connection with a bung faucet, an externally threaded sleeve swivelled on the beer faucet 2, a collar threaded on the sleeve, arms extended from the collar, a yoke connected to the arm and adapted to engage the beer faucet, and means for locking the yoke and for rotating the sleeve, substantially as specified. 5th. The herein described beer faucet, the same consisting of a tube adapted at its rear end for connection with a bung faucet, an externally threaded sleeve mounted on the tube, a collar threaded on the sleeve and provided with arms and between the same with lugs, a U-shaped yoke adapted to engage the bung faucet connected with the arms, an arm pivoted between the lugs and provided with a hub perforated in alignment with the terminals of the yoke, and a locking pin removably passed through the terminals of the yoke and the hub of the arm, substantially as specified. 6th. The combination, with the bung faucet tube having the key 3, threaded portion 4, and reduced portion 5, of the tube 6, the rear end of which is fitted into the threaded portion 4, the disc 7, and the packing disc 8, interposed between the disc 7 and the end of the bung faucet, the externally threaded sleeve 9 mounted on the tube and having thumb lugs 10, the collar 11, and the rearwardly extending arms 12, the U-shaped yoke 13, adapted to fit the grooved portions 5 of the bung faucet, and having the perforations 14, the arm 17 pivoted to the collar, and having the hub 18 perforated in alignment with the terminals of the yoke, and the removable pin 19 for locking the arm and the yoke, substantially as specified.

No. 40,843. Pot for Paint. (Pot à peinture.)

William Butler Deeming and Henry Chandler Fuller, both of Bentonville, Arkansas, U.S.A., 2nd November, 1892; 6 years.

Claim.—1st. A paint pot having a transverse partition located therein and dividing the same into opposite non-communicating compartments, said partition being deeper than the pot whereby its upper edge projects above that of the pot and forms a guard to prevent the splashing or intermingling of the contents of the two compartments, substantially as described. 2nd. A paint pot having a transverse partition dividing the same into opposite non-communicating compartments, each of said compartments having a spout at longitudinally opposite points, and substantially horizontal flanges or guards extending from the partition at each side thereof near the edge of the pot, substantially as described. 3rd. A paint pot having a transverse partition dividing the same into opposite non-communicating compartments, said partition being deeper than the pot and extending above the upper edge of the same to form a guard, and provided at its opposite sides over each compartment and near the upper edge of the pot with substantially horizontal flanges or guards extending at an angle to the partition, substantially as described. 4th. A paint pot having a central dividing partition, and the wire bail rigidly secured at its ends to said partition, said bail having its intermediate portion twisted to form a shank above which its terminals are spread and bent to form a broad bearing, rung engaging hook disposed at right angles to the bail, substantially as described. 5th. The combination, of a paint pot provided at its ends with tapering spouts, a transverse partition dividing the pot into two compartments and the spout partitions arranged at the ends of the pot and provided at their bottoms with openings communicating with the compartments, substantially as described. 6th. The combination, of a paint pot provided at its ends with tapering spouts inclining upward and outward from the bottom of the pot, a transverse partition dividing the pot into two compartments, and the inclined spout partitions arranged below the upper edge of the pot and located above the bottom and extending to within a short distance of the outer ends of the spouts to provide spaces and having openings at their bottoms substantially as described. 7th. The combination, of a paint pot provided at its ends with tapering spouts, the inclined spout partitions provided at their bottoms with openings, a transverse partition dividing the pot into two compartments and extending above the upper edge of the pot, the inclined flanges secured to opposite faces of the transverse partition and extending therefrom over the compartments and forming shields, and a wire hook having two diverging shanks secured to the transverse partition at opposite sides of the pot, substantially as described.

No. 40,844. Coasting Sled. (Traineau.)

George Seebick, Pittsburg, Pennsylvania, U.S.A., 2nd November, 1892; 6 years.

Claim.—1st. The combination of a front runner, a steering bar attached thereto, a rear sled, a backbone extending from said steering bar to said rear sled, and a bar connecting said steering bar and said backbone, substantially as described and shown. 2nd. A brake for a propeller consisting of a step pivotally connected to said propeller and provided with a spur and a spring to retract said spur, substan-

tially as described and shown. 3rd. The combination of a steering wheel, a steering bar supported upon the axle of said wheel, two rear wheels connected with an axle, a platform supported upon said rear axle, a backbone rigidly secured to said steering bar and to said platform, and a connecting bar rigidly connected to said steering bar and to said backbone, substantially as described and shown.

No. 40,845. Potato Separator and Cleaner.

(Machine à séparer et nettoyer les patates.)

James Wildbrook, Oakville, Ontario, Canada, 2nd November, 1892; 6 years.

Claim.—As an improved potato separator and cleaner, two or more screens of different sized mesh carried one above the other in a shoe suspended by hangers and deriving vibratory motion through the revolving of the crank shaft, each screen having a spout arranged to receive the potatoes discharged from it, substantially as and for the purpose specified.

No. 40,846. Mould for Closed Cylinders.

(Moule pour cylindres fermés.)

Frank Xavier Black, Hamilton, Ohio, U.S.A., 2nd November, 1892; 6 years.

Claim.—1st. In a mould, the combination, substantially as set forth, of a base plate, a drag thereon containing vertical tubes standing on the base plate, a core having core bosses, a spider in said core having bosses projecting through said core bosses into contact with the upper ends of said tubes, and tube bolts anchored in said core and passing through said spider bosses and tubes and base plate, and clamping the core to the base plate. 2nd. In a mould, the combination, substantially as set forth, of a disc-like core base, a disc-like core top section, an annular shell-like core body section, and an annular series of bolts uniting the three core sections and clamping the annular section endwise between the base and top section. 3rd. In a mould, the combination, substantially as set forth, of a section metallic core barrel, an annular body core thereon, a core base, a core top section and bolts clamping the base and top sections endwise to the core barrel. 4th. In a mould, the combination, substantially as set forth, of a hollow cylindrical core, a perforated tube disposed centrally in said core and projecting out of the top of the mould, and perforated tubes disposed eccentrically in said core and projecting out of the bottom of the mould. 5th. In a mould, the combination, substantially as set forth, of a vertical series of interlocking core barrel segments, an annular series of bolts uniting the top and bottom members of the series and clamping the intermediate members of the series between them, and a core surrounding said segments and supported by them. 6th. In a mould, the combination, substantially as set forth, of a drag, a cope, an intermediate mould portion formed of a vertical series of separate sections, a core base, a core top section, and an intermediate body core having a barrel formed of a vertical series of barrel sections.

No. 40,847. Gate. (Barrière.)

Lewis T. Page, Vaughan, York, Ontario, 2nd November, 1892; 6 years.

Claim. 1st. A gate A, rigidly connected to a bevel gear wheel J, pivoted on the post C, in combination with a bevel gear wheel I, operated in any suitable manner, substantially as and for the purpose specified. 2nd. A gate A, rigidly connected to a bevel gear wheel J, pivoted on the post C, in combination with a bevel gear wheel I, meshing with the gear wheel J, pinion H, fast to the gear wheel I, pinion G, meshing with the pinion H, and arm F, operated by the rods L, substantially as and for the purpose specified. 3rd. A gate A, rigidly connected to a bevel gear wheel J, pivoted on the post C, the ring D, fixed to the bottom of the gate A, and surrounding the post C, around which the rollers E, are arranged, in combination with a bevel gear wheel I, meshing the gear wheel J, pinion H, fast to the gear wheel I, pinion G, meshing with the pinion H, and arm F, operated by the rods L, substantially as and for the purpose specified. 4th. A gate A, rigidly connected to a bevel gear wheel J, pivoted on the post C, the ring D, fixed to the bottom of the gate A, and surrounding the post C, around which the rollers E, are arranged, in combination with a bevel gear wheel I, meshing with the gear wheel J, pinion H, fast to the gear wheel I, pinion G, meshing with the pinion H, and arm F, pivoted lever K, connected to the disk M, by the chain P, and chain N, connecting the said disk to the latch O, substantially as and for the purpose specified. 5th. A gate A, pivotally connected to the post C, at its upper end in combination with a ring D, fixed to the bottom of the gate A, and surrounding the post C, around which the rollers E, are arranged substantially as and for the purpose specified.

No. 40,848. Paper Box. (Boîte de papier.)

James E. Baker, Brooklyn, New York, U.S.A., 2nd November, 1892; 6 years.

Claim.—1st. As a new and improved article of manufacture, a paper box having an inner cover formed with an outlet opening in combination with an outer cover and flap adapted to form a spout

coincident with the outlet opening substantially as described. 2nd. A box provided with a permanent cover B having an opening B¹ in combination with an outer cover C, having flap C¹ projected at its point to act as a stop to the cover C, substantially as described. 3rd. A box formed with double walls at one side and a permanent cover B having an opening B¹ in combination with the outer cover C and flap C¹ which works between the said walls, substantially as described. 4th. A box formed with a double wall *g g'* and flange *c²* and having a fixed cover B formed with an opening B¹ in combination with a cover C having a flange C¹ elongated at the point and working between the walls *g g'* substantially as described.

No. 40,849. Low Water Alarm.

(*Indicateur d'eau à sifflet.*)

Ira Aldorado Fuller, Pepin, Wisconsin, U. S. A., 2nd November, 1892; 6 years.

Claim.—1st. The combination, with the outer case A, having transverse partition C, of the float B, having stem *b* extending through said partition, the pulley D arranged in the upper end of the case, the flexible graduated tape *c*, attached at one end to the rod *b*, and passing over the pulley, the counterbalance weight E, attached to the tape and provided with guide eyes, and the guide rod *d* having a sliding connection with the weight, substantially as shown and described. 2nd. The combination of the outer case, having glazed window F, doors J and K, and partition C, the float B, having rod *b* passing through the partition, the pulley D arranged in the top of the case, and provided with trip pin *f*, the tape *c* attached to rod *b*, and passing over the pulley D, and having counter weight *t*, with guide rod *d*, and an electric circuit and bell with closing switch *g*, arranged to be struck by the pin *f*, of pulley D, substantially as shown and described.

No. 40,850. Ironing Machine.

(*Machine à repasser le linge.*)

The National Laundry Machinery Company, assignee of Charles L. Bartels, all of Rochester, New York, U. S. A., 2nd November, 1892; 6 years.

Claim.—1st. In an ironing machine, an ironing block having a concave polished surface, a revoluble padded roller formed to fit said concave surface, mechanism for moving said roller and said block against and away from each other, and mechanism for providing rotary motion of said roller, when said roller and said block are moved together. 2nd. In an ironing machine, an ironing block, a revoluble padded roller provided with mechanism adapted to press said roller against said block, a train of gearing adapted to rotate said roller continuously in one direction, and a train of mechanism adapted to produce an oscillating rotary movement of said roller together with mechanism for connecting either train with said roller. 3rd. In an ironing machine, an ironing block having a concave polished surface, a revoluble padded roller formed to fit said concave surface, in combination with mechanism for moving said roller against and away from said block, and mechanism for rotating said roller continuously in one direction, and mechanism for producing an oscillating rotary movement of said roller. 4th. In an ironing machine, an ironing block having a concave polished surface, a revoluble padded roller formed to fit said concave surface, mechanism for moving the roller against and away from the concave surface, and mechanism for producing an oscillating rotary movement of said roller. 5th. In an ironing machine, a stationary ironing block, having a polished concave surface, a revoluble padded roller formed to fit said concave surface, fixed upon a shaft set in movable bearings adapted to move toward said concave surface, a lever operating to move said roller in said movable bearings, in combination with a driving pulley and a train of gearing adapted to rotate said roller continuously in one direction, and a train of mechanism adapted to produce an oscillating rotary movement of said roller, together with mechanism for connecting either train with said roller. 6th. In an ironing machine, in combination with a frame thereof, a stationary ironing block having a concave polished surface, a padded roller, a movable first shaft bearing said roller and adjustable to and from said block, two gear wheels journaled loosely on said shaft, a clutch splined on said shaft and adapted to engage either of said gear wheels, a lever actuating said clutch, a parallel second shaft in fixed bearings, two gear wheels fixed on said second shaft, one of which engages with one of the loose gear wheels on said first shaft, a rocking sleeve loosely journaled on said second shaft, provided with one arm having a segmental gear, engaging with the other of the loose gear wheels on said first shaft, a lever operating said movable first shaft to engage and disengage the gear wheels thereon with and from the devices on said second shaft, a third parallel shaft in the fixed bearings, two gear wheels fixed thereon, one of which engages with the other gear wheel on the second shaft, a crank on said third shaft, a connecting rod connecting the crank to an arm of said rocking sleeve, a stud fixed on the outside of the frame, a driving pulley and a gear wheel connected together and set on said stud, said rear wheel engaging the other gear wheel fixed on the third shaft.

No. 40,851. Basin, Bath Tub or Sink.

(*Bassin, bain cuve ou évier.*)

Charles H. Moore, Youkers, New York, U.S.A., 2nd November, 1892; 6 years.

Claim.—1st. In a basin, bath tub or sink, a hollow valve and overflow operating on the waste way and connected by a fitting to a pull or handle above the overflow, a guide at the waste way to govern the hollow valve, and a means provided at the top of the overflow to allow the valve and overflow to be lifted and released from the waste way and swung into the basin without disconnecting the overflow from the pull and handle. 2nd. In a bath tub, wash basin or sink, in combination, a hollow valve and overflow operating on the waste way, a pull for the said valve connected to a fitting above the overflow and extending up from the fitting and through a passage located above the overflow to guide and operate the valve and a guide 3, set in the waste way and having the sides to fit loosely into the hollow valve and detached from it so that the said valve will find its seat if the overflow is turned in any position upon the pull in the passage above the overflow being moved in a way to allow the valve to drop, as and for the purpose set forth. 3rd. The combination, with a bath tub, wash basin or sink, of the hot and cold water cocks having a channel extending from each of them and communicating with a distributing nozzle and having a passage connected to a back from the outlet of the nozzle, and the pull of a standing valve operating in the said passage, as and for the purpose set forth. 4th. The combination, with two cocks supported on the surface of a slab of a bath tub or wash basin, and having a water channel joined to each of them, the said water channel forming a place about midway between the two cocks for the accommodation of a passage or chamber to operate the pull, of a waste valve in and having a nozzle leading therefrom and over the rim of the slab and into the basin, of a passage or chamber 8, located in the place formed by the water channel and having the pull of a waste valve operating in it above the surface of the slab. 5th. The combination, with a bath tub, wash basin or sink, of hot and cold water faucets having a channel connecting each of them with a nozzle through which a passage is made for the pull of a valve to operate in, a pull operating in said passage and an overflow and valve suspended to pull 5. 6th. The combination, with a bath tub, wash basin or sink, of the hot and cold water cocks joined to the wall of the passage 8, and having a nozzle connected thereto and projecting into the bath tub, basin or sink, so that the spout or outlet of the nozzle is in front of the standing overflow or farther from the end of the tub or basin where the cocks are supported than the overflow pipe is. 7th. In combination, a bath tub, basin or sink, the hot and cold water cocks joined to the wall of a passage 8 above the capping or slab on the top of the bath tub, basin or sink, the pull of the valve 2 operating in the passage 8, and the nozzle 7, jointed to the channel which connects the hot and cold water cocks and projecting into the basin. 8th. The combination, with the pull of the waste valve of a bath tub, wash basin or sink, extending up through a hole made in a slab, and through a passage or chamber secured above the hole in the slab, and having the pull of a waste valve operating in it, and a water channel connected to the hot and cold water cocks above the surface of the slab, of a place formed by the water channel about midway between the two cocks for the accommodation of a passage or chamber to operate the pull of a waste valve in, and the passage or chamber located in the said place formed by the water channel directly behind the water nozzle and above the surface of the slab, as and for the purpose set forth. 9th. The combination, with a bath tub, wash basin or sink, of a water channel placed above the slab or capping which covers and overhangs the rim of the basin, and having the pull of a valve operating and guided in a passage made through it substantially as shown, the said water channel being connected to a hot water cock on one side of the passage, and to a cold water cock on the other side of the passage, and having a base 14 extending down from it to the surface of the slab, and a water nozzle projecting over the rim of the slab and into the basin, as and for the purpose set forth. 10th. The combination, with two cocks placed on a slab and having shanks extending down through holes made in the slab, and flanges resting on the surface of the slab to support the said cocks, of a water channel joined to each of the cocks above the slab and having a passage through it about midway between the two cocks, and the pull of a basin or bath tub valve operating in said passage, and having a nozzle leading therefrom and over the rim of the slab into the basin. 11th. The combination, hot and cold water cocks, having a portion above and a portion below the slab, a water channel jointed to each of the cocks, a nozzle joined to the water channel, and extending above the surface of the slab and into the basin, and a passage or chamber to operate the waste valve in, placed on the surface of the slab directly behind the nozzle and connected thereto, above the surface of the slab, and having a casing extending down from the base, and an overflow pipe operating in the casing. 12th. In combination, hot and cold water cocks, having a part below and a part above the surface of the slab, and arranged so that the operative parts can be removed to repair without removing any part of the cocks below the slab, a water channel joined to each of the cocks, a nozzle connected to the water channel and projecting into the basin above the surface of the slab, and a passage or chamber to operate a waste valve in, located above the slab, and having a casing extending below the base or flange on the passage, and an overflow pipe operating in said casing.

No. 40,852. Attachments for Bicycles.*(Putin pour bicycles.)*

Frank W. Whiteman, Tonawanda, New York, U.S.A., 2nd November, 1892; 6 years.

Claim.—1st. A winter attachment for bicycles, comprising a frame-work and driving gear of the ordinary construction, a sled secured to the bicycle fork, a split runner secured to the rear portion of the bicycle so as to embrace the wheel tire, and a tire secured to the rear wheel and provided with projecting spurs, substantially as described. 2nd. The combination, with a bicycle frame and driving gear, of a sled secured to the fork of the bicycle so as to embrace the rear wheel, said runner having a scraper fixed thereon as described, and a tire secured to the rear wheel and provided with projecting spurs, substantially as set forth. 3rd. The combination, with the frame and driving gear of a bicycle fork, a split runner secured to the rear portion of the bicycle so as to embrace the rear wheel, a hub mounted on the rear axle and connected by braces with the bicycle frame, adjustable braces connecting the hub with the split runner, and a tire secured to the wheel and provided with projecting spurs, substantially as described. 4th. In a bicycle of the character described, the combination, with the bicycle fork, of a sled secured thereto, and means for adjusting the sled in relation to the fork, substantially as described. 5th. In a bicycle of the character described, the combination, with the bicycle fork, of a sled, and laterally adjustable bolts mounted in opposite sides of the sled and adapted to support the fork, substantially as described. 6th. The combination with the sled runner, of a concave shoe secured thereto, substantially as set forth. 7th. The combination, with the bicycle frame and the driving wheel, of a split runner secured to the frame so as to embrace the wheel, said runner having braces connecting with the wheel hub, and having inclined shoes thereon, substantially as described. 8th. The combination, with the driving wheel, of a tire having projecting spurs, and a tightening device for tightening the tire upon the wheel, substantially as described. 9th. The combination, with a tire having thickening ends, of screws mounted in the ends of the tire, and a turn-buckle for the screws, substantially as described. 10th. The combination, with a tire having thickening ends with recesses therein, of screws mounted in the ends of the tire, and a turn buckle mounted in the recesses and upon the screws, substantially as described.

No. 40,853. Method of Transforming and Utilizing Electrical Energy. (Méthode de transformer et d'utiliser l'énergie électrique.)

Mark Wesley Dewey, Syracuse, New York, U.S.A., 2nd November, 1892; 6 years.

Claim.—1st. The method of transformation and utilization of electrical energy, consisting in charging one member of a condenser with electricity of high tension and small volume, thereby inducing a like charge on the other member, and simultaneously therewith and thereby charging the member of another condenser with electricity of low tension and great volume, and then discharging the condensers and passing the transformed electricity through one or more electric translating devices. 2nd. The method of transformation and utilization of electrical energy, consisting in charging one member of a condenser with electricity having certain qualities, thereby inducing a like charge on the other member, and simultaneously therewith and thereby charging the members of another condenser with electricity having qualities different from those possessed by the electricity of the former condenser, and then discharging the condensers and passing the transformed electricity through one or more electric translating devices. 3rd. The method of transformation and utilization of electrical energy, consisting in charging one member of a condenser with electricity of high tension and small volume, and simultaneously therewith and thereby charging a member of a condenser with electricity of low tension and great volume, and then discharging the latter and passing the transformed electricity through one or more electric translating devices. 4th. The method of transformation or conversion of electrical energy, consisting in alternately charging and discharging a member of a condenser with positive and negative electricity respectively, having certain qualities, and simultaneously therewith and thereby alternately charging and discharging a member of a condenser with positive and negative electricity respectively, having different qualities from those possessed by the electricity of the former, and passing the alternate charges and discharges of transformed or converted electricity through one or more electric translating devices. 5th. The method of transformation and utilization of electrical energy, consisting in charging one member of a condenser having a small surface area with electricity, thereby inducing a charge on another member having like surface area, and simultaneously therewith and thereby charging the members of another condenser having greater surface area than the former, and then discharging the latter or greater surface area condenser and passing the electricity therefrom through electric translating devices. 6th. The method of transformation and utilization of electrical energy, consisting in charging one member of a condenser having a small surface area with electricity, thereby inducing a charge on another member having like surface area, and simultaneously therewith and thereby charging the members of another condenser having greater surface area and conductivity than the former, and then discharging the

latter or greater surface area condenser, and passing the electricity therefrom through low resistance supply conductors to electric translating devices. 7th. The method of transformation of electrical energy, consisting in inducing electrostatically by a current of a certain tension, and volume a current of different tension, and volume without changing materially the total energy of the inducing current. 8th. The method of transformation of electrical energy, consisting in electrostatically, and by a current of a certain electro motive force, and volume inducing simultaneously therewith a current of different electro motive force, and volume and maintaining the same or approximately the same total energy in the induced current. 9th. The method of transformation and utilization of electrical energy, consisting in charging a member of a condenser with electricity of a certain tension and volume, and simultaneously therewith, and thereby charging a member of a condenser with electricity of different tension and volume, and then discharging the latter and passing the transformed electricity to one or more electric translating devices. 10th. The method of transformation or conversion of electrical energy, consisting in charging a member of a condenser with electricity, and simultaneously therewith and thereby charging a member of a condenser with electricity of different tension, and then discharging both members. 11th. The method of transformation and utilization of electrical energy, consisting in charging one member of a condenser, having a variable surface area with electricity, thereby inducing a like charge on the other member, and simultaneously therewith, and thereby charging the members of another condenser having a variable surface area with electricity, having different qualities from those possessed by the electricity of the former condenser, and then discharging the condensers and passing the transformed electricity through one or more electric translating devices. 12th. The method of transformation and utilization of electrical energy, consisting in charging the members of a condenser with electricity, and simultaneously therewith and thereby charging the members of another condenser, having a variable surface area with electricity, and then discharging the latter through one or more electric translating devices, and varying the tension and volume of the discharge by varying the surface area of the latter condenser. 13th. The method of transformation and utilization of electrical energy, consisting in charging two condensers of like capacity with electricity, simultaneously therewith and thereby charging two other condensers of like capacity, but different from that of the former two, discharging the latter two condensers, and passing the transformed electricity therefrom through one or more electric translating devices. 14th. The method of transformation and utilization of electrical energy, consisting in charging one or the members of each of the condensers of like capacity with electricity, simultaneously therewith and thereby charging one of the members of each of two condensers of like capacity, but differing from the capacity of the former members, discharging the latter two members, and passing the transformed electricity therefrom through one or more electric translating devices. 15th. The method of transformation and utilization of electrical energy, consisting in charging two condensers of like but small capacity with electricity, and simultaneously therewith and thereby charging two other condensers of like but greater capacity with the former two, discharging the great capacity condensers and passing the electricity therefrom through low resistance supply conductors to electric translating devices. 16th. The method of transformation and utilization of electrical energy, consisting in charging two condensers of like but small capacity and low conductivity with electricity, and simultaneously therewith and thereby charging two other condensers of like but greater capacity and conductivity than the former two, discharging the great capacity condensers, and passing the electricity therefrom through low resistance supply conductors to electric translating devices.

No. 40,854. Nut Tapping Machine.*(Appareil à tarauder les écrous.)*

Clarence L. Chapman, Erie, Pennsylvania, and Henry Isaac Petrie, Little Falls, New York, U.S.A., 2nd November, 1892; 6 years.

Claim.—1st. In a nut tapping machine, the combination, with an inclined chute having the space between its side walls at its inner open end contracted, of a rotary wheel, the inner portion of which enters said contracted space, said wheel having a toothless periphery provided with a notch forming a single radial shoulder, to pick up one nut at a time and carry it outside of the hopper, substantially as shown and described. 2nd. In a nut tapping machine, a nut feeding device comprising a wheel having a shoulder adapted to pick up and carry a nut, and a vibrating inclined chute having flanges upon which the shoulder of the said wheel discharges, substantially as shown and described. 3rd. In a nut tapping machine, a nut feeding device comprising a wheel having a shoulder adapted to pick up and carry a nut, a vibrating inclined chute having flanges upon which the shoulder of the said wheel discharges, and a second chute having a twisted upper end and into which said first chute discharges, substantially as shown and described. 4th. In a nut tapping machine, a spindle having a tap holder adapted to support the tap, and a plunger within said holder to engage the upper end of the tap and push it out of the holder, substantially as shown and described. 5th. In a nut tapping machine, a spindle having a tap holder adapted to support the tap, the spindle being held to slide vertically, in combination with a plunger for automatically disconnecting the tap when the said spindle moves upward, substan-

tially as shown and described. 6th. In a nut tapping machine, a tap holder having a polygonal recess for the reception of the polygonal end of the tap, a plunger in the holder above said recess, a lever for actuating the plunger, and spring pressed pins held to the slide in the holder and adapted to lock the tap in place in the holder, substantially as shown and described. 7th. In a nut tapping machine, the combination, with a tap having a polygonal end formed with an annular semi-circular recess, of a tap holder having a polygonal recess for the reception of the polygonal end of the tap, spring pressed pins held to slide in said holder and adapted to lock the tap in place in the holder, and a plunger having longitudinal movement in the holder, to engage the upper end of the tap and push its recessed end past said pins, substantially as shown and described. 8th. In a nut tapping machine, the combination, with a tap having a polygonal end formed with an annular recess, of a tap holder having a polygonal recess for the reception of the polygonal end of the tap, spring pressed pins held to slide in the said holder, and adapted to lock the tap in place in the said holder, and a plunger held to slide in said tap holder to disconnect the said tap and holder, substantially as shown and described. 9th. In a nut tapping machine, the combination, with a swinging arm, of a nut holder and a clamp to grasp the tap when the arm and attached holder and clamp are swung outward, substantially as set forth. 10th. In a nut tapping machine, the combination, with a swinging arm, of a nut holder thereon, a normally open tap grasping clamp adjacent thereto, and closing on the tap when the arm is swung outward, and a clamp opener or releaser in the path of the clamp when the arm and its attached holder and clamp are swung inward, substantially as shown and described. 11th. In a nut tapping machine, the combination, with a lubricant tank are receiver, of an arm mounted to swing into and out of the tank or receiver, and provided with a nut holder on its end within the tank or receiver, substantially as shown and described. 12th. In a nut tapping machine, the combination, with a shaft mounted to turn, of an arm secured on said shaft, a tap grasping clamp or gripper held on said arm to hold the tap in place on the arm, and a releaser operating in conjunction with the clamp and serving to open the same, as set forth. 13th. In a nut tapping machine, the combination, with a nut holder mounted to swing and having an end opening, of a fixed chute adapted to register with the said end opening, and an inclined vibrating chute discharging into the said fixed chute, substantially as shown and described. 14th. In a nut tapping machine, the combination, with a nut holder mounted to swing and having an end opening, of a fixed chute adapted to register with said end opening, and a fixed spring adapted to be engaged by said nut holder and serving to close the end opening of said chute, substantially as shown and described. 15th. In a nut tapping machine, the combination, with a nut holder, of a plate supporting said nut holder, spring pressed jaws pivoted on said plate, and a fixed plate having bevelled arms adapted to be engaged by said jaws to open the latter, substantially as shown and described. 16th. In a nut tapping machine, the combination, with a spindle mounted to rotate and to slide vertically, of a tap holder held on said spindle and adapted to support the tap, a rocking lever for imparting an upward sliding motion to the spindle, and a plunger for disconnecting the tap and its holder when the spindle is on one of its upward movements, substantially as described. 17th. In a nut tapping machine, the combination, with a lever mounted to swing and provided with a ring, of a tap holder passing centrally through said ring and adapted to support the tap, and a second lever fulcrumed on said tap holder and adapted to travel with one end on the said ring, and a plunger held to slide in said holder and operated by said second lever to remove the tap from the holder, substantially as shown and described. 18th. In a nut tapping machine, the combination, with a lever mounted to swing and provided with a ring, of a tap holder passing centrally through said ring and adapted to support the tap, a second lever fulcrumed on said tap holder and adapted to travel with one end on said ring, a plunger held to slide in said holder and operated by the said second lever to remove the tap from the holder, and cams for actuating the said lever and holder to move both simultaneously upward, substantially as shown and described. 19th. In a nut tapping machine, the combination, with a lever mounted to swing and provided with a ring, of a tap holder passing centrally through said ring and adapted to support the tap, a second lever fulcrumed on said tap holder and adapted to travel with one end on said ring, a plunger held to slide in said holder and operated by said second lever to remove the tap from the holder, cams for actuating said lever and holder to move both simultaneously upward, and a spindle having a rotary and a sliding motion and carrying said holder, substantially as shown and described. 20th. In a nut tapping machine, the combination, with a spindle mounted to turn and to slide, of a lever connected with said spindle to raise the same, a cam operating on said lever to raise the same, and a spring pressing on said spindle to move the same downward, substantially as shown and described. 21st. In a nut tapping machine, the combination, with a spindle mounted to turn and to slide, of a lever connected with said spindle to raise the same, a cam operating on said lever to raise the same, and a spring pressing on said spindle to move the same downward, substantially as shown and described. 22nd. In a nut tapping machine, the combination, with a spindle mounted to turn and to slide, of a lever connected with said spindle to raise the same, a cam operating on said lever to raise the same, a finger held in said cam, a toothed wheel actuated by said finger and carrying a pin, and a shaft carrying an arm adapted to be engaged by said pin to turn

said shaft, substantially as shown and described. 23rd. In a nut tapping machine, the combination, with a spindle mounted to turn and to slide, of a lever connected with said spindle to raise the same, a cam operating on said lever to raise the same, a finger held in said cam, a toothed wheel actuated by said finger and carrying a pin, a shaft carrying an arm adapted to be engaged by said pin to turn said shaft, a cam held on said shaft, and a lever actuated by said cam for detaching the tap from the spindle, substantially as shown and described. 24th. In a nut tapping machine, the combination, with a spindle mounted to turn and to slide, of a lever connected with the spindle to raise the same, a cam operating on the lever to raise the same, a finger held in the cam, a toothed wheel actuated by the finger and carrying a pin, a shaft carrying an arm adapted to be engaged by the pin to turn said shaft, a cam held on said shaft, a lever actuated by the cam for detaching the tap from the spindle, and a detaching device connected with the holder of the said spindle, and actuated from said lever, substantially as shown and described. 25th. In a nut tapping machine, the combination, with a shaft having a slow turning movement, of a cam held on the shaft, a shifting lever actuated by the cam, a clutch held to slide on and to turn with the shaft and connected with the shifting lever, and a gear wheel having a constant rotary motion, mounted loosely on the shaft and provided with a clutch adapted to be engaged by the first named clutch, substantially as shown and described. 26th. In a nut tapping machine, the combination, with a shaft having a slow turning movement, of a cam held on the shaft, a shifting lever actuated by the cam, a clutch held to slide on and to turn with the shaft and connected with the shifting lever, a gear wheel having a constant rotary motion, mounted loosely on said shaft, and provided with a clutch adapted to be engaged by said first named clutch, and a spring pressing on the first named clutch to force the latter suddenly in contact with the gear wheel clutch, substantially as shown and described. 27th. In a nut tapping machine, the combination, with a shaft having an intermittent fast and slow rotary motion, of a cam wheel secured on the shaft and provided with a pin and a recess in its periphery, a lever adapted to be engaged by said pin, and provided with a segmental gear wheel, a gear wheel in mesh with said segmental gear wheel, a second shaft on which said gear wheel is mounted loosely, and a spring coiled on said shaft and secured at one end to the gear wheel, and at its other end connected with said shaft, as set forth. 28th. In a nut tapping machine, the combination, with a shaft having an intermittent fast and slow rotary motion, of a cam wheel secured on said shaft and provided with a pin and a recess in its periphery, a lever adapted to be engaged by said pin, and provided with a segmental gear wheel, a gear wheel in mesh with said segmental gear wheel, a second shaft on which said gear wheel is mounted loosely, a spring coiled on said shaft and secured at one end to the gear wheel, and at its other end connected with the shaft, and a segmental arm secured on the shaft and carrying the nut holder, substantially as shown and described. 29th. In a nut tapping machine, the combination, with a shaft having an intermittent fast and slow rotary motion, of a cam wheel secured on said shaft, and provided with a pin and a recess in its periphery, a lever adapted to be engaged by said pin and provided with a segmental gear wheel, a gear wheel in mesh with said segmental gear wheel, a second shaft on which said gear wheel is mounted loosely, a spring coiled on said shaft and secured at one end to said gear wheel, and at its other end connected with said shaft, a segmental arm secured on said shaft and carrying a nut holder, and a tap clamping device held on said segmental arm and adapted to support the tap, substantially as shown and described. 30th. In a nut tapping machine, the combination, with a shaft having an intermittent fast and slow rotary motion, of a cam wheel secured on said shaft, and provided with a pin and a recess in its periphery, a lever adapted to be engaged by said pin and provided with a segmental gear wheel, a gear wheel in mesh with the said segmental gear wheel, a second shaft on which said gear wheel is mounted loosely, a spring coiled on said shaft and secured at one end to said gear wheel, and at its other end connected with said shaft, a segmental arm secured on said shaft and carrying the nut holder, a tap clamping device held on said segmental arm and adapted to support the tap, and a fixed plate for opening said clamping device, substantially as shown and described.

No. 40,855. Fastener for Window Blinds.

(Arrête-store de fenêtre.)

George Hees, Son & Co., Toronto, assignees of Thomas Picton Brown, Belleville, both in Ontario, Canada, 2nd November, 1892; 6 years.

Claim.—As an article of manufacture, a curtain roller clip, consisting of a piece of metal having a body portion C, and teeth B and A bent to an angle to the body portion C, as and for the purpose hereinbefore set forth.

No. 40,856. Expander for Bands.

(Dilatateur pour bandes.)

Piercy Little, Mount Vernon, New York, and Oscar Landback, Northumberland, Pennsylvania, both in the U.S.A., 2nd November, 1892; 6 years.

Claim.—1st. The combination, with the expanders and levers pivotally connected to the expanders, of a cam for forcing the ends

of these levers connected with the expanders outward, and means for forcing the levers normally inward, substantially as set forth. 2nd. The combination, with a stationary rod and frame loosely mounted thereon, of expanders arranged to slide outwardly on a frame, and a loosely mounted sleeve having cams thereon adapted to operate in connection with the expanders for forcing them outward, substantially as and for the purpose specified. 3rd. The combination, with a stationary rod and a frame connected therewith, of expanders, levers connected with the latter, cams for operating to force the expanders outward, and a spring for returning them to their normal positions, substantially as and for the purpose specified. 4th. The combination, with a suitable frame and expanders, of a cone-shaped hood located over the expanders in position to guide the article being operated upon over the expanders, substantially as and for the purpose specified. 5th. The combination, with a stationary rod, a frame loosely mounted thereon, a sleeve loosely mounted on the rod, and means for sliding said sleeve, of a set of expanders, levers connected with the expanders, a spring interposed between one arm of each lever and the sleeve, and a cam for operating against the levers, whereby the expanders are forced outward, substantially as and for the purpose specified.

No. 40,857. Horse Hay Rake. (Râteau à cheval.)

William J. Risedorf, Albany, New York, U.S.A., and Walter Coulthard, Oshawa, Ontario, Canada, 2nd November, 1892; 6 years.

Claim.—1st. In a horse hay rake, the combination, with a revolving axle, a draft frame, and a rake head of a bracket connecting said rake head loosely with said revolving axle, and having a friction wheel connected with it, a friction strap having one end secured to the draft frame with its body around the friction wheel, and its opposite end secured to a lever pivoted to said draft frame, substantially as and for the purposes hereinbefore set forth. 2nd. In a horse hay rake, the combination, with the friction wheel and bracket mounted loosely on a revolving axle, and coupling the rake head with said friction wheel, of a friction strap coating with said friction wheel, and having one end fixed permanently to the draft frame, and its opposite end with a lever pivoted to said frame, substantially as and for the purposes hereinbefore set forth. 3rd. In a horse hay rake, the combination, with a revolving axle, having a ratchet wheel secured therewith, a bell crank lever pivoted to the rake head, and carrying a pivoted pawl which coacts with said bell crank lever, of a friction wheel loosely mounted on the revolving axle and connected with the rake head, a friction strap connected with the draft frame at one of its ends, and a lever pivoted to said frame and to the opposite end of said friction strap, substantially as and for the purposes hereinbefore set forth.

No. 40,858. Apparatus for Raising and Lowering Boats. (Appareil pour lever et baisser les bateaux.)

Joseph Stevens and Douglas Wright Dana, both of Trenton, Michigan, U.S.A., 2nd November, 1892; 6 years.

Claim.—1st. In a device of the kind described, the combination, with the boat of the double windlass secured therein, of the detachable winding mechanism for raising the boat, and the brake mechanism for lowering the same, substantially as described. 2nd. In a device of the kind described, the combination, with the boat of the shaft *a* journaled in the bottom thereof, and provided at each end with the winding drums, of the rope detachably secured thereto at its end, the detachable winding mechanism and the brake mechanism, substantially as described. 3rd. In a device of the kind described, the combination, of the shaft *a*, the drum *b*, *b*¹, the rope *C*, having the loop *D*, the pin *E* upon the drum, the gears *d*, *e*, the sliding shaft *f* for locking the devices, the friction wheel *l*, the brake strap *F*, the eccentric *p*, and the hand lever *r*, substantially as described. 4th. In a device of the kind described, the combination, of the shaft *a*, the drums *b*, *b*¹, the rope *C* detachably secured thereto, the gears *d*, *e*, the sliding shaft *f*, having notches *h*, *h*¹, the hand lever *i*, the spring *j*, the crank *o*, the friction wheel *l*, the brake strap *F*, the eccentric *p*, shaft *g*, hand lever *r*, ratchet wheel *m* and pawl *n*, the parts being arranged to operate, substantially as and for the purpose described. 5th. In a device of the kind described, a double windlass consisting of a shaft journaled in the bottom of the boat and provided with winding drums, said drums located beneath the seats, and hoisting ropes passing through the seats, substantially as described.

No. 40,859. Lawn Mower. (Foucheuse de pelouse.)

Alexander Hanton, William J. Whiteside and James Lewis, all of Hamilton, Ohio, U.S.A., 2nd November, 1892; 6 years.

Claim.—1st. The metallic frame *A*, having hub *A*¹, and lugs *i*¹ for handle, the under axle support *B*, secured thereto, to support shaft *C*, having end collars *D*, clutches *E*, springs *S*, drive wheels *H*, having central clutches *F*, in combination with the wheels *T* and *W*, and shaft *S*¹, provided with knives *m*, substantially as described and set forth. 2nd. The combination of the frame *A*, having extension hub *J*, as a part thereof, with the shafts, wheels and clutches as described, the rotary arms *L* and *L*¹, the curved knives *m* secured thereto, the rigid knife *o*, secured to brace *n*, and the arms *P* and *P*¹ attached to said support to carry the roller *K*, substantially as and for

the purpose hereinbefore set forth. 3rd. The combination of the frame *A*, as described, having side extension hub *J*, to support side extension shaft *S*, provided with rotary arms *L* and *L*¹, having knives *m*, and the brace *n*, having rigid knife *o*, substantially as and for the purpose hereinbefore set forth.

No. 40,860. Roofing Cement. (Ciment pour toitures.)

George W. Reed, assignee of Charles Torrey Williams, Montreal, Quebec, Canada, 2nd November, 1892; 6 years.

Claim.—A roofing cement, the component parts of which are Trinidad asphalt, resin or pine pitch, and coal tar or petroleum residuum combined in about the proportions specified.

No. 40,861. Spring Motor for Sewing Machines, etc. (Moteur à ressort pour machines à coudre, etc.)

Brunno Reichert, Franz A. Rattiet Fred Specht and Nathan Marsh, all of South Bend, Indiana, U.S.A., 2nd November, 1892; 6 years.

Claim.—1st. The combination, with a spring motor and its transmitting train of gear wheels, of a starting and stopping device, composed of a segmental plate having notches or recesses, a transmitting lever rod engaging one of said recesses, a fulcrumed and weighted elbow lever connected to the lower end of the lever rod, and provided at its upper end with a lateral rod, an elastic buffer on a transmitting pulley of the motor, said lug being placed by the lever rod in the path of the buffer or out of the same, so as to produce the stopping or starting of the same, substantially as set forth. 2nd. The combination, with a spring motor and its transmitting train of gear wheels, brake discs applied to the shaft of one of the brake shoes, and adapted to be placed in or out of contact with said discs, and a treadle supported on the pendent rods which are connected to the brake shoes, so as to apply or remove the same from the disc by the forward or backward action of the treadle, substantially as set forth. 3rd. The combination, with a spring motor and its transmitting gear wheels, brake discs applied to the shafts of one of the transmitting gear wheels, brake shoes applied to an oscillating shaft supported in the frame or housing of the spring motor, pendent rods to the lower end of which the treadle is applied, one of said rods being connected at its upper end to the oscillating brake shaft, substantially as set forth.

No. 40,862. Level Tube for Surveying Instruments. (Tube de niveau pour instruments d'arpentage.)

James A. Brown and Fedor Gustave Wetz, both of Wilmington, Ohio, U.S.A., 2nd November, 1892; 6 years.

Claim.—1st. In an instrument for surveying, the combination, with a telescope, of a level tube secured thereto parallel to the line of sight, said level tube having upper and lower slots, with a scale on each slot for the bubble, substantially as described. 2nd. In an instrument for surveying, the combination, with a telescope, of a level tube connected to the said telescope by screws rigidly attached to the telescope, said tubes having arms held between nuts moving on the said screws, and having upper and lower slots for the bubble, with adjustable scales fitted to each slot, substantially as described. 3rd. In a theodolite, the combination, with the telescope *A*, having screws *C* rigidly secured thereto, of the tube *B*, inclosing a glass bubble tube *B*¹, said tube *B* having opposite apertures, *B*² and *B*³, for the bubble, and arms *b*¹ and *b*¹, slipping over the screws *C*, scales *F*, having elongated apertures *f*, for the screws *f*¹, secured over said apertures, and nuts *D* holding said arm *b*¹, substantially as described.

No. 40,863. Compressor. (Compresseur.)

Hervey Clark Sergeant, New York, State of New York, U.S.A., 3rd November, 1892; 6 years.

Claim.—1st. The combination, in a compressor with a hollow piston having ports in its opposite faces communicating with the cylinder, and a hollow piston rod or inlet pipe in free communication with the interior of said piston at its inner end and with the atmosphere or source of supply at the outer end, of valves fitted to said ports in the piston and opening outwardly therefrom to the cylinder, substantially as and for the purpose herein set forth. 2nd. The combination, with the cylinder of a compressor and outlet valves in the opposite heads thereof, of a hollow piston, a hollow rod attached to said piston passing through one of the cylinder heads and open at the outer end and to constitute an inlet pipe, and inlet valves provided in the piston on opposite sides thereof and opening outwards therefrom, substantially as and for the purpose herein set forth. 3rd. The combination, with the piston of a compressor constructed with an annular passage and with two valve seats one within the inner circumference and the other outside of the outer circumference of said annular passage, of a ring valve having internal and external flanges which form valve faces corresponding with said seats, substantially as and for the purpose herein described. 4th. The combination, with the piston of a compressor constructed with an annular passage, a cylindrical valve guide within said passage, and a valve seat on one face of the piston at one edge of said passage, of a ring valve fitted to said guide and having a flange which constitutes a valve face fitted to said seat, substantially as and for the purpose herein set forth. 5th. The combination,

with the piston of a compressor, of a ring valve of T-shaped radial section, substantially as herein described, whereby there is formed an annular stem and one face within the inner circumference, and another outside of the outer circumference of said stem, as herein set forth. 6th. The combination, with the piston of a compressor constructed with an annular passage, and a ring valve adapted to said passage and containing slots, of pins inserted into the piston across the said passages, and passing through the said slots in the valve to retain the latter within the piston, substantially as and for the purpose herein set forth. 7th. The combination with the hollow piston of a compressor constructed with an annular passage, with pin holes crossing said passage and with drift holes crossing said pin holes, of a ring valve adapted to said passage and containing slots, pins inserted into said pin holes and through said slots for securing the valve in place, and plugs inserted into said drift holes for closing the same, but removable to permit the entrance of a drift for driving out the said pins to liberate the valve, substantially as herein described.

No. 40,864. Block Signal System. (*Système de signal.*)

Mahlon S. Conly, Chicago, Illinois, U.S.A., 3rd November, 1892; 6 years.

Claim.—1st. In a block signalling system, the combination, with a series of signals, a pair of opposing electro-magnets for operating each signal and a local circuit therefor, of a secondary circuit connecting each pair of signals and a polarized relay for each signal included in said secondary circuit for shunting the primary current of the local circuit alternately through said electro-magnets, substantially as described. 2nd. In a block signalling system, the combination, with a local circuit, a pair of opposing electro-magnets for operating the signal included in said circuit and a track instrument also included in the circuit, of a shunting device operated by the breaking of the circuit at the track instrument for shunting the circuit alternately through said magnets, substantially as described. 3rd. In a block signalling system, the combination, with a series of signals, a local circuit for each signal, a pair of opposing electro-magnets for operating said signals included in each local circuit and a track instrument for each signal also included in each local circuit of a series of secondary circuits connecting said signals in pairs and a polarized relay for each signal included in said secondary circuit for alternately shunting the local primary current through said electro-magnet, substantially as described. 4th. In a block signalling system, the combination, with a series of signals, a local circuit for each signal, a pair of opposing electro-magnets for operating the signals included in the local circuits and track instruments in each local circuit, of a series of secondary circuits connecting the signals in pairs, a polarized relay for each signal included in said secondary circuit for alternately shunting the local primary current through said electro-magnets and a switch device operated by each signal for changing the direction of the current of the secondary circuit through said relays, substantially as described. 5th. In a block signalling system, the combination, with a series of signals, the pivoted targets thereof, a local circuit for each signal and a pair of opposing electro-magnets included in said circuits, of a rocking armature alternately attracted by said magnets and connected with so as to operate the target, and a shunting device for shunting the current of the local circuit alternately through said electro-magnets, substantially as described. 6th. In a block signalling system, the combination, with a series of signals, the targets thereof, a local circuit for each of said signals, a pair of opposing electro-magnets included in each of said circuits, a rocking armature alternately attracted by said magnet and connected with so as to actuate said target, and a track instrument included in each local circuit, of a series of secondary circuits connecting the signals in pairs, and a polarized relay for each signal included in said secondary circuits for alternately shunting the current of the local circuit through said electro-magnets, substantially as described. 7th. In a block signalling system, the combination, with a series of signals, the pivoted targets thereof, a local circuit for each signal, a pair of opposing electro-magnets in each circuit, a rocking armature therefor alternately attracted by said magnets and connected with so as to actuate the target and the track instrument for each local circuit, of a series of secondary circuits connecting said signals in pairs, a polarized relay for each signal included in said secondary circuits for alternately shunting the primary current of the local circuits through the electro-magnets, and a switch device operated by each target for changing the direction of the current of the secondary circuit through the relays, substantially as described.

No. 40,865. Method of Producing Flat Reliefs for Wall Ornamentation. (*Méthode de produire des reliefs plats pour l'ornementation des murs.*)

Paul Klinka, Berlin, Prussia, 3rd November, 1892; 6 years.

Claim.—1st. Flat reliefs made by first pressing blotting paper prepared with cascine lime and flour paste into the irregularities of the mould, then filling up any irregularities on the back of the paper relief with a putty made of flour paste, saw-dust and turpentine, and finally covering over the smooth surface thus produced with paper, substantially as hereinbefore described.

No. 40,866. Tray for Photographic Purposes.

(*Plateau pour photographie.*)

André Desboutin, London, England, 3rd November, 1892; 6 years.

Claim.—1st. A developing tray or dish having an opening formed in the bottom thereof, covered by glass of non-actinic colour, and provided with a lid also containing an opening caused by glass of non-actinic colour, the said vessel being also provided with a spout communicating with the interior of the vessel through a hole or aperture opposite to which is placed a screen for preventing the entrance of light into the tray or dish, all substantially as described. 2nd. A developing tray or dish for photographic purposes having a lid and openings covered by glass of non-actinic colour in the bottom of the vessel and in the lid, one end of the tray or dish being provided with a spout and with screen for preventing the entrance of light through the hole between the interior of the dish and the spout, substantially as described by reference to figures 1 to 3 of the accompanying drawings. 3rd. A developing tray or dish for photographic purposes of the kind hereinbefore described, and provided with a spout at one corner, the aperture establishing communication between the interior of the dish and the spout being formed in a supplementary partition and provided with a screen, substantially as described by reference to figures 4 to 6 of the accompanying drawings.

No. 40,867. Cup and Take-up for Twine.

(*Coupe et dévidoir à ficelle.*)

James D. Fuller and William Bentley, both of Lethbridge, Northwest Territories, Canada, 3rd November, 1892; 6 years.

Claim.—1st. A twine holding cup adapted for suspension, and vertically slotted in its wall, substantially as described. 2nd. A twine holding cup slotted from the top edge downwardly, the slot edges converging below, said cup having a bail loop handle, substantially as described. 3rd. In a twine take-up, a pendantly sustained guide box having a loose weight therein, a sliding tension bar on the box adapted to engage a twine strand, and keeper loops on the box adapted to receive the twine strand, substantially as described. 4th. In a twine take-up, a guide box adapted for suspension from a holder cup and having a loose weight therein provided with a ring eye, a vertically sliding tension bar on one side at the upper end of the guide box, a scrolled edge and a keeper loop on the opposite edge of the guide box, and a keeper loop on the lower end of the box aligning with the upper keeper loop, substantially as described. 5th. The combination, with a holder cup, of a depending guide box having a loose weight therein, and a sliding tension bar on one side of said box at its upper end, substantially as described. 6th. The combination, with a vertically slotted holder cup having a bail handle at its upper edge and a loop on its bottom adapted to receive a hanger hook, an elongated guide box connected by the hook to the loop on the cup, and a sliding tension bar on the box having a ring eye thereon at its upper end, of a weight adapted to slide loosely within the guide box, a twine guiding ring on the upper end of the guide box, a scroll and guide loop on the opposite edge of the guide box, and an aligning guide loop on the lower end of the box, substantially as described.

No. 40,868. Car Seat. (*Siège de chars.*)

Harris A. Wheeler, assignee of Essington N. Gilfillan, both of Chicago, Illinois, U.S.A., 3rd November, 1892, 6 years.

Claim.—1st. In a car seat, the pivoted supporting bars, in combination with the back, and a detachable pivot connection between said bars and back, substantially as described. 2nd. In a car seat, the pivoted supporting bars, in combination with the back, a detachable pivot connection between said bars and back, and a stop device for limiting the movement of the back upon its pivots, substantially as described. 3rd. In a car seat, the combination with the supporting bars and the back, of a socket plate secured to one of said members, and a pivoting plate secured to the other member, having a sliding connection with said socket plate, whereby said plates afford a detachable pivot connection between the supporting bars and back, substantially as described. 4th. In a car seat, the combination with the supporting bars and the back, of a socket plate secured to one of said members, and a pivoting plate secured to the other member, having a sliding connection with said socket plate, and a stop device for limiting the movement of said back on its pivots whereby said plates afford a detachable pivot connection between the supporting bars and back, substantially as and for the purpose described. 5th. In a car seat, the pivoted supporting bars, and the back in combination with a separable pivot connection between said bars and back, and a pin and slot connection between one member of said pivot connection and the supporting bars constituting a stop device for limiting the outward movement of the lower edge of said back, may be readily detached from the supporting bars, substantially as described. 6th. In a car seat, the pivoted supporting bars and the back in combination with a pivoting plate secured to one of said members, a socket plate secured to the other, a sliding connection between said plates, and a pin projecting from one of said plates arranged to work in a transverse slot in the other member, substantially as described. 7th. In a car seat, the pivoted supporting bars provided with transverse slots, and the back, in combination with pivoting plates pivoted at one end to said bars, and provided at their

opposite ends with pins working in the slots in said bars, socket plates secured to the back, and a sliding connection between said socket and the pivoting plates, substantially as described. 8th. In a car seat, the pivoted supporting bars provided with curved transverse slots, and the back, in combination with wedge shaped pivoting plates pivoted at one end to said bars, and provided at their opposite ends with pins working in the slots in said bars, socket plates secured to the back and provided with tapering sockets corresponding with the wedge shaped pivoting plates, and a dovetailed connection between said socket and pivoting plates, substantially as described. 9th. In a car seat, the frame, the pivoted supporting bars, and lugs or projections thereon, in combination with notched levers pivoted to the frame to one side of the centre thereof, adapted and arranged to be engaged by the lugs on said supporting bars, substantially as described. 10th. In a car seat, the frame, the pivoted supporting bars, and lugs or projections thereon, in combination with opposing notched levers pivoted to said frame at each side of the centre thereof, adapted and arranged to be alternately engaged by the projections on said bars, substantially as described. 11th. In a car seat, the frame, the pivoted supporting bars and lugs or projections thereon, in combination with notched levers at each end of the seat, and a transverse bar connecting said notched levers, one of said levers being provided with a handle for manipulation, substantially as described. 12th. In a car seat, the frame and the supporting bars in combination with a pair of notched levers at one end of said frame, connected with a pair at the opposite end thereof, one pair of which are pivoted thereto, and constitute hand levers for simultaneously actuating the corresponding lever of the pair, substantially as described.

No. 40,869. Method of Plating Clay with Glass.

(*Méthode de plaquer l'argile avec du verre.*)

The Clay Glass Tile Company, assignee of Arthur Amory Houghton and Robert Davis Haines, all of Corning, New York, U.S.A., 3rd November, 1892; 6 years.

Claim.—1st. The process of manufacturing glass plated bricks, tiles and other articles, which consists in forming the article of clay or clay composition of approximately the same degree of contraction and expansion as the glass employed, raising the said article to a high temperature, applying to the surface to be coated glass in a molten condition, compressing the molten glass onto the surface of the brick so that the under surface of the glass will adhere to the clay, and finally annealing the glass plated article, substantially as set forth. 2nd. A brick or tile or other article composed of clay or clay composition and glass compressed on the clay, said clay and glass being approximately of the same degree of contractibility and expansion, substantially as set forth. 3rd. A brick or tile or other article composed of a body of clay or clay composition formed with an opening through it, such as *f*, and a glass plate compressed onto the face of said body and covering said opening, substantially as set forth.

No. 40,870. Breakwater. (Brise-lames)

George H. Henshaw, Brooklyn, New York, U.S.A., 3rd November, 1892; 6 years.

Claim.—1st. The herein described method of controlling the shifting action of running or turbulent water on land, the same consisting in slightly checking without resisting the movement of that portion of the water lying adjacent to, but outside of, the land or bottom to be protected, so as to cause the deposition of the suspended matter in the moving water below the checked water, and in trapping such deposited matter, all by artificial means, substantially as described. 2nd. As a means for controlling the shifting action of moving water on land, an artificially constructed flexible and permeable submarine barrier, anchored upon bottom outside the part to be protected, substantially as described. 3rd. The herein described checking but non-resisting water barrier, constructed of a base for anchoring on bottom and a flexible and permeable fence attached to and rising from the said base, as herein set forth.

No. 40,871. Window Blind. (Store de fenêtre.)

Andrew Jackson Avery, Lynn, Massachusetts, U.S.A., 3rd November, 1892; 6 years.

Claim.—1st. A blind hinge, comprising a socket adapted to be attached to the upper portion of the blind and open at its upper end, a pin loosely inserted in said socket and projecting inwardly therefrom, an ear adapted for attachment to a window casing, and provided with an orifice to receive said pin, and a sleeve or collar placed loosely on the pin between the socket and ear, said sleeve bearing on the upper end of the socket and on the under side of the ear and preventing movement of the socket toward the ear, the removal of the pin and socket permitting said movement, as set forth. 2nd. The combination of a window casing, a blind having a top hinge comprising an ear or perforated member affixed to the casing, a socket affixed to the blind, a pin removably inserted in said socket and projecting upwardly therefrom sufficiently to pass through the ear, the upper end of the socket being separated from the under side of the ear by a space, a loose sleeve or collar on the pin between the socket and the ear, and means for holding the parts together, substantially as described.

No. 40,872. Pipe Coupling. (Joint de tuyau.)

John Snyder, Albany, New York, U.S.A., 3rd November, 1892; 6 years.

Claim. 1st. The longitudinally movable tube or pipe held to the car in a swivelled or universal connection and scarfed at the end and surrounded by a shell or casing, in combination with a spring arranged to press said casing forward on the tube, and a spike or wedge adapted to enter the opposite coupling and formed with a tapered or bevelled surface, substantially as described. 2nd. The longitudinally movable tube or pipe scarfed at the end and surrounded by a shell or casing, in combination with a spring arranged to press said shell or casing forward on the tube, a spike or wedge held in said casing and formed with tapered or bevelled surface and a weight for holding the coupling in horizontal position and in line with the centre of the car, substantially as described. 3rd. In a pipe coupling, the tube *g*, and spout *f*, placed thereon, in combination with the shell *j*¹, pressed forward by the said spring, and the spike or wedge *k*, held to said shell and adapted to enter the opposite coupler and to shift the end of the pipe laterally, substantially as described. 4th. In a pipe coupler, the longitudinally movable tube *g*, combined with a sliding shell held on the said tube, and a wedge or spike held in said shell and arranged to slide on said tube, so that its tapered surface will shift the end of the tube, as and for the purposes set forth. 5th. In a pipe coupler, the longitudinally movable tube *g*, having a scarfed end formed with a shoulder *g*, in combination with a sliding shell held on said tube, and a wedge spike held in said shell and arranged to slide on said tube, substantially as and for the purpose set forth. 6th. The hollow ball *c*, formed or provided with a hollow weight *b*, and held by casting *e*, in combination with the tube *g*, spring *n*, applied thereto, spring *f*, shell *l*, placed on said tube and formed with a chamber or recess *m*, and provided with a guide *l*, and wedge or spike *k*, all arranged to operate, substantially as described. 7th. The hollow ball *c*, formed or provided with a hollow weight *b*, held by casting *e*, formed with flanges *e*³, in combination with the tube *g*, spring *h*, applied thereto, spring *f*, shell *j*¹, placed on said tube and formed with a chamber or recess *m*, and provided with a guide *l*, and wedge or spike *k*, all arranged to operate, substantially as described.

No. 40,873. Tie Plate for Railways.

(*Plaque pour traverses de chemin de fer.*)

James S. Fox, Detroit, Michigan, U.S.A., 3rd November, 1892; 6 years.

Claim.—1st. A tie plate provided with downwardly projecting ribs struck from the body of said plate, leaving the edges of the plate flat and intact, substantially as set forth. 2nd. A tie plate provided with downwardly projecting ribs struck therefrom, forming orifices *a*¹, in the body of the plate, said orifices arranged to receive a spike at the outer extremity of each, and to be covered throughout their remaining portion by the railway rail, substantially as set forth. 3rd. A tie plate constructed from a flat piece of metal, having downwardly projecting ribs cut from the body of the plate, and turned downward, substantially as set forth. 4th. A tie plate provided with ribs projecting downward from the body of the plate and with parts projecting upward to engage the edges of the lower flange of the rail, substantially as set forth. 5th. A tie plate provided with downwardly projecting ribs, and with angular shaped ears projecting upward to engage the edges of the lower flange of the rail, substantially as described. 6th. A tie plate provided with downwardly projecting ribs formed within the marginal edge of the plate, leaving the said edge flat and intact, substantially as described.

No. 40,874. Chimney Cap. (Souche de cheminée.)

William A. Pearce, Houghton, Michigan, U.S.A., 3rd November, 1892; 6 years.

Claim.—1st. In a chimney cap, the combination, of a tube or pipe having a rod extending vertically therefrom, a conical cap having an eccentric apex and mounted over said tube or pipe and rotatably supported by said rod, and having the apex thereof nearer one side than the other to provide an oblique arrangement and a depending elongated sloping side which projects over and below a portion of the said tube or pipe, said cap having a vane in connection with the upper shorter side thereof, and an elongated tubular neck of substantially rectangular form extending through the depending portion of the cap at an oblique angle to the top portion of the tube or pipe, and having an elongated flaring funnel secured to the outer end thereof, whose lower edge depends below the lowermost portion of the cap to prevent passage of air under the edge of said cap, substantially as described.

No. 40,875. Stocking. (Bas.)

William Hanson Howard, Lowell, Massachusetts, U. S. A., 3rd November, 1892; 6 years.

Claim.—A seamless stocking, so called, having a toe portion narrowed along the line *h*, at the little toe side to a comparatively great extent, and narrowed at the great toe point along the line *i*, to a comparatively slight extent, and having selvage edges along the line *g*, suitably united, as set forth.

No. 40,876. Apparatus for the Manufacture of White Lead, etc. (*Appareil pour la fabrication du blanc de plomb, etc.*)

George Densmore Coleman, Chicago, Illinois, U.S.A., 3rd November, 1892; 6 years.

Claim.—1st. The herein described improvement in the art of corroding lead in the presence of water, and a suitable corroding gas, the same consisting in preserving the surface of the lead particles in a clean condition, best adapted for corrosive action by a flow of water that acts to remove the corroded lead as fast as formed, substantially as herein described. 2nd. The herein described improvement in the art of corroding lead in the presence of water and a suitable corroding gas, the same conducting the corroding process under definite and controllable degrees of pressure and temperature, and at the same time preserving the surface of the lead particles in a clean condition, best adapted for corrosive action, by a flow of water, that acts to remove the corroded lead as fast as formed, as well as to carry off the surplus heat generated by the physical and chemical reactions in the process, substantially as herein described. 3rd. The herein described improvement in the art of making lead protoxide, which consists, firstly, in subjecting a body of comminuted lead in a state of agitation within a suitable vessel, to the action of atmospheric air and water; secondly, removing the oxide as fast as formed, and controlling the temperature during the process by a regulated in and out flow of water through the corroding vessel and its contents; and thirdly, replacing the lead removed during the process in the form of oxide, by a regulated supply of comminuted lead, the supplies of air, water and comminuted lead being regulated with regard to each other. 4th. The herein described improvement in the art of making lead protoxide, which consists; firstly, in subjecting a body of comminuted lead in a state of agitation and at a temperature between 75° and 150° Fahrenheit within a suitable vessel, to the action of atmospheric air and water; secondly, removing the oxide as fast as formed, and controlling the temperature during the process by a regulated in and out flow of water through the corroding vessel and its contents; and thirdly, replacing the lead removed during the process in the form of oxide, by a regulated supply of comminuted lead, the supplies of air, water and comminuted lead being regulated with regard to each other. 5th. The herein described improvement in the art of making white lead, by the agitation of lead in a comminuted state in the presence of water, air and carbonic acid, the same consisting in carrying on the process at a regulated temperature of from 75° to 150° Fahrenheit and under a pressure of from 15 to 30 pounds, substantially as herein described. 6th. The herein described improvement in the art of making white lead, by the agitation of a lead in a comminuted state in the presence of water, air and carbonic acid, the same consisting in carrying on the process at a regulated temperature of from 75° to 150° Fahr. and under a pressure of from 15 to 30 pounds, and preventing by a flow of water, an abnormal rise in such temperature, due to physical and chemical reactions in the apparatus, substantially as herein described. 7th. In a lead corroding apparatus, the combination with the horizontally arranged revolving cylinder of a water induction pipe extending in through the trunnion or axis of the cylinder and a water eduction pipe extending out through the trunnion or axis of such cylinder and having its inner end extending downwardly from the centre of the cylinder, such pipes being adapted to maintain a flow of water through the cylinder, for the purpose set forth. 8th. In a lead corroding apparatus, the combination with the horizontally arranged revolving cylinder, of water and gas induction pipes extending in through the trunnion or axis of the cylinder and a water eduction pipe extending out through the trunnion or axis of such cylinder, and having its inner end extended downwardly from the centre of the cylinder, such pipes being adapted to maintain a flow of water through the cylinder for the purpose set forth. 9th. In a lead corroding apparatus, the combination with the horizontally arranged revolving cylinder, of water and gas induction pipes extending in through the trunnion or axis of the cylinder, and water and gas eduction pipes extending out through the trunnion or axis of the cylinder, the inner end of the water eduction pipe being extended downwardly from the centre of the cylinder, such pipes being adapted to maintain a flow of water and gas through the cylinder, for the purpose set forth. 10th. In a lead corroding apparatus, the horizontally arranged revolving cylinder provided with ribs on its inner periphery, of an oblong square form, arranged a distance apart, so as to form spaces or cavities of a width nearly equal to that of the face of the ribs, as described and for the purpose set forth. 11th. In a lead corroding apparatus, the combination with the horizontally arranged revolving cylinder of water and gas induction pipes extending in through the trunnion or axis of the cylinder and water and gas eduction pipes extending out through the trunnion or axis of the cylinder, the downwardly extending branch pipe 17 and a Y-shaped plug 18, connecting the inner ends of said pipes together, for the purpose set forth. 12th. In a lead corroding apparatus, the combination with the horizontally arranged revolving cylinder, of an induction pipe or passage extending in through the axis or trunnion of the cylinder, a rotatable cylinder 26 having peripheral pockets 32, and a casing inclosing said cylinder and having communication with the supply hopper and the axial induction pipe of the main cylinder, for the purpose set forth. 13th. In a lead corroding apparatus, the combination, with the horizontally arranged revolving cylinder, of an induction pipe or passage extending in

through the axis or trunnion of the cylinder, a rotatable cylinder 26 having peripheral feed pockets 32, a casing inclosing said cylinder, and having communication with the supply hopper and the axial induction pipe of the main cylinder, and means for imparting intermittent rotation to the feeding cylinder, consisting of the ratchet wheel 31, pawl 30, arm 29, eccentric rod 28 and eccentric 27, for the purpose set forth. 14th. In a lead corroding apparatus, the combination, with the horizontally arranged revolving cylinder, of an induction pipe or passage extending in through the axis or trunnion of the cylinder, a spiral conveyor arranged to rotate in said induction pipe or passage, a rotatable cylinder 26 having peripheral pockets 32 and a casing inclosing said cylinder and having communication with the supply hopper and the axial induction pipe of the main cylinder, for the purpose set forth.

No. 40,877. Pad for Horse Collars.

(*Coussinet pour collier de cheval.*)

Herman Doering, Reedsburgh, Wisconsin, U.S.A., 3rd November, 1892; 6 years.

Claim.—The combination of the leather pad with upwardly curved front and rear sides, the metal plate conforming to the curvature of the pad and inside of the collar, the said plate being separated from the pad at the top portion having a loop at its upper end to receive the collar strap, and having its lower ends pivotally secured so that the pad may rock independent of the plate, the side straps rivetted to the plate and adapted to embrace the collar, and the plates on the inside of the plate having the pivots of the plate mounted in them to prevent the latter tearing through the pad, substantially as herein described.

No. 40,878. Saddle for Velocipedes.

(*Selle de vélocipèdes.*)

George S. Karr, Toronto, Ontario, Canada, 3rd November, 1892; 6 years.

Claim.—1st. A saddle for a velocipede, comprising an air tight receptacle, a valve fitted to said air tight receptacle by means of which the said receptacle is adapted to be inflated or deflated, a curved saddle frame, the said receptacle suspended from said saddle frame, and means for securing the said receptacle to the said saddle frame, substantially as described. 2nd. A saddle for a velocipede, comprising an air tight receptacle, a valve fitted to said air tight receptacle by means of which the said receptacle is adapted to be inflated or deflated, a saddle frame comprising a curved body provided with two horns, the said receptacle suspended from the horns of the said saddle frame, and means for securing the said receptacle to the said saddle frame, substantially as described. 3rd. A saddle for a velocipede, comprising an air tight receptacle, a valve fitted to said air tight receptacle by means of which the said receptacle is adapted to be inflated or deflated, a curved saddle frame, the horns of which are enlarged and adapted to correspond to the curvature of the said receptacle when inflated, plates within said receptacle and a securing device passing through said plate, said receptacle and said horn, and adapted to securely fasten the said receptacle to the said saddle frame, substantially as described. 4th. A saddle for a velocipede, comprising an air tight receptacle, a valve fitted to said air tight receptacle, said valve comprising a tube having a passage-way therethrough, a valve stem having secured to one end a valve to close said passage-way, and on the other end means for drawing said valve tightly against the material surrounding said passage-way to rigidly close said passage-way, and a curved saddle frame, the horns of which are curved to correspond to the curvature of the receptacle when inflated, and means for securely fastening said receptacle to said horns, substantially as described.

No. 40,879. Tea Kettle. (*Bouilloire à thé.*)

Volney C. Baker, Mount Morris, New York, U. S. A., 3rd November, 1892; 6 years.

Claim. A tea kettle, consisting of a sheet metal body *a*, having formed integral with it a spout *d*, extending approximately the full length of the body, and projecting in over the top of the kettle, a cover *b*, permanently fastened over the body and fitting closely around and secured to the portion of the spout projecting in over the kettle, and a handle secured thereto, substantially as described.

No. 40,880. Method of and Apparatus for Producing Woven Fabric. (*Méthod et appareil pour la fabrication des tissus.*)

William Talbot, of Philadelphia, Pennsylvania, U.S.A., 3rd November, 1892; 6 years.

Claim.—1st. The method of producing a figured woven fabric, which consists in simultaneously forming two superposed sheds and maintaining the same in open position, then introducing a ground weft into one of the sheds and a parti-coloured face weft into the other of the sheds, then manipulating the parti-coloured face weft for the production of a figure effect while the sheds are maintained

in open position, and then repeating the shedding operation, substantially as and for the purposes set forth. 2nd. The method of producing a woven fabric, which consists in forming two superposed sheds one in each of the two halves, of a single set of warps comprising four half gangs or two sets of mate warp threads, one shed for a ground weft, and one shed for a face weft, then introducing a ground and a face weft into the respective sheds and then repeating the shedding operation, substantially as and for the purposes set forth. 3rd. The method of producing a woven fabric, which consists in simultaneously forming two superposed sheds one in each of the halves of a single set of warps, comprising four half gangs or two sets of mate warp threads, one shed for a ground weft, and one shed for a figured face weft, then simultaneously introducing a ground and a figured face weft into their respective sheds, then manipulating the figured face weft for the production of a pattern and then repeating the shedding operation, substantially as and for the purposes set forth. 4th. The method of producing a woven fabric, which consists in forming two superposed sheds, one in each of two divisions of a single set of warps comprising five divisions, one shed for a face weft above the fifth division of the warp, and one shed for a ground weft below the fifth division of the warp, then introducing a ground and face weft into their respective sheds and then repeating the shedding operation, substantially as and for the purposes set forth. 5th. The method of producing a woven fabric, which consists in forming two superposed sheds one in each of two divisions of a warp comprising five divisions, one shed for a figured face weft above the fifth division of the warp, and one shed for a ground weft below the fifth division of the warp, then introducing a ground and figured face weft into the respective sheds, then manipulating said figured face weft for the production of a pattern, and then repeating the shedding operation, substantially as and for the purposes set forth. The method of producing a woven fabric which consists in successively separating each of the two halves of the warp, the one further than the other into sheds and then introducing a weft into each of said sheds for the formation of a ground web having face wefts tied thereto, substantially as and for the purposes set forth. 7th. The method of producing a figured woven fabric, which consists in simultaneously forming two superposed sheds by shifting a working beam having a pair of harnesses connected with each arm thereof, maintaining the sheds in open position by permitting the working beam to remain at rest, then simultaneously introducing a ground weft into one of the sheds and a parti-coloured face weft into the other of the sheds by throwing two shuttles whereof one is carried upon the other, then manipulating the parti-coloured face weft to produce a figure effect while the sheds are maintained in open position, then repeating the shedding operation and continuously introducing stuffing warps between the face and ground wefts, substantially as and for the purposes set forth. 8th. In a loom, a lay and reed, a crank shaft and link connected therewith for operating the lay, a spur wheel keyed to said crank shaft, a toothed sector engaging said spur wheel, and means for rotating said sector, substantially as and for the purposes set forth. 9th. In a loom, a lay and reed, a crank shaft provided with a pinion, a link connected with said lay and crank shaft, a spur wheel provided with a toothed sector meshing with said pinion, and means for rotating said spur wheel and sector for imparting an intermittently reciprocating motion to said lay and reed, substantially as and for the purposes set forth. 10th. In a loom, a lay and reed, a crank shaft provided with a cam and with a toothed sector engaging with said pinion, a detent engaging with said cam and adapted to mesh with said pin, and means for rotating said spur wheel, sector and cam for imparting intermittently a reciprocating motion to said lay and reed and for checking the same, substantially as set forth. 11th. In a loom, a lay and reed, a crank shaft provided with a pinion, a link connected to said crank shaft and lay, a pin attached to said pinion, a spur wheel provided with a cam and with a toothed sector engaging with said pinion, a detent loosely mounted on a counter shaft and adapted to engage with said cam and mesh with said pin, a driver on counter shaft meshing with said spur wheel, and means for rotating said counter shaft, substantially as and for the purposes set forth. 12th. In a loom, a working beam, a pair of harness attached to each of the arms of said beam, the members of each pair being attached at different points on the arm, means for oscillating said beam to lift one member of a pair of harness higher than the other member thereof, a lay, pickers and picker sticks, a picker shaft, cams on said picker shaft, bell crank levers engaging said cams, and connected with said picker sticks, and means for rotating said picker shaft, substantially as and for the purposes set forth. 13th. In a loom, a lay having two superposed pickers, picker sticks and a picker shaft adapted to simultaneously operate said sticks, a working beam provided with arms on opposite sides thereof, a pair of harness connected with each of the arms of said beam, the members of each pair being attached at different points on the arms, means as described, adapted to actuate said beam to shift one harness of each pair higher than the other, and means to intermittently reciprocate said lay and to maintain said harness in open position after each beat up of the loom, for the purposes set forth. 14th. In a loom, a lay provided with two superposed pickers, mechanism for simultaneously actuating the same, mechanism for operating the harnesses alternately in pairs by lifting one harness of each pair higher than the other, and mechanism for intermittently reciprocating said lay and checking the same after each beat up of the loom, substantially as and for the purposes set forth.

No. 40,881. Woven Fabrics. (Tissu.)

William Talbot, Philadelphia, Pennsylvania, U.S.A., 3rd November, 1892; 6 years.

Claim.—1st. A woven fabric having a ground web comprising back wefts with warps in two divisions, figured chenille or yarn face wefts with binding warps in two divisions tying one of said face wefts to each of the ground wefts, and stuffing warp or floats lying between said face wefts and ground web, substantially as and for the purpose set forth. 2nd. A woven fabric having a ground web and plain or figured chenille or yarn face wefts, with binding warps tying one of said face wefts to each of the back wefts appertaining to said ground web of jute or similar material, and with stuffing warps or floats lying between said face and back wefts and detached from said ground web, and none of said warps cross-woven or inter-twined, substantially as and for the purposes set forth. 3rd. A woven fabric having ground wefts and warps in two sets or divisions interwoven to form a solid back web and face wefts, with binding warps in two sets or divisions tying a face weft over each ground weft, substantially as and for the purposes set forth.

No. 40,882. Safety Gate for Draw Bridges.

(*Barrière de sûreté pour pont-levis.*)

William Goddard, Oshkosh, Wisconsin, U.S.A., 3rd November, 1892; 6 years.

Claim.—1st. In an automatic bridge gate opening and closing device, the combination of the vertically sliding gate *c*, bars *e* rigidly attached to the lower end of the gate, said bars being pivotally attached to a weighted lever *f*, and said lever being pivoted to the side of the bridge, a track *f* attached to the bar *e*, and a draw *B* carrying rollers *d*, which latter are adapted to travel down and off the track *F* as the draw is open, thereby allowing the gate to rise automatically by means of the weighted lever and to travel up the inclined track as the draw is closed, thereby forcing down the track and the gate connected therewith and raising the weights, substantially as described. 2nd. In an automatic bridge gate opening and closing device, the combination of the vertically sliding gate *c*, bars *e* rigidly attached to the lower end of said gate, said bars pivotally attached to weighted lever *F*, which latter is pivoted to the side of the bridge, an arched track *F* attached to the bars *e*, a draw *B* provided with a bar *j* carrying rollers or travellers *d*, which are adapted to travel on the arched track *F*, and an auxiliary roller or traveller *m*, which travels beneath and upon the arched track *F*, substantially as and for the purpose described. 3rd. In an automatic bridge gate opening and closing device, the combination of the vertically sliding gate *c*, guideways *e*, *e*, a slot or passage *D* in the bridge floor for the passage of said gate, bars *e* rigidly attached to a weighted lever *f*, and said lever pivoted to the side of the bridge, a track *F* attached to the bars *e* and a draw *B* carrying rollers *d*, which latter are adapted to travel down and up the track *F* as the draw is open, thereby allowing the gates to raise automatically by means of the weighted lever, and to travel up the inclined track as the draw is closed, thereby forcing down the track and the gate connected therewith and raising the weights, substantially as described.

No. 40,883. Gate Latch. (Loquet de barrière.)

Henry C. Huffman and Daniel Hogan, both of Mount City, Illinois, U.S.A., 3rd November, 1895; 6 years.

Claim.—1st. In a gate latching device, the combination with the latch casing *7* thereof, of the gravity latches *10* and *11*, pivotally secured on said latch casing, and having inwardly projecting interlocking fingers *16* and *17*, arranged and constructed to operate both of said gravity latches simultaneously, substantially as shown and described. 2nd. In a gate latching device, the combination with the latch casing *7* thereof, of a gravity latch *10*, having a downwardly projecting engaging toe *12*, and an inwardly projecting and inclined T-formed finger *16*, an opposite and similarly formed gravity latch *11*, having an inwardly projecting bifurcated finger *17* adapted to interlock and to engage said T-formed finger *16*, to simultaneously operate said latches, substantially as set forth. 3rd. In a swinging gate, the combination with the gate *1*, and the outer post *6* thereof, of a suitable locking pin *4*, secured on the outer frame of said gate and vertically therewith a latch supporting casing *7*, secured on said gate post, and suitable gravity latches *10* and *11* pivoted on said casing and connected to operate simultaneously to engage and disengage said locking pin, substantially as set forth. 4th. In a swinging gate, the combination with the gate, and the outer post *6* thereof, of a locking pin, secured on the outer frame thereof and vertically therewith, a suitable roller *5* journaled on the projecting end of said pin, a latch supporting casing *7*, having oppositely inclined guide ways *7'*, whereon said roller travels and secured to said post, a gravity latch *10*, pivotally secured on said casing and having the inwardly inclined and projecting T-formed finger *16*, an opposite and similarly formed pivotal gravity latch *11*, having an inwardly projecting bifurcated finger *17*, adapted to interlock and to engage said T-formed finger whereby both the latches may be simultaneously raised or lowered to disengage or to engage the locking pin from either side of said gate, substantially as set forth.

No. 40,884. Sleigh. (Traineau.)

Arthur F. Pine and Henry Lieber, both of Antigo, Wisconsin, U.S.A., 3rd November, 1892; 6 years.

Claim.—In a sleigh, the combination of a runner, a bearing plate secured to the runner and provided with ears arranged on opposite sides of its bearing surface, a knee, and rods arranged on opposite sides of the knee, and having their lower ends pivoted between the ears and their upper ends loosely secured, substantially as described. 2nd. In a sleigh, the combination of a runner, a bearing plate provided with depending flanges and having perforated ears arranged at opposite sides of its bearing surface, a knee, a journal plate mounted on the bearing plate and provided with depending extensions arranged between the flanges, and the rods arranged on opposite sides of the knee and having their lower ends pivoted between their ears and their upper ends rigidly secured, substantially as described.

No. 40,885. Netted Wire Fabric Machine.

(*Machine à faire les toiles métalliques en fil.*)

Alva La Salle Kitchman and Davis Monroe Kitchman, both of Ridgeville, Indiana, U. S. A., assignees of Theodore McLarran Conner, Los Angeles, California, all in the U. S. A., 3rd November, 1892; 6 years.

Claim.—The combination of the slotted vertically reciprocating twister bar, the series of twistors journaled therein, the rack engaging such series of twistors, means for holding the wires, and means for guiding the wires. 2nd. The combination of the vertically reciprocating twister bar provided with the wire guiding slots, the rotatable slotted axial twister plates journaled in the twister bar, means for holding the wires apart, means for guiding the wires, means for rotating the plates, and means for reciprocating the twister bar. 3rd. In a machine for forming netted wire fabrics, the combination of the slotted twister plate A, the slotted arbor plate C, the slotted twister gear wheel provided on one side with an arbor, and on the other side with a socket to receive the twister plate and the arbor plate, the slotted twister bar provided with bearings for the arbors, the twister bar rack arranged to mesh with the gear wheel, means for holding the wires, means for guiding the wires, and means for reciprocating the twister bar. 4th. The combination of the vertically reciprocating twister bar provided with the wire guiding slots, the rotatable slotted axial twister plates, means for rotating the twister plates, means for reciprocating the twister bar, the mesh forming bed formed of a series of slats arranged at intervals apart parallel with and in the path of the reciprocating twister bar and provided with the wire holding studs, means for moving the slats across the path of the twister bar, and means for guiding the wires. 5th. The combination of the vertically reciprocating twister bar, provided with the wire guiding slots, the rotatable slotted axial twister plates, means for rotating the twister plates, means for reciprocating the twister bar, the mesh forming bed arranged parallel with and in the path of the reciprocating twister bar and formed of a series of slats arranged at intervals apart in cylindrical form and provided with the wire holding studs, means for rotating the bed, and means for guiding the wire. 6th. In a machine for forming netted wire fabrics, the mesh forming bed comprising the combination of the head plates, the form disc having its periphery partially circular, but provided with the release jog, and a series of slats pivoted at their ends to the head plates and arranged at intervals apart to form a cylinder and provided, respectively, with the follower point arranged to engage the form disc. 7th. The combination of the twister bar, the pin projecting from each side of the twister bar, the cleft post T¹, and standard T forming the runaways, switch dogs arranged to guide the pin into the runways S and S¹ alternately, and means for reciprocating the twister bar perpendicularly and horizontally. 8th. The combination of the twister bar, the cleft post and standard, the pendent bevelled switch dog pivoted to one side of the standard, and arranged to hang with its point between the guide ways formed by the post and standard, the outer stop, the gravity switch dog pivoted to the other side of the standard and provided with the spring shoulder, means for normally holding the gravity switch dog in the path of the shifting pin, and means for reciprocating the twister bar perpendicularly and horizontally.

No. 40,886. Car Coupling. (Attelage de chars.)

James A. Wiswell and Bamburg Palmer, both of Clintonville, Wisconsin, U. S. A., 3rd November, 1892; 18 years.

Claim.—1st. In a car coupling, the combination of a draw head, having pivoted spring actuated jaws, a toggle consisting of a lever fulcrumed intermediate its ends on one of the jaws, a bar connecting the outer end of the lever with the other jaw, and an operating lever connected with the inner end of said lever, substantially as described. 2nd. In a car coupling, the combination of a draw head, provided at its top with a projection, pivoted spring actuated jaws mounted on the draw head, and provided with vertical stems arranged on opposite sides of the projection and adapted to abut against the same to hold the jaws partly open, a toggle comprising a lever fulcrumed on one of the stems, a bar pivoted to the outer end of the lever and to the stem of the other jaw, and an operating lever connected with

the inner end of said lever, substantially as described. 3rd. In a car coupler, the combination of a draw head, having a horizontal extension projecting from its bottom and having its outer edge bevelled, spring actuated jaws having their inner ends pivoted in the draw head and having their outer ends supported by the said extension and provided intermediate their ends with vertical standards, a toggle consisting of a lever fulcrumed intermediate its ends on one of the stems, a bar connecting the outer end of the lever with the other stem, and an operating lever connected with the inner end of the other lever, substantially as described.

No. 40,887. Corking Machine.

(*Machine à boucher les bouteilles.*)

The De La Vergne Bottle and Seal Company of New Jersey, assignees of Albert Siebert, New York, State of New York, U.S.A., 3rd November, 1892; 6 years.

Claim.—1st. In a corking machine, two or more corrugated plungers, having blunt ends arranged to be seated upon the top of a stopper near its outer circumference, a guide for the stopper beneath said plungers, and means adapted to actuate the several plungers, whereby a stopper may be compressed and forced downwardly into the aperture or cork receptacle of a bottle. 2nd. In a corking machine, two or more convergent plungers having their lower end portion diminished and arranged to be seated upon the top of a stopper near its outer circumference, a guide for the stopper beneath said plungers, and means adapted to actuate said plungers, whereby a stopper may be compressed and forced downwardly into the aperture or corking receptacle of a bottle. 3rd. In a corking machine, two or more convergent plungers having their lower end portions diminished and the inner surface thereof recessed, said plungers being arranged to be seated upon the top of a stopper over a pull wire extending upwardly from the same, a guide for the stopper beneath said plungers, and means adapted to actuate said several plungers, whereby a stopper may be compressed and forced downwardly into the aperture or cork receptacle of a bottle. 4th. In a corking machine, a plunger guide having downwardly converging apertures, two or more plungers movable within the aperture to said guide, said plungers being provided with blunt ends arranged to be seated upon the top of a stopper, a guide for the same beneath said plungers, and means adapted to actuate the several plungers, whereby a stopper may be compressed and forced downwardly into the aperture or cork receptacle of a bottle. 5th. In a corking machine, a plunger guide having downwardly converging apertures, two or more plungers having their lower end portions diminished and having rounded outer surfaces, said plungers being movable within said apertures and arranged to be seated upon the top of a stopper, a guide for the same beneath said plungers, and means adapted to actuate said several plungers, whereby a stopper may be compressed and forced downwardly into the aperture or cork receptacle of a bottle. 6th. In a corking machine, two or more convergent plungers having blunt ends arranged to be seated upon the top of a stopper, in combination with a bracket or head piece with which said plungers are connected, and an actuating rod connected with said head piece, and a guide for the stopper beneath said plungers, whereby said stopper may be compressed and forced downwardly into the aperture or cork receptacle of a bottle.

No. 40,888. Seal Stopper for Bottles.

(*Ligature de cachet de bouteille.*)

The De La Vergne Bottle and Seal Company, New Jersey, assignees of Ernest V. Clemens, New York, State of New York, U.S.A., 3rd November, 1892; 6 years.

Claim.—1st. An elastic seal-stopper having as a component part of its body, and integrant therewith, displaceable plug or portion, whereby relief from the compressure may be afforded during extraction of the stopper from a bottle. 2nd. An elastic seal-stopper having a displaceable plug or portion formed integrant with and attached to the body thereof, whereby relief from the compressure may be afforded during extraction of the stopper from a bottle. 3rd. An elastic seal-stopper having a displaceable tapering plug or portion formed integrant with and attached to the body thereof, whereby relief may be afforded during extraction of the stopper from a bottle. 4th. The combination of a bottle having in the neck thereof a recess with an upwardly converging peripheral wall, and an elastic stopper having as a component part of its body, and integrant therewith, a displaceable plug or portion whereby relief from the compressure may be afforded during extraction of the stopper from a bottle. 5th. The combination of a bottle having in the neck thereof a recess with an upwardly converging peripheral wall, and an elastic stopper inserted in said recess by contractile compression, said stopper having a displaceable plug or portion formed integrant with and attached to the body thereof, whereby relief from the compressure may be afforded during extraction of the stopper from the bottle. 6th. The combination of a bottle having in the neck thereof a recess with an upwardly converging peripheral wall, and an elastic stopper inserted in said recess by contractile compression, said stopper having a tapering displaceable plug or portion formed integrant with and attached to the body thereof, whereby relief from the compressure may be afforded during extraction of the stopper from the bottle.

No. 40,889. Street Car. (*Char de rue.*)

John Andrew Mehling and Samuel Douglas Dodge, both of Cleveland, Ohio, U.S.A., 3rd November, 1892; 6 years.

Claim.—1st. A street car having seats arranged transversely on the floor of the car, extending from one side to within a short distance of the other side, thereby leaving an aisle which extends from one end of the car to the other, doors in the ends of the car in line with said aisle, one or more sliding doors in that side of the car next to which the aisle lies, a foot board along that side of the car in which the door or doors are placed, and means for preventing the exit or entrance of passengers through the other side of said car, substantially as set forth. 2nd. A convertible open and closed street car having one side which is composed of vertical posts and removable panels, a foot board along side, one or more sliding doors in the side on which the foot board is placed, an aisle next to said side and extending from one end to the other, and seats arranged transversely on the floor and extending from the aisle to the other side of the car, substantially as set forth.

No. 40,890. Machine for Colouring or Ornamenting India Rubber Balls. (*Machine pour colorer ou orner les balles en caoutchouc.*)

Gustav Louis Hille, George Ashdown Audsley and Maurice Ashdown Audsley, 4th November, 1892; 6 years.

Claim.—1st. The method of mechanically painting, colouring or ornamenting India rubber balls consisting in presenting them in contact with a moving concave surface to which the paint or colour is applied and which by its contact produces the rotation of the balls, substantially as herein set forth. 2nd. The combination in a machine for painting, colouring or ornamenting balls of a concave printing form, a carrier for said form and a guide for holding the balls in contact with said form, substantially as herein set forth. 3rd. The combination of the rotary carrier, a printing form provided on the periphery of said carrier and which is concave in a direction transverse to the planes of revolution thereof and a stationary guide for directing balls in contact with said printing form, substantially as herein set forth. 4th. The combination with the rotary carrier A, the concave printing form *a*, *b*, on the periphery of said carrier, the stationary guide B, conforming to the rotary carrier the lifter G, the lever P, carrying said lifter and the cam projections Q, on the carrier for actuating said lifter, all substantially as and for the purpose herein set forth.

No. 40,891. Process of Enamelling Sheet Metal Ware.

(*Procédé pour émailler des marchandises de métal en feuille.*)

Hubert Clans, of Thale in the Harz, Germany, 4th November, 1892; 6 years.

Claim.—1st. The process of enamelling sheet metal articles in clouded or variegated colours, which consists in first coating the article with a ground work of enamel, second, treating the surface thus coated with a repellent solution of ammonia sulphate and epsom salts, third, coating the article with a coarsely ground grey enamel, and finally, glazing or coating the article with a thin paste of transparent enamel, substantially as described. 2nd. As a new article of manufacture, a sheet metal vessel having its surface roughened and enamelled in variegated or mottled form, and coated with a ground of enamel, a second coating of coarsely ground greyish enamel, and a third coating of translucent glaze, substantially as described.

No. 40,892. Process of Enamelling Sheet Metal Articles. (*Procédé pour émailler des objets de métal en feuille.*)

Hubert Claus, Thale in the Harz, Germany, 4th November, 1892; 6 years.

Claim.—1st. The process herein described of enamelling sheet metal articles, which process consists in applying to such articles an enamel containing a metallic salt or salts, and in sprinkling over said enamel, before firing and while it is moist, bicarbonate of soda, and then burning, substantially as described. 2nd. The process herein described of enamelling sheet metal articles, which process consists in applying to said articles an enamel containing sulphate of copper or of cobalt, and in then sprinkling upon said enamel before firing and while it is moist carbonate of soda, and then burning, substantially as described. 3rd. The process herein described of enamelling metallic articles, which process consists in first applying a glaze to said articles, in thereupon an enamel containing a metallic salt, and in thereupon, before firing and while said enamel is still moist, sprinkling it with bicarbonate of soda, and then burning, substantially as and for the purpose specified. 4th. As a new article of manufacture, metallic articles containing a coating of enamel spotted with combined carbonate of soda and metallic salt, as specified.

No. 40,893. Electrical Appliances for Surgical and Dental Chairs. (*Appareil électrique pour fauteuil de chirurgie.*)

Cornelius Bennett Harness, London, England, 4th November, 1892; 6 years.

Claim.—1st. The herein described method of providing for the treatment of patients preparatory to and during surgical and dental

operations by first causing an electric current to pass through the body of the patient between any two parts thereof, and then changing the path of the current so that it will pass through the patient's body between one or both of the said parts and the part operated upon, for the purpose above specified. 2nd. The herein described method of providing for the treatment of patients preparatory to and during surgical and dental operations by means of a chair, couch, table or similar support for the patient, provided with electrodes arranged to be connected with one or both poles of an induction coil or magneto-electric machine, and a bistoury, forceps or other surgical or dental instrument arranged to be connected with the other pole of the said induction coil or magneto-electric machine, for the purposes above specified. 3rd. The combination of a chair, couch, table or similar support, an electric battery and induction coil or a magneto-electric machine inclosed in the space beneath the seat or upper part of the said chair or other support, electrodes attached to the chair or other support, and a conductor adapted to be connected with a bistoury, forceps or other surgical or dental instrument, with or without the commutator, all substantially as and for the purposes above specified.

No. 40,894. Picking Motion of Looms for Weaving.

(*Chasse-navette de métier à tisser.*)

James Moss and Abraham Moss, of Hebden Bridge, England, 4th November, 1892; 6 years.

Claim.—1st. In looms for weaving, the employment of a spiral spring for throwing the shuttle across the loom, such said spiral spring being compressed and released by the slay or going part in manner substantially as herein shown and described. 2nd. In looms for weaving, where the shuttle throwing spring is operated by the movement of the slay board, the combination therewith of a ratchet wheel *f*, star wheel *f'*, made to revolve by the forward movement of a finger *e*, also operated by the movement of the slay, substantially as described. 3rd. In looms for weaving where the shuttle throwing spring is operated by the movement of the slay board, the combination therewith of the slotted arm *c*, fixed stud *d*, bent lever *u*, and parts connected therewith, employed in the manner and for the purposes substantially as described. 4th. In looms for weaving, where the shuttle throwing spring is operated by the movement of the slay board, the combination therewith of spindle *m*¹, rods *I*¹, cranked arm *s*, picker lever *k*, and picker *l*, and parts connected therewith, employed in the manner and for the purposes set forth. 5th. In looms for weaving, the employment therein of a blade of strong spring steel employed to throw the shuttle across the loom when operated in the manner substantially as herein described and shown in Fig. 5.

No. 40,895. Combined Sofa and Bed.

(*Canaapé et lit combinés.*)

Daniel Lockhart Oulton, Haverhill, Massachusetts, U.S.A., 4th November, 1892; 6 years.

Claim. 1st. In combination with a combined sofa and bed, having three frames A, B, C, hinges, each consisting of three arms or strap D, E, F, connected together by a pin, the outer arms E, having two eyes *e*, *e*, at its upper end, standards T, each having an eye T, and pillows having hooks *s*, whereby the pillow can be attached to the eyes *e*, *t*, to form the end of a sofa or bed, substantially as and for the purposes set forth. 2nd. In combination with a combined sofa and bed, the arms G, G, hinged near their lower ends to pieces *g*, *g*, secured to the bottom frame A, the arms having teeth or notches in their upper portions, and having weights *g*², *g*², on their lower portion, in combination with angle pieces H, secured to the lower edge of the back frame C, and cord passing through eyes *i*, to the front of the sofa, substantially as set forth. 3rd. In combination with a combined sofa and bed, the legs J, attached to bar K, mounted in frame C, so as to partly rotate, the angle plate L, secured to the bar K, near its centre bar M, one end of which is secured to said angle plate and carried by eyes *m*, *m*¹, on the cross piece N, mounted upon said bar M, and a spiral spring interposed between the collar *n*, and eye *m*¹, and a wedge shaped piece Q, secured to the frame A, whereby when the back is lowered the end of the bar M will come in contact with the piece Q, and be forced rearward thereby lowering the legs, and when the back is raised the spiral spring will force the bar M forward, thereby raising the legs as set forth. 4th. In a combined sofa and bed, the standard T, each having an eye *t*, in combination with a three-armed hinge for connecting the lower frame A, bottom frame E, and back frame C, one of the outer arms of said hinge having eyes *e*, *e*, for supporting the pillow, provided with hooks when used as a bed, substantially as shown and described. 5th. In a combined sofa and bed, the standard T, having an eye *t*, in combination with a hinge having three arms, the outer one of which is provided with eye *e*, *e*, and the spring catch U, for supporting the pillow when used as a sofa, substantially as shown and described. 6th. In combination with a combined sofa and bed, a pillow frame consisting of two circular end pieces R, connected together by frame *r*, the bar V, attached to the said pieces by rods *r*, rack bar W, pivoted to said bar V, and the cross bars *x*, *x*, plate X, and spring Y, all arranged and operated, substantially as and for the purposes set forth.

No. 40,896. Carpet Sweeper. (Balayeuse de tapis.)

William Henry Pickett, Warren, Pennsylvania, U. S. A., 4th November, 1892; 6 years.

Claim.—1st. In a sweeper, the combination, with a case, of dust pans hinged to one end of the case, a stem connected to the pans, and a rod loosely mounted in the sweeper handle and formed with a socket adapted to engage the stem, substantially as described. 2nd. In a sweeper, the combination, with the sweeper case, of end irons held to slide thereon, a brush cylinder provided with trunnions, and spring pressed clips carried by the irons and arranged to engage the trunnions, substantially as described. 3rd. In a sweeper, the combination, with the sweeper case, of end irons held to slide thereon, a brush cylinder provided with trunnions, spring pressed clips carried by the irons and arranged to engage the trunnions, a handle bail connected to the irons, and springs which engage the irons and are engaged by the bail, substantially as described.

No. 40,897. Rock Drill. (Foret de mine.)

Horace G. Williams, Lykens, Pennsylvania, U. S. A., 4th November, 1892; 6 years.

Claim.—1st. The combination, with a cylinder, provided with inlet ports, of a long piston working in the cylinder, and separate lift valves resting upon seats at each end of the cylinder, and normally closing the said inlet ports and adapted to open automatically when the pressure behind them is released by the said piston, substantially as set forth. 2nd. The combination, with a cylinder provided with inlet ports and the small ports H, of a long sliding piston provided with a groove, and separate lift valves resting upon seats at each end of the cylinder, and normally closing the said inlet ports and adapted to open automatically when the pressure behind them is allowed to escape through the said small ports and groove, substantially as set forth. 3rd. The combination, with a cylinder provided with the inlet passage *d*, the valve seats E' and F', the inlet port *c*, the valve chamber *g*, above the valve seat F', and the small port H between the said chamber and the cylinder, of the two valves connected together and normally resting on the said seats, and a long piston provided with a groove adapted to uncover the said port H, thereby relieving the pressure in the said chamber and permitting the valves to open automatically, substantially as and for the purpose set forth. 4th. The combination, with a cylinder provided with an inlet port and an exhaust port, of a long piston adapted to uncover and cover the said exhaust port and provided with a groove, a valve normally closing the said inlet port, a small port opening into the cylinder and adapted to relieve the pressure behind the said valve, and permit the valve to open automatically when the small port is uncovered by the said groove, and a second small port extending from the cylinder into the said exhaust port and also adapted to be uncovered by the said groove, substantially as set forth. 5th. The combination, with the cylinder, and the long grooved piston sliding therein, of separate lift valves resting upon seats at those ends of the cylinder to which they do not pertain, the said cylinder being provided with ports extending longitudinally past each other and connecting the said valves with the ends of the cylinder to which they do pertain, and having small ports also extending past each other and adapted to relieve the pressure behind the said valves, and to permit them to open automatically when the said small ports are uncovered by the piston in the cylinder, substantially as set forth. 6th. The combination, with the piston rod provided with spiral portions, of a ratchet wheel mounted on the said portions, the distance piece inclosing the piston rod and ratchet wheel and provided with a stuffing box at its front end, and the spring actuated pawls adapted to engage with the ratchet wheel, whereby the piston rod may be partially revolved at each alternate stroke, substantially as set forth.

No. 40,898. Pneumatic Tire. (Bandage pneumatique.)

Thos. B. Jeffery, Chicago, Illinois, U.S.A., 4th November, 1892; 6 years.

Claim.—1st. In an inflatable tire, the sheath which incloses the inflatable chamber, comprising lateral layers of bias fabric combined with a strip of longitudinal and substantially non-extensible fabric around the outer circumference of the inflatable chamber between the same and the outer sheath or tread, substantially as set forth. 2nd. In an inflatable tire, the sheath which incloses the inflatable chamber, comprising lateral layers of bias fabric, combined with a strip of longitudinal and substantially non-extensible fabric around the outer circumference of the inflatable chamber between the same and the outer sheath or tread, and joined to the inner surface of the latter as a lining band for the same, substantially as set forth. 3rd. In combination with the wheel rim, an inflatable tire comprising around the outer circumference of the inflatable chamber and between the same and the outer sheath or tread, a strip of substantially non-extensible fabric, the inner circumference of the tire, when fully inflated without restraint, being less than the circumference of the seat therefor in the rim, substantially as set forth. 4th. An inflatable tire comprising in the inclosing sheath of the inflatable chamber, a layer of bias fabric at each side of such chamber, and a strip or band of longitudinal substantially non-extensible fabric in a zone around the outer circumference of the chamber, and a vulcanized outer layer or coating of rubber moulded integrally about said fabric layers to constitute an endless hollow band or tube, substan-

tially as set forth. 5th. In combination with the wheel rim, an inflatable tire which incloses its inflatable chamber reinforced by a substantially non-extensible band of longitudinal fabrics applied in a zone about the outer circumference of such chamber, the inner circumference of the same, when fully inflated without restraint, being less than the circumference of the seat, provided therefor in the rim, substantially as set forth. 6th. In combination with the rim, an inflatable tire whose inner circumference, when inflated without restraint, is less than that of the rim, such tire being reinforced about its outer circumference by a fabric comprising circumferentially extending and substantially non-extensible threads, as and for the purpose set forth. 7th. An inflatable tire comprising in the sheath which incloses its inflatable chamber, lateral bias fabric layers and a longitudinal and substantially non-extensible band located in a zone about the outer circumference of the chamber lapping laterally on the lateral bias fabric layers, and an outer layer or covering of suitably vulcanized rubber, all combined substantially as set forth. 8th. In combination with the rim which is hollow or elevated intermediate its lateral edges, an inflatable tire adapted to seat thereabout formed in cross section to fit at its inner circumference the outer circumference of the rim, and comprising a substantially non-extensible band outside of the inflatable chamber, such tire, when fully inflated without restraint, having an inner diameter less than that of the rim in which it is adapted to seat, substantially as set forth. 9th. A wheel tire comprising a sheath and a removable inflatable core adapted to be inclosed therein, the sheath or envelope comprising a tread of cushioning substance and lateral portions of textile fabric which extends underneath the core and between the same and the rim in the plane of the radial pressure experienced by the tread and exerted by the inflation of the core, whereby both said inflation and the pressure of the load cause said fabric portions to be grasped between the core and the rim, substantially as set forth. 10th. In combination with the rim, the tire seated therein, said tire comprising an inflatable core and an outer sheath or envelope having a tread of cushioning substance and lateral portions composed of textile fabric which extend underneath the core between the same and the rim in the plane of the radial pressure experienced by the tread and exerted by the inflation of the core, the normal inner diameter of the sheath and the inner diameter of the core, when fully inflated, being less than that of the seat provided therefor in the rim, whereby the inflation of the core and the pressure of the load and the circumferential tension of the core at its inner circumference cause said lateral and inner circumferential portions of the sheath to be bound between the core and the rim, substantially as set forth. 11th. In combination with the rim, the tire seated therein, said tire comprising an inflatable core and an outer sheath or envelope having a tread of cushioning substance and lateral portions composed of textile fabric which extend underneath the core between the same and the rim in the plane of the radial pressure experienced by the tread and exerted by the inflation of the core, a strip or band of longitudinal and substantially non-extensible fabric extending in a zone about the outer circumference of the inflatable core, and between the same and the sheath, the normal inner diameter of the sheath and the inner diameter of the core, when fully inflated, being less than that of the seat provided therefor in the rim, substantially as set forth. 12th. The rim and the inflatable tire combined with an envelope comprising a tread of cushioning substance and lateral portions provided, respectively, with beads adapted to engage the rim, said lateral portions extending inwardly from said beads between the core and the seat of the same in the tire, whereby the core, when inflated, presses said inwardly extending portions between the planes of said beads, substantially as set forth. 13th. In combination with the sheath rifled at its inner circumference to adapt it to admit the core, the inflatable core therein, the rim in which the tire comprising such sheath and core is seated, the inner diameter of the tire, when its core is fully inflated without restraint, being less than that of the seat provided for the same in the rim, the sheath having lateral beads and the rim being adapted to engage such beads at its lateral edges, whereby the inflation of the core tending to expand the sheath is prevented from spreading said rift, and the sheath between said rift and beads is grasped between the tire and the inflated core, substantially as set forth. 14th. An inflatable tire whose envelope comprises a bead of cushioning substance, and lateral portions integral therewith, and provided respectively with beads moulded integrally with the envelope, in combination with the rim provided with lateral recesses adapted to receive said beads, substantially as and for the purpose set forth. 15th. An inflatable tire re-enforced by fabric layers and having an exterior envelope of suitable cushioning substance, and lateral beads moulded integrally with said envelope, the fabric layers being infolded within said beads to reinforce the same, substantially as set forth. 16th. An inflatable tire consisting of a hollow sheath formed in one piece, and laterally beaded and parted at its inner circumference between the beads to adapt it to admit a core, and the rim provided with seats for the beads, whereby the parted edges are held in proximity when the tire is seated on the rim, substantially as set forth. 17th. An inflatable tire whose envelope comprises a bead of cushioning substance, and lateral portions that extend between the beads and the rim, and in contact with the latter, said lateral portion having integral therewith lateral beads by which the sheath is held to the rim, substantially as set forth. 18th. An inflatable tire having ridged or grooved outer surface for the bead, substantially as set forth. 19th. In combination

with an air distended tire, comprising a lining of textile fabric and an exterior surface of rubber, a bead portion of rubber having projecting ridges or ribs alternating with rounded concavities or valleys, substantially as set forth.

No. 40,899. Method of and Apparatus for the Destructive Distillation of Mineral Oils.
(*Appareil pour la distillation destructive des huiles minérales.*)

John Laing, 34 East Preston Street, Edinburgh, Scotland, 4th November, 1892; 18 years.

Claim.—1st. The improved process of treating comparatively heavy mineral oils, in which, by repeated distillations combined with intermediate condensations of the volatilized portions, and carried on continuously and conjointly, the oil is subjected to destructive or decomposing action and lighter products are obtained, substantially in the manner hereinbefore described. 2nd. The improved apparatus for the treatment of mineral oils, consisting of a still or boiler divided into a horizontal series of compartments communicating with each other at their bottoms, and provided with pipes for leading volatilized matters from each compartment through a condenser to the next compartment in order, the parts being arranged, combined, and operating in the manner and for the purposes substantially as hereinbefore described.

No. 40,900. Starting Mechanism for Grain Binders.

(*Mise en train de machine à engrer les grains.*)

John S. Davis, Cleveland, Ohio, U.S.A., 4th November, 1892; 6 years.

Claim.—1st. The combination of the binding receptacle, the pivoted throat depending therein, latch f , and ratchet wheel, the trip dog K, the bell crank lever and the push bar operating against the dog with the link adjustably connecting the float and bell crank lever, substantially as and for the purpose set forth. 2nd. The combination of the throat, the cam disc J, and the dog K, and its retractile spring k^1 , the push bar J^2 , operated by the float to trip the dog, with the bar L, and the cam L^1 , on the disc, substantially as and for the purpose hereinbefore set forth. 3rd. The combination of the constantly revolving packer shaft and its rigidly attached ratchet wheel, the cam disc J, loosely mounted on the shaft, the latch f , pivoted on the disc, the spring f^1 , urging it into engagement with the ratchet, the two projections f^2, f^3 , on the latch, and the trip dog K, which operates upon said projections to disengage the latch from the ratchet twice during each revolution of the cam disc, substantially as and for the purpose hereinbefore set forth. 4th. The combination of the trip dog and a ratchet wheel, with the cam disc J, the latch f , pivoted thereon and provided with projections f^2, f^3 , on its outer side, located at substantially opposite sides of the axis of the cam disc, as and for the purpose hereinbefore set forth. 5th. The combination of the trip dog and the ratchet wheel with the cam disc J, the latch f pivoted thereon and provided with projections f^2, f^3 , on substantially opposite sides of the axis of the disc, with the guide slot and pin f^4 , to steady and guide the long end of the latch and limit its movement, substantially as hereinbefore set forth. 6th. The combination of the constantly revolving ratchet wheel, the cam disc with its shoulders k^2 , loosely mounted on the shaft of the ratchet wheel, the latch pivoted on the disc and engaging the ratchet to revolve the cam, the trip dog K, pivoted on the frame and engaging the projections on the latch to withdraw it from the ratchet, and positively stop the forward revolution of the cam, and the spring K^1 , which falls behind the shoulders and prevents a retrograde motion of the cam, substantially as hereinbefore set forth. 7th. The combination of the main binder wheel, with its starting bolt, the sliding plate N which holds and controls the bolt, and the cut off actuating disc with its cam ledges P, P^1 , which engages a stud roller at the end of the plate N, substantially as and for the purpose hereinbefore set forth. 8th. The combination of main binder wheel with its starting bolt, the sliding plate N which controls the bolt, the cut off actuating disc, with its cam ledges P, P^1 , the stud roller on the plate N, engaged by the ledges, and a supplementary spring, which holds the roller in firm contact with the ledges, substantially as hereinbefore set forth. 9th. The combination of the main binder wheel and its projecting lug h^4 , with the sliding plate N, and its lug n^4 , and means by which it is actuated, substantially as and for the purpose hereinbefore set forth. 10th. The combination of the cut off actuating mechanism and the ratchet wheel, the latch by which they are connected, the trip dog which restrains the latch and stops the cut off mechanism, the arm k^5 on the trip dog, the main binder wheel, and its cam ledge b , which trips the dog to start the cut off mechanism, substantially as hereinbefore set forth. 11th. The combination of the main binder wheel, the cam ledge H^2 thereon, with its recess or pocket, the spring pressed dog R^1 , having a roller which normally rests in the pocket, and the stop r^2 , which strikes the frame and limits the downward movement of the dog, substantially as set forth. 12th. The combination of the cut off fingers, the bell crank lever M^4 , and its stud roller, the cam disc by which it is actuated, having the cam ledge cut away at one side, as at P^2 , and the stop lugs m^4 and m^5 , on the lever and the binder frame respectively, substantially as and for the purpose hereinbefore set forth. 13th. The combination of the driving pinion G, having side extension spurs g , the main binder wheel with its sliding bolt

H^1 , to engage said spurs, the spur wheel F^1 , meshing with the pinion, the ratchet F^2 , having half as many teeth as the wheel F^1 , and revolving with it, and the cam disc intermittently connected to the ratchet and by suitable connections positively throwing the bolt H^1 into the path of the spurs g on the pinion, said spurs being located on the pinion at every second tooth, or any multiple thereof, all the parts being relatively proportioned and arranged to operate, substantially as hereinbefore set forth.

No. 40,901. Rail Joint. (*Eclisse de rail.*)

Robert John Colvin, Lancaster, Pennsylvania, U.S.A., 4th November, 1892; 6 years.

Claim.—1st. The combination, in a rail joint, of the two parts A, B, which catch against the opposite sides of the rail and are provided with tenons G and recesses H, and the counter lock I, H^1 , across their centres, substantially as shown. 2nd. In a rail joint, the combination of the two parts A, B, which are applied to opposite sides of the rail and made long enough to extend from one tie to another, and provided with the tenons G and the recesses H, whereby the two parts are made to interlock the counterlock across their bottoms, and the stop L to catch between the ends of the rails, substantially as described.

No. 40,902. Combined Stove and Furnace.

(*Poêle et fournaise combinés.*)

Carl Brandt, Cedar Falls, Iowa, U.S.A., 5th November, 1892; 6 years.

Claim.—1st. In a combined stove and furnace, a fire pot having a drum mounted thereover, provided with a spirally arranged smoke flue connected with said fire pot, and a spiral air flue between the parts of the said spirally arranged smoke flue, said smoke flue connecting with a smoke pipe in the side of the stove or furnace and the air flue opening at its upper end through the top of said stove or furnace, substantially as described. 2nd. In a combined stove or furnace, the combination of a fire pot, a drum mounted thereon having a spirally arranged smoke flue therein connected at its lower end with said fire pot and at its upper end with an escape pipe located in the side of the furnace or stove, a spirally arranged air flue between the parts of said smoke flue and opening out of the top of said drum, and a chamber or magazine extending centrally through said flues, substantially as described. 3rd. In a combined stove or furnace, the combination of a casing having a base made with open work for the passage therethrough of currents of air, an interior drum open at the bottom and having a perforated top, and a perforated top fitted over said casing and said drum, an ash box on said base having a cleaning vent, a fire pot above said ash box having a detachable dome and a top and side opening, a vent connected to said side opening of the dome, a dust flue vertically disposed and connecting the said vent of the ash box and of the last named vent, and having a damper therein, a removable collar located in the top opening of the dome and depending above and below the same, a central magazine having its lower end connected to said collar and the upper end thereof secured to the said drum, a smoke flue spirally arranged within the said drum around the magazine and having the lower end thereof communicating with the vent entering the side of the dome of the fire pot, and the upper end of the same opening into a smoke pipe passing through the side of the casing and drum, and an air flue spirally arranged between the upper and lower surfaces of the smoke flue, substantially as described.

No. 40,903. Car Coupler. (*Attelage de chars.*)

Granville R. Lewis, Lynchburg, Virginia, U.S.A., 5th November, 1892; 6 years.

Claim.—The combination of the gravity lock pin a , the lever c , rock shaft or rod d , the levers e, e , and chains or rods f , and levers g , substantially as and for the purpose specified.

No. 40,904. Centrifugal Separator.

(*Séparateur centrifuge.*)

Carl Gustaf Patrick De Laval, Stockholm, Sweden, 5th November, 1892; 6 years.

Claim.—The combination, with the separating bowl, of superposed division plates, arranged in the liquid space across the radial lines of the bowl, provided with corrugations or channels through which the separated liquids flow, and communicating at their outer edges with a passage for the heavy separated liquid, substantially as set forth.

No. 40,905. Car Brake. (*Frein de chars.*)

Alexander Campbell, Hespler, Ontario, Canada, 5th November, 1892; 6 years.

Claim.—1st. The combination, with the brake shoe and brake chain, of the friction clutch I, J, thrown into connection by the cam on the rod C, and forked bracket G, as and for the purpose specified. 2nd. The combination, with the brake shoes and chains, of the friction clutch I, J, forked bracket G, rod C, having secured on it the cam M, and spring N, arranged as and for the purpose specified. 3rd. The combination, with the brake shoes and chains, of the friction clutch, I, J, internal spring friction blocks K, forked

bracket G, rod C, having secured on it the cam M, and spring N, arranged as and for the purpose specified. 4th. The combination, with the brake shoes and chains, of the friction clutch I, J, forked bracket G, rod C, having secured on it the cam M, and lever D, provided with an adjustable plunger E, arranged to engage with the toothed quadrant F, as and for the purpose specified. 5th. The combination, with the brake shoes and chains, friction clutch I, J, forked bracket G, rod C, having secured to it the cam M, the lever D, connected to the rod p, having the laterally extending rods p^1 , and the adjustable bumper Q, and spiral spring r, and collar r^1 , arranged as and for the purpose specified.

No. 40,906. Brake. (Frein.)

Walter S. Adams and John A. Bride, both of Philadelphia, Pennsylvania, U.S.A., 5th November, 1892; 6 years.

Claim.—1st. A brake mechanism having normally transverse equalizing levers and upright brake levers pivotally secured to said equalizing levers, substantially as described. 2nd. In a brake system, the normally transverse equalizing levers, upright brake levers pivotally secured to the equalizing levers and guides for the lower end of said brake levers, secured upon the equalizing levers, substantially as described. 3rd. In a brake system, the equalizing levers 16 having a shoulder 26, and a slotted housing 38, on its end, and a brake rod pivotally secured to said shoulder, the lower end of which is adapted to play in the housing, substantially as described. 4th. A brake system having an equalizing lever shoulder 26, and slotted housing 38, on the end of said equalizing lever an upwardly extending brake lever secured thereto, a brake rod secured to said upright brake lever above its fulcrum and guides for the lower end of said upright brake lever secured to the equalizing lever below the fulcrum of the upright brake lever, substantially as described. 5th. A brake system having an equalizing shoulder 26, and slotted housing 38, on the end of said equalizing lever, both the shoulder and housing being disposed at an angle to the said lever, an inwardly extending brake lever shoulder and housing, a brake rod secured to said upright brake lever above its fulcrum and guides for the lower end of said upright brake lever secured to the equalizing lever below the fulcrum of the upright brake lever, substantially as described. 6th. In a brake system, the brake beam 13, and equalizing lever 17, united by the jaw bolt 19, and a spring engaging with the equalizing lever, substantially as described. 7th. In a brake system, the brake beam 13, and equalizing lever 17, pivotally united by the jaw bolt 19, and a spring 42, held on the jaw bolt, and having arms 45, and jaws 46, in contact with the said equalizing lever, substantially as described. 8th. A brake system, in which the transverse brake beams and longitudinal brake rods are normally disposed in rectangular form, comprising brake beams and shoes secured to the truck, transverse equalizing levers secured to the brake beams, upwardly extending brake levers pivotally secured to the said equalizing levers, and longitudinal brake rods secured at one end to the equalizing levers, and at the other to the said brake levers, substantially as described. 9th. In a brake mechanism, the combination with the brake beams 13, having brake shoes of transverse equalizing levers 16, 17, secured to the brake beams, upwardly extending brake levers 27, 28, fulcrumed to the said equalizing levers, a guide for the lower portion of said brake levers secured to one end of the equalizing levers and longitudinal brake rods 22, 23, one end of each of which is secured to the brake levers above their fulcrum, the other end being secured to one end of the equalizing lever, substantially as described. 10th. The equalizing lever 17, having the upright brake lever 28, fulcrumed to the end thereof, substantially as described.

No. 40,907. Car Body. (Caisse de chars.)

George Jonathan Porter, Medford, Massachusetts, U.S.A., 5th November, 1892; 6 years.

Claim. 1st. A car body, each side of which is formed in cross section with a vertical portion, and two or more inclined portions composed of angular metal ribs extending around or nearly around the car body, and metal plates secured to said ribs, substantially as set forth. 2nd. A car body, the sides of which consist each of a vertical portion, and two or more inclined portions in cross section and composed of metal ribs extending around or nearly around the body, and metal plates secured to said ribs and bent at angle points thereof to conform to the form of the ribs, substantially as set forth. 3rd. A car body of polygonal form in cross section composed of ribs o extending around or nearly around the body, the metal plates k secured to said ribs, and bent at angle points thereof to conform to the form of the car body, sound deadening material secured to the ribs and plates, and the inside finishing material secured upon the ribs and sound deadening material, as set forth. 4th. A car body, the sides of which are each formed in cross section with a vertical portion, and two or more inclined portions composed of metal plates, and metal ribs o extending around or nearly around the body, metal plates k secured to said ribs and bent at the angle points thereof to conform to the form of the car body, the longitudinal metal girders in the bottom of the car, metal bracing intermediate of the girders, cross bar i , and the floor resting upon said bars, substantially as set forth. 5th. A car body of polygonal form in cross section having straight or vertical sides composed of ribs o extending around or nearly around the body, vertical plates k secured to said ribs, and bent at angle points thereof to conform to the form of the body,

materials forming the under finish or facing, and sound deadening material intermediate of the finishing material and the metal plates, substantially as set forth. 6th. A car body, the sides of which are each formed in cross section with a vertical portion, and two or more inclined portions composed of metal plates, and metal ribs to which the plates are secured, the longitudinal metal girders in the bottom of the car, said ribs extending around the car from the outermost of said girders, and intermediate metal braces, substantially as set forth. 7th. A car body of polygonal form in cross section, the sides having various planes or angles, all of the points of the angles touching upon an imaginary circular line, and portions of the sides being constructed in vertical, or nearly vertical planes, composed of angular metal plates and flanged metal ribs extending around or nearly around the car body, to which the said plates are secured, sound deadening material o^1 secured to the plates, the layer p^1 of insulating material, and an inside finish s^1 , as set forth.

No. 40,908. Scraper for Band Saw Pulleys.

(*Grattoir pour poulies de scierie à ruban.*)

Joseph Henry Wentz, Baraga, Michigan, U. S. A., 5th November, 1892; 6 years.

Claim.—1st. In a scraper for band saw pulleys, the combination, with the pulley and its support, of a shelf mounted on the support, a rock arm mounted on the shelf, a scraper plate yieldingly secured to one end of the arm, and a spring exerting its force on the opposite end of the arm to normally hold the scraper plate in contact with the pulley, substantially as and for the purpose described. 2nd. In a scraper for band saw pulleys, the combination, with the pulley and its support, of a shelf attached to the support, a rock arm mounted on the shelf, a scraper plate yieldingly secured to one end of the rock arm, a roller mounted in the arm for holding the plate in even contact with the pulley, and a spring for normally holding the plate in contact with the pulley, substantially as and for the purpose described. 3rd. In a scraper for band saw pulleys, the combination, with the pulley and its support, of a shelf attached to said support, pedestals on the shelf, a rock arm mounted in the pedestals, a scraper plate secured on one end of the arm, an adjustable roller normally connecting with the base of the scraper plate, a spring for exerting force on the other arm, and means for regulating the tension of the spring, substantially as and for the purpose specified.

No. 40,909. Nut Lock. (Arrête-écrou.)

William Cokayne, Sedalia, Indiana, U. S. A., 5th November, 1892; 6 years.

Claim.—1st. In a nut lock, the combination, with a plurality of nuts and bolts, of a longitudinally slotted plate fitting over the said bolts and connecting a pair of the same, and a plurality of spring locking plates movably secured in the slot of the slotted plate at their forward ends and pivotally secured together at their rear or abutting ends in said slot, substantially as described. 2nd. In a nut lock, the combination, with the rail A, bolts B, B¹, and nuts C, C¹, of the connecting plate E, fitting over any two adjacent bolts and having a central longitudinal slot c for the locking plates, the locking plates D, D¹ secured in the slot, the rivet pin b joining the rear extremities of said locking plates, and the rivets c , c^1 holding said locking plates in said slot, as specified.

No. 40,910. Process for Producing Colours on Glass Surfaces. (Procédé pour colorer les surfaces en verre.)

Johann Christian Dantze, Frankfurt, A. M., Kingdom of Prussia, German Empire, 5th November, 1892; 6 years.

Claim.—A process for the production of coloured impressions (chromo-printing) on glass, its characteristic feature being the transfer of "reprinting" or transfer colours upon a transparent transfer paper, which paper before being moistened is pressed against the surface of the glass by rubbing until the colours begin to adhere, it is then moistened and further rubbed, this process being discontinued before all the moisture has quite disappeared from the paper, whereupon the paper is taken off, and the next colour, if any, is proceeded with in the next same manner.

40,911. Cover for Milk Cans.

(*Couvercle pour boîtes à lait.*)

George Lorenzo Flower, Belleville, Ontario, Canada, 5th November, 1892; 6 years.

Claim.—A milk can cover, having one or more beads or indentations of any shape in its flange, substantially as and for the purpose hereinbefore set forth.

40,912. Evaporating or Concentrating Apparatus.

(*Évaporateur or concentrateur.*)

Frank Walter Scott, London, Ernest George Scott, Liverpool, and Frank Walter Scott, jr., London, all in England, 5th November, 1892; 6 years.

Claim. 1st. The combination with an evaporating pan or apparatus of a valve placed at the bottom thereof, and having a recess or opening designed to be placed in communication with the evaporating pan, and with the discharge opening alternately to effect

the removal of the solid substance deposited during the operation of such apparatus, without interfering with or stopping the operation, substantially as described. 2nd. In an evaporating pan or apparatus, having a valve of the kind described at its lower part for effecting the continuous removal of the solid substances deposited, a jacket surrounding the lower part of the said pan or apparatus, substantially as and for the purpose described. 3rd. The combination with an evaporating pan or apparatus, having a valve of the kind described at its lower part for effecting the continuous discharge of the solid substances deposited, of an agitator for promoting the circulation of the liquid in the said pan or apparatus, substantially as described.

40,913. Insulator. (Isolateur.)

Frank Atherton Ross, Livingston, Montana, U.S.A., 5th November, 1892; 18 years.

Claim.—1st. In an insulator, the combination, with the insulator body provided with a transverse slot having a curved or corrugated floor, of a screw cap fitted to the insulator and adapted to clamp the wire in the slot, substantially as specified. 2nd. The combination, with the insulator body A, provided with a screw-threaded upper portion, and a transverse slot having a curved or corrugated floor, of a screw cap fitted to the insulator body and adapted to clamp the wire in the insulator, the said cap being furnished with corrugations around its edges for engagement with the wire, substantially as specified.

No. 40,914. Balance Steam Valve.

(*Soupape à bascule.*)

George Henry Chappell and Frank Tryon, both of New York, State of New York, U.S.A., 5th November, 1892; 6 years.

Claim.—1st. A valve composed of two sections, one fitting within the other, of said sections having a steam passage that communicates at one end with the exterior of said valve, and at its other end leads to the other section, whereby the sections will be moved outwardly relatively to each other by the steam in said passage, substantially as described. 2nd. A valve composed of two hollow sections, one fitting within the other, one of said sections having a steam passage communicating with the exterior of the valve, a tube in said passage, and a recess in the opposite section, into which said tube projects, whereby steam in said passage and tube acts to press said sections apart, substantially as described. 3rd. A steam chest having ports on opposite sides *a, b*, and longitudinal ports connecting said ports on the sides, combined with a valve within said chest, and extending across the interior of said chest from side to side, the sides of said valve being wholly free from the walls of the chest, said valve being composed of two sections fitting one within the other, and a steam passage in one section leading to the other section, whereby the ends of the valve will be kept pressed against the sides of the steam chest, substantially as described. 4th. A valve composed of two hollow sections, one fitting within the other, combined with a sleeve I, encircling said valve to keep steam from entering between said sections, and with the valve rod connected to said sleeves, substantially as described. 5th. A valve composed of two sections fitting one within the other, the inner section having a flange G, a steam passage in said outer section leading from the outer wall of said section inwardly to the flange G, to cause steam to press said sections apart, combined with the sleeve I, encircling said valve to cover the joint between said sections, and with the aperture *x* in said sleeve that registers with said steam passage, substantially as described. 6th. A valve composed of two hollow sections fitting one within the other and having a passage entirely through them, combined with a steam chest, within which said valve fits, and with rollers *n*, carried by said valve and resting on a side of the chest, said valve being entirely surrounded by steam between its ends, while its ends fit against the sides of the chest, substantially as described. 7th. A valve composed of two hollow sections fitting one within the other, combined with a spring between said sections, substantially as described. 8th. A valve composed of two sections fitting one within the other, one of said sections having a recess situated between said sections, combined with a spring in said recess, substantially as described. 9th. A valve composed of two sections fitting one within the other, and a recess *a'* in one of said sections, combined with a spring in said recess, said spring being composed of an inner spring band *b'*, and another spring band encircling the inner spring, substantially as described. 10th. A steam chest having sets of curved ports on diametrically opposite sides, combined with an extensible valve fitting over said ports, and extending from side to side of said chest, substantially as described.

40,915. Stove. (Poêle.)

Wilcox Water Heater Company, assignees of Margaret A. Wilcox, Chicago, Illinois, U.S.A., 5th November, 1892; 6 years.

Claim.—1st. In a stove, the combination of independent water heating passages, independent flues for respectively heating the water in said passages, and means for controlling the heat in said flues, substantially as described. 2nd. In a cooking and heating stove, two water heating coils, one within the other, each arranged in a separate heating flue, the inner coil constructed to be connected with a boiler and the city supply, and the outer with a radiator and means for cutting off the heat from the outer flue, substantially as

described. 3rd. In a cooking and heating stove, a pair of coils of pipe, arranged in separate chambers, one within the other, and a series of cooking chambers arranged around the same, and means for heating said cooking chambers or either of the coils at will, substantially as described. 4th. In a cooking and heating stove, a water heater, set in a central chamber, passages around the base of the same, and a series of cooking chambers around the central chamber, and means for directing the products of combustion to the water heater or cooking chambers at will, substantially as described. 5th. In a cooking and heating stove, a central water heating apparatus and a pair of circular passages arranged around said central water heater, each of which is provided with a series of cooking apertures, and one side having closed cooking chambers arranged over said cooking apertures, substantially as described. 6th. In a cooking and heating stove, a central water heating apparatus, a combustion chamber in front and oven in the rear, and curved passages surrounding said water heating apparatus, and leading from the combustion chamber to the oven, and closed cooking chambers over a portion of said passages, substantially as described. 7th. In a stove, the combination of two tortuous water heating passages and tortuous heating flues, in which said passages are respectively inclosed, substantially as described. 8th. In a cooking and heating stove, the combination with a combustion chamber of cooking chambers, communicating with both sides of said combustion chamber, independent dampers for closing communication between said combustion chamber and either of said cooking chambers and water heating flues, having independent communication with the rear or minor side of said combustion chamber, substantially as described. 9th. In a stove, the combination with a combustion chamber, having the holes F, of folding cooking chambers hinged to the stove over said holes, substantially as described.

40,916. Trousers Stretcher. (Forme de pantalon.)

The Trousers Stretcher Company, assignee of George Sutherland Macdonald, all of Detroit, Michigan, U.S.A., 5th November, 1892; 6 years.

Claim.—In a trousers stretcher, the combination, with two frames composed, respectively, of side bars and end bars, one frame being of smaller dimensions than the other, a cross rod pivotally uniting the inner ends of the side bars, locking means for retaining the frames in a parallel position, frames pivoted to the other ends of the side bars, carrying cross bars parallel with the cross bars of the main frame, means for holding the cross bars together, and a rubber covering on the cross bars, substantially as set forth.

No. 40,917. Tool for Applying and Removing Horse Shoe Guard Plates. (Outil pour ôter les plaques de garde des fers à cheval.)

George T. Chapman, White Plains, and Wm. Harvey Merritt, New York, both in the State of New York, U.S.A., 5th November, 1892; 6 years.

Claim.—The combination of the base plate having the feet at its extremities, and the hole through the centre, the T-headed coupling rod inserted in the hole and movable therein, and the levers pivoted to the coupling rod and having the short arms adapted to thrust on the base plate when the T-head is engaged below and the levers are forced so as to swing the short arms towards the coupling rod, substantially as described.

No. 40,918. Machine for Centring Shafts.

(*Centreur pour arbres.*)

Simon Brubaker Minnick, Landisville, Pennsylvania, U.S.A., 5th November, 1892; 6 years.

Claim.—1st. The combination, with the frame having a spindle *a*, of clamps K or K', connected with the frame by links H and D, the sleeve I connected with the clamps by links E fastened to links D, connecting said clamps with said frame, and the feed wheel 11, substantially as and for the purpose hereinbefore set forth. 2nd. The combination of the frame having the spindle *a*, clamps pivotally attached to the frame by links, a sleeve movable back and forth upon the spindle, connections between the clamps and the sleeve, whereby the movements of the sleeve operate the clamps, and a feed wheel to actuate the sleeve, substantially as and for the purpose hereinbefore set forth. 3rd. The clamps having the rubber or similar yielding cushions secured thereto, substantially as and for the purpose hereinbefore set forth. 4th. The combination of the clamps having the rubber or similar substance cushions attached thereto, and the set screws I passing through the cushions, substantially as and for the purpose hereinbefore set forth. 5th. The clamps having the recesses 9 formed in their lower or bearing edges to receive projections on the articles being centred, substantially as and for the purpose hereinbefore set forth.

No. 40,919. Hernia Pad. (Bourrelet herniaire.)

Charles Cluthe, Toronto, Ontario, Canada, 5th November, 1892; 6 years.

Claim.—1st. An improved device for retaining hernia consisting of a cup having a suitable interior form and an impervious exterior surface, by which a suction property is given to the cup when

flattened and pressed over the hernia, substantially as and for the purpose specified. 2nd. An improved device for retaining hernia consisting of a cup having a suitable interior form and an impervious exterior surface, and provided with an air valve, by which a permanent suction property is given to the cup, substantially as and for the purpose specified. 3rd. A cup having a suitable interior form and an impervious surface, and provided with an air valve, in combination with an exhaust bulb or air pump, by which the air is withdrawn from between the interior of the cup and the skin, substantially as and for the purpose specified. 4th. A shallow cup A, having a lip B formed around the inner edge, and a central portion or pad E, in combination with an air valve C, arranged substantially as and for the purpose specified. 5th. A shallow cup A, having a lip B formed around the inner edge, and an adhesive plaster secured to said lip, and a central portion or pad E, in combination with an air valve C, arranged substantially as specified. 6th. A shallow cup A, having a lip B formed around the inner edge, and a pad E, having a spring G connecting it to the interior of the cup, in combination with an air valve C communicating with the interior of the cup, substantially as specified. 7th. A shallow cup having a lip B formed around the inner edge, and a pad E connected to the diaphragm H, in combination with a supplemental valve J, extensible air chamber I, and air valve C, arranged as and for the purpose specified. 8th. A shallow cup A, having a lip B formed around the inner edge, and a pad E, having a spring G, hollow spindle F, hollow ball f with holes, arranged with a socket to connect the pad E to the cup, and form a clear passageway to the air valve C, substantially as specified. 9th. In combination with a shallow cup A, an air valve C, provided with a plug *a*, which, when resting on its seat, closes the passageway into the interior of the cup, but when removed from its seat forms a clear passageway so as to allow the air to be withdrawn from beneath the interior of the cup and the skin, for the purpose set forth.

No. 40,920. Band Cutter. (Coupe-hart.)

John P. Monnett, Reusselaer, Indiana, U.S.A., 5th November, 1892; 6 years.

Claim.—1st. The combination, with the throat or hopper of a threshing machine, of an endless conveyor apron arranged to deliver grain over the side of the throat, a sectional slotted casing suspended over the inner end of the conveyor apron, a cutter belt partly housed within said sectional casing, and carrying the cutters or knives which protrude below the casing through the slot therein, and the upper casing 20, which incloses said cutter belt, substantially as described. 2nd. The combination, with the throat or hopper of a threshing machine, of an endless conveyor apron arranged to deliver grain over the side of the throat, the suspended casing over the inner end of the conveyor, and constructed of two longitudinal sections which provide longitudinal slots and have bearings for the cutter belt shafts, the shafts journalled in said bearings, the cutter belt supported and operated by said shafts and housed partly within the sectional casing, the cutters, or knives carried by the belt and arranged to protrude through the slot in the lower side of the casing, and the upper imperforate casing which incloses the cutter belt, substantially as described. 3rd. A band cutter for threshing machines, comprising the casing constructed of the longitudinal hollow sections and having at the ends the upwardly extending lugs, shafts journalled in said lugs, a belt or chain passing over sprockets on said shafts, and carrying the knives or cutters which protrude through said casing, and mechanism, substantially as described, for rotating the shafts and feeding the chain, substantially as shown and described. 4th. A band cutter for threshing machines, comprising the casing constructed of two hollow sections, provided at the ends with upwardly extending lugs, and having its lower surface or edge serrated, shafts journalled in the lugs at the ends of said casing, a belt or chain passing over sprockets on the shafts, the knives or cutters attached to said chain, the guide blocks secured to the chain on either side of each knife or cutter, and means, substantially as described, for operating the cutter belt, substantially as shown and described. 5th. The combination, with the throat of a threshing machine, and a conveyor arranged to deliver grain over the side of the machine, of a vertically movable casing suspended over said conveyor, and consisting of longitudinal sections arranged to form the longitudinal slot in its lower side, and cutter carrying chain or belt carried by said sectional casing and provided with the knives which protrude through the slot in the lower side of the casing, substantially as described. 6th. The combination, with the throat of a threshing machine, and the conveyors arranged on opposite sides of the throat to deliver the grain over the sides thereof, of the casings arranged over the conveyors and supporting the travelling cutter carrying belts or chains, the fixed standard at one end of said casings, the brackets connected to the casings and to the standard, and the arms attached to the opposite ends of the casings and supported in vertical guides or ways, substantially as described. 7th. In a band cutting mechanism for threshing machines, the combination, of a sectional casing having a longitudinal slot in its lower side, an endless belt or chain supported by said casing and operating therein, the cutters or knives fixed centrally to the belt and projecting through the slot in the lower side of the casing, and the guide operating in connection with the belt and casing to hold the belt and cutters centrally within the casing, substantially as described. 8th. In a band cutting mechanism for threshing machines, the combination of a sectional casing having a longitudinal slot in its lower

side, the endless chain or belt supported by the casing and operating therein, the cutters fixed centrally to the belt and projecting through the slot in the casing, and the guides carried by the belt and projecting laterally from the same to ride against the inner sides of the casing, for the purpose described, substantially as set forth. 9th. In a band cutting mechanism for threshing machines, the combination of a sectional slotted casing, the endless belt supported by the casing and operating therein, and the knives or cutters fixed to the belt and provided with the guide blocks which project laterally beyond the sides of the belt and which ride against the inner sides of the sectional casing, substantially as described.

40,921. Vessel for Petroleum or other Liquids.

(*Vaisseau pour le pétrole ou autres liquides.*)

John Dalziel Sprunt, London, England, 5th November, 1892; 6 years.

Claim.—1st. Vessels or containers for petroleum, turpentine, or other liquids, the said vessels or containers being made air-tight, and being provided with yielding or flexible parts to follow the liquid as it increases or decreases in bulk by expansion and contraction, substantially as hereinbefore described. 2nd. A vessel or container for petroleum, turpentine or other liquid consisting of a rigid or inflexible part made of wood or other suitable light material, and a yielding or flexible part composed of parchment, glued paper or other suitable material, that will yield in accordance with the contraction and expansion of the contents of the vessel, the exterior or the interior, or both the exterior and interior surfaces of the vessel being coated or covered with glue, parchment, glued paper or other suitable material, to exclude air and prevent the liquid contents from exuding through the joints or pores of the material of which the vessel is made, substantially as hereinbefore described. 3rd. In vessels or containers constructed in the manner and for the purpose hereinbefore described, the combination with the aperture for the introduction and discharge of the liquid of a collapsible funnel attached to the vessel in proximity to the aperture therein, substantially as and for the purpose hereinbefore described.

40,922. Machine for Casing or Treating Tobacco.

(*Machine pour envelopper ou traiter le tabac.*)

John C. Frost, Winston, North Carolina, U.S.A., 5th November, 1892; 6 years.

Claim. 1st. In a tobacco casing machine, the combination of a frusto-conical drum, means for rotating the same, a pump connected with the source of supply of casing liquid, and a casing nozzle connected with said pump, said nozzle being located interiorly of said drum, substantially as described. 2nd. In a tobacco casing machine, the combination of a frusto-conical drum, means for rotating the same, pegs secured to the interior of said drum, a pump connected with the source of supply of casing liquid, and a casing nozzle connected with said pump, said nozzle being located interiorly of said drum, substantially as described. 3rd. In a tobacco casing machine, the combination of a perforated frusto-conical drum for screening the tobacco, a frusto-conical casing drum, a casing nozzle located interiorly of the latter, and means for revolving both drums, substantially as described. 4th. In a tobacco casing machine, the combination of a perforated frusto-conical screening drum, with a frusto-conical casing drum, the larger end of the screening drum registering with and being secured to the smaller end of the casing drum, means for rotating the drums, and a casing nozzle arranged interiorly therein, substantially as described. 5th. In a tobacco casing machine, the combination with a frusto-conical drum, and annular rims secured upon the drum, of flanged pulleys engaging said rims, and supporting the drum, said pulleys engaging opposite edges of the rims, substantially as described. 6th. In a tobacco casing machine, the combination, with a frusto-conical drum, and annular rims secured upon the drum, of a shaft, means for rotating the shaft, and flanged pulleys secured upon the shaft, engaging said rims and supporting said drum, substantially as described. 7th. In a tobacco casing machine, the combination of a frusto-conical drum, a feeding chute therefor, and means for adjusting the inclination of said chute, substantially as described. 8th. In a tobacco casing machine, the combination of a casing drum, a casing nozzle, rolls or wringers, and a revolving shaft with vanes carried thereon below said wringers, substantially as described. 9th. In a tobacco casing machine, the combination of a body piece adapted to be secured to the end of a pipe, and centrally apertured, a plate having diverging orifices therethrough, and a cap having on its face a spreading groove, the parts being secured together so that the orifices shall be in communication, substantially as described. 10th. In a tobacco casing machine, the combination of a casing drum, a casing nozzle arranged interiorly to said drum, a pump connected to said nozzle, the pump being also connected to a source of supply of casing liquid, and an air chamber interposed between the pump and the nozzle, substantially as described. 11th. In a tobacco casing machine, the combination of a casing drum, a casing nozzle arranged interiorly to said drum, a pump connected to a source of supply of casing liquid, a pipe connecting the pump with the nozzle, a return pipe connecting said pipe directly with said source of supply, and a relief valve in said return pipe, substantially

as described. 12th. In a tobacco casing machine, the combination of a shaft, a pump, operative connections between the shaft and the pump, pulleys secured on said shaft, a casing drum supported on and rotated by said pulleys, a casing nozzle arranged interiorly to the drum a pipe connection between the nozzle and the pump, and a pipe connection between the pump and the casing liquid reservoir, substantially as described.

No. 40,923. Machinery for Blowing or Steaming, Boiling, Cooling, Scouring and Dyeing Woven Fabrics. (*Machine pour souffler ou vaporiser, cuire, refroidir, écurer et teindre les tissus.*)

Arthur Travis Clay, Rastrick, York, England, 5th November, 1892; 6 years.

Claim.—1st. In machinery for "blowing" or steaming, boiling, cooling, scouring and dyeing woven fabrics, the combination of an air-tight steam chest or open vessel forming an external casing, a cylinder with perforated peripheral surface revolving in said external casing, and a pump or exhaust fan in communication therewith, for the purposes set forth. 2nd. In machinery for "blowing" or steaming, boiling, cooling, scouring and dyeing woven fabrics, the combination of an air-tight steam chest or open vessel forming an external casing, a perforated cylinder having a hollow journal at one end, and a close cupped journal at the opposite end, and an adjustable "centre" bearing Q engaging the latter, as set forth. 3rd. In machinery for "blowing" or steaming, boiling, cooling, scouring and dyeing woven fabrics, the combination of an external casing in the form of an air-tight steam chest or open vessel, a cylinder, with perforated peripheral surface, and having one of its journals hollow, and the other closed and cupped, adapted to revolve within said casing and to carry the material to be operated upon, an adjustable centre bearing for said closed journal, a tubular shaft connected with said hollow journal, means for rotating said shaft and cylinder, an induction pipe for feeding the steam, dye liquor, or other active agent to said external casing, and a pump or exhaust fan for drawing such active agent through said cylinder and the material carried thereby, as set forth.

No. 40,924. Enamelled Brick and Method of Making Same. (*Brique émaillée et méthode de fabrication.*)

Isaac Tenick Rue, Matawan, New Jersey, U.S.A., 5th November, 1892; 6 years.

Claim.—1st. An enamelled brick comprising the enamelled surface, the brick body, and a "dust" lining interposed between the two and constituting an integral part of the brick body, substantially as described. 2nd. An enamelled brick comprising the enamelled surface, the brick body, and a "dust" lining of sand, clay, flint, etc., interposed between the two and constituting an integral part of the brick body, substantially as described. 3rd. An enamelled brick comprising the enamelled surface, the brick body, and a "dust" lining of similar colour to the enamel interposed between the enamelled surface and the brick body, and constituting an integral part of the latter, substantially as described. 4th. The method of making a lined enamelled brick, which consists of forming the brick body and the "dust" lining at the same time, pressing them together, and firing, and subsequently applying the enamel, substantially as described. 5th. The method of making a lined enamelled brick, which consists of placing in the mould the clay or other material for the brick body and the mixture of clay, sand, flint, etc., or similar mixture, in the "dust" for the lining, submitting the whole to pressure, and firing, and subsequently applying the enamel, substantially as described.

No. 40,925. Bottle Snap. (*Grippe pour bouteilles.*)

Jonathan Fithian, Bridgeton, New Jersey, U.S.A., 7th November, 1892; 6 years.

Claim.—1st. A bottle snap or holder comprising suitably shaped jaws hinged at or near their inner lower adjacent edges to a suitable rigid cap or ears on the handle, a sliding sleeve or tube on the handle held by a spring normally in elevated position, and suitable ears upon the upper end of said sliding tube or sleeve, which ears are connected directly to the outer lower edges of the jaws by single bars or links pivoted at each end, substantially as set forth. 2nd. In a bottle snap, suitably shaped clamping jaws having their inner lower adjacent edges hinged directly to the end of the handle by a single common pivot bolt or rivet and their outer lower edges directly connected to a sliding tube or sleeve on said handle by single bars or links pivoted at each end, substantially as set forth.

No. 40,926. Driving Belt. (*Courroie sans fin.*)

Alfred John Gasking, Beech Lodge, The Ridgeway, Enfield, Middlesex, England, 7th November, 1892; 6 years.

Claim.—The improvements in driving belts applicable to other purposes in which tongues are formed, which are afterwards twisted out of their plane and joined together, substantially as and for the purpose herein set forth.

No. 40,927. Machine for Labelling Cans.

(*Machine à étiqueter les pots.*)

Francis Xavier Gandrie, Port Hope, Ontario, Canada, 7th November, 1892; 6 years.

Claim.—1st. The combination with the track rails 3, 3, gumming pad 4, and a label receptacle 7, intervening said rails, of the roller D, rolling the can over the surface of the gumming pad by frictional contact with the can, rollers H and K, and belt J, rolling the can over the label receptacle by frictional contact of the belt with the can, on the belt L, carried by the rollers K, M, rolling the cans by frictional contact with the can from the label receptacle, and discharging the cans from the machine after being labelled, as set forth. 2nd. The combination with a stand or support 1, and a label receptacle, 7, provided with a yielding bottom, gumming pad 4, and a track having parallel rails 3, 3, of the frame A, carrying rollers elevated above the rails transversely thereto, and belts to roll the cans upon the rails and drive said rollers, whereby the cans are gummed, labelled, and discharged from the track, as set forth. 3rd. The combination with a stand or support 1, carrying a frame A, provided with a series of rollers and belts for rolling the cans, of a track having parallel rails 3, 3, on which the cans roll, a gumming pad 4, intervening the rails near one end of the track, a label receptacle 7, intervening said rails, said rails having segment pieces 21, on opposite sides of the label receptacle, and the label receptacle having an upwardly pressed bottom or plunger 9, and a lip 20, projecting to hold the labels at one end until the label has been drawn tightly around the can before adhesively attaching the final end to meet the opposite end, as set forth. 4th. In a can labelling machine, the combination with a track having parallel rails, a gumming pad and label receptacle intervening said rails, said receptacle having a yielding bottom of plunger, a frame carrying a roller D, having raised peripheral rings E, to move the cans over the surface of the gumming pad, and rollers H, K, carrying an endless belt J, above the label receptacle, as set forth. 5th. The combination with a frame or support 1, carrying a track 2, having parallel rails 3, 3, and a gumming pad 4, and label receptacle 7, intervening said rails, of a frame A, carrying a roller D, above the gumming pad, and rollers H, K, connected by an endless belt J, above the label receptacle, endless belts L, following the line of track and intervening said rails to discharge the labelled cans, and a belt or belts N, driving the belted rollers, as set forth. 6th. The combination of the label receptacle 7, having a moving bottom or plunger 9, provided with a downwardly projecting rod 10, and tubes 16, a casing 18, having posts 17, inserted in said tubes, and a cord, pulleys and gravitating weight 12, as set forth.

No. 40,928. Fire Escape. (*Sauveteur d'incendie.*)

Henreich Freidlaender, New Bydzor, Bohemia, 7th November, 1892; 6 years.

Claim.—1st. A fire escape comprising ropes adapted to be stretched from a window to the ground, a carriage mounted to travel on the said ropes, and a hoisting rope adapted to be secured at one end to the building, passing over a series of pulleys on the said carriage and through pulleys on a sheave fixed on the building and then extending to the ground, substantially as shown and described. 2nd. In a fire escape, the combination with ropes adapted to be stretched in an inclined position from a building to the ground, of a wheeled carriage mounted to travel on the said ropes, a hoisting rope attached at one end to the building and extending with its other end to the ground, a series of pulleys held on the said carriage and under and over which passes the said hoisting rope, and a sheave adapted to be attached to the building and over the pulleys of which passes the said hoisting rope before extending to the ground, substantially as shown and described. 3rd. In a fire escape, the combination with ropes forming tracks and secured at their ends to bars, of which one is attached to a building and the other is held at or near the ground at the outside of the building, of a wheeled carriage mounted to travel on the said track ropes, pulleys held on the said carriage, a hoisting rope adapted to be secured to the cross bar on the building and passing over the said set of pulleys, and a sheave also attached to the said cross bar on the building, and over the pulleys of which passes the said rope, substantially as shown and described.

No. 40,929. Washing Machine. (*Machine à blanchir.*)

Homer K. Williams, Shunk, Pennsylvania, U.S.A., 7th November, 1892; 6 years.

Claim.—In a washing machine, the combination of the body provided with ribs arranged on the inner faces of the sides and bottom and forming rubbing surfaces, the tapering partitions secured to the ends of the body and arranged parallel and being vertically disposed on the inner faces of the ends, and the horizontally disposed blocks arranged between the partitions and sides of the body and forming rectangular air chambers or pockets, the chambers increasing in depth as they near the top of the body, substantially as described.

No. 40,930. Brush Holder for Dynamo Electric Machines. (*Porte-brosse pour machine dynamo-électrique.*)

Earl Porter Wetmore and Sidney Z. Mitchell, both of Portland, Oregon, U. S. A., 7th November, 1892; 6 years.

Claim.—1st. A brush holder, consisting of a brush clamp, in combination, with a parallel motion mechanism, connecting it with a

suitable support. 2nd. A brush holder, consisting of the combination of a brush clamp, a clamp for engaging with the supporting stud or element, and a parallel motion device connecting the brush clamp with the stud clamp, substantially as described. 3rd. In a brush holder, a brush clamp comprising a pair of fixed jaws, a movable plate carried by one of the jaws, and adapted to bear upon the brush, and set screws for putting pressure on said plate, for the purpose set forth. 4th. In a brush holder, a brush clamp consisting of a pair of fixed jaws, one of the same having an offset portion in combination with a pressure plate, occupying a space formed by the offset, and adapted to bear upon the brush, for the purpose set forth. 5th. In a brush holder, a brush clamp comprising a pair of jaws, in combination with a pressure plate, headed pins passing loosely through openings in one of the jaws and attached to the plate, substantially as described, and set screws for putting pressure on said plate, for the purpose set forth. 6th. The combination of a brush clamp, and a stud or support clamp with two pair of parallel levers or their equivalents pivoted respectively to the brush clamp and the support clamp, for the purpose set forth. 7th. The combination of a brush clamp, and a stud or support clamp, with two pair of parallel levers or their equivalents pivoted respectively to the brush clamp, and a support clamp, and a spring arranged to press the brush clamp towards the commutator. 8th. The combination, with the brush clamp, with two pair of parallel levers, two support clamps, the pairs of levers or equivalents being pivoted respectively to the brush clamp and the support clamps, and a flat spring adjustably mounted between the support clamps, with its free end bearing against the back of the brush clamp substantially as set forth. 9th. In a brush holder, the combination, with a brush socket, of a set screw in the back of the socket in a plane with the brush, and adapted to force the brush towards the commutator. 10th. In a brush holder, the combination, with a brush socket, of a set screw entering the same from the rear, having its inner end fitted with a disc, which occupies a recess in the rear of the brush socket, and presses against the back of the brush, for the purpose set forth. 11th. The combination, with a brush clamp, of two pair of parallel levers or their equivalents, two support clamps, the pairs of levers or their equivalents being pivoted respectively to the brush clamp and the support clamps, a flat spring adjustably mounted between the support clamps, with its free ends bearing against the back of the brush clamp, and a slave of hard rubber or any other insulating material surrounding the pivot or pin against which the spring bears so as to insulate it therefrom, for the purpose set forth, and substantially as described. 12th. The combination, with a brush clamp, of a stud or shaft upon which the same is pivotally supported, and a flexible electrical connection between the clamp and the stud or shaft, for the purpose set forth.

No. 40,931. Pilot for Cars. (*Pilote pour chars.*)

John Marcellus Sparrow and Isaac Anderson, both of Toronto, Ontario, Canada, 7th November, 1892; 6 years.

Claim.—1st. The drop pilot A, with its combinations B, B (the bent frames), the links A', the raising lever E, and bearings D for the up and down movement. 2nd. The combination of the swinging fender Q, lever P, the rods O and M, and chain T for securing the automatic action of the pilot A at the instant of danger. 3rd. The combination of the lever N, rod M, elbow lever L, semi-circular lever E, and the catch I, for raising and holding the pilot N in its up position when not needed for the purposes designed. 4th. The combination of the lever N, rod M, elbow lever L, chain T, and catch I on lever G, by which the motorman or engineer can drop, or raise and fix the pilot A in its up position by operating the lever N at will.

No. 40,932. Auxiliary Base for Stoves.

(*Base auxiliaire pour poêles.*)

John D. Rasey and Frank M. Hasbrouck, both of Oskosh, Wisconsin, U.S.A., 7th November, 1892; 6 years.

Claim.—1st. An auxiliary heating base or drum located directly beneath the stove, connected with the stove pipe, and provided with an inlet passage, two or more outlet passages F and F', caps f and damper G, whereby the products of combustion are caused to pass entirely around the drum and thoroughly heat the same, substantially as described. 2nd. A portable heating drum located beneath and outside the stove near the floor and connected directly with the stove by an inlet pipe E, through which the products of combustion pass from the stove directly into the drum, the said inlet pipe being independent of the stove pipe, and the drum also connected with the stove pipe by an outlet pipe F, through which the products of combustion pass from the drum directly to the stove pipe, said outlet pipe F being independent of the inlet pipe, and a damper G located in the drum for directing the products of combustion entirely around the drum, substantially as described.

No. 40,933. Type-writer. (*Clavigraphie.*)

The Blickensderfer Manufacturing Company, New York, State of New York, assignee of George Canfield Blickensderfer, Stamford, Connecticut, U.S.A., 7th November, 1892; 6 years.

Claim.—1st. In a type-writing machine, the combination of a laterally vibrating part, a longitudinally and axially moving type wheel carried by said vibrating part, and a laterally movable locking bar

for locking said wheel against longitudinal action and located in the path of and carried by said laterally vibrating part. 2nd. In a type-writing machine the combination, with a laterally moving type wheel shaft, of a type wheel having two or more fields of type and movable longitudinally to position its fields of type and axially to position its type and vibrated laterally to impress said type, and a vibrating locking bar for locking said shaft and holding it against longitudinal movement while it is moving laterally, which locking bar moves laterally coincidentally with said shaft. 3rd. In a type-writing machine, the combination, with a laterally moving type wheel shaft, of a type wheel having two or more fields of type and movable longitudinally on said shaft to position its fields of type, a key lever for removing said wheel to position its field of type, mechanism for moving said type wheel axially and laterally to position any type of a field and impress the same, type key levers for actuating said mechanism to position and impress said type, and a vibratory locking bar for locking said wheel against longitudinal movement while it is being moved to position and impress said type, said locking bar being moved laterally with said shaft by the action of said type key levers. 4th. In a type-writing machine the combination, with a type wheel shaft having an axial movement to position the type and means for moving said shaft longitudinally, of a yielding locking device which engages said shaft at certain predetermined points and holds it against vertical movement while the shaft is being axially moved. 5th. In a type-writing machine, the combination, with a type wheel having axial movement to position the type and two or more fields or rows of type, and means for vertically adjusting said wheel to bring any of the fields or rows of type in position to be impressed, of a yielding locking bar which holds the type wheel against vertical movement while receiving axial movement. 6th. In a type-writing machine, the combination, with a type wheel shaft having an axial movement to position a type and a lateral movement to impress a positioned type, of a yielding locking bar which prevents longitudinal movement of and vibrates laterally with said shaft. 7th. In a type-writing machine, the combination, with a type wheel shaft having an axial movement to position a type and a lateral movement to impress a positioned type, of a locking bar normally out of engagement with said shaft which engages with and moves said bar laterally when vibrated. 8th. In a type-writing machine, the combination, with a type wheel shaft having an axial movement to position a type and a lateral movement to impress the positioned type, and means for longitudinally moving said shaft, of a yielding locking bar moving laterally with said shaft to hold it against longitudinal movement while being moved laterally. 9th. In a type-writing machine, the combination, with a type wheel shaft having an axial movement to position a type and a lateral movement to impress the positioned type, and means for longitudinally moving said shaft, of a locking bar normally out of engagement with said shaft which engages with and moves said bar laterally when vibrated. 10th. In a type-writing machine, the combination, with a type wheel shaft having a collar and means for longitudinally moving said shaft, of a movable locking bar vibrating independently of the vibrating wheel, having recesses which engage said collar when the shaft is laterally vibrated and hold it against longitudinal movement. 11th. In a type-writing machine, the combination, with a type wheel having an axial and longitudinal movement, of a shaft for said type wheel having a projection, and a locking bar vibrated independently of the type wheel and having recesses for engaging said projections. 12th. In a type-writing machine, the combination, of a type wheel shaft having a collar, mechanism for laterally vibrating said shaft, and a movable locking bar vibrating independently of the vibrating wheel, having a recess which engages said collar when the type wheel shaft is laterally vibrated. 13th. In a type-writing machine, the combination, with a type wheel shaft free to move longitudinally and means for moving said shaft longitudinally, of a movable locking bar operated by a moving part of the machine which engages said shaft to hold it against longitudinal movement while the type is being impressed. 14th. In a type-writing machine, the combination, with a type wheel shaft free to move longitudinally and means for moving said shaft longitudinally and vibrating it laterally, of a locking bar vibrating independently of the vibrating wheel, which moves laterally with and locks said shaft against longitudinal movement. 15th. In a type-writing machine, the combination, of a type wheel shaft free to move longitudinally, having a collar, mechanism for moving said shaft longitudinally and vibrating it laterally, and a movable locking bar vibrated independently of the vibrated wheel, having recesses which engage said collar when the type wheel is shifted longitudinally and vibrated laterally. 16th. In a type-writing machine, the combination, with a laterally vibrating type wheel shaft and a support for the lower end of said shaft, of a locking bar vibrated independently of the vibrated wheel, which engages said shaft when it is laterally vibrated. 17th. In a type-writing machine, the combination, with a laterally vibrating type wheel shaft and a lever for shifting said shaft longitudinally, of a locking device vibrated independently of the vibrated wheel, engaging with said shaft when it is moved laterally and holding it against longitudinal movement. 18th. In a type-writing machine, the combination, with a laterally vibrating type wheel shaft and a lever for shifting said shaft longitudinally, of a locking device vibrated independently of the vibrated wheel, engaging with said shaft when it is moved laterally and holding it against longitudinal movement. 19th. In a type-writing machine, the combination, with a laterally

vibrated type, wheel shaft and lever, having one end below the lower end of said shaft for moving it longitudinally, of a locking bar which moves laterally with and locks said shaft when it is laterally vibrated. 20th. In a type-writing machine, the combination, with a laterally vibrated type wheel shaft and a lever having one end below, and for longitudinally moving said shaft, of a yielding locking bar for said shaft, in contact with the end of said lever, and in the path of the laterally vibrated shaft. 21st. In a type-writing machine, the combination, with a laterally vibrated type wheel shaft, free to move longitudinally, of a movable locking device for said shaft in the path of the lateral movement of said shaft. 22nd. In a type-writing machine, the combination of a laterally vibrated type wheel and its attached parts, having a similar movement, a vibrating locking device in the path of the lateral movements of said parts, and a stop for limiting the movement of the locking device. 23rd. In a type-writing machine, the combination, with a laterally vibrated type wheel and a yielding locking device in the path of the lateral movement of said shaft, of a stop below the type shaft to limit the movement of the locking device. 24th. In a type-writing machine, the combination of a laterally vibrated type wheel shaft, a lever below and for moving said shaft longitudinally, and a yielding locking device in the path of the lateral movement of said shaft and in contact with the end of the lever. 25th. In a type-writer, a printing wheel and shaft under the control of the key levers for printing, separate lever mechanism for moving said shaft and wheel to bring different rows or fields of letters into action, and mechanism vibrating independently of and moving with said shaft to hold it in its adjusted position, substantially as set forth. 26th. The combination of vertically moving shaft C, having collar g, movable bar H, having recesses h, lever K, and separate key levers for operating lever K, substantially as set forth. 27th. The combination of a type-writing printing wheel shaft, resting upon a lever under control of separate key levers, and a movable locking bar, engaging with said shaft, substantially as set forth. 28th. In a type-writing machine, the combination, with key levers and a laterally vibrating frame, carrying a type wheel and having extension or bar d, of tumblers b¹, having face b², contacting with said bar, and cam faces b³, and straight faces b⁴, which normally rest on said key levers. 29th. In a type-writing machine, the combination of a rotating and oscillating printing or impression wheel, stopping ratchet moving with said type wheel, pawls f and c, tumblers b¹, having lower cam and straight upper faces b², b³, and key levers b, normally in contact with said lower straight faces of said tumblers, substantially as set forth. 30th. In a type-writing machine, the combination, with a vibrating type wheel, a rod secured to the frame, a vibrating arm pivotally secured to the rod, and having an ink roller projected in the path of said wheel and vibrated thereby, and a spring on said rod and connected with said arm. 31st. In combination with the platen or roller of a type-writing machine, the sliding underscoring device m, m', and reacting springs for returning said devices to their normal position, substantially as set forth. 32nd. The combination of housing or frame A, platen or roller a, ways or guides m², on said housing or frame, boxes or casings on said guides, and underscoring, cancelling, or like devices in said boxes, substantially as set forth.

No. 40,934. Type-writer. (Clavigraphic.)

The Blickensderfer Manufacturing Company, New York, State of New York, U. S. A., assignee of George Canfield Blickensderfer, Stamford, Connecticut, U. S. A., 7th November, 1892; 6 years.

Claim.—1st. In a type-writing machine, the combination, with the paper carriage thereof, of a feed shaft gearing upon said carriage, a rock shaft moved by the key levers, two ratchets on the feed shaft, having oppositely directed teeth and two pawls moved by said rock shaft, one of which acts upon one of said ratchets to move the feed shaft forward, and the other acts upon the other of said ratchets to stop the said movement of the feed shaft, as said rock shaft is moved by any of the key levers. 2nd. In a type-writing machine, the combination, with the paper carriage thereof, of a feed shaft for moving said carriage, which is geared thereto positively, a rock shaft that is moved positively by each key lever when depressed, mechanism for moving said rock shaft, and a lock on said carriage, which when engaged to lock the carriage effectuates the locking of the key levers, as set forth. 3rd. In a type-writing machine, the combination of a frame, a carriage having a predetermined traverse on said frame, and a movable stop normally in the path of traverse, and to temporarily stop the carriage before the end of its movement, whereby the operator is enabled to properly complete a line. 4th. In a type-writing machine, the combination, with the frame of the machine, the paper carriage having a predetermined movement, and the key levers, of a stop operated by said carriage to lock the key levers against down movement before the full movement of the carriage is completed. 5th. In a type-writing machine, the combination, with the frame of the machine, the paper carriage having a predetermined movement, key levers, and intermediate mechanism between said key levers, and carriage for moving said carriage on the down stroke of the key levers, of a stop operated by said carriage to lock the key levers against down movement before the full movement of the carriage is completed. 6th. In a type-writing machine, the combination of the frame of the machine, the paper carriage having a predetermined movement to the left, the key levers, and a stop for control-

ling the down movement of said key levers by means of said carriage, said stop being normally in the path of movement of and stopping said carriage before the end of said predetermined movement and manually controlled to move it out of the way of the carriage. 7th. In a type-writing machine, the combination of the frame of the machine, a paper carriage in said frame, having a predetermined movement, and a stop, one part upon the carriage and the other upon the frame and one normally in the path of the other and one of the parts movable out of the way of the other to allow the carriage to be moved forward and complete its traverse. 8th. In a type-writing machine, the combination of the frame of the machine and a paper carriage moving upon said frame a predetermined distance and having a stop normally in position to engage with said frame when the carriage has been moved to a certain point and manually movable to allow said carriage to proceed after said engagement to its predetermined distance. 9th. In a type-writing machine, the combination of the frame of a machine, a paper carriage moving upon said frame a predetermined distance and swinging stop hanging from the paper carriage in position to engage with said frame before the carriage has moved said distance and arranged to be moved out of the way of the frame to allow the carriage to proceed. 10th. In a type-writing machine and for the purpose of regulating the width of the margin on the left of the sheet to be printed, the combination with the paper carriage, of a series of graduated stops on the frame of the machine below the carriage, a variable catch lever on said carriage for engaging said stops, and means for indicating the position of said lever. 11th. In a type-writing machine, the combination, with the paper carriage thereof, of means for limiting its movement toward the right and thereby regulating the width of the left hand margin on the paper to be printed, consisting of a series of fixed graduated stops on the frame of the machine below the carriage and a variable catch lever on the carriage at the left end thereof in position to be operated by the left hand of the operator. 12th. In a type-writing machine having a movable carriage, a stop mechanism composed of a stationary part, and a movable part, which is operated by the hand and the movement of which is limited by the hand coming in contact with a fixed part of the machine. 13th. In a type-writing machine having a movable carriage, a stop mechanism consisting of two parts, one upon the frame of the machine and the other upon the carriage, one part being manually on the movable part to which it is secured to put it in line for contact with the fixed part of the stop and its limit of movement being regulated by the operators hand contacting with the part to which it is secured. 14th. In a type-writing machine having a movable carriage a stop mechanism consisting of two parts, one upon the frame and the other upon the carriage, one part being manually moved through a slot in the part to which it is attached to put said movable part in line for contact with the fixed part of the stop and its limit of movement being regulated by the operators hand contacting with the slotted part through which the movable part of the stop works. 15th. In a type-writing machine having a movable carriage a stop mechanism composed of two parts, a stationary part on the frame of the machine and a movable part on the carriage, said movable part being manually operated to put it in line with the stationary part and its movement being limited by the hand contacting with a recessed part of the carriage. 16th. In a type-writing machine, the combination of a movable carriage having a fixed recessed bar, and a stop mechanism having a stationary part upon the machine and a manually operated movable part upon the carriage, the movement of said movable part being regulated by the hand contacting with the recessed bar. 17th. In a type-writing machine, the combination of a movable carriage having a fixed vertical bar, and a stop mechanism having a stationary part upon the machine and an elbow lever stop upon the carriage, one end of said lever being in line with the vertical bar which limits the movement thereof. 18th. In a type-writing machine, a culminating attachment consisting of a stop and a catch lever on the part of the machine opposite to the stop having a variable throw relative to said stop. 19th. In a type-writing machine, a culminating attachment consisting of a stop connected with the frame of the machine, and a catch lever having a variable throw relative to the stop and carried on the carriage. 20th. In a type-writing machine, a culminating attachment consisting of a stop connected with the frame of the machine and standing in a vertical position, and a vertical catch lever having a variable throw relative to the stop and carried on the carriage. 21st. In a type-writing machine, the combination, with the paper carriage thereof, of means for stopping the carriage at various predetermined points in its traverse toward the left for the purpose of vertically aligning matter to be printed, consisting of adjustably fixed stops connected with the frame of the machine below the carriage, and catch lever having a variable throw and carried on the carriage in a position to be manipulated by the hand of the operator while moving the carriage to the left. 22nd. In a type-writing machine, and for the purpose of stopping the carriage thereof at various predetermined points while moving to the left, so as to vertically align matter to be printed, the combination, with said carriage, of adjustably fixed stops connected with the frame of the machine below the carriage, a variable catch lever on the carriage in position to engage said stops as manipulated, and a fixed limiting bar by the side of said lever to limit the degree of movement of said lever. 23rd. In a type-writing machine, the combination, with the carriage thereof, of a variable catch mechanism on the carriage for engaging a fixed stop on the frame

and stopping the carriage at any predetermined point when the same is moving to the right, so as to regulate the point of beginning of the lines of printing, and a second variable catch mechanism on the carriage for engaging a fixed stop on the frame and stopping the carriage at any predetermined point when moving to the left, so as to regulate the vertical alignment of numerals. 24th. In a type-writing machine, the combination, with the platen, of a spring actuated presser roll acting against the top of said platen, and a spring actuated tilting concave shield surrounding the lower part of said platen and pressing with its lower edge upon the said platen below the type field, and means, substantially as set forth, whereby the said tilting parts may be simultaneously moved away from the platen by pressure exerted by the thumb and finger of the operator, as set forth.

No. 40,935. Pneumatic Tire. (*Bandage pneumatique.*)

Mrs. Permelie La Force, assignee of Hypolite Joseph La Force, both of Toronto, Ontario, Canada, 7th November, 1892; 6 years.

Claim.—1st. An outer casing A, having its edges provided with cords or strips B, held in a recess in the felloe by the band D, in combination with an inner tube F, connected to the said outer casing, substantially as and for the purpose specified. 2nd. In combination, with a rubber tire, an outer casing having its edges provided with cords or strips held in a recess in the felloe by a metal band, substantially as and for the purpose specified. 3rd. In combination, with a rubber tire, an outer casing having its edges provided with cords or strips held in a recess in the felloe by a metal band, the said felloe being provided with a projection on which the said band rests, substantially as and for the purpose specified. 4th. A pneumatic tire, having the inner expanding tube cemented to the outer casing, substantially as and for the purpose specified. 5th. A pneumatic tire, having the inner tube made of sheet rubber, the edges being bent inwardly and cemented to form an inner seam, substantially as and for the purpose specified. 6th. A pneumatic tire, having the inner expanding tube cemented to the outer casing, the inner tube being made of sheet rubber, the edges being bent inwardly and cemented to form an inner seam, substantially as and for the purpose specified.

No. 40,936. Implement for Digging Post Holes.

(*Trepan pour clôtures.*)

Albert E. Dowswell and John James Stewart, both of Fort William, Ontario, Canada, 7th November, 1892; 6 years.

Claim.—As a new article of manufacture, a post hole digger, comprising a cylinder-shaped receptacle A, with opening on one side from top to lower circumference, a fork B, each prong of which is riveted or secured to the cylinder-shaped receptacle A, and handle C, welded or secured to fork B, all formed and combined, as and for the purposes hereinbefore set forth.

40,937. Mower. (*Faucheuse.*)

James Wad-El-Ward and John Robinette Collins, both of Toronto, Ontario, Canada, 7th November, 1892; 6 years.

Claim.—1st. In a mower, two cutter bars, each of which derives a reciprocating motion simultaneously, in opposite directions, from the drive wheel or wheels of the machine as they move forward, substantially as and for the purpose specified. 2nd. In a mower, two cutter bars, each of which derives a reciprocating motion simultaneously in opposite directions, from wave cams on the main axle which are caused to revolve by the drive wheel or wheels as they move forward, but which remain stationary when both drive wheels move backwardly, substantially as specified. 3rd. In a mower, two cutter bars E and F, the cutter E, having semi-circular slots *e*, and the cutter bar F, having semi-circular slots *f*, cut in it the reverse way, bolts J, extending through said slots *e* and *f*, into the supporting plate K, so that when both cutter bars are operated each have an oscillating, reciprocating motion simultaneously in opposite directions, substantially as specified. 4th. In a mower, two cutter bars; E and F, connected together by the bolts J, which pass through the slots *e* and *f*, and secure the cutter bars close together and yet permit of their free movement, in combination with the levers D, D¹, with friction rollers *d, d*, wave cam wheels, C, C¹, with waves *e*, and deriving motion from the drive wheels A, A¹, as specified. 5th. In a mower, two cutter bars E and F, deriving motion from waves *e*, on the wave cam wheels, C, C¹, to which the cutter bars are operatively connected by the levers D, D¹, which have friction rollers, *d, d*, journaled on their upper ends and engaging with the waves *e*, and slots *a, a*¹, at their lower ends, through which the pins *b, b*¹, which are connected to the cutter bars E and F, respectively, project, substantially as and for the purpose specified. 6th. In a mower, the cutter bars E and F, deriving motion from the waves *e*, on the wave cam wheels C, C¹, which have dogs M, by which they are operated from the ratchet pinions I, on the drive rails A, A¹, substantially as specified. 7th. In a mower, the cutter bars E and F, deriving motion from the waves *e*, on the wave cam wheels C, C¹, which have dogs M, by which they are operated from the ratchet pinions I, on the drive wheels A, A¹, in combination with the levers D, D¹, which have friction rollers *d, d*, on their upper ends, and slots *a, a*¹, at their lower ends, through which the pins *b, b*, pass, which are connected

to the cutter bars E and F, respectively, project, substantially as and for the purpose specified. 8th. The wave cam wheels C, C¹, having the outside of the apex or turning angle of each wave *e*, formed of straight sides, which come to an edge substantially as and for the purpose specified. 9th. In combination, with the cutter bars E and F, operated as described, the rotary brush G, deriving motion from the main axle of the mower, substantially as specified. 10th. In combination, with the cutter bars E and F, operated as described, the guards *g*, attached to the plate Q, the outer ends of the guards projecting before and above the knives of the cutter bars, as specified.

No. 40,938. Pug Mill. (*Màchine à mélanger et à broyer.*)

William A. Perry, North Cambridge, Massachusetts, U.S.A., 7th November, 1892; 6 years.

Claim.—1st. In combination with a pug mill, a separator consisting of a series of flanged rings mounted upon a shaft, the clay being taken up in the spaces between said rings and removed by scrapers, substantially as set forth. 2nd. A separator consisting of hexagon plates *f*, mounted upon a shaft, cross bars *e*, each having a groove *e*¹, rings *d*, having a flange *d*¹, and a small projection *d*², arranged, substantially as shown and described. 3rd. In combination with a separator having a series of flanged rings mounted substantially as described, a series of scrapers H, mounted upon a square bar *h*, and capable of adjustment, substantially as shown and described. 4th. The scrapers H, mounted upon a square bar *h*, the saddle shaped frame I, screw J, wheel *j*, and cross bar K, in combination with a separator consisting of a series of flanged rings, substantially as set forth. 5th. In combination with a pug mill and separator, a stone receptacle L, the bottom of which is closed by a flap *l*, and side openings *m*, covered by plates, substantially as and for the purposes set forth. 6th. A pug mill divided into two longitudinal compartments, each having a shaft passing through it, upon which are mounted knives and feeders, and a separator in front of said mill, the shafts of which are driven by a train of gear N, U, V, W, cog wheel R, and pulley P, substantially as set forth. 7th. A pug mill consisting of a rectangular receptacle divided into two longitudinal compartments A, B, by a partition that extends nearly the whole length of said receptacle, each compartment having a shaft passing through it, upon which shafts are mounted knives and feeders arranged so that the clay being fed at one end of the rear compartment A, is forced to the other end of said compartment, and thence by the feeders E, through the opening A³, into the compartment B, and thereby the knives forced to the other end of said compartment and out of the mill by the feeders E, on the end of said shaft, substantially as shown and described.

No. 40,939. Gas Making Apparatus.

(*Machin à faire le gaz.*)

George Smith Sanford, Mount Clemens, Michigan, and William H. Hill, Detroit, Michigan, U. S. A., 8th November, 1892; 6 years.

Claim.—1st. Apparatus for making gas from petroleum, consisting of the combination, with a retort of a burner for heating the same, and a mixture adapted to discharge into the said retort a mixture of air, steam and petroleum, and means for regulating the proportion of each said ingredient, substantially as described. 2nd. Apparatus for manufacturing gas from petroleum, consisting of the combination of a retort, a mixer for delivering into said retort air, steam and oil in an atomized form, and means for regulating the proportion of each, and in connection therewith, apparatus for washing, purifying and storing the gas generated, and an oil burner adapted to heat the retort and fix the gas prior to its discharge from the retort, substantially as described. 3rd. The combination, with a gas retort of a mixer, consisting of case A, with its air register, steam conduits C, C¹, C², C³, oil conduits B, B¹, B², B³, valves for regulating the proportions of steam and oil, and an oil burner adapted to heat the said retort, substantially as described.

No. 40,940. Burner for Oil or Gas.

(*Brûleur d'huile ou gaz.*)

George Smith Sanford, Mount Clemens, Michigan, U. S. A., and William H. Hill, Detroit, Michigan, U. S. A., 8th November, 1892; 6 years.

Claim.—1st. The oil or hydrocarbon burner, consisting of the oil chamber A², and steam chamber B³, with their respective nozzles B⁴, A⁴ arranged as described, in combination with an oil conduit, oil distributing chamber A¹, oil ducts A², and steam conduits B², substantially as described. 2nd. The oil or hydrocarbon burner composed of the steam chamber B³, oil chamber A², with their respective nozzles B⁴, A⁴, steam and oil or hydrocarbon supply pipes, and central air passage, the exterior surface of said burner and the discharge end of the central conduit being rounded as described, whereby air is directed immediately to the discharge nozzles, substantially as described. 3rd. An oil or hydrocarbon burner, consisting of the chambers A², B³, with their respective nozzles A⁴, B⁴, oil distributing chamber A¹, and communicating oil and steam pipes, as described, of the central air conduit leading back through the oil distributing chambers, the case D, a closing plate at the end of the burner, and means for regulating the admission of air through

said case and central passage, substantially as described. 4th. The combination, with the burner, constructed substantially as described, of the case D, D², said case constructed at its forward end to uniformly surround the burner, and squared along the portion D² to facilitate bricking into a furnace door opening, substantially as described.

No. 40,941. Fruit Box. (Boîte à fruit.)

Julius Fargo Hunt, Romulus, Frank Ayers Rappleye, Farmer Village, and Harlan Page Van Dusen, Newark, all in the State of New York, U.S.A., 8th November, 1892; 6 years.

Claim.—1st. The combination, with a fruit package, of a supporting spring formed of a strip of spring metal or wire extending along and outward from one of the sides of the package, and having its ends fastened to the opposing adjacent walls, whereby an elastic support is afforded the package and its contents during transportation, substantially as described. 2nd. The combination, with a fruit box consisting of two opposite sides and ends, and provided with a removable cover, of a supporting spring formed of a strip of spring material extending along and outward from one of the faces of the box and engaging the free edges of the cover, and having its ends fastened to the box, substantially as described. 3rd. The combination, with the herein described fruit box, provided with the sliding covers arranged to permit the inspection of fruit from opposite sides, of a supporting spring extending along and outward from one of the sides of the box, and clamped by a binder which constitutes a tension device and extends around the box, whereby both covers are held, substantially as described. 4th. The combination, with a fruit box, of two supporting springs, each extending around an opposite side of said box and over its edges, the springs being clamped or tied together to put them under tension, substantially as described. 5th. The combination, with a fruit package designed to be used for the transportation of fruit, of a bail or spring provided with bent ends forming hooks, the package being provided with slots arranged at an angle to the normal position of the bail, through which the hooks may be inserted, and the bail then turned to its operative position to engage the edges of the slots, substantially as described. 6th. The combination, with a box consisting of the sides A, A¹, ends B, B¹, projecting beyond sides and provided with grooves on the inner surfaces of their projecting edges, and the sliding covers C, C¹, arranged to slide in said grooves, of spring bails D, D¹, attached to the opposite sides of the box, and extending over and outward from the cover or covers, and the connecting wire E, arranged to secure the bail or bails in place, substantially as described. 7th. The combination, with a fruit box provided with a sliding cover, of the compressor plate G, of dimensions shorter than the cover and located inside thereof and between it and the fruit, and having an extension or handle which extends through a space between said cover and the side of the box, whereby it may be withdrawn, substantially as described.

No. 40,942. Spring and Check for Doors.

(*Ressort et arrête-porte.*)

Robert Adams, 67 Newington Causeway, Surrey, England, 8th November, 1892; 6 years.

Claim.—1st. A door closing apparatus consisting of the combination of a spring 13, confined between a fixed plate 12, and an adjusting nut and screw 14 and 15 fitted in a sliding frame 16, the frame 16 being thereby caused to operate upon a cam 19 attached to a pivot 11, with or without the intervention of a sliding plate 20, and with or without the addition of a fluid check 24 to prevent slamming, all severally fitted in a box 10, substantially as described. 2nd. A door closing apparatus consisting of the combination of a spring 13 confined between a fixed plate 12, and an adjusting screw nut 4 threaded upon a rod 41 attached to a frame 16^a, such frame being thereby caused to operate upon a cam 19^a attached to a pivot 11, the rod 41 being guided in a block 42 regulated and adjusted by screws 43, with or without the addition of a fluid check 24 to prevent slamming, all severally fitted in a box 10, substantially as described. 3rd. A door closing apparatus consisting of the combination of a spring 13 confined between a fixed plate 12, and an adjusting screw nut 14 threaded upon a rod 41 attached to a frame 16^a, such frame being thereby caused to operate upon a cam 19^a fitted with rollers 40 attached to a pivot 11, the rod 41 being guided in a block 42 regulated and adjusted by screws 43, with or without the addition of a fluid check 24 to prevent slamming, all severally fitted in a box 10, substantially as described. 4th. A door closing apparatus consisting of the combination of a spring 13 actuating the rod 41 and frame 16^a as aforesaid, such frame being thereby caused to operate upon a cam 19^a fitted with rollers 40 attached to a pivot 11, the frame 16^a having recesses 44, 45, for retaining the door in certain open positions, with or without the addition of a fluid check 24 to prevent slamming, all severally fitted in a box 10, substantially as described. 5th. A door closing apparatus consisting of the combination of a spring 13 confined between a fixed plate 12 and an adjusting screw nut 14 threaded upon a rod 47, guided at one end by the plate 12 and at the other by the frame 16^a, such frame being caused to operate upon a pear-shaped cam 19^a fitted to the pivot 11 by means of a roller 49, the cam being provided with a projection 48 for contact with a projection 50 forming part of the frame, with or without the addition of a fluid check 24 to prevent slamming, all severally fitted in a box 10, sub-

stantially as described. 6th. A door closing apparatus consisting of the combination of a spring 13 confined between a stationary plate 42, held by adjusting screws 43, and an adjusting screw nut 14 threaded upon a rod 41, the rod being guided by the plates 42 and 12 or by other suitable means, the rod 41 being fitted with a roller 49, in contact with the cam 19^a, attached to the pivot 11, with or without the addition of a fluid check 24, to prevent slamming, all severally fitted in a box 10, substantially as described. 7th. A door closing apparatus, consisting of the combination of a spring 13, confined in a vibrating frame 51, pivoted at 52, the rod 41, fitted with an adjusting screw nut 14, bent arms 55, and rollers 54, operating upon a double clutch 53, attached to the pivot 11, with or without the addition of a fluid check 24, to prevent slamming, all severally fitted in a box 10, substantially as described. 8th. A door closing apparatus, consisting of the combination of a spring 13, confined between a stationary plate 12, and an adjusting nut 14, a rod 41, oscillating upon a centre 57, attached to a block 58, capable of being adjusted by the screw 43, bent arms 55, operating upon a clutch 53, attached to the pivot 11, by means of lugs 59, with or without the addition of a fluid check 24, to prevent slamming, all severally fitted in a box 10, substantially as described. 9th. A door closing apparatus, consisting of the combination of a spring 13, confined between a stationary plate 12, and an adjusting nut 14, threaded upon a rod 41, the rod being guided by the plates 12 and 42, and fitted with a roller 49, travelling in the curved slot of a cam 60, fitted to the spindle 11, with or without the addition of a fluid check 24, to prevent slamming, all severally fitted in a box 10, substantially as described. 10th. In a door closing apparatus of the character hereinbefore described, the method of operating upon the spindle 11, by means of angular toothed rocks 61, meshing with a mutilated pinion 62, substantially as described. 11th. A fluid check for preventing slamming, consisting of a cylinder 24, piston 25, valve box 29, ball valve 30, regulating and relief disc valve 33, and spring 32, substantially as described. 12th. The method of adjusting a door to a central position, when closed, by means of shifting guide plates 42, substantially as described.

No. 40,943. Sleeping Car. (Char dortoir.)

Samuel M. Charles, Topeka, Kansas, U.S.A., 8th November, 1892; 6 years.

Claim.—1st. In a sleeping car, the combination, with the seat of a bracket removably secured thereto, and steps hinged to the bracket arranged to project laterally beyond the same, substantially as described. 2nd. In a sleeping car, the combination, with the seat and floor, eyes in the seat, and a slotted plate in the floor, of a bracket having attaching means engaging the eyes, and a tongue engaging the slot in the plate on the floor, and hinged steps on the bracket, substantially as described. 3rd. In a bracket, the combination, with the arms thereof, and means for securing the bracket in position, of steps hinged at their inner edges to the arms, and having their outer edges projecting laterally beyond the arms, substantially as described. 4th. In a platform bracket for sleeping cars, the combination, with the arms of the bracket, of steps hinged to the arms, and a connection between the steps independent of the bracket, substantially as described. 5th. In a platform bracket, the combination, with the arms of the bracket, of steps hinged to the arms having extensions arranged to engage the bracket when the steps are in a horizontal position, substantially as described. 6th. In a sleeping car, the combination, with the seat of a removable bracket secured thereto, consisting of a base and two bracket arms of unequal lengths, a step on the lower arm and an extended platform on the upper arm arranged beyond the step, substantially as described. 7th. In a sleeping car, the combination, with the end of the seat, of a bracket removably secured thereto, consisting of two outwardly extending arms one arranged above the other, a platform on the upper arm and a step on the lower arm, substantially as described. 8th. In a sleeping car, the combination, with a seat, of a bracket secured to the centre of the end thereof, a platform on the upper outer end of the bracket, arranged to project beyond the seat, and a step below the platform, substantially as described. 9th. In a platform bracket, the combination, with a supporting base and means for adjustably uniting the bracket and base of a platform on the upper outer end of the bracket, and a step below the inner end of the platform and secured to the bracket, substantially as described. 10th. In a bracket, the combination, with the support and means for uniting the bracket to the support of a platform on the upper outer end of the bracket and projecting beyond the sides thereof, and step on the bracket below the platform, substantially as described.

40,944. Cork Washer for Vehicle Wheels.

(*Rondelle en liège pour roues de voiture.*)

Ambrose Webster Woodward, Lancaster, Pennsylvania, U.S.A., 8th November, 1892; 6 years.

Claim. 1st. A washer made of cork, for vehicle wheels or carriage spindles and the like, substantially as hereinbefore described and for the purposes set forth. 2nd. A washer made of cork, for vehicle wheels or carriage axles and the like, said washers steeped in oil, substantially as hereinbefore described and for the purpose set forth.

40,945. Car Coupler. (Attelage de chars.)

James Calvin Devlin, Hernando, Mississippi, U.S.A., 8th November, 1892; 6 years.

Claim.—1st. The combination with a drawbar, of a jaw pivotally mounted thereon and adapted to engage its duplicate upon another car, and a keeper mounted to swing laterally with said jaw and independently away from the same, and devices offering yielding resistance to such independent motion. 2nd. The combination with the drawbar having the partial cylindrical cavity in its enlarged end, of the jaw and keeper projecting from said cavity and swinging freely from side to side therein, and devices offering yielding resistance to the increase of the distance between said jaw and keeper, said drawbar being provided with shoulders, limiting the swinging of the jaw and keeper to either side. 3rd. The combination, with the drawbar, and a laterally swinging, hooked jaw mounted therein and adapted to engage the like jaw of another coupler, of a wedge sliding in the jaw first named, transversely to the plane thereof, to enforce the engaging jaws out of engagement, substantially as set forth. 4th. The combination, with the hooked jaw of a coupler, of a rearwardly inclined coupling wedge sliding in the jaw transversely to the plane thereof, substantially as and for the purpose set forth. 5th. The combination, with the hooked jaw adapted to engage the like hook of another coupler, of the bar, pivoted in the jaw to swing into or across the hook for uncoupling, the rearwardly inclined wedge sliding in the jaw and adapted to force the swinging of said bar, the shaft having the handles and intermediate crank and a chain connecting the crank to said wedge to raise it. 6th. The combination, with the drawbar having the cylindrical cavity in its enlarged free end, of the jaw pivoted in the axis of said cavity, fitting against its side and rear walls and projecting at the front as a hook, and the keeper lying alongside said jaw, fitting the cavity in like manner, and separated from the jaw, at the rear of the cavity, by the rubber spring, substantially as set forth. 7th. The combination, with the drawbar having in its enlarged free end the cylindrical cavity, whose horizontal walls terminate in curved shoulders, whose centre is the axis of the cavity, and whose vertical walls end in vertical shoulders, of the hooked jaw and keeper mounted in said cavity to swing about its axis, and provided with shoulders to meet the shoulders above named, a spring interposed between the rear ends of the jaw and keeper, and means for forcing out of the jaw's hook the jaw of another coupler. 8th. The combination, with a drawbar, of a hooked jaw and a keeper mounted therein to swing from side to side together and adapted to receive the like parts of another coupler, and devices to exert a yielding pressure to keep the free end of the keeper at its minimum distance from the jaw.

No. 40,946. Log Loader.

(Appareil pour charger les billots.)

Frederick O. Kilgore and Frank S. Lane, both of Minneapolis, Minnesota, U.S.A., 8th November, 1892; 6 years.

Claim.—1st. The combination, with a pivoted mast provided with vertical cross head guides and a rigid arm, of a log loading lever pivoted to said arm, a cross head movable in said guides, an engine having its piston connected to said cross head, and a connecting rod from said cross head to said log loading lever, substantially as described. 2nd. The combination, with a pivoted mast provided with vertical cross head guides and a rigid horizontal arm, of a log loading lever pivoted to said arm, a cross head movable lengthwise of said guides, a reciprocating engine mounted in fixed supports in line with said guides, having its piston connected to said cross head, and a connecting rod from said cross head to said lever, substantially as described. 3rd. The combination, with the pivoted mast having cross head guides and a horizontal arm, of the log loading lever pivoted to said arm and provided with a log grappling device, a cross head movable in said guides, a reciprocating slide valve engine mounted in fixed supports in line with said guides, having its piston rod connected to said cross head, a connecting rod from said cross head to said lever, and a hand lever with connections to the engine valve, substantially as described.

No. 40,947. Drier. (Séchoir.)

James Bond, Philadelphia, Pennsylvania, U.S.A., 8th November, 1892; 6 years.

Claim.—1st. In a drier, the combination of a drying chamber, a hot air chamber above the drying chamber, and an air chamber above the hot air chamber, the said air chamber communicating with the hot air chamber by a passage at one side, the hot air chamber communicating with the drying chamber by passages at both sides of the ceiling and a stack on one side of the drying chamber, the breast wall of the stack extending some distance below the ceiling of the drying chamber, whereby the draft of the stack is confined to the lower portion of the drying chamber, while the drier air passes through the passage in one side of the ceiling into the said hot air chamber and returns to the drying chamber through the passage in the opposite side of the ceiling, substantially as described. 2nd. In a drier, in combination with a pipe leading from a suitable source of heat, a blower placed in said pipe, a flue connected with the blower, said flue built within and on one side of the drier and formed by two walls, one the side wall of the drier and the other the side wall of the drying chamber pierced to form long vertical open-

ings into the drying chamber, substantially as described. 3rd. In a drier, a pipe or conduit leading from a suitable source of heat, a blower placed in said conduit, said blower provided with a partition at or in its delivery end, and a flue built within and on one side of the drier formed by the walls, on one side wall of the drier and the other the side wall of the drying chamber, the latter pierced to form long vertical openings in the drying chamber, and said flue divided into channels by a central partition connected to the partition at the end of the blower, and said channels communicating with the drying chamber through said openings, substantially as described. 4th. In combination with a drying chamber, a flue formed within the drier and on one side of said chamber between two walls, the outer wall being the side of the drier, and the inner wall having passages through it from top to bottom, a middle partition, dividing said flue into two channels, but terminating at and connecting with one of the divisions of the inner wall, whereby heat brought into said flue is carried into the drying chamber both at its extreme end and also at points nearer the end from which the heat is received, substantially as and for the purpose described. 5th. The combination with a drying chamber, of a hot air chamber above said drying chamber, a series of steam supply pipes running through said hot air chamber, to heat the same, the series of radiators arranged at intervals in the drying chamber, branch pipes extending from the hot air chamber through the drying chamber and connecting each of the radiators separately with the steam supply pipe above, substantially as described. 6th. In a drier, a series of fans in combination with one main shaft for driving them, the separate gear connection of each fan and said shaft, and arranged to revolve the fan in the same direction, the boxes closed at their ends, in each of which a fan is placed, said fans and their boxes arranged in a line through the centre of the drier and forming a partition dividing the drier into two chambers, and the tracks running parallel with the fans, adjacent to and on both sides thereof substantially as described. 7th. In a drier, a series of fans extending entirely through the centre of a drier, in combination with shafting and gearing by which said fans are all revolved in the same direction, and the boxing inclosing each fan separately and which extends through the said drier, forming a partition dividing the drier into two chambers, the said boxes opening on each side of a fan to the said chambers, substantially as and for the purpose described. 8th. The hot air chamber, in combination with a main steam supply pipe running through said chamber, branch pipes connecting with the said main pipe and extending at right angles thereto through the chamber by means of which pipe said chamber is heated, the drying chamber provided with a ceiling having open communicating passages at both ends to the said air chamber, the radiators in said drying chamber communicating with the said pipes in the hot air chamber, and said ceiling provided at one end with a return, whereby the air in the hot air chamber is directed towards the centre of the drying chamber, substantially as described. 9th. The combination with the drying chamber, of the hot air chamber above and connected by open passages at both sides of the ceiling, a divided hot air flue formed at one side of the drying chamber, and throwing the heat into different portions of the same, a series of radiators placed in the drying chamber on a line with and adjacent to said flue, a series of suction fans in the chamber next to and on a line with radiators, and a series of discharge stacks on the side of the drier, opposite the side having said flues, substantially as and for the purpose described.

No. 40,948. Supporter for Garments. (Bretelle.)

Lena Addie Topp, New York, State of New York, U.S.A., 8th November, 1892; 6 years.

Claim.—A garment supporter consisting of a back plate provided with a top loop, a transverse hinge barrel struck up from and integral with the back plate, an opening through the plate below the hinge barrel creating a lower cross bar, and upwardly projecting teeth upon the upper edge of said cross bar, a front plate having a top loop, and a cross bar integral with said plate fitting loosely through the hinge barrel upon the back plate, and having teeth upon its lower end arranged opposite the cavities between the teeth upon the back plate, but not meshing together, as set forth.

No. 40,949. Fender for Electric Cars.

(Défence pour chars électriques.)

Edwin Rochester, Ottawa, Ontario, Canada, 10th November, 1892; 6 years.

Claim.—1st. The combination, with a car, of a projecting platform composed of a series of yielding fingers G pivotally secured to hangers E flexibly attached to the car or frame A, whereby more or less of said fingers swing, and the fingers hung thereto yield and rise when meeting an obstruction to diminish the impact, and pass over the obstruction, when unable to remove it, to prevent injury. 2nd. The combination, with a car, of a row of hangers E suspended at the end of said car, and a platform composed of fingers G attached to the lower end of said hangers and extending inclinedly below said car and forwardly from the end, and springs at the intersection of said hangers and fingers, whereby said hangers swing and more or less of the fingers yield to an obstruction and rise, as set forth. 3rd. The combination, with a car having a frame A secured thereto at the end, of a row or rows of hangers E hung from said frame to swing in the direction of the path of the car, a platform composed of

fingers G supported by said hangers, said fingers projecting beyond the end of the car and inclining downwardly to near the ground, and springs K interposed at the angle of intersection of said hangers and fingers, as set forth. 4th. The combination, with a car, of the frame A crossing the end, clips B, B, secured to said frame, a row or rows of vibrating hangers E hung to the clips, a shoe or socket F pivotally hung to the hangers, fingers G composing a platform supported by said sockets or shoes and provided with a roller H at the outer end, and springs K at the intersection of said hangers and fingers, substantially as set forth.

No. 40,950. Axle for Vehicles. (Essieu de voiture.)

James Lewis, McKeesport, Pennsylvania, U.S.A., 10th November, 1892; 6 years.

Claim.—1st. The combination with an axle spindle having a grooved lower portion, of rollers having convex adjacent ends lying in the groove, substantially as described. 2. The combination with an axle spindle having a groove on its under side, of one or more rollers located in said groove, the upper portions of said rollers bearing on the sides of the groove and the lower portion being substantially flush with the under surface of the axle, substantially as described.

No. 40,951. Threshing and Separating Machine.

(Machine à battre et à séparer.)

Abraham Merner, Waterloo, Ontario, Canada, 10th November, 1892; 6 years.

Claim.—1st. The metal crank *a* having the eccentric bearings *b*, *b*¹, *b*², *b*³, *b*⁴, substantially as and for the purposes hereinbefore set forth. 2nd. The combination of the crank *a* the bearings *b*, *b*¹, *b*², *b*³, *b*⁴, the boxes *c*, *d*, *e*, *f*, *g*, the supports *h*, *h*¹, *h*², *h*³, *h*⁴, and the deckboards *i*, *i*¹, *i*², *i*³, *i*⁴, substantially as and for the purposes hereinbefore set forth.

No. 40,952. Protector against Smoke, Cinders, Air and Water. (Protecteur contre la fumée, escarbilles, air et eau.)

John W. Boyce, Allegheny, Pennsylvania, U.S.A., 10th November, 1892; 6 years.

Claim.—1st. The combination of the roofs of railway cars having fastening means thereof, of a connecting covering engaging said fastening means, and strips projecting over said fastening means and the ends of the covering, and serving to protect the same, substantially as described. 2nd. In a car canopy, the combination with the headed fasteners *b*, having a series of eyelets *i*, adapted to engage said fasteners, of strips *m*, all substantially as shown, and for the purpose specified. 3rd. In a car canopy, the combination with the headed fasteners *b*, of the apron *g*, having a series of eyelets *i*, adapted to engage said fasteners and strips *m*, all arranged substantially as shown, and for the purpose specified. 4th. The herein described device for the purpose specified, consisting of the headed fasteners *b*, flexible strips *f*, apron *g*, opening *c*, and gutters *a*, and strips *m*, all arranged, combined and operated, substantially as shown and described.

No. 40,953. Rasp. (Râpe.)

Alfred Weed, Tarrytown, New York, U.S.A., 10th November, 1892; 6 years.

Claim.—1st. The combination with the driving crank-shaft and the sliding head supporting the chisel or tool of an extensible connection rod, substantially as set forth. 2nd. The combination with the reciprocating head and tool of a carriage for said tool movable transversely upon said head and means for removing said carriage step by step, substantially as set forth. 3rd. The combination of the reciprocating head and tool and movable transversely upon the head and means for feeding said carriage automatically step by step first in one direction and then in another, substantially as set forth. 4th. The combination with the reciprocating head, sliding carriage supporting the tool and provided with racks, levers provided with pawls for engaging said racks, means for reciprocating the levers at each movement of the head, and means for throwing one of the pawls out of engagement with one rack, and the other into engagement with the other rack as a carriage reaches the limit of its movement in either direction, substantially as set forth. 5th. The combination with the reciprocating head, levers and pawls, of a sliding carriage provided with racks and with pins 51, 52, substantially as set forth. 6th. The combination with a reciprocating head, sliding carriage, levers, and pins 43 engaging said levers and adjustable, substantially as set forth. 7th. The combination of the reciprocating head, sliding carriage, levers and pins 43, of plates supporting said pins and held in place by friction supports, substantially as described. 8th. The combination of the reciprocating head, sliding carriage, feed devices for moving said carriage upon the head, a carrier for the blank and means for feeding said carrier step by step and connections between the carrier feeding devices and the carriage, substantially as set forth. 9th. The combination with the sliding carriage upon the head and feed devices for the sliding blank carrier, of contact pieces for operating said feed devices to move the carrier one step as the carriage reaches the limit of its movement in either direction, substantially as set forth. 10th. The combination of the

head, sliding carriage provided with pins 75, sliding blank carrier, pawls 60, pawl elevating rods 61, provided with shoulders and reciprocating lifters 63, adapted to engage said shoulders, substantially as set forth.

No. 40,954. Method of and Means for Measuring Fluids. (Méthode et moyen de mesurer les fluides.)

John Thompson, Brooklyn, New York, U.S.A., 10th November, 1892; 6 years.

Claim.—1st. The mode herein described of controlling the operations of a proportional meter, the same consisting in varying the areas of the discharge ports, according to the variations of initial pressure while retaining their ratio, and in maintaining the areas of both ports wherever the flow to or through one of the same is accidentally obstructed or varied. 2nd. A proportional meter provided with two ports for the major and minor streams, an automatic valve device with a valve having two separate faces exposed to the pressure of said streams, and means for resisting the movement of said valve under said pressure, substantially as described. 3rd. A proportional meter provided with two ports for the major and minor streams, an automatic valve device, with a valve having two separate faces exposed to the pressure of said streams, and means for resisting the movement of said valve under said pressure and a registering device in the line of flow to one of the ports, substantially as set forth. 4th. A proportional meter, provided with a self acting valve, automatically controlling the ports of the separate streams under different rates of flow, and means for preventing the movement of the valve upon the accidental variation of the flow to or through either port, substantially as described. 5th. The combination in a proportional water meter, of separate ports for the two streams, a valve device having separate parts controlling said ports, and a spring for resisting the movement of the valve under the pressure of the two streams, substantially as described. 6th. In a proportional meter a casing, a compound valve arranged within said casing to control the ports for the discharge of the major and minor streams, and a registering device having a port communicating with the inlet chamber of the casing, and another port 25, communicating with one of the chambers of the compound valve, substantially as described. 7th. In a proportional meter, a valve casing having separate chambers with a compound piston valve and a resilient resistance therein, two ports disposed circumferentially and circular channels coinciding with the ports, whereby the channels will receive and deliver to and from the ports radially. 8th. In a proportional meter a compound piston valve, controlling separate discharging ports and a resilient resistance, the valve faces arranged to receive the flow from the main inlet to similar sides of both faces and in opposition to the resilient resistance, substantially as described. 9th. The within described proportional water meter, namely, a recording register, a main casing, a measuring mechanism mounted within the main casing, and a valve casing having two chambers with a compound piston valve and resilient resistance therein, the said chambers connected to the main outlet chamber by ports, controlled by the valve, and to the main inlet chamber by two separate constant sources of supply, the said measuring mechanism situated in the path of one of the flows leading to one of the valve casing chambers, substantially as specified. 10th. In combination, the recording measuring device, the valve casing, the compound piston valve, the resilient resistance, and the valve casing ports, all contained within a main external casing, substantially as set forth. 11th. The combination with the valve casing and valve therein, of the valve casing ports and circular channels, substantially as specified. 12th. In a proportional meter, the combination with two discharge ports and the resilient resistance of the compound piston valve, substantially as set forth. 13th. The combination with the recording measuring device, and the main casing, of the compound piston valve, the resilient resistance, the intermediate chambers and the independent valve casing ports, substantially as specified. 14th. The combination with the recording measuring mechanism, the intermediate chambers, the connecting ports and the circular channels of the main inlet and the outlet chambers, substantially as specified. 15th. The combination with the recess of the septum, the valve spindle and valve pistons of the helical spring, substantially as set forth. 16th. The combination with the main casing of the valve casing having separate ported chambers, when the axial centre of the said valve casing is disposed at a right angle to the line of flow through the main chambers and directly beneath the measuring mechanism to receive the flow therefrom, substantially as specified. 17th. In a proportional water meter, a valve device provided with ports for the major and minor streams, the actual area of the major ports slightly less than the theoretical area required by the ratio of the streams, substantially as described.

No. 40,955. Oil Stove. (Poêle à huile.)

Victor E. Randall, Athens, Michigan, U.S.A., 10th November, 1892; 6 years.

Claim.—1st. An oil stove in which the wick tube in its upper portion incloses an annular air induction passage and which, in its lower portion, is itself directly encircled by an air induction passage, which in turn is in its upper portion directly encircled by a water containing vessel or compartment. 2nd. An oil stove in

which a central wick tube in its upper portion incloses an annular air induction passage, in which such central wick tube is in its lower portion directly encircled by an air induction passage around the wick tube, in which the encircling air induction passage is directly encircled by a water chamber, and in which the encircling water chamber is itself in turn directly encircled by an air induction passage. 3rd. An oil stove in which a central wick tube incloses an air induction passage, in which such central wick tube is directly encircled by an air induction passage, in which such encircling air induction passage is directly encircled by a water chamber, in which such encircling water chamber is itself directly encircled by an air induction passage, and in which the air induction passage which encircles such encircling water chamber is itself directly encircled by an oil reservoir. 4th. An oil stove which has a central wick tube which incloses an air induction passage, and which in turn is encircled in succession by an air induction passage, a water chamber, an air induction passage an oil reservoir, and an air induction passage which exteriorly is inclosed by the annular outer shell of the reservoir section of the base of such stove. 5th. An oil stove which has a central wick tube which in its upper portion incloses a supporting cylinder, and an annular air induction space between such cylinder and the body of the wick tube, an annular air induction passage which directly incloses the wick tube, an annular water chamber which incloses the annular air induction passage which incloses the wick tube, and a deflecting plate or ring which rises from the upper extremity of the outer periphery of the annular water chamber and extends upwardly and inwardly along the upper portion of the wick tube to a point in a plane above and near to the upper extremity of such wick tube, the water chamber being open at its top, whereby currents of air moistened by vapour are supplied to the outer portion or surface of the flame. 6th. An oil stove which is provided with a central wick tube, with an annular water chamber which encircles the wick tube, with an annular air induction passage between the wick tube and the water reservoir, which discharges into the flame space and combustive chamber of the stove, and with an annular air induction passage which directly encircles the annular water chamber and which discharges only into the air warming chamber of the stove. 7. An oil stove, in which are combined a central wick tube and an annular water chamber, which encircles the wick tube, and which is surmounted by a upwardly indrawn deflecting and separating ring which overhangs the area between the outer extremity of the water chamber and the outer periphery of the wick tube. 8th. An oil stove, in which are combined an annular oil reservoir, an annular water chamber and an annular wick tube, each of which directly encircles, and each of which is directly encircled by an annular air induction passage, the water chamber and the oil reservoir being in the same horizontal plane. 9th. An oil stove, in which are combined an annular wick tube, which is provided interiorly with a vertically placed deflector-bearing cylinder, which extends above the plane of the wick tube, a water chamber which encircles the wick tube at a short distance therefrom, and an annular deflector which rises from the outer wall of the water chamber and is upwardly indrawn from such wall toward and along the wick tube to a point a short distance from the deflector, which is borne upon the cylinder. 10th. In an oil stove, a central oil and wick chamber, an annular water chamber, which encircles the central oil and wick chamber at a short distance therefrom, and annular oil reservoir outside the annular water chamber, and a conduit which extends from the lower extremity of the annular oil reservoir to a point near the lower extremity of the annular oil reservoir to a point near the lower extremity of the central oil and wick chamber, in combination. 11th. In an oil stove, a central annular wick tube, an annular air casing, which encircles the central and lower portions of such wick tube, and a horizontally arranged floor screen, suitably suspended from the stove at a short distance below the lower extremity of the central wick tube, in combination. 12th. In an oil stove, the exterior casing provided with the interior seat S, and the interior deflector provided with the exterior seat S', combined, with the closing ring c, r, adapted to such seats, whereby when the combination chamber is removed the lower section of the stove is adapted to use for culinary purposes. 13th. In an oil stove, a central annular wick tube, in which in its upper portion is supported a capped and flanged cylinder, which forms with the wick tube an annular air passage and a flame deflector, an annular air casing which encircles the central and lower portions of such wick tube, and a horizontally arranged floor screen suitably suspended from the stove at a short distance below the lower extremity of the central wick tube, in combination. 14th. In an oil stove, the exterior casing provided with the interior seat S, combined with the interior deflector, provided with the interior seat S', substantially as set forth. 15th. In an oil stove, the exterior casing having vertical cylindrical drum, combined with the inclosed combustion chamber, having conical upper section provided with vertically extending corrugatures, for the purpose set forth. 16th. In an oil stove, the described exterior cylindrical radiating casing, the inclosed upwardly indrawn combustion chamber, and the circular deflector suitably supported at a point above the combustion chamber and in or near the horizontal plane of the upper extremity of the radiating casing, in combination, substantially as and for the purpose specified. 17th. In an oil stove, the non-reciprocating exterior casing having a series of windows arranged in alternation with intermediate imperforate sections, combined with the interior reciprocating combustion chamber, which is provided with a series of windows

which, like those in the outer casing, are arranged in alternation with intermediate imperforate sections, whereby the stove is made illuminating or non-illuminating, as may be desired.

No. 40,956. Dumping Car. (Char-tombereau.)

William Arthur Thacher, New York, State of New York, U.S.A.,
10th November, 1892; 6 years.

Claim.—1st. In a car, the tilting sections B, B, having the inwardly and upwardly and outwardly inclined ends D, D, combined with the guides F, the doors E, and links suspending said doors; substantially as set forth. 2nd. In a car, the tilting sections B, B, combined with the suspending doors E, and compressing air mechanism connected with said sections for tilting the same; substantially as set forth. 3rd. In a car, the tilting sections B, the doors E, and the links suspending said doors, combined with the dumping cylinders having pistons and rods, and link connections intermediate said rods and said sections for imparting movements from the former to the latter; substantially as set forth. 4th. In a car, the tilting sections B, B, combined with the dumping cylinder having the piston and rod, and the links connecting said rod with both of said sections; substantially as set forth. 5th. In a car, the tilting sections B, B, having doors at their facing ends, combined with the cylinders R, S, at opposite sides of the car, the piston rods X therefor, the cross heads Y carried by said rods, the vertical guide rods for said cross heads, and the links intermediate said piston rods and said sections; substantially as set forth. 6th. In a car, the tilting sections B, B, having doors at their facing ends, combined with the cylinders R, S, at opposite sides of the car, the piston rods X therefor, the cross heads Y carried by said rods, the vertical guide rods for said cross heads, and the links intermediate said piston rods and said sections; substantially as set forth. 7th. In a car, the tilting sections and the independent suspended doors therefor, combined with latches for locking said sections in their horizontal position, compressed air mechanism for freeing said latches, and compressed air mechanism for tilting said sections; substantially as set forth. 8th. In combination with the tilting body of a dumping car, the dumping cylinder having a piston and rod for tilting said body, inlets at the opposite ends of said cylinder, and a release valve for releasing the air from one side of the piston when air is admitted to the other side thereof; substantially as set forth. 9th. In combination with the tilting body of a car, the dumping cylinder having a piston and rod for tilting said body, inlets at the opposite ends of said cylinder, and a double acting release valve intermediate said inlets and ports admitting the air to one side of the piston and releasing it from the other side thereof; substantially as set forth. 10th. In combination with the tilting body of a car the dumping cylinder having a piston and rod for tilting said body, inlets at the opposite ends of said cylinder, the main pipe lines connected with said inlets, the latch cylinder connected in the main pipe line supplying air to tilt the car body, and the latch connected with the piston rod of said latch cylinder; substantially as set forth. 11th. In combination with the tilting body of a car, the dumping cylinder having a piston and rod for tilting said body, inlets at the opposite ends of said cylinder, the main pipe lines feeding said inlets, the release cylinder intermediate said inlets and having an exhaust port, and the release valve therein exposed to the force of the air and admitting air to one inlet while exhausting it from the other inlet; substantially as set forth. 12th. In combination with the tilting body of a car, the dumping cylinder having a piston and a rod for tilting said body, inlets at opposite ends of said cylinder, and the latch and release valve cylinders intermediate said inlets; substantially as and for the purposes set forth. 13th. The main cylinder having a piston and rod, and inlets at each end of said cylinder, combined with a release valve intermediate said inlets and admitting air to one inlet while releasing it from the other inlet; substantially as set forth. 14th. In combination with the tilting body of a car, the dumping cylinder having a piston and rod for tilting said body, the release valve cylinder, the main pipe lines leading to opposite ends of said cylinder, the latch cylinder, the pipe leading from the release valve cylinder to the latch cylinder, and the pipes leading from the latch and release valve cylinders to the opposite ends of the dumping cylinder; substantially as set forth.

No. 40,957. Dumping Car. (Char-tombereau.)

William Arthur Thacher, New York, State of New York, U.S.A.,
10th November, 1892; 6 years.

Claim.—1st. In a car, the tilting car body, combined with the dumping cylinder, the piston therein having the hollow extension passing through the head of said cylinder, the hinged connecting rod operated by said piston, and pipe connections leading to said cylinder, substantially as set forth. 2nd. In a car, the tilting car body, combined with the dumping cylinder, the piston therein having the hollow extension passing through the head of the said cylinder, the hinged connecting rod within the hollow extension, and the main supply pipes leading to the opposite ends of said cylinder; substantially as set forth. 3. In a car, the pivotally mounted car body and means for tilting said body to dump its load, combined with the pivoted latches engaging said body to lock it in a horizontal position, the auxiliary cylinder having a piston and rod, and mechanism intermediate said rod and said latches for imparting motion from the former to the latter; substantially as set forth. 4th. In a car, the pivotally mounted car body and means for tilting the same to dump its load, combined with the pivoted latches en-

gaging said body to lock it in a horizontal position, the auxiliary cylinder and intermediate connections for freeing said latches from the car body, and the spring for re-engaging said latches; substantially as set forth. 5th. In a car, the pivotally mounted car body and means for tilting the same to dump its load, combined with the downwardly extending curved bar secured to the bottom of the car body, the pivoted latch engaging the same, the auxiliary air connected with said latch to operate the same, and the pipe connection leading to said cylinder; substantially as and for the purposes set forth. 6th. In a car, the pivotally mounted car body and means for tilting the same, combined with the downwardly extending curved bar secured to the bottom of the body, the pivoted latch engaging the same, the auxiliary air cylinder connected with the said latch to operate the same, the pipe connection leading to said cylinder, and the spring acting on said latch; substantially as set forth. 7th. In a car, the pivotally mounted car body having the downwardly extending curved bars, combined with the pivoted latches engaging said bars, leverage mechanism connecting said latches, and the auxiliary air cylinder connected with said mechanism for simultaneously operating said latches, substantially as set forth. 8th. In a car, the pivotally mounted body having the downwardly extending curved bars, combined with the pivoted latches engaging said bars, the levers J, K, connected together by the rod N, and by links with said latches the spring T connected with said levers, and the air cylinder having its piston rod also connected with said levers; substantially as set forth. 9th. In a car body pivotally mounted on the truck to tilt to either side, combined with the dumping cylinder, the piston therein, the hinged rod connecting said piston and body, and pipe connections leading to both ends of said cylinder; substantially as set forth. 10th. In a car, the pivotally mounted car body, and means for securing the same in horizontal position, combined with compressed air mechanism for releasing said body, the dumping cylinder with compressed air connections leading thereto, and the piston within said dumping cylinder and connected with the car body; substantially as set forth.

No. 40,958. Process of and Apparatus for Removing Incrustation from Boiler Tubes. (*Procédé et appareil pour empêcher les incrustations dans les chaudières à vapeur.*)

James P. Karr, Monticello, Indiana, U. S. A., 10th November, 1892; 6 years.

Claim.—1st. The herein described process of removing incrustation from boiler tubes, consisting in temporarily enlarging the tubes, in opposite directions, substantially as set forth. 2nd. The herein described process of removing incrustation from boiler tubes within the boiler, consisting in temporarily enlarging the tubes by means of a tool having opposite projecting rolls travelling in a spiral, substantially as set forth. 3rd. A tube cleaner, consisting of a tool having opposite projecting rollers adjustably held thereon adapted to bear against the inner wall of the tube, a tapering needle disposed between the adjacent inner faces of said rollers, and means for wedging said needle between the rollers to expand them laterally, substantially as and for the purpose described. 4th. In a tube cleaner, the combination of the tube, the casting mounted on the forward end of the same, and having the opposite openings and oval bearings, the end place having the oval bearings and having its bore reduced near its outer end, the inclined adjustable rollers, and the adjustable needle having the tapered middle, substantially as set forth. 5th. In a tube cleaner, the combination of the tube having the threaded ends, the casting mounted on the forward end thereof and having the opposite openings and oval bearings, the end piece having oval bearings and having its bore reduced near its outer end, the inclined adjustable rollers, the threaded sleeve cap, and the rod having at its forward end the needle formed with tapered middle part, the stop pins near its rear end, and the squared rear end piece, substantially as set forth. 6th. In a tube cleaner, the combination of the tube, the casting, the end piece for the same, the inclined adjustable rollers, the threaded sleeve cap formed with a longitudinal slot and opposite lugs and having the thumb screw, and the rod having the tapered needle at forward end and the stop pins and squared end piece at its rear end, substantially as set forth. 7th. In a tube cleaner, the combination of the tube, the casting, the end piece for the same, the inclined adjustable rollers, the flanged collar through which the tube passes, the threaded sleeve cap, formed with the longitudinal slot and the opposite lugs and having the thumb screw, the rod having the tapering needle at its forward end and the stop pins and squared end piece at its rear end, and the operating handles, substantially as set forth. 8th. An apparatus for removing incrustation from boiler tubes, consisting of a body portion having rollers journaled thereon having radial adjustment, a tapering needle operating between the adjacent inner faces of said rollers to force same radially outward to engage the said tube, said rollers journaled at an angle to the longitudinal axis of the body portion, and means for rotating said body portion, whereby the rollers will bear against the inner wall of said tube and travel spirally forward thereon, substantially as and for the purpose set forth.

40,959. Sliding Window. (*Fenêtre en coulisse.*)

Annie Frances Maria Youlten, Oakfield, Surrey, England, 10th November, 1892; 6 years.

Claim.—1st. The improvements in sliding windows, for removing the sashes from their vertical position in the sash frame, to an in-

clined position within a room, and for holding them in such position, substantially as and for the purpose described. 2nd. The particular mode of suspending the sashes, and supporting them in an inclined position within a room, by means of projecting hooks G, bearing upon pins or pivots H, hooks or slots E, gearing with slotted plates, pins or pivots F, when the sashes are drawn inwards to an angle with the frame, and a supporting bar L, with chain O, or other simple means, for the purpose of effecting a workmanlike method of drawing sliding sashes inwards for outside cleaning, while in a condition of top suspension at any level above the centres of the sash frame, substantially as described, and shown in the accompanying sheets of drawings.

40,960. Band Cutter and Feeder.

(*Coupe-hart et alimentateur.*)

Edmund S. Wilhite, West Salem, Illinois, U. S. A., 10th November, 1892; 6 years.

Claim.—1st. In a band cutter and feeder, the combination with the shaft I, located above an endless apron, and provided with the knives L, located spirally on said shaft I, substantially as and for the purpose specified. 2nd. The knife holder K, located on the shaft I, and having secured thereto cutting knives, substantially as and for the purpose specified. 3rd. The combination of the bar or rod *a*, pivotally attached by means of the shaft H³, and the endless apron located below said rod, when the same is placed in a horizontal position, substantially as and for the purpose specified. 4th. The combination of the cone pulleys M, the belt *n*, the belt guide P, the rod *p*, and means for communicating rotary motion to the endless apron E, substantially as and for the purpose specified. 5th. In a band cutter and feeder, the box or trough D, having located therein a portion of the endless apron E, and pivotally connected to the frame *d*, substantially as and for the purpose specified. 6th. The shaft I, located above the endless apron E, the blocks or collars N, the cutting knives L, fixed to said blocks, and located spirally on said shaft, and set at reversed angles or twist from the centre of said shaft I, substantially as and for the purpose specified. 7th. The combination of the shaker S, located at the rear of the endless apron E, the rod S, the crank arm T, the long arm S¹, the weight T¹, the pawl *t*, and the ratchet wheel t¹, substantially as and for the purpose specified. 8th. The combination of a frame, and the hinge plates *b*, extending beyond the frame, the plates *b*², and the uprights A¹, substantially as and for the purpose specified. 9th. The combination of the trough D, provided upon its bottom or under side with the hinge doors D¹, substantially as and for the purpose specified. 10th. The combination of the trough D, having located therein, the endless apron E, the drive chains *c*, having fixed thereto bars, and the strips *c*², substantially as and for the purpose specified. 11th. The combination of the trough D, having located therein the endless apron E, and the backward curved spikes or fingers E¹, substantially as and for the purpose specified. 12th. The combination of the trough D, having located therein the endless apron E, the sliding board H, provided with the teeth *h*², substantially as and for the purpose specified.

No. 40,961. Belt for Ladies. (*Ceinture pour dames.*)

Joseph Tynan, Cohoes, New York, U. S. A., 10th November, 1892; 6 years.

Claim.—As an improved article of manufacture, a belt for the waist formed of a single piece of material having a downward and outward inclination to conform to the shape of the body at the waist, with its ends provided with securing means, a vertically disposed stiffening piece at the rear of the belt, and a similarly disposed piece secured to the belt over said stiffening piece, substantially as shown and described.

No. 40,962. Apparatus for Shaping Hollow Articles.

(*Appareil à façonner des objets creux.*)

Frank Moorfield, Prince's Bay, New York, U. S. A., 10th November, 1892; 6 years.

Claim.—1st. In combination with a cylinder or other suitable appliance, a piston having a passage or conduit, and suitable means to transmit a fluid to the cylinder chamber to move said piston and to be passed in part through its conduit, which communicates with said chamber in the direction in which the piston is moved by the fluid, substantially as and for the purpose specified. 2nd. In combination with a cylinder or other suitable appliance, a piston having a central unobstructed passage from end to end, and suitable means to transmit a fluid to the cylinder chamber, to move said piston and to be passed in part through the passage therein, said passage communicating with said chamber, the movement of the fluid through the piston passage being in the direction in which the piston is moved by the same, substantially as and for the purpose shown. 3rd. In combination with an open ended cylinder, a piston having a passage or conduit, and suitable means to transmit a fluid to the cylinder chamber to move said piston and to be passed in part through the conduit therein, said conduit being in communication

with said chamber and allowing movement of fluid through it in the direction of the movement of the piston, substantially as and for the purpose set forth. 4th. In combination with a cylinder, a piston having a passage or conduit, and an elastic body compressed or placed under tension by said piston when it is moved in one direction, and operating by its expansion to move said piston in an opposite direction, substantially as and for the purpose described. 5th. In combination with a cylinder, a piston having a passage or conduit, a flange on the piston overlapping a portion of the cylinder, and an elastic body between such flange and such portion of the cylinder, which is compressed by said piston when moved in one direction and operates in expanding to move the same in the reverse direction, substantially as and for the purpose shown and described. 6th. In combination with a cylinder, a piston having a passage or conduit, a flange on the piston, an elastic body between the flange and a contiguous portion of the cylinder, and a ring inclosing said body, substantially as and for the purpose shown. 7th. In combination with a cylinder, a vertically movable piston having a vertical passage or conduit adapted at its upper end to discharge into an article to be shaped a vessel or reservoir communicating with the cylinder chamber, and a pump in such reservoir to force a fluid to the cylinder chamber and through the piston, substantially as and for the purpose set forth. 8th. In combination, a vertically arranged cylinder, a vertically movable piston therein, having from top to bottom a passage or conduit adapted to communicate with a die containing an article to be shaped, a vessel or reservoir communicating with the cylinder chamber below the piston, and suitable means to force fluid thereto from the reservoir to move said piston and to be in part passed through its conduit, substantially as and for the purpose described. 9th. The method of making hollow articles, which consists in causing a blank in a die to conform thereto by means of a fluid under pressure, and while being subjected to such pressure preventing stretching thereof by subjecting it to endwise pressure which compresses the metal of said blank during its tendency to stretch while being conformed to said die, substantially as and for the purpose set forth. 10th. In combination, with a cylinder, a piston having a nipple or part to abut against and convey fluid to a body to be formed or shaped, substantially as and for the purpose specified. 11th. In combination, with a cylinder, a piston having a nipple provided with a shoulder to abut against the body to be formed or shaped, and a portion to enter into said body, substantially as and for the purpose shown. 12th. In combination, with a cylinder, a piston having a nipple adapted to form a tight joint with the wall of the matrix of a die for holding the body to be shaped and a shoulder to abut against the latter, substantially as and for the purpose set forth. 13th. In combination, with a die for holding the body to be shaped, a suitably mounted nipple adapted to enter such die and form therewith a tight joint, and having a reduced portion to enter into and form a tight joint with the body to be formed, substantially as and for the purpose described. 14th. In combination, a cylinder, a perforated piston, a nipple having its perforation registered with that of the piston and the collar for securing the nipple to the piston, substantially as and for the purpose specified. 15th. In combination, a cylinder, a perforated piston having in its upper face, a shouldered recess to form a seat, a nipple seated therein and a screw threaded collar engaging thread on the piston, to secure said nipple in place, substantially as and for the purpose set forth. 16th. In combination, a cylinder, a perforated piston, a nipple having its perforation registering with that of the piston, the flanged collar for securing the nipple to the piston, and the elastic body between the flange of the collar and an adjacent portion of the cylinder, substantially as and for the purpose shown. 17th. In combination, a cylinder, a piston having a passage or conduit, suitable means to transmit a fluid under pressure to and through said piston and a relief valve, substantially as and for the purpose set forth. 18th. In combination, a cylinder, a piston having a passage or conduit, suitable means to transmit a fluid under pressure to and through said piston, a passage opening outward from the cylinder chamber and a relief valve to control said passage, substantially as and for the purpose specified. 19th. In combination, a cylinder, a piston having a passage or conduit, a fluid reservoir, suitable means to force a fluid therefrom to and through said piston, a relief valve controlling a passage from the cylinder, and the conduit to convey escaping fluid back to the reservoir, substantially as and for the purpose shown. 20th. In combination, a cylinder, the boss projecting therefrom a reservoir connected to said boss, the pump within the reservoir also attached to the latter communicating with the cylinder chamber, and means for conveying fluid from the latter to a body to be shaped, substantially as and for the purpose shown. 21st. In combination, a cylinder, a piston therein having a passage or conduit, and adapted to be moved against the body to be formed, and suitable means to transmit a fluid to said piston and through the passage therein into the body to be formed, substantially as and for the purpose described. 22nd. In combination, a movable die, and a movable body or piston having a passage or conduit to convey fluid to the interior of said die, substantially as and for the purpose shown. 23rd. In combination with a perforated or hollow piston, and the wall or part with which it should form a tight joint, the washer on the piston perforated in alignment with its opening and a pump or other means for forcing fluid under pressure to said piston to move and be in part moved through the same in the direction of its movements, substantially as specified.

No. 40,963. Spring Support for Upholstery.

(Support de ressort pour les tapissiers.)

John Atkinson Staples, Newburg, New York, U.S.A., 10th November, 1892; 6 years.

Claim.—1st. The combination with a wire spring in which the coil of wire is circular or nearly so at the smaller end, of corrugated interlocking crossing wires with which the nearly circular end of the spring is interwoven so as to wedge tightly above and below the respective corrugated wires and bind the interlocking wires together and the wire of the spring into the corrugations of the interlocking wires, substantially as set forth. 2nd. The combination with a supporting wire that is corrugated upon its horizontal or nearly horizontal portion, of a crossing key similarly corrugated and interlocking with the corrugations of the supporting wire, and a wire spring having a nearly circular coil at the smaller end thereof interwoven above and below the crossing wires and into the corrugations of the same, so that respective parts are tightly wedged together, substantially as set forth. 3rd. The combination with the upholstery springs, of supporting wires having corrugations throughout their nearly horizontal portions, and bent upwardly at the ends and terminating with eyes or connections by which the ends of the wires are secured to the wooden frame, the corrugations in the wires being adapted to receive the wires of the springs at the lower ends of such springs to prevent the springs slipping upon the wires, substantially as set forth. 4th. The combination with upholstery springs, of supporting wires crossing each other beneath the respective springs, such wires having corrugations sufficiently close together to allow the position of the intersections to be varied to adapt them to the position of the springs, and the corrugations forming receptacles for the coils of wire at the ends of the springs are held in position by the corrugations of the wire, substantially as set forth. 5th. The combination with the upholstery springs, of supporting wires having ends that are adapted to being secured to the seat frame, the substantially horizontal portion of one or more of the crossing wires being corrugated to form receptacles for the coils of wire at the ends of the springs and with which wires the spring is interwoven so as to bind tightly above and below the crossing wires and hold the wires and springs firmly together, substantially as specified.

No. 40,964. Fastener for Gloves. (Agrafe pour gants.)

Friedrick Maisch, Naples, Italy, 11th November, 1892; 6 years.

Claim.—In a fastener for gloves and other articles, an oval collar *g*, provided with a cap *i*, and a locking plate *f*, and forming one member of the fastener, and adapted when turned to engage in a groove *h*, of a locking pin *a*, forming the other member of the fastener, substantially as described.

No. 40,965. Snow Shoe. (Raquettes.)

Carl Oscar Stone, New York City, U. S. A., 11th November, 1892; 6 years.

Claim.—A snow shoe, formed with an elastic or plant bottom or sole arched longitudinally, and provided upon the bottom at or near the centre of the arch with a non-adjustable friction device or plate permanently secured thereto, and normally lying out of contact with the sliding surface or ground, and adapted to be brought into action by springing or pressing down the arch of the shoe, substantially as set forth.

No. 40,966. Oil Can. (Bidon à huile.)

James Baird Melloy, Philadelphia, Pennsylvania, U. S. A., 11th November, 1892; 6 years.

Claim.—In combination, the cam *E*, and casing *A*, provided with the following locking devices for holding them together, the bead *e*, on the body of the cam, and the elastic edge *d*, terminating the inside edge of the top hoop *D*, of the casing *A*, whereby the cam is pressed into the casing until the bead *e*, is carried slightly below the elastic edge of the loop, and is caught by its rebound or spring over the bead, and thus the can is held firmly in place, substantially as and for the purpose herein specified.

No. 40,967. Bolting Reel. (Blutoir.)

Benjamin Franklin Reinbold, Lickdale, Pennsylvania, U.S.A., 11th November, 1892; 6 years.

Claim.—1st. In a bolting reel, the combination of the opposite receiving and discharging polygonal reel heads, a series of inwardly opening buckets connecting the opposite reel heads at their angles and slightly below the bolting cloth, and regulating devices in each bucket, substantially as set forth. 2nd. In a bolting reel, the combination of the opposite polygonal reel heads, the bolting cloth covering the space between said heads, a series of inclined connecting ribs connecting said heads at their angles to form a peripheral series of receptacles between the ribs and the bolting cloth, a series of inclined bucket boards meeting the inner edges of said ribs and extending therefrom at an angle to form a series of inwardly opening buckets, and feed regulating devices in each bucket, substantially as set forth. 3rd. In a bolting reel, the combination of the opposite polygonal reel heads, the bolting cloth covering the space between said heads, a series of inwardly opening buckets connecting the opposite reel heads at their angles, and projecting inwardly at an angle to form an opposite peripheral series of receptacles between

the same and the bolting cloth, and regulating devices in each bucket, substantially as set forth. 4th. In a bolting reel, the combination of the opposite polygonal reel heads, a series of inwardly opening buckets connecting the opposite reel heads at their angles and opening below the bolting cloth, a series of regularly spaced draft or feed regulating wings pivoted in each bucket, and means for adjusting said wings in said buckets, substantially as set forth. 5th. In a bolting reel, the combination of the opposite polygonal reel heads, a series of inwardly opening buckets connecting the opposite reel heads at their angles, a series of regularly spaced draft or feed regulating wings pivoted in each bucket, and means for operating said levers, substantially as set forth. 6th. In a bolting reel, the combination of the main horizontal shaft having an interiorly threaded hollow end and a longitudinally disposed slot, the opposite reel heads, inwardly opening buckets connecting the opposite reel heads at their angles, a series of draft or feed regulating wings pivoted in said buckets, operating rods connected to the inner ends of said wings, a radial series of levers pivoted upon one of said heads connected with said operating rods, a longitudinally movable sleeve working over one end of said shaft and receiving the other ends of said levers, a sliding block working in the hollow end of said shaft, a bolt passing through the slot in said shaft and connecting the sleeve with said block, and an adjusting screw threaded collar loosely connected with said block and engaging the threaded end of said shaft, substantially as set forth. 7th. In a bolting reel, the combination with the shaft of a series of opposite polygonal reel heads, a series of inwardly opening buckets connecting the opposite reel heads at their angles and provided at one end with discharge openings, a radial series of discharging chutes secured to one of said heads beneath said discharge openings, a longitudinally movable sleeve working over said shaft, and carrying a conical discharge flange working through the head and beyond the ends of said chutes, regulating devices in each bucket, connected to said sleeves, and means for adjusting said sleeve, substantially as set forth. 8th. In a bolting reel, a series of inwardly opening buckets opening below the bolting cloth, a series of regularly spaced draft or feed regulating wings pivoted in each bucket, and means for adjusting said wings in said buckets, substantially as set forth.

No. 40,968. Rod Packing. (*Garniture de tige.*)

Charles Lee Cook, Louisville, Kentucky, U.S.A., 11th November, 1892; 6 years.

Claim.—1st. The combination with the casing, having the ball and socket bearing connection with the gland, and formed with an interior conically bevelled chamber, of the conical ring in said chamber, said ring being formed in segments, the ring closing the joints formed by said segments, and also formed in segments held in place by a lug or projection on the conical ring, said lap jointed ring having a rounded or convex face, a concaved follower bearing against said ring, and a spring pressing said follower, substantially as specified. 2nd. In a rod packing the combination with the shell or casing, having its inner end spherically concaved, and formed with an interior chamber, having its side walls conically tapered inwardly, said taper commencing a short distance inward from the outer end of said chamber, of the ring having a spherical concavity of the inner end of the shell or casing, the segmental conical ring seating in the inner end of said chamber around the rod, the lap joint segmental ring seating in said conical ring, and having a convex outer surface, the follower having a convex inner surface fitting said convex surface and the spring pressing said follower, substantially as specified. 3rd. The combination with the stuffing box, and its gland, of the floating packing therein, said packing comprising the cylinder shell or casing of a less diameter than the interior chamber of the stuffing box, said shell having a spherically concaved socket in its inner end, and an interior conical and straight walled chamber, the ring having the spherical surface fitting said socket and seating against said gland, the inner segmental conical packing ring seating in the conical portion of said chamber, the outer lap joint packing ring arranged to seat partially in the straight walled portion thereof, said outer ring having a convex outer face, a follower concaved on its inner face to fit said ring, said follower being arranged to enter said casing to take up the wear of the rings, and a spring pressing said follower, substantially as specified.

No. 40,969. Locomotive Steam Engine.

(*Machine locomotive.*)

Henry Monk, Chicago, Illinois, U.S.A., 11th November, 1892; 6 years.

Claim.—1st. In a compound locomotive and other compound engines having the single steam or valve chest, the valves comprising two independent valve sections, one of said sections controlling the admission and exhaust of steam to and from a high pressure cylinder and the other controlling the admission of steam from the high pressure cylinder and the exhaust from the low pressure cylinder, in combination with any means for operating the said valves independently of each other, substantially for the purpose as shown and described. 2nd. In a compound locomotive steam engine having the

single steam chest and a valve composed of two independent valve sections, the valve for the low pressure cylinder having a reduced degree of external lap in comparison to the high pressure valve, in combination with means for obtaining a simultaneous lead, substantially as set forth. 3rd. In a compound locomotive having the single valve chest and a valve composed of two independent valve sections, the outer section for the high pressure cylinder and the inner section for the low pressure cylinder, the inner low pressure valve section having connection to an independent valve stem or spindle, in combination with any means for operating said valves independently of each other, substantially for the purpose set forth. 4th. In a compound engine having the two independent valve sections, the fulcrum or compensating rod *k*, and the hollow valve rod *h*, in combination with the said valves and cross head *m*, substantially for the purpose set forth. 5th. In a compound locomotive engine having the single steam or valve chest, the steam and relief port *x* in valve *E*, and the passage *r* in combination with the auxiliary steam and relief valves *q* and *p*, substantially for the purpose as set forth. 6th. In a compound locomotive having the single valve chest, the combination of the auxiliary steam valve *q*, and the atmospheric relief valve *p*, in combination with means for operating valve *q*, substantially for the purpose as set forth and described. 7th. In a compound locomotive having the auxiliary steam or starting valve *q*, the rod *c* or wedge rod *n*, *n*, having connection to the reversing gear or shaft arm for the purpose of operating auxiliary steam valve *q*, substantially for the purpose as set forth. 8th. In a compound locomotive having the wedge rod *n*, *n*, the tube or guard *o*, in combination with the auxiliary steam valve *q*, substantially for the purpose as set forth. 9th. In a compound locomotive having the single steam or valve chest, the combination of the relief valve *p* and the auxiliary valve *q* placed in one valve case or box and acting in combination with each other, substantially for the purpose as shown and described. 10th. In a compound locomotive having the single steam or valve chest, the combination of the high pressure cylinder placed within the low pressure cylinder, steam passages leading from opposite ends of each of said cylinders to a valve seat face, an exhaust passage leading from said valve seat face, and distribution valve composed of two independent valve sections and controlling the valve seat ports, said valve providing a passage for steam between the sections from the high to the low pressure cylinder, the low pressure valve section having a less degree of lap and a shorter range of traverse than the high pressure valve, and the fulcrum or compensating rod *k* acting in combination with the cross head and other valve motion to retard and accelerate the action of the low pressure valve section, substantially as set forth.

No. 40,970. Electrolytic Apparatus.

(*Appareil electrolytique.*)

Thomas Craney, Bay City, Michigan, U. S. A., 11th November, 1892; 6 years.

Claim.—1st. In an electrolytic apparatus, a carbon anode incased within a cell or cells, of non-conducting material, and having a segregated portion or portions exposed on its upper surface, substantially as described. 3rd. In an electrolytic apparatus, a carbon anode incased within an outer supporting shell of non-conducting material, said anode consisting of a central homogeneous body within the wall of the cell and having segregated portions contained within pockets or interstices formed in the walls of the cell and forming exposed horizontal surfaces, substantially as described. 3rd. In an anode for electrolytic apparatus, the combination of a cell of non-conducting material formed with open interstices in the wall thereof, and a carbon body incased within said cell and provided with segregated portions contained in the interstices of the cell and forming exposed horizontal surfaces of the anode, substantially as described. 4th. In an anode for electrolytic apparatus, the combination of a cell consisting of a series of superimposed sections projecting within each other and forming open interstices between such sections, and a body of carbon incased within said cell and having segregated portions extending into the interstices between the sections and forming the exposed sections of the anode, substantially as described.

No. 40,971. Machine for Dressing Slate.

(*Machine pour le traitement de l'ardoise.*)

Justus Henry Rudolph, Walnutport, Pennsylvania, U. S. A., 11th November, 1892; 6 years.

Claims.—1st. In combination a grinding disc arranged with its grinding face upward a holder for the slate arranged with its face downward and movably supported above the grinding disc to fall automatically by gravity and a stop for limiting the downward movement of the holder, substantially as described. 2nd. In combination a grinding disc arranged with its grinding face upward, a holder for the slate, arranged with its face downward and a top or covering plate above the grinding disc having an opening through which the slate holder moves toward the grinding disc. 3rd. The improvement in the art of grinding or polishing and straightening slate or like thin material consisting in reducing the side edges toward one face and reducing the end edges reversely to receive an overhanging clamp then clamping the slate by its side edges to a backing plate to straighten the same presenting it thus held to a grinding disc then reversing it and clamping it by its end edges to

complete the straightening and subjecting it as thus held to the action of the grinding disc. 4th. In combination the grinding wheel, a slate holder having movement toward the same and a stop for limiting said movement the said holder being pivotally supported, substantially as described.

No. 40,972. Process of and Apparatus for Making Fuel Gas. (*Procédé et appareil pour fabriquer du gaz de chauffage.*)

Thomas B. Fogarty, Long Island City, New York, U. S. A., 11th November, 1892; 6 years.

Claim.—1st. The process herein described of producing cyanides and ammonia, consisting in producing a gas consisting chiefly of oxides of carbon, free hydrogen and nitrogen, passing the same into and through a suitable retort maintained at a high incandescent temperature, passing simultaneously through the same retort and in the same direction as the before described gas, suitable volumes of hydrocarbon gas or vapour and of alkali or alkaline earth or vapour, decomposing the hydrocarbon gas or vapour by heat into acetylene and free carbon and hydrogen, and causing these to combine with nitrogen and alkali and to produce alkaline cyanides, ammonia and fuel gas, substantially as described. 2nd. The process herein described of producing alkaline cyanides and ammonia, consisting substantially in causing nitrogenous gas, hydrocarbon gases and vapours and a suitable alkali to pass together in the same direction through an incandescent retort whereby the hydrocarbons are decomposed into simpler and elementary bodies which combine with nitrogen and alkali and produce alkaline cyanides, ammonia and fuel gas, substantially as described. 3rd. In a process for producing alkaline cyanides and ammonia, the sub-process of converting the higher carburets of hydrocarbon gases and vapours by a cracking process into simpler and elemental bodies, and of causing these to combine with nitrogen and alkali, producing alkaline cyanides, ammonia and fuel gases, substantially as described. 4th. The described process of producing cyanides by causing acetylene and nascent carbon to combine with nitrogen and alkali distributed in a finely divided condition over the area of the retort or chamber in which the operation is conducted, substantially as described. 5th. In a process of producing alkaline cyanides and ammonia by causing acetylene and nascent carbon to combine with nitrogen and alkali, superheating the nitrogen before introducing it into the retort in which the operation is conducted, substantially as described. 6th. In a process of producing alkaline cyanides and ammonia, causing acetylene and nascent carbon to combine with nitrogen and alkali to produce alkaline cyanides, ammonia and fuel gas, substantially as described. 7th. The process herein described of obtaining and utilizing acetylene, by causing hydrocarbon gases and vapours, containing the higher carburets to pass through a heated retort together with suitably adjusted volumes of nitrogen and alkali, and to be there submitted to a series of successive reactions whereby nascent acetylene is produced, and immediately combines with the nitrogen and alkali to produce alkaline cyanides and fuel gases, substantially as described. 8th. The process herein described of producing acetylene by submitting hydrocarbon gases and vapours to a high temperature in a closed retort, producing acetylene and nascent hydrogen, and of causing the nascent acetylene to join the volume of fuel gases, and the nascent hydrogen to combine directly with nitrogen producing ammonia or to enter into combination with some of the higher carburets present, producing simpler hydrocarbons by a process of hydrogenation, substantially as described. 9th. The process herein described of producing alkaline cyanides and ammonia, consisting in producing a generator or producer of fuel gas, consisting chiefly of oxides of carbon and free hydrogen and nitrogen by burning carbonaceous matter in a limited supply of air, or of air and steam mixed, causing said gas to pass through a suitable duct or flue to meet therein and to mix with a suitable hydrocarbon which is decomposed by the heat of and mixed with the generator gas passing through the flue, introducing the mixed gases and vapours together with a suitable alkali or alkaline earth into a heated retort wherein the hydrocarbons are further decomposed by heat into acetylene and nascent carbon and hydrogen which combine with the nitrogen of the generator gas and with the alkali to form alkaline cyanides, ammonia and fuel gases, substantially as described. 10th. The process herein described of producing alkaline cyanides and ammonia by burning carbonaceous matter in a limited supply of air and steam mixed, producing a generator or producer gas consisting, chiefly of exodus of carbon and free nitrogen and hydrogen, causing said gas to meet and mingle with hydrocarbon gases or vapours, and the mixed gases and vapours to pass through a heated chamber wherein they meet or mix with a volume of alkali or alkaline earth or vapour moving or falling through the chamber in the same direction as the gases, causing the hydrocarbons to be decomposed by heat into simpler and elemental products, and these to combine with the nitrogen and alkali producing alkali cyanides, ammonia, and fuel gases, substantially as described. 11th. In a process for producing alkaline cyanide and ammonia, the sub-process of introducing a mixed volume of hydrocarbon gases or vapours or mixtures thereof, and nitrogenous generator gas and alkali or alkaline compounds into a heated chamber, causing the higher carburets present to be decomposed by heat and to be converted into simpler and elemental substances, and these to combine with nitrogen and alkali, producing alkaline cyanides, ammonia, and fuel gases, substantially as

described. 12. In a process for producing alkaline cyanides and ammonia, the sub-process of introducing solid or liquid hydrocarbons into a passage for conducting generator gases and of these decomposing them by heat, causing their volatile constituents to mix with the generator gas passing through the passage and the mixed gases to pass from the passage and to enter a heated chamber through which an alkali or alkaline earth or vapour is passing or falling and the hydrocarbon gases or vapours to be therein decomposed by heat into simpler and elemental products which combine the nitrogen and alkali to produce alkaline cyanides, ammonia, and fuel gases, substantially as described. 13th. In a process for producing alkaline cyanides, ammonia, and fuel gases by causing hydrocarbon gases or vapours, or a mixture thereof to pass through a heated retort in the company of, and in a state of admixture with nitrogenous generator gas and an alkali or alkaline earth or vapour and to be therein decomposed by heat into simpler and elemental products which combine with nitrogen and alkali and produce alkaline cyanides, ammonia and fuel gases, the sub-process of generating the hydrocarbon gases and vapours by the heat involved by the production of the generator gas, substantially as described. 14th. In a process for producing alkaline cyanides, ammonia, and fuel gases, by causing hydrocarbon gases or vapours, or a mixture thereof to pass through a heated retort in the company of and in a state of admixture with nitrogenous generator gas and an alkali or alkaline earth or vapour, and to be there decomposed by heat into simpler and elemental products which combine with nitrogen and alkali and produce alkaline cyanides, ammonia, and fuel gases, the sub-process of decomposing part of the higher carburets of the hydrocarbon gases and vapours into simpler and elemental products before introducing them into the heated retort, substantially as described. 16th. In a process for producing alkaline cyanides, ammonia, and fuel gases, by causing hydrocarbon gases or vapours or a mixture thereof to be generated or decomposed in a heated flue or chamber, to be mixed therein with nitrogenous generator or producer gas, and the mixed gases and vapours to pass through a heated retort in company of and in a state of admixture with an alkali or a compound or vapour of an alkali, and to be there decomposed by heat into simpler and elemental products which combine with nitrogen and alkali, and produce alkaline cyanides, ammonia, and fuel gases, the sub-process of causing the hydrocarbon gases and vapours to reduce the carbonic acid in the generator gas and to produce carbonic acid in the generator gas and to produce carbonic oxide and free hydrogen, substantially as described. 17th. In an apparatus for producing alkaline cyanides, in combination of a gas generating furnace, with an externally heated retort, and a superheater, substantially as described. 18th. In an apparatus for producing alkaline cyanides, a retort combined with a combustion chamber N, N, and means for supplying the latter with gas, constructed and operated, substantially as described. 19th. In an apparatus for producing alkaline cyanides, the combination of the retort M, and the superheaters P, P, and ports and valves constructed and operated, substantially as described. 20. In an apparatus for producing alkaline cyanides, the combination of the retort M, and of a feeder and distributor, substantially as described. 21st. In an apparatus for producing alkaline cyanides, the combination of the retort furnace D, chamber N, N, and superheaters, substantially as described. 22nd. In a process for producing cyanides, and producing ammonia and fuel gases, feeding an excess of carbon into the retort in which the cyanides are produced and are subsequently decomposed by steam, thereby controlling the temperature of the retort, substantially as described. 23rd. In an apparatus for producing alkaline cyanides, the combination of a gas generating furnace B, with a hydrocarbon supply pipe G, and a mixing and decomposing chamber or flue H, substantially as described. 24th. In an apparatus for generating alkaline cyanides, the combination of the hydrocarbon pipe G, mixing or decomposing flue or chamber H, and retort C, substantially as described. 25th. In an apparatus for producing alkaline cyanides, the combination of the gas generating furnace B, with the hydrocarbon supply pipe G, mixing and decomposing flue H, and retort C, substantially as described. 26th. In an apparatus for producing alkaline cyanides, a mixing and decomposing flue or chamber intervening between the gas generating furnace and the ammonia retort, substantially as described.

40,973. Block Signal. (*Signal électrique.*)

Thomas Henry Patenall, Rahway, New Jersey, U.S.A., 11th November, 1892; 6 years.

Claim. 1st. The combination, with signal operating mechanism, and means for locking and releasing it independent of the signal operating mechanism, of means for controlling the unlocking of said mechanism from a remote point along the line, and means for controlling the locking of said mechanism from another remote

point along the line, the said signal operating mechanism when once unlocked being free to be repeatedly manipulated to denote safety or danger at pleasure, until again locked, substantially as set forth.

2nd. The combination with a plurality of signal operating mechanisms, of instruments for controlling the locking and unlocking of said operating mechanisms, one of the instruments being under the control of a succeeding instrument to unlock it, and hence the signal operating mechanism connected therewith, and under the control of the passing train to permit the locking of the said signal operating mechanism, and a movable stop under the control of the locking mechanism for preventing the unlocking of a preceding instrument while the signal operating mechanism at the succeeding instrument remains unlocked, substantially as set forth.

3rd. The combination with a sliding bar, under the control of the operator, a movable part under the control of the sliding bar, and means for locking and releasing the signal operating mechanism, also under the control of the sliding bar, of a latch for locking and releasing the sliding bar, means for operating the latch, a plunger, an electric circuit adapted to be closed by the plunger to unlock a *reacote* instrument, and a plunger locking device under the control of the aforesaid movable part to prevent the second operation of the plunger, until the said sliding bar is returned to its normal position, substantially as set forth.

4th. The combination with the signal locking and releasing mechanism, of the normally twice broken electric circuit for plunging to a preceding station, and means for positively closing said circuit at the station to be plunged to, for securing a release of the signal locking mechanism, substantially as set forth.

5th. The combination with the signal locking and releasing mechanism, of the normally twice broken, electric plunging and track treadle circuits, a circuit closer, and means for moving the circuit closer successively into position to close the plunging circuit and then in position to break the plunging circuit and close the track treadle circuit, substantially as set forth.

6th. The combination with the bar for mechanically unlocking and locking the signal operating mechanism, of a gravity latch for locking the said bar in position to lock the signal operating mechanism, and an electro magnet for releasing the latch, the said latch being under the control of the said bar to allow it to fall into engagement with the bar, substantially as set forth.

7th. The combination with the bar, for unlocking and locking the signal operating mechanism, of a gravity latch for locking said bar in its positions to lock and unlock signal operating mechanism, an electric magnet for withdrawing the latch and an indicator under the control of the latch to indicate "locked" or "unlocked," the said latch being under the control of the said bar, to allow it to fall into engagement with the bar, substantially as set forth.

8th. The combination with the plunger and the plunger electric circuit, of a drop plate through which the plunger passes to plunge, and the movable section on the drop plate, the latter having a sliding movement independently of the drop plate in a direction transverse to the plunger, substantially as set forth.

9th. The combination with the plunger, the electric plunger circuit and the swinging contact piece provided with a nose, of a drop plate through which the plunger passes to plunge, and a movable section carried by the drop plate and provided with a nose adapted to interlock with the nose on the contact piece, the said movable section having an extended dropping movement while the plunger is thrust in to carry its nose past the nose on the contact piece, substantially as set forth.

10th. The combination with separate instruments at a station for controlling the movements of trains in opposite directions, of electric plunging circuits, one in connection with each instrument, each circuit comprising a portion of the plunger-actuated, circuit-closing mechanism of the other instrument, to complete the plunging circuit through its own electro magnet, substantially as set forth.

11th. The combination, with the means for connecting the sliding bar with the device for unlocking and locking the signal operating levers of the sliding bar, having a predetermined movement relatively to said connecting means without effecting the unlocking or locking, the latch for locking the bar, and at the same time permitting the said predetermined movement, the circuit closer under the control of the said bar, and the normally twice broken electric circuit, adapted to be inclosed as to one of the breaks by said circuit closer, substantially as set forth.

No. 40,974. Method of Making Gas.

(Méthode de faire du gaz.)

George Alfred Watson, Toronto, Ontario, Canada, and William Henry Laird, New York, State of New York, U.S.A., 12th November, 1892; 6 years.

Claim.—1st. In a furnace, the combination of a hollow conical grate forming a water section, a water section forming a fire pot surrounding the grate and in circulation therewith, and a series of circular water sections of the furnace, substantially as described.

2nd. In a furnace, the combination of a casing forming a water section, a hollow fire pot arranged concentrically within the fire pot and in circulation therewith and with the casing, substantially as described.

3rd. In a furnace for heating purposes, a fire grate consisting of any suitable number of upright tubular bars tapering to a common apex at their upper ends, the lower ends of said bars connected together by a rim, and suitable means for supporting said grate within the fire box, substantially as described.

4th. In a furnace for heating purposes, a grate consisting of any suitable number of upright tubular bars, the upper ends of which taper to a com-

mon apex and form thereat a chamber suitable for a water space, the lower ends of said bars connected together by a hollow rim, said bars serving as a water way between the chamber at the top and the hollow rim, and suitable means for supporting said grate and providing means for circulation of water through the water chambers in said grate, substantially as described.

5th. In a furnace for heating purposes, a grate consisting of any suitable number of tubular bars tapering on their upper ends to a common apex and form thereon a chamber suitable for a water space, the lower ends of said bars connected together by a hollow rim, said bars serving as water ways between the chamber at the top and said hollow rim, said upright grate provided with a spindle, the lower end of which is journaled in bearings formed in a water leg passing across the base of the fire box, and in circulation with one or more water sections of the furnace, substantially as described.

6th. In a furnace for heating purposes, a grate consisting of any suitable number of upright tubular bars, the upper ends of which taper to a common apex and the lower ends of which are connected together by means of a rim, a chamber formed between the inner sides of said tubular bars serving as a combustion chamber, said grate suitably supported in the fire box, substantially as described.

7th. In a furnace for heating purposes, a grate consisting of any suitable number of upright bars, the upper ends of which taper to a common apex and form a chamber thereat suitable as a water space, the lower ends of said bars connected together by a hollow rim, said bars connecting the water space at top of said grate with said hollow rim and serving as water ways between them, a chamber formed between the inner sides of said bars, which chamber is utilized as a combustion chamber, said grate suitably supported within said fire box, substantially as described.

8th. In a furnace for heating purposes a grate consisting of any suitable number of upright bars, the upper ends of which taper to a common apex, and form thereat a chamber suitable for a water space, the lower ends of said bars connected together by a hollow rim, said upright grate suitably supported within the fire box, a water way connecting said grate with one or more of the water sections of said furnace, substantially as described.

9th. In a furnace for heating purposes a grate consisting of any suitable number of upright bars, the upper ends of which taper to a common apex, and form thereat a chamber suitable for a water space, the lower ends of said bars connected together by a hollow rim, said bars serving as water ways between said water space and hollow rim, said upright grate suitably supported within the fire box, a water way connecting said grate with one or more of the water sections of said furnace, substantially as described.

10th. In a furnace for heating purposes a grate consisting of any suitable number of upright bars, the upper ends of which taper to a common apex, and form thereat a chamber suitable for a water space, the lower ends of said bars connected together by a hollow rim, said bars serving as water ways between said water space and hollow rim, said upright grate supported by a hollow spindle, the lower end of which is journaled in suitable bearings, said grate being divided into two sections by a diaphragm, said grate in circulation with one or more water sections of the furnace, said diaphragm diverting the course of the flow of water through said grate, substantially as described.

11th. In a furnace for heating purposes a grate consisting of any suitable number of upright bars, the upper ends of which taper to a common apex, and form thereat a chamber suitable for a water space, the lower ends of said bars connected together by a hollow rim, said bars serving as water ways between said chamber and said hollow rim, said upright grate supported by a spindle, the lower end of which is journaled in suitable bearings, said grate and spindle being in circulation with one or more water sections of the furnace, substantially as described.

12th. In a furnace for heating purposes a grate consisting of any suitable number of upright bars, the upper ends of which taper to a common apex, and form thereat a chamber suitable for a water space, the lower ends of said bars connected together by a hollow rim, said bars serving as water ways between said chamber and hollow rim, said grate supported by a hollow spindle, the lower end of which spindle is journaled in bearings formed in the water way passing across the base of the fire box, said water way connecting the water space in the casing of the furnace with the water space in the fire pot walls, said spindle fitted with an ingress port and an egress port in that portion of it in said water way said grate and spindle divided by a diaphragm to divert the flow of the water from the water space in the casing of the furnace across said water way through said grate to the water space in the fire pot walls, substantially as described.

13th. In a furnace for heating a grate, consisting of any suitable number of tubular bars tapering on their inner ends to a common apex and form thereat a chamber suitable for a water space, the lower ends of said bars connected together by a hollow rim, said bars serving as water ways between the chamber at the top and said hollow rim, said upright grate provided with a spindle, the lower end of which is journaled in bearings formed in a water leg passing across the base of the fire box, and in circulation with one or more water sections of the furnace, said spindle fitted with a baffle plate to protect the bearings and heated products of combustion from the fire above, substantially as described.

14th. In a furnace for heating purposes, a grate consisting of any suitable number of upright

bars, the upper ends of which taper to a common apex, and the lower ends form thereat a chamber suitable for a water space, the lower ends of said bars connected together by a hollow rim, said bars serving as water ways between said chamber and said hollow rim, said upright grate supported by a hollow spindle, the lower end of which is journaled in suitable bearings, said grate being divided into two sections by a diaphragm, said grate in circulation with one or more water sections of the furnace, said diaphragm diverting the course of the flow of water through said grate, said spindle fitted with a baffle plate to protect the bearings and lower end of said spindle against the action of the heated air, and products of combustion from the fire above, substantially as described. 15th. In a furnace for heating purposes, a grate consisting of any suitable number of upright bars, the upper ends of which taper to a common apex, and form thereat a chamber suitable for a water space, the lower ends of said bars connected together by means of a hollow rim, said grate supported by a hollow spindle divided into two sections by a diaphragm, the lower end of said spindle journaled in bearings formed in the water way passing across the fire box, said diaphragm diverting the flow of water from said water way through said upright grate, said spindle fitted with a baffle plate to protect the bearings and lower end of said spindle against the action of the heated air and heated products of combustion from the fire above, substantially as described. 16th. In a furnace for heating purposes, a grate consisting of any suitable number of upright bars, the upper ends of which taper to a common apex and form thereat a chamber suitable as a water space, the lower ends of said bars connected together by means of a hollow rim, said bars serving as water ways between said chamber and said hollow rim, a chamber formed between the inner sides of the upright bars and combustion chamber, said grate supported by a spindle, the lower end of which is journaled in suitable bearings, said grate and spindle being in circulation with one or more water sections of the furnace, said spindle provided with a baffle plate to protect the bearings and lower end of said spindle against the action of the heated air and heated products of combustion from the fire above, substantially as described. 17th. In a furnace for heating purposes a grate consisting of any suitable number of upright bars the upper ends of which taper to a common apex and form thereat a chamber suitable for a water space, the lower ends of said bars connected together by a hollow rim, said bars serving as water ways between said chamber and hollow rim said grate supported by a hollow spindle, the lower end of spindle is journaled in bearings formed in the water way connecting the water space in the casing of the furnace with the water space in the fire-pot-walls, said spindle fitted with an ingress port and an egress port in that portion of it in said water way, said grate and spindle divided by a diaphragm to divert the flow of the water from the water space in the casing of the furnace across said water way through said grate to the water space in the fire-pot-walls said spindle fitted with a baffle plate to protect bearings and lower end of said spindle against the action of the heated air and heated products of combustion from the fire above, substantially as described. 18th. In a furnace for heating purposes a water section consisting of a hub, a series of water arms radiating outwardly from said hub, the water space in said hub and water arms divided into any number of chambers, which chambers radiate outwardly from the inner wall of said hub, ingress ports located on the under side of said hub in each alternate chamber and an egress port located on the upper side of said hub in the remaining chambers, substantially as described. 19th. In a furnace for heating purposes a water section consisting of a hub and any suitable number of water arms radiating outwardly from said hub, the water space formed by said hub and arms divided into any number of chambers, and ingress port entering into each alternate chamber from the under side of said hub and egress port entering out of the remaining chambers on the upper side of said hub, said water arms consisting of a tubular pipe triangular shaped in cross section, substantially as described. 20th. In a furnace for heating purposes a water section consisting of a hub from which radiates a series of water arms, each of which water arms consists of a tubular pipe triangular shaped in cross section, said hub and water arms being hollow and the space between them divided into any number of water chambers by diaphragms radiating from the inner wall of said hub, each alternate chamber provided with an ingress port and the remaining chambers provided with egress ports, each of said water arms consisting of two outwardly radiating water ways connecting together at their outer ends, said ingress ports so arranged that the water entering the chamber between the two diaphragms flows eastwardly through two adjacent water ways of the two adjacent water arms and inward again to the hub through two remote water ways of said water arms, substantially as described. 21st. In a furnace for heating purposes a fire-pot consisting of double walls vertical from the base to a point level with the top of the fire-pot, from which point they taper inwardly to the coal magazine, the space between said walls utilized as a water space and connected to the water space in the casing of the furnace by means of a water leg passing across the base of the fire box, said water leg supporting the fire grate, which fire grate is hollow and forms one of the water sections of said furnace said fire pot water section in circulation with the remaining water sections in the furnace, substantially as described. 22nd. In a furnace for heating purposes, the combination of a fire pot, the walls of which taper to form a funnel shaped mouth on the lower end of the coal magazine a series

of water sections each of which consists of a hub and any suitable number of water arms radiating from said hub, said hubs and upper end of a funnel shaped mouth of coal magazine screw threaded on their inner face to receive a coupling nipple, said coupling provided on its inner face with a holding surface for the coupling tool or wrench, said sections and fire pot coupled by means of said nipples, substantially as described. 23rd. A furnace for heating purposes, consisting of a casing composed of an inner shell and an outer shell, a water space between said shell, a fire grate having a water chamber formed therein, water chamber in said grate connected with water chamber in the casing of the furnace by means of a water leg, a fire pot consisting of double walls with a water space between them, water space in said fire pot in circulation with water space in fire grate, and a series of water sections in circulation with the fire pot water section and with each other, and with a water head to which are connected the flow pipes leading to their respective destinations, and the return pipes connected to water chamber in said casing, substantially as described. 24th. A furnace for heating purposes, consisting of an outer and inner shell having a water space between them, a hollow fire grate having formed therein a water chamber, which water chamber is connected to the water space in casing of said furnace by means of a suitable water leg, a fire pot having a water chamber formed therein, which water chamber is connected to water chamber in the fire pot by means of a water leg, a series of water sections located above the fire pot, each of which consists of a hub and any suitable number of water arms radiating from said hub, sections suitably connected together and in circulation with the other sections of the furnace, and a water head, to which water head is connected the flow pipes of the furnace leading to their respective destinations, and the return pipes entering said water chamber in the casing of the furnace, substantially as described. 25th. In a furnace for heating purposes, consisting of an outer and inner shell with a water chamber between them, a fire grate having a water chamber formed therein, which water chamber in the fire grate being in circulation with the water in the casing of the furnace, a fire pot consisting of two walls with water space between them, in which water space is in circulation with the water space in the fire grate, a series of water sections located above the fire pot, each of which water sections consists of a hub, any suitable number of water arms radiating from said hub, the chamber formed in said hub, and water arms divided into any number of sub-chambers by diaphragms, an ingress port entering into each alternate sub-chamber, and an egress port entering out of the remaining chambers, substantially as described. 26th. A furnace for heating purposes, consisting of a casing composed of an inner and outer shell, a water space between said shells, a fire pot having formed therein a water space, which water space is connected with a water space in the casing of the furnace, a fire pot having formed therein a water chamber, which water chamber is in circulation with the water space in the fire grate, the walls of which fire pot taper inwards at their upper end and form a funnel shaped mouth for the coal magazine, a series of water sections located above said fire pot, each of which water sections consists of a hub, any suitable number of water arms radiating outward from the inner wall of said hub, said hubs and upper end of fire pot screw threaded on their inner face to receive the coupling nipple, which coupling nipple is provided on its inner face with a holding surface for the coupling tool or wrench, a waterhead in circulation with said water sections, to which waterhead is connected the flow pipes leading to their respective destinations, return pipes being connected to the water chamber in the casing of the furnace, substantially as described. 27th. A furnace for heating purposes provided with a fire box consisting of a fire pot, the inner walls of which are corrugated and the inner ends of said corrugations enlarged, a grate consisting of upright tubular bars connected together at the top and bottom, a fuel space between the bars of said upright grate and the inner walls of said fire pot, a combustion chamber between the inner sides of said grate bars, substantially as described. 28th. A furnace for heating purposes provided with a fire box, which fire box consists of a fire pot, the walls of which fire pot are upright to a certain point, then taper inwardly and form a funnel shaped mouth for the coal magazine, the inner walls of said fire pot corrugated to the top of the vertical level, said corrugations enlarged on their inner ends, a grate consisting of upright bars connected together at their base by a rim, and their upper ends taper inwardly to a common apex, a combustion chamber formed on the inner side of the grate bars, said grate suitably supported in said fire box, a downward draft entering said fire box above the level of the fire, assisting the decomposition of the fuel when passing through the same and causing annihilation of all the inflammable properties of the gases generated from the decomposition in said combustion chamber, substantially as described. 29th. A furnace for heating purposes provided with a fire box consisting of a fire pot, the walls of which are vertical to a certain point and taper from said point inwardly, forming a funnel-shaped mouth for the coal magazine, the inner walls of said fire pot corrugated, the inner ends of which corrugations are enlarged, a fire grate consisting of upright bars vertical to a point level with the top of the vertical part of fire pot walls and taperings, from said point to a common apex, a combustion chamber formed on the inner sides of said grate bars, a fuel space between said space and fire pot walls, substantially as described. 30th. A furnace for heating purposes provided with a fire box, consisting of a fire pot, the walls of which fire pot are vertical to a cer-

tain point and taper from such point inwardly and upwardly, forming a funnel-shaped mouth for the coal magazine, the inner walls of said fire pot being corrugated on the vertical portions, said corrugations enlarged on their inner ends, a water chamber formed in the said fire pot walls, a fire grate consisting of upright tubular grate bars, the upper ends of which taper inward to a common apex, forming at the top a water chamber, a hollow rim connecting the lower ends of said grate bars, serving as water ways between said chamber at the top and said hollow rim, said grate supported by a spindle journaled in bearings formed in the water way, passing across the base of said fire box from the water chamber in the casing of furnace to water chamber in the fire pot walls, the water space in said fire-grate being in circulation with water space in the water casing of the furnace and with a fire pot water space, the casing of the furnace, consisting of an inner and an outer shell, with water space between them, which water space is in circulation with the water space in fire grate and fire pot, a series of water sections located above said fire pot, each of which water sections consists of a hub and any suitable number of water arms radiating outward from said hub, and a waterhead located above said water sections, the return pipes entering water section in the casing of the furnace, flow pipes leading from the waterhead, the fire grate being provided with a hollow shaker fitted with a faucet, substantially as described. 31st. A furnace for heating purposes, consisting of a series of water sections, which water sections are composed of a hub and any suitable number of water arms, radiating outward from said hub, said hub's screw threaded on their inner face and coupled by means of a nipple having a right and left thread cut on its outer face and fitted on its inner face with a holding surface for the coupling tool or wrench, and a circular baffle plate surrounding each of the joints formed by the union of the hubs of said section, substantially as described. 32nd. A furnace, for heating purposes, consisting of a series of water sections, each of which is composed of a hub and any suitable number of water arms radiating from said hub, said hub's screw threaded on their inner face and coupled together by means of a nipple having a right and left screw thread cut on its outer face and fitted on its inner face with a holding surface for the tool or wrench, a baffle plate surrounding each of the joints formed by the union of said water section and suitable packing between said baffle plate and hub, substantially as described.

40,975. Floor or Roof for Buildings.

(*Plancher et toiture de batisses.*)

George Washington Parker, San Francisco, California, and Josua A. Clark, of the City of New York, both in the U.S.A., 12th November, 1892; 6 years.

Claim.—1st. A roof, floor or similar structure for buildings, consisting of the rails having bottom flanges laid in close relation and in spaced rows, the spacing blocks and filling of cement or composition laid between the rails and between or over the spacing blocks, substantially as hereinbefore described. 2nd. In a roof, floor or similar structure, the combination of the rails having bottom flanges and laid in spaced rows and close order, the spacing blocks and a filling of cement or composition adapted to form a hard water tight surface laid in between the rails and between the spacing blocks, as described, the flanges of the rails forming supports for the spacing blocks, and constituting the ceiling of the apartment beneath, as hereinbefore set forth.

No. 40,976. Trap for Animals. (*Pûge.*)

John Teter Tilman Kissinger, and George B. Strother, both of Belton, Missouri, U. S. A., 12th November, 1892; 6 years.

Claim.—1st. In an animal trap, the combination with a suitable base or support, and arms extending therefrom, and a latch and trip, of a double headed hammer, having a central hub with ratchet, a shaft, with crank handle extending therethrough, and a pin on the shaft to engage with the ratchet, and a coiled spring having its ends connected, respectively, to the shafts, and one of the arms extending up from the base or support, substantially as and for the purpose set forth. 2nd. In an animal trap, the combination with a suitable base or support, arms extending therefrom, a double headed hammer, and a spring for operating same, of a pivoted and shouldered latch, and a pivoted trip having at its opposite ends bearing fingers and the transverse rods against which they come, in contact to retain the latch in engagement with the head of the hammer, substantially as and for the purpose specified. 3rd. In an animal trap, a suitable base or support, arms extending therefrom, a double headed hammer, pivoted to said arms and a spring to operate the hammer, in combination with a shouldered and slotted latch pivoted within a recess in the base or support, a trip pivoted to the latch and located within the slot thereof, and having bearing fingers at its opposite ends, and transverse rods with which they engage, substantially as and for the purpose described.

No. 40,977. Moulding Machine. (*Machine de moulage.*)

Charles Lewis Goehring, Alleghany, Pennsylvania, assignee of Frank Henry Van Houten, Matteawan, New York, U. S. A., 12th November, 1892; 6 years.

Claim.—1st. In a wood planing or moulding machine, the combination with the main frame upon which the cutting devices are

mounted of an adjustable frame carrying the feeding devices. 2nd. In a wood planing or moulding machine, the combination, with the main frame upon which cutting devices are mounted, of a separate frame supporting the feeding devices so that said frame may be adjusted or removed without disturbing the adjustments of the feeding devices. 3rd. In a wood planing or moulding machine, the combination, with the main frame and cutting devices mounted thereon, of the frame carrying the feeding devices arranged with its inner or delivery end vertically adjustable with reference to the lower cutter on the main frame. 4th. In a wood planing or moulding machine, the combination, with the main frame and cutting mechanism, of the adjustable frame carrying the impelling and pressing devices. 5th. In a feeding mechanism for wood planing or moulding machines, the combination of the chain feed, sprocket wheels and reversing driving mechanism for said sprockets. 6th. In a feeding mechanism for planing or moulding machines, the combination with the main frame and the driving shaft for the feed devices of the adjustable frame carrying chain feed, presser rolls and sprocket wheels, with devices for connecting either sprocket wheel with the driving shaft, for reversing the direction of the feed movement. 7th. The combination, with a rotating cutter head arranged below the table and two presser bars or rollers, one in front and the other in rear of the cutter head, of a vertically adjustable table or support carrying the feeding devices and having its inner end standing beneath the front roller or presser bar and in proximity to the cutter head. 8th. The combination, with the rotating cutter head arranged beneath the table, of a laterally movable yielding roller mounted above the table. 9th. The vertically movable cross bar above the table and a frame or slide movable upon said bar and carrying a presser roll, in combination with the table and rotating cutter head. 10th. The vertically movable cross bar, supporting a frame or carriage movable longitudinally of said bar, and carrying two presser bars or rollers with yielding pressure devices therefor. 11th. In a planing or moulding machine, the combination, with the main frame and vertically adjustable feeder frame carrying the feeding mechanism, of the top dressing cutter, the bottom dressing cutter, and the two presser bars or rollers, the one arranged in rear of the bottom cutter and the other in front of said bottom cutter and co-operating with the adjustable feeder frame. 12th. The combination, with a machine, such as described, of the yielding adjustable guiding strip. 13th. The combination in a machine, such as described, of the shaft 79 for actuating the cams controlling the movements of the cutters, the main driving shaft 18, and the intermediate worm and interchangeable gear. 14th. In a machine, such as described, the combination, with shaft 79 controlling the cams, of a series of change gears 92, and a worm and worm wheel for driving said gears, all of said parts being located in the front portion of the frame, the main drive shaft 18 also located in the front of the frame, and the belts and counter shaft through which motion is transmitted from shaft 18 to the worm gear. 15th. The combination with the arbour of the oscillatory reciprocating cutter head, of the driving shaft 150 mounted in a vertically movable frame and supported upon the belt connecting the arbour and shaft. 16th. The combination with the oscillatory reciprocating cutter head and its arbour, and the driving shaft 150, of a movable frame supporting said shaft, and devices intermediate said frame, and mechanism for oscillating the cutter head, acting to raise and lower the driving shaft in unison with the oscillations of the cutter head. 17th. The combination with a laterally reciprocating slide or carriage, of an oscillatory arbour frame carrying an arbour and cutter, said arbour frame being vertically adjustable on the carriage, substantially as described. 18th. The combination of the laterally reciprocating slide or carriage, the vertically movable oscillatory arbour frame mounted on said slide or carriage, and a cam for controlling said vertical movement, substantially as described. 19th. The combination with the carriage or slide movable laterally on the cross piece above the table, of a telescopic support or frame for the cutter mounted upon the slide or carriage, substantially as described. 20th. The combination with the slide or carriage movable upon the cross piece, of a telescopic frame or support for the arbour and cutter, said frame being constructed in two sections mounted to oscillate in or on the slide or carriage, and movable longitudinally the one upon or with respect to the other. 21st. The combination of a slide-movable on ways above the table, devices for reciprocating said slide, a telescopic frame or support for the cutter mounted in or upon said slide, and devices for oscillating said telescopic frame, substantially as described. 22nd. In combination with the work support or table, an overhanging guide or cross bar, and a slide movable on said guide, of an oscillating arbour frame carrying an arbour and cutter head, said arbour frame being vertically adjustable on the slide and cams for affecting the lateral movements of the slide and oscillatory movement of the cutter, substantially as described. 23rd. The combination with the arbour frame, of a support or frame therefor made in two sections, the one carrying the arbour frame and the other provided with a segment, a rack co-operating with said segment, and a cam actuating said rack to oscillate the supporting frame carrying the arbour, substantially as described. 24th. The combination with a laterally movable slide provided with a vertical socket or bearing, of a post and sleeve constituting a telescopic support, the arbour connected to the post, a cam for oscillating the sleeve and an adjustable device, such as a screw operating upon the post to raise or lower the latter, substantially as described. 25th. The combination, with the slide having a vertical socket or bearing, of the arbour frame and its support, a segment connected to

said support, a spring for actuating the support in one direction, and a rack and cam for actuating it in the opposite direction, substantially as described. 26th. The combination, with the laterally reciprocating slide, of the telescopic support for the arbour frame, one section of said support being held in vertical bearings on the slide and adapted to be oscillated therein, and the other section carrying the arbour and cutter, a rack connected to said last named section, a gear operating thereon, a shaft to which the gear is splined, and cams for oscillating the arbour frame and rotating the shaft to raise and lower the cutter head, substantially as described. 27th. The combination, with a laterally movable slide carrying a telescopic support for the arbour frame, of a single shaft having three cams thereon, the one for reciprocating the slide, another for oscillating the arbour frame support, and the third for reciprocating one section of the arbour frame support, substantially as described. 28th. The combination, with the frame, the cross bar, the slide, a ratchet wheel on the cross bar, a locking pawl and a spring connected to the ratchet wheel and slide, of a cam for actuating the slide against the tension of the spring, substantially as described. 29th. The combination, with the post and sleeve forming a telescopic support for the arbour frame, of a bar swivelled to the spindle and an adjusting screw engaging said bar, substantially as described. 30th. The combination, with the shaft and the two cams adjustable thereon, of a block or disc arranged between said cams and having guides or interlocking projections on both sides to prevent independent movement of the cams save at right angles, substantially as described. 31st. In a machine such as described, the combination, with the work support and a frame or cross bar extending over said work support, of a slide or carriage supported to move on said frame or way laterally of the direction in which the material is fed or advanced, and a spindle or post mounted to oscillate in bearings formed in or upon said slide, and carrying at its lower end a rotating arbour provided with a cutter head in line with the spindle or post and between the latter and the material operated upon, substantially as described. 32nd. In combination with the endless travelling belt or chain, the two shafts having driving gears and sprockets engaging the chain, of a rotating shaft, the two gear wheels thereon, one for each sprocket shaft, and connections for simultaneously engaging one and disengaging the other gear wheel to reverse the direction of the chain, substantially as described. 33rd. The combination, with the chain or endless belt and the two shafts furnished with sprocket wheels, of a driving shaft and means for connecting the latter with either of the shafts carrying sprocket wheels, to reverse the direction of the feed movement, substantially as described. 34th. The combination, with the chain or endless travelling belt, the two sprocket wheels and their shafts, of the driving shaft provided with two gears mounted to reciprocate upon the shaft, bearings for said gears and connections for simultaneously shifting the gears, substantially as described. 35th. In a wood working machine, the combination, with the main driving shaft and a series of cutters driven directly therefrom, of the counter shaft belted to the main shaft, the worm shaft, the worm wheel, the carriage or slides movable laterally of the material operated upon and carrying the cutter heads, the pattern cams controlling the movements of said slides, feeding devices for the material, and gearing between said worm wheel and the feeding devices, substantially as described. 36th. Mounting the oscillatory reciprocating cutter head upon the end of a post, the latter being supported to oscillate on a laterally reciprocating slide or carriage. 37th. Forming the oscillatory reciprocating support for the arbour in two sections movable one upon or with respect to the other to elevate or lower the cutter, and both sections arranged to oscillate together upon a slide, substantially as described.

No. 40,978. Motor Truck. (Chassis de moteur.)

John A. Brill, Philadelphia, Pennsylvania, U.S.A., 12th November, 1892; 6 years.

Claim.—1st. A truck having wheels and running gear, a frame for the same, springs for supporting the frame on the running gear, side bearings secured to the truck frame, a truck centre bearing located approximately over an axle at one end of the truck the side bearings and centre bearing being arranged to precipitate the weight of the car directly upon the springs above said axle, substantially as described. 2nd. A truck having wheels and running gear, a frame for the same, side bearings secured to the truck frame, a truck centre bearing located approximately over the axle at one end of the truck, the side bearings and centre bearing being arranged to precipitate the weight of the car on the truck frame about the perpendicular axis of said axle, substantially as described. 3rd. A truck having wheels and running gear, a frame for the same, side bearings secured to the truck frame, a truck centre bearing located approximately over the axle at one end of the truck, the side bearings and centre bearing being arranged to precipitate the weight of the car on the truck frame about the perpendicular axis of said axle, and a rub plate on the end of the truck frame furthest removed from the centre bearing, substantially as described. 4th. The combination of a car body and a truck, the truck having wheels and running gear, a frame for the same, side bearings secured to the truck frame, co-acting bearings on the car body, a truck centre bearing located approximately over the axle at one end of the truck, a co-acting centre bearing on the car body, the car and truck side bearings and centre bearing being so disposed in relation to the said axle as to precipi-

tate the weight of the car on the truck frame about the perpendicular axis of said axle, substantially as described. 5th. The combination with a car and truck, the truck having wheels and running gear, a frame for the same, side bearings secured to the truck frame, a truck centre bearing located approximately over the axle at one end of the truck, a rub plate on the end of the truck frame furthest removed from the centre bearing, co-acting side bearings, centre bearing and rub plates on the car body, the truck and car side bearings and centre bearing being arranged to precipitate the weight of the car on the truck frame about the perpendicular axis of said axle, the rub plates being adapted to prevent that end of the truck frame being lifted by such preponderance, substantially as described. 6th. A truck having wheels and running gear, a frame for the same, a truck centre bearing located approximately over the axle at one end of the truck, the side bearings and centre bearing being arranged to precipitate the weight of the car on the truck frame about the perpendicular axis of said axle springs of different capacity for supporting the truck frame on the running gear, the springs of greater capacity supporting that part of the truck frame upon which the side bearings are secured, substantially as described. 7th. A truck having wheels and running gear, a frame for the same springs of different capacity for supporting the frame on the running gear, side bearings secured to the truck frame, the springs of greater capacity supporting that part of the truck frame to which the side bearings are secured, a truck bolster secured to the truck frame one member of which is disposed approximately over the wheel base centre of the truck, a centre bearing supported upon the truck bolster approximately over the axle at one end of the truck, the side bearings and centre bearing being arranged to precipitate the weight of the car on the truck frame about the perpendicular axis of the axle, substantially as described. 8th. A truck having wheels and running gear, a frame for the same, side bearings secured to the truck frame, a truck centre bearing located approximately over the axle at one end of the truck, a rub plate on the end of the frame opposite the centre bearing, a brace secured to the truck frame beneath the rub plate for supporting the same, the side bearings and centre bearing being arranged to precipitate the weight of the car on the truck frame about the perpendicular axis of said axle, substantially as described. 9th. A truck having wheels and running gear, a frame for the same springs of varying capacity for supporting the truck frame on the running gear, side bearings secured to the truck frame, a truck centre bearing located approximately over the axle at one end of the truck, a rub plate secured to the truck frame at the opposite end, a brace for supporting the truck frame on which the end rub plate is located, springs of greater capacity for supporting the truck frame over which the side bearings are located and springs of lesser capacity for supporting the end of the frame upon which the rub plate is located, the side bearings and centre bearing being arranged to precipitate the weight of the car on the truck frame about the perpendicular axis of the axle over which the centre bearing is located, substantially as described. 10th. A truck having wheels and running gear, a frame for the same, springs of varying capacity for supporting the truck frame on the running gear, side bearings on the truck frame, a truck bolster having a member thereof secured to the truck frame approximately over the wheel base centre of the truck, a truck centre bearing thereon set approximately over the axle at one end of the truck, a rub plate on the end of the truck frame opposite the centre bearing, a brace under the rub plate for supporting that end of the truck springs of greater carrying capacity between the side bearings and running gear springs of lesser capacity for supporting the end of the truck upon which the end rub plate is located the side bearings and centre bearing being arranged to precipitate the weight of the car on the truck frame about the perpendicular axis of the axle over which the centre bearing is located, substantially as described. 11th. A truck having a frame, running gear, wheels of varying diameter with accompanying axles supported in the running gear, side bearings secured to the truck frame over the axle of the larger wheels, a truck centre bearing located approximately over that axle, the side bearings and centre bearings being arranged to precipitate the weight of the car on the truck about the perpendicular axis of the axle of the large wheels, substantially as described. 12th. A truck having a frame, running gear, wheels of varying diameter with accompanying axles supported in the running gear, side bearings secured to the truck frame over the axle of the larger wheels, a truck centre bearing located approximately over that axle, a rub plate on the end of the truck frame in which the smaller wheels are located, the side bearings and centre bearing being arranged to precipitate the weight of the car on the truck frame about the perpendicular axis of said axle, the end rub plate being adapted to prevent the small wheels leaving the track, substantially as described. 13th. A truck having a frame, running gear, wheels of varying diameter with accompanying axles supported in the running gear, springs of varying capacity for supporting the frame on the running gear, side bearings secured to the truck frame over the axles of the larger wheels, springs of greater carrying capacity between the side bearings and the running gear, springs of lesser capacity for supporting the truck frame about the smaller wheels, the side bearings and centre bearing being arranged to precipitate the weight of the car body on the truck frame about the perpendicular axis of said axle, substantially as described. 14th. A truck, having a frame, wheels and running gear, pedestals and springs about the axle boxes, said rub plates for supporting the car body on the truck located over the axle box pedestals at one end of the truck, and a centre bearing supported on

the truck approximately over the axle at that end, substantially as described. 15th. A truck frame having axle box pedestals, a centre bearing located approximately over the axle at one end, and side bearings secured to the truck frame over the pedestals at that end, the centre of said side bearings being in line with the perpendicular axis over which said bearing is located, substantially as described. 16th. The combination with a truck, of a car body, the truck having a frame, wheels and running gear, pedestals and springs surrounding the axle boxes, side rub plates located over the axle box pedestals at one end of the truck, a centre bearing supported on the truck approximately over the axle at that end, coating rub plates secured to the car body, and a centre bearing on the car body adapted to coast with the truck centre bearing, the position of the car and truck and truck centre bearings, and side bearings being such as to preponderate the weight of the car on the axle over which the side bearings are located, substantially as described. 17th. A truck having a frame, wheels, axles and running gear for the same, and springs of varying capacity for supporting the truck frame on the running gear, the springs of greater carrying capacity supporting the truck frame at one end thereof, and springs of lesser carrying capacity supporting the frame at the opposite end thereof, substantially as described. 18th. A truck having wheels, axles and running gear, a frame for supporting the same, a truck centre bearing located approximately over one of the axles, springs for supporting the truck frame on the running gear, side bearings secured to the truck frame over the said axle, a rub plate secured to the end of the truck frame opposite to the centre bearing, and a brace for reinforcing the said frame under the rub plate, substantially as described. 19th. A truck having wheels, axles and running gear, a truck frame for carrying the running gear, springs for supporting the truck frame on the running gear, a truck bolster having a transverse member secured to the truck frame approximately over the wheel base centre of the truck, another member spanning one of the axles and secured to the truck frame, and a centre bearing on the bolster located approximately over said axle, substantially as described. 20th. A truck having wheels, axles and running gear, a truck frame, springs for supporting the truck frame on the running gear, a truck bolster secured to the truck frame having a longitudinal member spanning one of the axles, a transverse member secured upon the truck frame approximately over the wheel base centre thereof, a centre bearing on the bolster located approximately over said axle, and side bearings secured to the truck frame over the truck springs encompassed by the said bolster, substantially as described. 21st. A truck having wheels, axles and running gear, a truck frame, springs for supporting the truck frame on the running gear, and a truck bolster secured to said frame and spanning one of the axles of the truck, the said bolster having a transverse member extending from its point of attachment to the truck frame towards the said axle, and a centre bearing on the bolster located approximately over said axle, substantially as described. 22nd. A truck having wheels, axles and running gear, a truck frame, springs for supporting the truck frame on the running gear, a bolster secured to the truck frame and spanning the axle at one end thereof, said bolster having a transverse member secured to the truck frame approximately over the wheel base centre of the truck and arched therefrom towards said axle, and a centre bearing on the bolster approximately over said axle, substantially as described. 23rd. A truck having an upper chord and an added member secured thereto and made integral therewith, substantially as described. 24th. A truck having an upper chord and an added member made integral therewith, said added member following the outline of a portion of said upper chord, and adapted to strengthen said upper chord at its place of attachment thereto, substantially as described. 25th. An upper chord having longitudinal and transverse sections, the longitudinal sections being adapted to carry the running gear of the truck, and an added member secured to the transverse sections for the purpose of strengthening the same, substantially as described. 26th. A truck having an upper chord, an added member for strengthening the upper chord at its place of attachment thereto, and a brace secured to the added member and adapted to co-operate with said member to strengthen the upper chord at the point of attachment thereof, substantially as described. 27th. In a side bearing, the combination of a friction plate secured thereto, a reservoir for a lubricant, and means for conducting said lubricant to the surface of the friction plate, substantially as described. 28th. In a side bearing, the combination with the body of the bearing with an added friction plate secured thereto, an oil reservoir within the body thereof, a duct leading from the reservoir to the surface of the friction plate, and a conducting medium leading from said reservoir to the surface of said friction plate, substantially as described. 29th. In a truck, the combination with a truck frame, large wheels 1, axle 2, and axle boxes 5, at one end thereof, smaller wheels 3, axle 4, and axle boxes 6, at the other end thereof, axle box saddles 14, with ears 15, supported on the axle boxes 5, axle box 10, with ears 17, supported on the axle box 6, spring plates 12, secured to the upper chord of the frame over the axle of the large wheels, spring plates 10, secured to said upper chord over the axle of the smaller wheels, spring posts 18, secured to the truck frame and passing through the ears 15, of the saddle 14, spring posts 19, secured to the truck frame and passing through the ears 17, of the saddle 16, and springs of varying carrying capacity for supporting the truck frame on the saddles, the springs 43, between the saddle on the axle of the large wheels and the truck frame, being of greater

carrying capacity than the springs 48, between the saddle of the axle of the smaller wheels and the truck frame, substantially as described. 30th. The combination with the truck frame, of wheels and axles, axle boxes on the axles, saddles supported on the axle boxes, spring posts about one of the axles passing through the saddles and secured to the truck frame, springs surrounding the spring posts between the saddles and the frame, and side bearings secured to the truck frame over one of the said axles, substantially as described. 31st. The wheels 1, axle 2, axle boxes 5, on the axle 2, saddles 14, with ears 15, supported on the axle boxes, the upper chord of the truck frame, side bearings 63 on the upper chord of the truck frame, the centre of which is directly over the axle 2, spring posts 18 secured to the side bearings 63, passing through the upper chord and ears 15 of the axle box saddles 14, spring plates 12 secured to the upper chord, and springs 43, surrounding the spring posts 18, between the spring plate, and ears 15 of the saddles, substantially as described. 32nd. The combination with a truck having running gear, a frame, springs for supporting the frame on the running gear, pillars 28 between the upper and lower members of the truck frame, a truck bolster having a transverse member 59 secured to the upper chord of the frame between the pillars 28, and the longitudinal member 51, secured to the upper chord and to the transverse member 59, and a centre bearing 55 secured to the member 51, substantially as described. 33rd. The combination with the wheels and running gear, a truck frame, springs for supporting the truck frame on the running gear, and a truck bolster secured to the upper member of said frame and spanning one of the axles thereof, said bolster comprising the transverse member 59, arched inwardly and upwardly towards the said axle, substantially as described. 34th. A truck bolster comprising a longitudinal member 51, secured to the upper chord of the frame at one end, extending upwardly and spanning the axle, and secured upon the transverse member 59 at the other end, both members of the bolster forming an arch over one of the axles, and a centre bearing on said bolster approximately over said axle, substantially as described. 35th. The upper chord 9, having the added member 78 secured thereto, and a supplemental brace secured to the added member, said brace comprising the strut 83 and truss 80, substantially as described. 36th. The upper chord 9, the angle iron 78 secured to the chord and having the end sections 79 disposed at an angle thereto, the strut 83 having arms 84 secured to the angle iron 78, an eye 82 on the strut, and a truss 80 passing through said eye and secured to the end section 79 on the angle iron 78, substantially as described. 37th. In a side bearing, the well 65 therein, the slots 66, and central web 67 over the well, the friction plate 69 having the opening 70 over said slots and central web, and an oil conductor 71 of felt or like material extending from the well through the slots 66 and over the central web 67, substantially as described. 38th. The side bearings 63, having the oil well 65 in the body thereof, an outwardly extending lug 72, and duct 73 leading from the top of said lug downwardly into said well, substantially as described. 39th. The side bearings 63 having an enlarged central section 64, the oil well 65 in said central section, slots 66 over the well, a central web 67 between the slots, a boss 68 on the said enlarged section, and a friction plate 69, having the opening 70, above the slots 66 and web 67, seated within said boss, substantially as described. 40th. The side bearings having the central enlarged section 64, the end sections 75 of reduced thickness, countersinks 77 therein, and bolt holes 76 within the countersinks, substantially as described. 41st. The combination with the upper chord section 7 of the side bearings 63, bolt holes 76 therein, an outwardly extending lug 76 on the side bearings adapted to bear against the upper chord, and bolts for securing the side bearings to the upper chord, substantially as described. 42nd. The truck frame comprising the upper chord, the spring posts 18, 19, the lower chord 27 secured to the inner spring posts, the angle braces 31, 37, uniting the outer spring posts with the upper chord, the reversed arch trace 20 attached to the upper and lower chords between the inner spring posts, and the pillars 28 extending between the braces 20 and lower chord 27 and the upper chord, and the cross bars 35, 39, extending between the spring posts, substantially as described. 43rd. The bolster member 59 having the downwardly extending link 99 secured thereto, a brake rod 101 supported by said link, in combination with a braking system to which both ends of the rod 101 are secured, substantially as described.

No. 40,979. Combined Ledger and Sales Book and Billing Book. (*Grand-livre, livret de vente, etc., combinés.*)

James E. Depue, Oakland, California, U. S. A., 12th November, 1892; 6 years.

Claim.—1st. A combined ledger, sales book and billing book, consisting of a series of leaves B, each having a column or series of ruled ledger blanks or money columns on its one end, and a corresponding series of perforated separable and ruled account blanks on its other end or portion respectively opposite the ledger blanks or money columns, and a series of copying leaves or sheets C, bound up in successive order with the leaves B, substantially as specified, whereby separate personal ledgers, separate sales books, and separate billing books or bill heads are dispensed with and ready made bills are provided, as set forth. 2nd. The leaves B, each having a column or series of ruled ledger blanks or money columns *b* on its inner end and a corresponding series of account blanks or spaces *c* on its outer

end or portion, respectively, opposite the ledger blanks or money columns, and the copying leaves C, alternately arranged between leaves B, said account blanks *c* being separable from each other and from the ledger blanks or money columns by vertical and horizontal perforations, substantially as described. 3rd. The main or entry leaves or sheets B, each having a column or series of ruled blanks or money columns *b* on inner end, and a corresponding series of account blanks or spaces *c* on its outer end or portion, respectively, opposite the ledger blanks or money columns with copying leaves C, alternately arranged between the leaves B, each of said account blanks bearing a different number or letter made or printed thereon, and each account blank being separable from each other, and from the ledger blanks or money columns by vertical and horizontal rows of perforations *s*, *s'*, substantially as described.

No. 40,980. Scrubbing Machine. (Machine à nettoyer.)

Hector Prud'homme, Marinette, Wisconsin, U.S.A., 12th November, 1892; 6 years.

Claim.—1st. In a scrubbing machine, the combination with the frame, of the brush shaft vertically journaled therein and provided at its lower end with a series of radially recessed lugs, spring actuated brush arms pivotally secured in said lugs, brush clamps pivotally secured to the outer ends of said arms and adapted to removably engage the back of the brushes, and means for rotating said shaft, substantially as set forth. 2nd. In a scrubbing machine, the combination with the frame, of a V-shaped bracket depending from said frame, a vertical brush shaft journaled in said bracket and frame, and provided with an adjusting collar secured thereon above the bearing in the frame, and with radially extending lugs having squared recesses, brush and pivotally secured within said recesses, springs secured to said lugs and normally bearing on said arms, clamping plates pivotally secured to the outer ends of said arms and having opposite depending flanges adapted to removably engage the backs of the brushes, and means for rotating the shaft, substantially as set forth. 3rd. In a scrubbing machine, the combination with the frame, of a double T-headed casting secured to the top of said frame, a brush shaft journaled vertically in the tail of said casting and means for actuating said shaft journaled in and upon said heads of said casting, substantially as set forth. 4th. In a scrubbing machine, the combination with the frame, and the axle having a bevelled gear, of a double T-headed casting secured to the top of said frame, a brush shaft journaled vertically in the tail of said casting and provided with a pinion secured to the upper end of the same, a short stub shaft carrying bevelled gear at each end journaled in the outer end of said casting, a horizontal gear wheel and small bevel gear carried therebeneath located above the inner T-head and provided with opposite conical recesses, a transverse brace secured to the frame parallel with said inner T-head and directly over said gear wheel and bevelled gear, and pointed bearing screws passing from beneath said inner T-head and through said transverse bar and engaging said conical bearings, substantially as set forth. 5th. In a scrubbing machine, the combination with the brush, a brush shaft journaled in the front end of the same, and a water supply tank located at the rear end of the machine, of the operating handles secured to the upper ends of adjusting springs located on opposite sides of said tank and secured to said frame, said springs comprising a vertical portion, and semi-circular overlapping sections having elongated slots, and bolts engaging said slots and adjustably connecting said sections together, substantially as set forth. 6th. In a scrubbing machine, the combination with the frame, and a brush shaft vertically journaled at the front end of the same, of a water supply tank mounted upon the rear end of the frame and provided with nipples discharges, conducting tubes connected with said discharges, a perforated nipple encircling the brush shaft and connecting said tubes together, a transverse shaft journaled in the upper end of said tank and provided with valves adapted to close said discharges and with a crank arm, handles adjustably secured to opposite sides of the frame and a spring actuated operating rod secured to one of said handles and connected with said crank arm, substantially as set forth. 7th. In a scrubbing machine, the combination with the frame, and a vertical brush shaft in the front end of the same, of a pair of handles adjustably located at the rear end of the machine, a water supply tank mounted between the handles and provided with discharge openings, a transverse shaft journaled in said tank and provided with a crank arm, and a valve having the projecting plugs or teats adapted to fit said discharge openings, and a spring actuated operating rod slidingly mounted upon one of the handles and provided at one end with a series of engaging notches and loosely connected at the other end with the upper end of said crank arm, substantially as set forth. 8th. The combination with the revolving axle having ratchet teeth upon one end, of a sleeve or collar suitably secured over the notched end of said axle and provided with a transverse perforation therein, an inverted U-shaped leaf spring rigidly secured at one end to said collar, and a bevelled pawl, pin, or stop secured to the free end of said spring, projecting through the perforation in said collar, and adapted to engage the ratchet teeth in said axle, substantially as set forth.

No. 40,981. Rasp. (Râpe.)

Alfred Weed, Tarrytown, New York, U.S.A., 12th November, 1892; 6 years.

Claim.—1st. As a new article of manufacture a rasp provided with teeth having inclined forward faces 14 and upper forward edges 12,

12, coinciding with lines converging to a sharp point and approximating a conical form at the back, and with V-shaped recesses having straight inclined bottoms, substantially as set forth.

No. 40,982. Arc Lamp. (Lampe à arc.)

Addison Goodyear Waterhouse, Hartford, Connecticut, U.S.A., 12th November, 1892; 6 years.

Claim.—1st. An electric arc lamp frame, consisting of a cup-shaped top F, which will cover and partially surround the regulating mechanism, said top F having on its sides sockets F¹ for receiving the insulating arms F², which project from F and surround part of the arms F², also side bars F³, which are extensions from the sockets F¹, and unite at their lower end in forming the base F⁴, substantially as and for the purposes set forth. 2nd. In an electric arc lamp frame, the insulating cement B, into which the terminal plate A is imbedded, said cement having an annular recess around the carbon rod R and supported in its place by adhering to the inner surface of the lamp top F, substantially as and for the purposes set forth. 3rd. In an electric arc lamp, the insulating cement B, secured in its place by adhering to the inner surface of the cup-shaped top of the lamp frame, said cement having imbedded into it the terminal plate A and forming a central recess, through which the carbon rod can pass, and an annular wall which abuts upon the bead F⁵, and forms an insulating case between part of the regulating mechanism and the inner surface of the lamp frame, substantially as and for the purposes set forth. 4th. In an electric arc lamp, the combination of the lower part of a lamp frame having an annular recess, with a terminal shell P², consisting of a disc-shaped top adapted for receiving a lower carbon holder, the under surface of which is provided with an annular bead extending downward from its periphery, and the binding cement B³, which will form a hub extending above the base of the lamp frame to the under surface of the disc-shaped top of P², substantially as and for the purposes set forth. 5th. The combination with an electric arc lamp frame having a cup-shaped top, with sockets projecting from its sides for covering and receiving the insulators of the lamp terminals, and side bars which unite at their lower ends in forming the base of the lamp frame, a shield for inclosing that part of the regulating mechanism of the lamp which projects from the cup-shaped top of the lamp frame, said shield being provided with an internal insulating ring at its lower end which will form a closed joint between the shield and the mechanism, and having its upper end made so as to fit inside of the cup-shaped top of the lamp frame, substantially as and for the purpose set forth. 6th. An electric arc lamp having a globe holder formed semi-spherical, with a central shell for fitting around the tail tube or rod of a lamp frame, ribs *c*³, for the globe to rest on, bolt *c*, provided with bearings in the globe holder, and spring *c*², for sliding the bolt in, a hooked end *c*, made to cam on the outside of the globe holder, for drawing the bolt out, and a recess in the globe holder for holding the chain G³, substantially as and for the purpose set forth. 7th. In an electric arc lamp, a cage or frame, containing the regulating mechanism and electro magnets, in which is provided supports or bearings for the mechanical parts, and floors or positions for the electro magnets, which magnets when in place are secured by tubes which are slid through the cage and the magnet coils, thereby securing the coils in position, and providing guides for the movable armature in the coils, substantially as and for the purposes set forth. 8th. In an electric arc lamp, a cage or frame K, consisting of top 1, bottom 2, side bars 3 and 4, and floors 5 and 6, with holes bored in a straight line through the top and the upper floor, and the bottom and the lower floor, through which tubes *d*, are pressed, which extend through the frames and coil or coils placed between the top 1, and floor 5, and through the bottom 2, and floor 6, substantially as and for the purposes set forth. 9th. In an electric arc lamp, the cage or frame K, provided with extensions for the contact piece *a*, and lower bearings *a*, *g*, also having connected thereto the dash pot D, and insulating block I, said cage holding the armature rods *c* and *c*¹, confined in tubes *d*, which hold the magnet coils in place, while the armature yoke *c*², has room to work between the magnet floors 5 and 6, together with the carbon rod R, substantially as and for the purposes set forth. 10th. In an electric arc lamp, a contact piece connected to the lamp provided with hooks or eyes at each end for receiving holding screws; said piece being provided with semi-circular yoke at its centre, and contact brushes for surrounding the carbon rod, substantially as and for the purpose set forth. 11th. An automatic circuit controller consisting of a snap switch forming a path for the high resistance shunt circuit, said switch being operated by the extreme movement of the regulating armature, closing it under the action of the main circuit magnets, and opening it under the action of the shunt circuit magnets. 12th. In an electric arc lamp, an automatic shunt circuit breaker consisting of the swinging wire *w*, and roller *w*², actuated by the working armature through the lever L, and the spring *v*, and wire *u*, which form part of the shunt circuit, substantially as and for the purposes set forth. 13th. In an electric lamp, the combination, with the closed top tube of a lamp, with a carbon rod, having a loose plunger connected to its end by means of a lever adapted for converting the strain between the carbon rod and the plunger into a pressure or friction between said carbon rod and the inner surfaces of said tube, substantially as and for the purposes set forth. 14th. In an electric arc lamp, the combination, with the closed top tube T, and carbon rod R, of a head R³, firmly connected

to the carbon rod R, a plunger R¹ provided with a stem R², which loosely fits in the carbon rod, said plunger R¹, being connected to the carbon rod R, and head R³, by means of the cam lever R⁴, substantially as and for the purposes set forth. 15th. In an electric arc lamp, the combination of a closed top tube T, and carbon rod R, provided with a head adapted for guiding the top end of the rod R, in the centre of the tube T, and insulating the two from each other, said head being composed of a shank for screwing it to the carbon rod, a series of mica discs formed so as to fit the tube T, and a flexible asbestos packing clamped between the mica disc, and the head which is screwed to the rod R, the mica disc and asbestos packing, and the head being held together by a screw passing through the said disc and packing, substantially as and for the purposes set forth. 16th. In an electric arc lamp, a plunger connected to the carbon rod R, and made to fit in the top tube T, said plunger being formed of the head 1, flexible umbrella shaped asbestos packing H, mica or insulating disc and guide 2, and washer 3, and screw 4, substantially as and for the purposes set forth. 17th. In an electric arc lamp, the carbon rod provided with a plunger made to fit a closed top lamp tube T, having a packing in the bottom of said tube, which forms an air tight joint around said rod, constructed substantially as and for the purposes set forth. 18th. In an electric arc lamp, a plunger R¹, connected to the carbon rod R, by means of a sliding joint R², substantially as and for the purposes set forth. 19th. An electro magnet, composed of a coil conductor upon an insulating spool placed between two floors which are rigidly connected together, but far enough apart to receive the said spool, said floors being provided with holes which will correspond with the opening through the centre of said spool, in combination with a tube to be slid through said floors and spool adapted for keeping the spool in place, and also for receiving an iron magnet core or armature, as set forth.

No. 40,983. Meter for Electricity. (*Compteur électrique.*)

Addison Goodyear Waterhouse, Hartford, Connecticut, U. S. A., 12th November, 1892; 6 years.

Claim.—1st. The combination in an electrical meter of a vessel adapted to hold a fluid electrolyte, provided with electrodes, a gas collector placed over one or both of said electrodes; said collector being provided with a tube or gas passage leading from the upper interior of the gas collector, having the elements within itself for discharging the gas from the collector after a certain amount has been collected, substantially as and for the purposes set forth. 2nd. An electric meter, composed of an electrolytic jar, in combination with a gas collector having a tube leading from the upper interior of the collector and leading down to a lever near its bottom opening, when it opens outside of the collector, substantially as and for the purposes set forth. 3rd. The combination in an electrical meter, of a vessel adapted to hold a fluid electrolytic, a gas collector holding a certain quantity of gas, provided with an inverted siphon tube as a means for discharging the accumulated gas from the said collector, substantially as and for the purposes set forth. 4th. An electric meter consisting of an electrolytic jar, having the following instrumentalities: a gas collector for collecting the gas or gases arising from one or both of the electrodes, a U-shaped tube, by means of which the gas is discharged from the collector after it has accumulated so as to displace the fluid from one arm of the said tube, a recording mechanism actuated by a movement produced by the buoyancy of the accumulated gas or gases, corresponding to the periodical discharge of said gas or gases, substantially as and for the purposes set forth. 5th. In an electric meter, a gas collector C, in the form of an inverted cup submerged in a fluid, in combination with a tube T, for employing the difference between the specific gravity of gas and fluid to cause the gas to be expelled from the said gas collector, substantially as and for the purposes set forth. 6th. The combination in an electrical meter of a vessel, adapted to hold a fluid electrolyte, electrodes which form a passage for the current through said electrolyte, a gas collector adapted for collecting the gas arising from one or both of said electrodes, a gas passage or discharge tube leading from the upper interior of said gas collector, having the means of discharging the gas from the interior of said collector, after a certain amount has accumulated, a rod or connection extending from the said collector, and leading to a recording mechanism, provided with a rotating dial, adapted for indicating the times that the accumulation and discharge of gas has floated and sucked the said collector, and electrical connections leading to the said electrodes, which form a path around a resistance, adapted for carrying the current to be measured, substantially as and for the purposes set forth.

No. 40,984. Traction Motor. (*Moteur de traction.*)

James Stevens Baldwin, Newark, New Jersey, U.S.A., 14th November, 1892; 6 years.

Claim.—1st. In a traction motor system, the combination in a vehicle of a driving wheel, and framework with a revolving fly wheel arranged and adapted to actuate said driving wheel, and a vacuum casing for said fly wheel, substantially as and for the purposes set forth. 2nd. In a traction motor system, the combination in a vehicle of a driving wheel and framework, with a revolving fly wheel arranged and adapted to actuate said driving wheel, a vacuum casing and a self-adjustable support for said fly wheel

arranged and adapted to permit said fly wheel to freely maintain its plane of rotation irrespective of the varying position of said vehicle, substantially as and for the purpose set forth. 3rd. In a traction motor system, the combination in a vehicle of a driving wheel and framework, with a fly wheel arranged and adapted to revolve about substantially vertical axis, a self-adjusting hanger therefor, and a self-adjusting apparatus arranged and adapted to transmit power from said fly wheel to said driving wheel, substantially as and for the purposes set forth. 4th. In a traction motor system, the combination, in a vehicle, of a fly wheel, an extensible and flexible shaft connected therewith, a disc operated thereby, a plate or flange arranged and adapted to be rotated at different speeds by said disc, a driving wheel and a chain or equivalent connecting mechanism arranged and adapted for transmitting motion from said plate to said driving wheel, substantially as and for the purposes set forth. 5th. In a traction motor system, the combination, in a vehicle, of a driving wheel and framework, with a revolving fly wheel arranged and adapted to actuate said driving wheel, and a self-adjustable support for said fly wheel arranged and adapted to permit the same to freely maintain its plane of rotation irrespective of the varying position of said vehicle, substantially as and for the purposes set forth.

No. 40,985. Cash Register. (*Registre de monnaie.*)

Frederick Lincoln Fuller and George Howard Griswold, both of Waterbury, Connecticut, U.S.A., 14th November, 1892; 6 years.

Claim.—1st. In a cash register of the like, the combination with a plurality of peripherally toothed actuating segments, each having thereon a series of handles whereby it may be moved about its centre, of a series of indicating wheels, engaged and turned in both directions by said segments, and a totalizing register train operated upward only, as the number thereon by the indicating wheels, substantially as described. 2nd. In a cash register or like machine, the combination with a plurality of pivoted and partially rotatable segments having peripheral actuating teeth, of operating handles secured upon and adapted to move with said segments, a series of indicating wheels each engaged and operated in both directions by one of the segments, and a totalizing register train whose members are operated upward only, numerically, by the indicating wheels, substantially as set forth. 3rd. The combination in a cash register or the like, with the pivoted and peripherally toothed segments, each having upon one edge thereof a series of operating handles affixed thereto and carried thereby, of the indicating wheels operated both forward and backward by said segments, the totalizing register train operated upward, numerically, from the indicating wheels, and means as described, for the transfer of the revolutions of each wheel of the totalizing register to that numerically next above it, substantially as set forth. 4th. In a cash register or the like, the combination with the toothed and pivoted segments, of the sectorally arranged and equidistantly spaced handles secured thereon, and whereby the segments may be operated, the indicating wheels driven in both directions by the toothed edges of the segments, the totalizing register wheels operated from the indicating wheel and a series of springs, one engaging each segment, and adapted to return said segments and the indicating wheels to their zero position after the total has been registered, substantially as described. 5th. In a cash register or similar machine, the combination with the pivoted segments, each provided with peripheral driving teeth, of a series of locking teeth independent of the driving teeth and arranged sectorally upon the segments, and a series of clocks adapted to engage said locking teeth and thereby hold the segments at any predetermined position, as against the action of the returning springs, substantially as set forth. 6th. In a cash register or similar machine, the combination with the toothed and pivoted operating segments, and indicating mechanism, of a series of locking detents, each of said detents adapted to engage with two of said segments. 7th. In a cash register or similar machine, the combination with the indicating and registering mechanism, of a series of operating segments, engaging and adapted to actuate the indicating mechanism, said segments being pivotally supported inside the case, and having sectoral portions provided with handles projecting outward through said case, substantially as described. 8th. In a cash register, the combination with the indicating and registering mechanism, of the segments having peripherally arranged operating teeth engaging and adapted to actuate the indicating mechanism, having also sectorally arranged and equidistantly placed operating handles accessible from without the case, and furthermore provided with sectorally arranged locking teeth adapted to be engaged and held by suitable retaining detents, substantially as specified. 9th. The combination in a machine of the character described, with the operating segments, and the temporary indicating wheels actuated thereby in both directions, of the totalizing wheels operated in one direction only by the indicating wheels and a gear and transfer pinion arranged upon a separate shaft and actuated by the totalizing wheels, said pinion adapted at each revolution of its totalizing wheel to transfer said revolution to the next higher totalizing wheel, in the form of one step upon the latter, substantially as set forth. 10th. In a cash register, the combination with the indicating and registering mechanism, of the operating segments having the peripherally arranged teeth engaging and adapted to drive the indicating wheels in both directions, the handles secured upon and movable with the segments, and locking teeth independent of

the peripheral driving teeth, and suitable locking detents for engaging said teeth, substantially as set forth. 11th. In a cash register or similar machine, the combination with the pivoted and peripherally toothed operating segments, and the handles stationary upon, but movable with said segments, of the indicating wheels operated in both directions by said segments, the totalizing devices operated upward only by said indicating wheels, and the series of gears and one toothed pinions arranged upon a separate shaft, the gears driven by the register wheels, and each pinion adapted at each revolution of its registry wheel, to transfer said revolution to the next higher registry wheel, as one step in the rotation of the latter, substantially as set forth. 12th. In a machine of the character described, the combination with the toothed and pivoted operating segments, of the indicating wheels driven thereby in both directions, the totalizing register wheels axially aligned with and driven by said indicating wheels in one direction, a series of gears arranged behind, and operated one by each register wheel, and one toothed pinions carried by said gears, and each engaging and adapted to turn the register wheel of the next higher train one step for each complete revolution of the pinion, substantially as specified. 13th. In a machine of the character described, the combination with the indicating and recording mechanism, of the segments having the peripheral driving teeth, having also the equidistantly arranged operating handles fast thereon and moving therewith, having also the locking teeth independent of the driving teeth and arranged one for each of the handles, and locking clicks, adapted to engage said teeth, substantially as set forth. 14th. In a machine of the character described, the combination with the indicating and recording mechanism, of the peripherally toothed segments engaging and adapted to drive said mechanism, handles secured upon said segments and accessible from without the case, a series of locking teeth equal in number to the handles and concentric with the arc in which said handles are disposed, and locking clicks under control of the money drawer, and which are normally within the line of the locking teeth, substantially as specified. 15th. In a machine of the character described, the combination with the toothed operating segments and the mechanism operated thereby, of a shaft whereon all of said segments are journaled, coiled springs, each having one end attached to one of the segments and the other to a fixed point, the sectoral rows of locking teeth one upon each of the segments and the pivoted detents engaging said locking teeth, substantially as set forth. 16th. In a machine of the character described, the combination with the peripherally toothed operating segments, of the indicating wheels driven thereby in both directions, the register wheels axially aligned with said indicating wheels, the ratchet carried by the register wheels, the pawls carried by the indicating wheels and adapted upon the forward movement of the latter to turn the register wheels, and a transfer mechanism substantially as described, whereby at each full revolution of each register wheel of the next higher series is advanced one step, substantially as specified. 17th. The combination in a machine of the character described, with the operating segments having peripheral driving teeth, of the indicating wheels engaged and driven by said segments in both directions, the register wheels axially aligned with said indicating wheels, a ratchet and gear arranged against and carried by each register wheel, a pawl upon each indicating wheel engaging said ratchet, an independently journaled gear meshing with the gear carried by the register wheel and a one toothed pinion carried by each of such independently journaled gears, and engaging one at each revolution with the gear on the next higher register wheel, substantially as set forth. 18th. In a cash register and indicator, the combination with the indicating and registering devices, of the segments, a double set of locking teeth upon each segment and detents adapted to engage both sets of said teeth, substantially as set forth. 19th. In a cash register and indicator, the combination with the segments and the mechanism operated thereby, of a double set of locking teeth secured upon each segment, the teeth of said sets being inclined in opposite directions, and detents adapted to take into said teeth and thereby hold the segments as against movement in either direction, substantially as set forth. 20th. The combination with the segments and the mechanism operated thereby, of the sets of teeth inclined in opposite directions, and secured to said segments, the detents inclined relative to the face line of the locking teeth, means for carrying said detents inward into partial engagement with said teeth, and additional means for driving them into full engagement as to both ends, substantially as set forth. 21st. The combination in a machine of the character described, with the segments, and the mechanism operated thereby, of the double sets of locking teeth inclined in opposite directions secured upon said segments, the transverse shaft parallel with the locking teeth, the spring actuated detents carried and controlled by the shaft, and means operated from the money drawer whereby the axial position of the detent shaft is controlled, substantially as specified. 22nd. In a machine of the character described, the combination with the segments provided with operating handles and the mechanism operated thereby, of a key adjacent to said segments and in the path of the hand operating them or either of them, and locking mechanism controlled by said key and adapted upon the depression thereof to lock the mechanism of the machine, substantially as specified. 23rd. In a machine of the character described, the combination with the segments and the mechanism thereby operated, of the transversely extended key adjacent and common to all the segments, levers projecting inwardly from said key, and a lock-

ing element adjacent to one or more gears of the machine, and adapted to be thrown into or out of engagement therewith according as the key is in its depressed or normal position, substantially as specified. 24th. In a machine of the character described, the combination with the segments and the mechanism operated thereby, of the transversely extended key adapted to be engaged and depressed by the fingers of the operator, the levers extending backward from said key, the stop strip adjacent to the gears 9, and a suitable connection between the levers and the strip for the operation of the latter by the former, substantially as described. 25th. In a machine of the character described, the combination with the segments and the mechanism thereby operated, of locking teeth upon said segments, the detents arranged adjacent to the locking teeth, a lever arm connected to and adapted to control the position of the detents, and a switch carried by the drawer and engaging the lever arm, whereby the lever arm is operated, substantially as set forth. 26th. In a machine of the character described, the combination with the segments, the detents and the lever arm, of a pivoted switch secured to the drawer and adapted to govern the position of the arm and detents during the opening and closing of the drawer, substantially as specified. 27th. In a machine of the character described, the combination with the indicating and recording mechanism, and the segments for operating the same, of the detents, the lever arm whereby the position of said detents is controlled, the strip upon the drawer upon which the lower end of the lever arm bears, and the eccentrically pivoted switch block secured upon the drawer adapted to vary the position of the lever arm, substantially as specified. 28th. In a machine of the character described, the combination with the segments each provided with an offset in its periphery, of a rock shaft having connected thereto rollers engaging the peripheries of the several segments, and a latch taking into the drawer and adapted to be withdrawn by the downward movement of either of the segments, substantially as specified. 29th. The combination with the segments, each provided with an offset in its periphery, of a series of rollers operating together and engaging said segments, a rock shaft whose position is determined by the relation of the rollers to the segments or either of them, and a lock operated by the rock shaft, substantially as and for the purpose specified.

No. 40,986. Method of Producing Electric Refrigeration. (*Méthode de réfrigération électrique.*)

Mark Wesley Dewey, Syracuse, New York, U. S. A., 14th November, 1892; 6 years.

Claim. 1st. The method of electric cooling or freezing, consisting in establishing an electric circuit having one or more parts adapted to be cooled by the current, subjecting a medium to the cooling effect of said part or parts, and circulating or distributing the said medium through a conduit or pipe leading to or through a locality to be cooled. 2nd. The method of electric cooling or freezing, consisting in establishing an electric circuit having one or more parts adapted to be cooled by the current, subjecting an uncongealable medium to the cooling effect of said part or parts, and circulating the said medium in a conduit or pipe leading to or through a locality to be cooled. 3rd. The method of electric cooling or freezing, consisting in establishing an electric circuit having one or more parts adapted to be cooled by the current, subjecting an uncongealable medium to the cooling effect of said part or parts, and simultaneously circulating the said medium in a conduit or pipe leading to or through a locality to be cooled. 4th. The method of electric cooling or freezing, consisting in establishing an electric circuit having one or more parts adapted to be cooled by the current, subjecting an uncongealable medium to the cooling effect of said part or parts, and circulating the said medium in a conduit or pipe leading from and to the reservoir and through the locality whereat the temperature is to be changed. 5th. The method of electric cooling or freezing, consisting in establishing an electric circuit having one or more parts adapted to be cooled by the current, subjecting an uncongealable medium contained in the receptacle or reservoir to the cooling effect of said part or parts, and circulating the said medium in a conduit or pipe leading from and to the reservoir and through the locality whereat the temperature is to be changed. 6th. The method of electric cooling or freezing, consisting in establishing an electric circuit having one or more parts adapted to be cooled by the current, subjecting an uncongealable medium contained in a non-heat conducting receptacle or reservoir to the cooling effect of said part or parts, and circulating the said medium in a conduit or pipe leading from and to the reservoir and through the locality whereat the temperature is to be changed. 7th. The method of electric cooling or freezing, consisting in establishing an electric circuit having one or more parts adapted to be cooled by the current, subjecting an uncongealable liquid contained in a receptacle or reservoir to the cooling effect of said part or parts, and circulating the said liquid in a conduit or pipe leading from and to the reservoir and through the locality whereat the temperature is to be changed. 8th. The method of electric cooling or freezing, consisting in establishing an electric circuit having one or more parts adapted to be cooled by the current, subjecting an uncongealable medium to the cooling effect of said part or parts, and circulating the said medium in a conduit or pipe leading to or through a receptacle or room containing humid air to be cooled. 9th. The method of electric cooling or freezing, consisting in establishing an electric circuit having one or more parts adapted to

method of electric cooling or freezing, consisting in establishing an electric circuit, having one or more parts adapted to be cooled and one or more parts adapted to be heated by the electric current, locating the part or parts adapted to be cooled in proximity to a receptacle to be cooled, inclosing the said receptacle and cooled part or parts in an envelope of non-heat conducting material and diffusing, dissipating, or conducting the heat from the heated part or parts of the circuit. 32nd. The method of electric cooling or freezing, consisting in establishing an electric circuit, having one or more parts adapted to be cooled and one or more parts adapted to be heated by the electric current, locating the part or parts adapted to be cooled in proximity to a receptacle to be cooled, inclosing the said receptacle and cooled part or parts in a suitable inclosure, and diffusing, dissipating, or conducting the heat from the heated part or parts of the circuit. 33rd. The method of electric cooling or freezing, consisting in establishing an electric circuit, having one or more parts adapted to be cooled, and locating said part or parts in proximity to a receptacle to cool the same. 34th. The method of electrically changing temperature, consisting in subjecting a medium to a changing effect, produced by a current in one or more parts of an electric circuit, and circulating said medium through a conduit or pipe leading to a locality whereat the temperature is to be changed. 35th. The method of electrically changing temperature, consisting in subjecting a medium to a changing effect produced by a continuous current in one or more parts of an electric circuit, and circulating said medium through a conduit or pipe leading to and from a locality whereat the temperature is to be changed. 36th. The method of electrically changing temperature, consisting in subjecting a medium to a changing effect produced by a current in one or more parts of an electric circuit, and simultaneously therewith circulating said medium through a conduit or pipe leading to and from a locality whereat the temperature is to be changed. 37th. The method of producing a change of temperature electrically, consisting in subjecting a medium contained in a receptacle or reservoir to a changing effect of a current in one or more parts of an electric circuit, and simultaneously therewith circulating said medium through a conduit or pipe leading from and to the reservoir and through the locality whereat the temperature is to be changed. 38th. The method of producing a change of temperature electrically consisting in subjecting a medium contained in a non-heat conducting receptacle or reservoir to a changing effect of a current in one or more parts of an electric circuit, and simultaneously therewith circulating said medium through a conduit or pipe leading from and to the reservoir and through the locality whereat the temperature is to be changed. 39th. The method of producing a change of temperature electrically consisting in subjecting a liquid contained in a receptacle or reservoir to a changing effect of a current in one or more parts of an electric circuit, and simultaneously therewith circulating said liquid through a conduit or pipe leading from and to the reservoir, and through the locality wherein the temperature is to be changed. 40th. The method of cooling or freezing, consisting in removing heat from a medium by or through the convection or conduction of heat produced by electricity, and circulating or passing said medium through a locality to be cooled. 41st. The method of cooling or freezing, consisting in removing heat from an uncoagulable medium by or through the convection or conduction of heat produced by electricity and circulating or passing said medium through a locality to be cooled. 42nd. The method of electrically changing temperature, consisting in removing heat from or disengaging heat in a medium by or through the convection or conduction of heat produced by an electric current or currents, and circulating or passing said medium through a locality wherein the temperature is to be changed.

No. 40,987. Animal Trap. (*Piège.*)

Martin S. Miller, Pittsburg, Pennsylvania, U. S. A., 14th November, 1892; 6 years.

Claim—1st. In an animal trap, substantially as described, the combination of a shaft having a series of arms which are arranged in a vertical position when the shaft is at rest, another shaft having a series of arms which lie in a horizontal position, and at right angles to the arms on the other shaft, a common driving mechanism geared to both shafts to simultaneously rotate the same, and a trip mechanism for controlling the driving mechanism and arresting the shafts when they have each made one complete revolution, as and for the purpose described. 2nd. In an animal trap, the combination of the parallel shafts each having a series of arms which are arranged, substantially as described, a common driving mechanism geared to both shafts, a trip plate having a crank arm, a sliding notched bar adapted to be lifted by said crank arm, a pivoted detent which engages the arms on one shaft, and operates to arrest the motion thereof and of the other shaft, and a spring for impelling the notched bar in the direction to release the detent from the arms as the trip plate is depressed, substantially as described. 3rd. In an animal trap, the combination of a shaft having a series of arms which are arranged in a vertical position when the shaft is at rest, another shaft having its arms arranged when the shaft is at rest in a horizontal position, and at right angles to the arms on the first mentioned shaft, said arms being arranged out of line with each other, a spring controlled driving wheel geared to both shafts for simultaneously rotating the same in opposite directions, a pivoted detent or flap which engages the arms on one shaft, an endwise

movable notched bar linked to said detent or flap, and a pivoted trip plate having an arm which impinges against the bar to raise the latter as the trip plate is depressed, as and for the purpose described.

No. 40,988. Machine for Making Matches.

(*Machine pour la fabrication des allumettes.*)

Augustus E. Ellinwood, Akron, Ohio, U.S.A., 15th November, 1892; 18 years.

Claim—1st. In a match making machine, the receiver for the match splints, the inclined elevator table or surface forming one side of the receptacle and extending upwardly, combined with an elevator carrier belt at each side thereof, provided with carrier bars which are at alternate distances apart, and in their passage through the receptacle and over the table carry the match splints upwardly in regular order and deliver the same to the match machine. 2nd. The carrier table C, provided with grooves d^1 , d^2 , for the passage of the chain beneath its surface, combined with the carrier bar d , operating substantially as set forth. 3rd. The automatic carrier, combined with the chute or passage way supplying the machine with match splints, and the self-regulating driving pulley G^1 to secure a constant supply of splints to the machine, operating substantially as set forth and described. 4th. In a match making machine, the receiver for the match splints, and the elevator carrier, combined with the automatic clutch or driving mechanism to regulate the movements of the carrier, substantially as shown and described. 5th. In a match making machine, the receiver for the match splints, and the elevator carrier, combined with the automatic clutch or driving mechanism, and the chute or passageway D, operating substantially as shown and described. 6th. In combination with the elevator carrier supplying the machine with match splints, its driving pulley G^1 , the friction clutch g^2 , and the adjustable spring and pressure regulating nut g^4 , for the purpose of adjusting the pressure or force of the friction clutch. 7th. In a match making machine, the combination of the feeding device and the chute or passageway D, guiding the match splints to the separating device, which delivers the same to the continuous moving transfer belts or carriers operating in connection with the match holding flutes of the cylinders of the main machine. 8th. In a match making machine, the combination of the fluted carrying cylinders for positively holding and carrying the splint and preventing its contact with the lower carrying wire or belt, which moves in a groove beneath the surface of the cylinder and the match holding flute. 9th. In a match making machine, the fluted cylinders for positively holding and carrying the splint and preventing its contact, while on the cylinder, with the lower carrying wire or belt which moves in a groove beneath the surface of the cylinder and the match holding flute, combined with the outer pressure wire, said wires or endless carrying belts J and J^1 serving to transfer the splint alternately to the grooves of the successive rollers or cylinders, which causes the onward moving of the splints in positive relations to each other while passing through the machine in the process of drying. 10th. In a match making machine, the splint receptacle B, the inclined elevator table C and its automatic carrier, the chute or passageway D, the elastic splint separating device, the fluted cylinders and their endless carrying belts J and J^1 , the paraffine reservoir K, its wheels k^1 , k^2 , for saturating the ends of the splint, the wax reservoir L, and its wax distributing wheels l^1 , l^2 , revolving against the ends of the splint during the continuous movement of the match by means of the mechanism, operating substantially as shown and described. 11th. In a match making machine, the combination of the heating reservoir L, the vibrating wax receptacle, provided with its agitating arm h^2 , its actuating eccentric h for reciprocating the receptacle and keeping the wax in a pliable condition, and the immersed wax applying roller, operating substantially as shown and described.

No. 40,989. Handle for Pumps.

(*Brinbale de pompe.*)

Charles A. Sellon, Pipe, New York, U.S.A., 15th November, 1892; 6 years.

Claim—1st. In a pump handle, the combination with the pump rod and an adjacent bearing standard, of an adjustable pump handle terminating in a sector head connected to said pump rod, and a circumferentially adjustable link connected with said quadrant and said bearing standard, substantially as set forth. 2nd. In a pump handle, the combination with the pump rod and an adjacent bearing standard, of an adjustable pump handle terminating in the sector head, connected at one end of the arc to said pump rod, and a link pivoted to the centre of the quadrant and circumferentially adjustable over the arc thereof and pivotally connected with said standard, substantially as set forth. 3rd. In a pump handle, the combination with the pump rod, of an adjacent bearing standard pivoted at its lower end and terminating in an upper bifurcated end, an adjustable pump handle terminating in a quadrant head, working in said bifurcated standard end, said head being connected at one end of the arc to said pump rod and provided with a series of perforations in the arc thereof, a link pivoted to the centre of the quadrant and circumferentially adjustable over the arc, an adjusting pin engaging the outer end of the link in any one of the series of perforations, and a pivot bolt passing through the bifurcated end of said standard and the circumferentially adjustable link, substantially as set forth.

No. 40,990. Process for Embellishing Wood.*(Procédé pour embellir le bois.)*

Silas Marion Land and Samuel Albert Van Buskirk, both of Fort Scott, Kansas, U.S.A., 15th November, 1892; 6 years.

Claim.—1st. The process of embellishing wood, which consists in embossing the same with a heated die, planing off the surface of the wood so as to remove the discoloration from the more prominent portions, and finally smoothing out the remaining elevations so as to reduce them to the level of the depressions, but without cutting away any of the discoloured surfaces, substantially as set forth. 2nd. The process of embellishing wood, which consists in embossing the same with a heated die, planing off the surface of the wood so as to remove the discoloration from the more prominent portions, and finally rubbing the surface under the influence of heat until the remaining elevations are reduced to the level of the depressions and the whole surface is burnished, substantially as set forth. 3rd. The process of embellishing wood, which consists in first passing the wood under a heated die and forming a design in cameo therein, which is made darker than the other parts of the wood under the influence of the heat, then cutting away the raised portions of the wood, leaving the reduced parts lighter, and finally passing the wood under the heated burnisher, substantially as set forth.

No. 40,991. Arm Rest for Telephones.*(Appui-bras pour téléphones.)*

The Woonsocket Edge Tool Company, assignees of Joseph R. Bailey and Levi C. Lincoln, all of Woonsocket, Rhode Island, U.S.A., 15th November, 1892; 6 years.

Claim.—1st. In an arm support for telephone operators, the combination with a shouldered rod, of a vertically movable bracket journalled thereon and carrying a ratchet lever adapted to engage the shoulders of the rod, and a suitable rest secured to the bracket, substantially as specified. 2nd. In an arm rest for telephone operators, the combination with a fixed rod having shoulders, each of which is of a circular form in cross section and is tapered externally from its top down to the top of the next succeeding shoulder below, of a bracket journalled on the said rod, a spring pressed ratchet lever carried by the bracket, and having the inner bevelled end *e* adapted to engage the shoulders of the rod, and a suitable rest secured to the bracket, substantially as and for the purpose set forth. 3rd. The improved arm rest for telephone operators, consisting essentially of the plate having the vertically disposed lug, eyes at opposite ends, the shouldered rod bearing in said eyes, the bracket journalled on said rod and having a stop as described, the ratchet lever journalled in the bracket, and the spring bearing upon said lever, the bar pivoted to the bracket and adapted to engage the stop at one end, the extensible bar arranged to slide on said pivoted bar, and the arm rest or socket journalled at the outer end of the extensible bar, substantially as specified.

40,992. Disc Water Meter. (Compteur à eau.)

The Thomson Meter Company of New York, assignees of John Thomson and Frank Lambert, Brooklyn, all in the State of New York, U.S.A., 15th November, 1892; 6 years.

Claim.—1st. In a disc water meter, a disc casing arranged within an outer casing, the latter having two spuds, one communicating with the space around the disc casing, and the other with the outlet of the disc casing, substantially as set forth. 2nd. A water meter provided with a disc casing and a surrounding outer casing, with an intervening chamber communicating with the inlet spud, the disc casing having an outlet port communicating with the outlet spud of the outer casing, substantially as set forth. 3rd. The combination in a water meter, of an outer casing provided with an outlet spud, having a port extending to an internal flat face, and a disc casing having a flat face adapted to coincide with that of the outer casing, and an outlet port arranged to coincide with that of the outer casing, substantially as set forth. 4th. The combination in a water meter, of an outer casing having a seat for a disc casing, and said disc casing confined to the said seat with a surrounding space communicating with the inlet spud of the outer casing, substantially as described. 5th. In a disc water meter, the combination with the outer casing of the disc casing wholly inclosed by the outer casing seated therein and detachable therefrom, the outlet spud communicating with the face surrounding the disc casing, and the outlet spud communicating with a port at the bottom side of said disc casing, substantially as set forth. 6th. In a disc water meter, the combination of an outer casing in two separable sections and a disc casing seated between and inclosed within said casing and inlet and outlet spuds in one section of the outer casing, one of said spuds communicating with the space surrounding the exterior of the disc casing and the other with the port at the bottom of the disc casing, substantially as set forth. 7th. In a disc water meter, the combination with the disc and its casing, of an outlet port arranged to discharge downwardly and outside of the area of action of the disc, substantially as specified. 8th. In a disc water meter, an inner disc casing and an outer inclosing casing constructed to leave an intervening chamber, and series of narrow slits forming communications between the inlet of the outer casing and the inlet port of the disc casing, substantially as described. 9th. In a disc water meter, in which the disc and its casing are contained within

a separate outer casing, the combination with the inlet port of the disc casing, of a series of ribs arranged to form a series of narrow slits communicating between the inlet of the outer casing and the spaces leading to the inlet port of the disc casing, for the purpose set forth. 10th. In a disc water meter, in which the disc and its casing are seated in the lower section of the outer casing, the combination of the guiding points 29, of the upper casing with the flange 27, of the disc casing, for the purpose set forth. 11th. In a disc water meter, the combination, with the disc casing of a movable diaphragm and a securing device, constructed to draw the edges of the diaphragm against the inclined edge of the casing, substantially as set forth. 12th. In a disc water meter, the combination, with the disc casing and diaphragm of the stud, pivotally connected to the diaphragm to project through the chamber and be secured thereto by securing means, for the purpose specified. 13th. In a disc water meter, in which the disc and its casing are contained within a separate outer casing, the combination of the disc casing, disc and disc spindle with a bearing extending inwardly from the outer casing upon which is mounted a crank block adapted to receive the disc spindle, for the purpose of controlling the action of the disc and to transmit its motion to the register. 14th. The combination, with the outer casing and the disc casing contained therein, of the cup having a closed chamber containing a system of differential gearing, provided with a crank block adapted to control and transmit the motion of the disc, and with a stuffing box and register seat all connected together, and adapted to be attached from the outside of the casing, substantially as specified. 15th. In a disc water meter, the combination, with the disc and its casing, of the cup to which is directly connected the crank block, the eccentric and differential gearing driven thereby, the stuffing box spindle, cap nut and stuffing box, substantially as specified. 16th. In a disc water meter, the combination in the differential gear train, substantially such as described, of the following elements, the non-metallic crank block mounted upon a metallic journal and freely connected, as by the pin 37, to the non-metallic gear shaft mounted in a metallic bearing, the non-metallic internal gears secured together, and having a metallic bushing to bear upon the eccentric, the metallic fixed and driven external gears meshing with the teeth of the internal gears, and the metal stuffing box spindle fast to the driven gear and having a bearing, in the eccentric and shaft, substantially as and for the purpose set forth. 17th. In a water meter, the combination, with the cup, gear chamber, differential gearing and spindle, of the inclosing cap containing the stuffing box and stuffing box nut, substantially as described. 18th. The combination, in a disc water meter, of a casing, disc and central ball, the disc tapering toward the edge, substantially as described. 19th. A disc for disc water meters, provided with a central ball reduced in thickness at the edge, substantially as described. 20th. A disc for disc water meters, composed of hard rubber and an interposed plate or web of steel. 21st. A disc for disc water meters, composed of hard rubber and an interposed metal plate, the plate being of lesser diameter than the rubber. 22nd. A disc for disc water meters, composed of hard rubber and an interposed metal plate, the plate being perforated, for the purpose of uniting the sheets of rubber to each other and to the plate. 23rd. In a disc water meter, a disc performed by the combination of two hollow metal plates with cork interposed therein, for the purpose specified.

No. 40,993. Holdback. (Ragot de limonière.)

Anna L. Logan, assignee of John L. Logan, La Grange, New York, U.S.A., 15th November, 1892; 6 years.

Claim.—In a device of the character described, in combination, a base plate provided with a forwardly extending hook, a spring plate having its free end within the hook, and at a point near its end, being bent at an angle to the body of the plate, and a holdback look or casting adapted to engage the hook, and having an angular recess to engage the angle of the spring plate, substantially as described.

No. 40,994. Jack. (Cric.)

Hiram J. Garbutt and George Smith, both of Lexington, Michigan, U.S.A., 15th November, 1892; 6 years.

Claim.—1st. In a device of the class described, the combination, with the truck comprising the opposite sills, the transverse rods mounted on the sills, the longitudinal bar adjustably connected with the rods, and a bearing sleeve adjustably mounted on the bar, of a counter shaft stepped in the bearing of the sleeve and adjustable connections between the truck or frame and the upper end of the counter shaft, substantially as specified. 2nd. In a device of the class described, the combination, with the opposite side bars, the round rods mounted thereon and rigidly connected thereto, the longitudinal bar rectangular in cross section, staples embracing the rods and passed through the bars, nuts on the staples, a rectangular sleeve mounted for movement on the bar and provided at one side with a binding screw and upon its upper side with a tenon, a collar mounted on the tenon, a pin passed through the collar and tenon, a counter shaft mounted in the collar, a pin passed through the collar and the lower end of the shaft, and pulleys mounted on the shaft, of means for supporting the shaft, substantially as specified.

No. 40,995. Steam Boiler Furnace and Furnace Grate. (*Grille et foyer de chaudière à vapeur.*)

The Wilkinson Manufacturing Company, Philadelphia, assignees of Alfred Wilkinson, Bridgeport, all of Pennsylvania, U.S.A., 15th November, 1892; 6 years.

Claim.—1st. The within described grate for furnaces, said grate consisting of hollow inclined bars, each of which has a series of tuyere openings in the inclined fuel supporting face of the bar, and means for supplying air to said hollow grate bars, substantially as specified. 2nd. The within described grate for furnaces, said grate consisting of a series of hollow inclined bars, in combination with means for supplying air to said bars, each of the bars being stepped on the fuel supporting face, and said steps having in the fronts of the same tuyere openings for the discharge of air into the bed of the fuel, substantially as specified. 3rd. The within described grate for furnaces, said grate consisting of a series of hollow inclined bars, some of which are movable to and fro past the others, the bars having tuyere openings in their fuel supporting faces, in combination with means for supporting the grate bars at top and bottom, means for moving the movable bars of the grate, and means for forcing the air into the bars, substantially as specified. 4th. The combination in a grate for furnaces of the hollow inclined grate bars, having tuyere openings in their fuel supporting faces, a hollow transverse beam or girder supporting said bars and communicating with the interiors of the same, and means for forcing air into said hollow beam or girder, substantially as specified. 5th. The combination in a grate for furnaces, of the hollow inclined grate bars, having tuyere openings in their fuel supporting faces, a hollow transverse beam or girder supporting said bar and communicating with the interiors of the same, an air inlet pipe communicating with said hollow beam or girder, and a steam jet or injector for causing a flow of air and steam into and through said pipe, and into the girder, substantially as specified. 6th. The combination in a grate for furnaces, of the hollow inclined grate bars, having tuyere openings in their fuel supporting faces, the hollow beam or girder serving as a support for said bars and communicating with the interiors of the same, means for forcing air into said hollow beam or girder, and a perforated air distributor in front of said girder, substantially as specified. 7th. The combination in a grate for furnaces, of the inclined grate bars, with a rotary ash discharger at the bases of said bars, substantially as specified. 8th. The combination in a grate for furnaces, of the inclined grate bars, with a rotary ash discharger at the base of the grate, said ash discharger comprising a series of recessed discs mounted side by side upon a shaft, whereby the parallel recesses of the series of discs form an ash receiving chamber, substantially as specified. 9th. The combination in a grate for furnaces, of the inclined grate bars, with the rotary ash discharger at the base of the grate, said ash discharger consisting of a series of dies mounted upon a shaft, and each having laterally projecting lugs for bearing upon the adjacent disc, each disc also having one or more recesses for receiving, conveying and discharging the ashes, substantially as specified. 10th. The combination in a grate for furnaces, of the inclined grate bars, with the rotary ash discharger at the base of the grate, said ash discharger consisting of a series of recessed discs mounted upon a shaft, having a projecting end provided with a ratchet wheel and a loosely swinging lever or levers carrying a pawl for engagement with said ratchet wheel, substantially as specified. 11th. The combination in furnaces, for steam boilers, of a mechanical stoker, a motor for operating the same, a pipe for conveying steam from the boiler to said motor, and an automatic regulating valve in said pipe, opening against the pressure in the boiler, substantially as specified. 12th. The combination in steam boiler furnaces of draft apparatus operated by an injector, a pipe for conveying steam from the boiler to said injector, and an automatic regulating valve in said pipe, opening against the pressure in the boiler, substantially as specified. 13th. The combination in a steam boiler furnace, of a mechanical stoker, a motor for driving the same, draft apparatus operated by an injector, a pipe for conveying steam to said motor and injector, and an automatic regulating valve in said pipe opening against the pressure in the boiler, substantially as specified. 14th. The combination of the valve casing, its fixed cylinder and moving valve, one or both ported as described, said valve being acted on by the boiler pressure to close the ports, and by pressure in the delivery pipe to open the ports, substantially as specified. 15th. The combination of the valve casing, its fixed cylinder and the movable valve, one or both ported as described, said valve having a projecting weighted stem, and being actuated by boiler pressure to close the ports, and by pressure in the delivery pipe added to the weight upon the stem to open the ports, substantially as specified. 16th. The combination of the valve casing, having the valve with depending weighted stem and a suspending rod for supporting said valve, whereby the pipe with which the valve is connected is relieved from the strain due to the weight of the valve and its appurtenances, substantially as specified.

No. 40,996. Split Pulley. (*Poulie l'assemblage.*)

The Eureka Wood Pulley Company, assignee of Daniel G. Reitz, Berlin, Pennsylvania, U.S.A., 15th November, 1892; 6 years.

Claim.—1st. In a split pulley, the opposite adjustable hub plates or sections, having squared pockets or recesses, the spokes connected with each of said plates, and the rim of the pulley, opposing clamping blocks loosely fitting in said pockets or recesses, and overlapping the

open ends of the same, and adjusting strips or blocks removably inserted in said pockets or recesses back of said clamping blocks, substantially as set forth. 2nd. In a split pulley, the opposite hub plates having parallel projecting flanges in from the edges thereof, and a series of integral tubular spoke sockets projecting outwardly therefrom, the registering half rims removably clamped together, the spokes tenoned in said rims and having their inner ends fitted in said sockets, opposing clamping blocks loosely and adjustably mounted between said flanges and provided with V-shaped clamping grooves, and end flanges overlapping the ends of the plate flanges, and clamping bolts passing through the corners of said hub plates outside of the flanges thereof, substantially as set forth.

No. 40,997. Type-writer. (*Clavigraphé.*)

The Blickensderfer Manufacturing Company, New York, State of New York, assignee of George Canfield Blickensderfer, Stamford, Connecticut, U.S.A., 15th November, 1892; 6 years.

Claim.—1st. In a type-writing machine, the combination, with a series of type key levers and a paper carriage, of a shaft free to rotate and in operative connection with said carriage, and a ratchet mechanism for rotating said shaft and moving the carriage, the pawl thereof being normally out of engagement with the ratchet and operated by the type key lever. 2nd. In a type-writing machine, the combination, with a series of type key levers and a paper carriage carrying a rack, of a shaft normally free to rotate and having a pinion meshing with said rack, and a ratchet mechanism for rotating said pinion and shaft to feed the carriage, the pawl of said ratchet mechanism being normally out of engagement with the ratchet and controlled by the key levers. 3rd. In a type-writing machine, the combination, with a paper carriage and a series of type key levers, of a shaft in operative connection with said carriage, and having a ratchet, a rock shaft under control of said key levers and carrying a type wheel, and a pawl for said ratchet, whereby the type wheel and paper carriage are moved simultaneously. 4th. In a type-writing machine, the combination, with a paper carriage and a series of type key levers, of a shaft in operative connection with said carriage, and having a ratchet, a rock shaft under control of said key levers, and carrying a type wheel and a moving and locking pawl for said ratchet, whereby the type wheel is moved toward a platen, and at the same time the carriage is moved one step and then locked until after the type wheel has moved against the platen. 5th. In a type-writing machine, the combination, with a paper carriage, a shaft free to rotate and in operative connection with said carriage, and a series of type key levers, of a ratchet on said shaft, and a rock shaft carrying a type wheel, and a pawl normally free from said ratchet and engaging therewith when the type wheel is moved toward a platen. 6th. In a type-writing machine, the combination, with a spacer bar, a series of type key levers, and a paper carriage, of a shaft normally free to rotate in either direction, and having operative connection with said carriage, a ratchet and pawl mechanism under the control of the type key levers, and a second ratchet and pawl mechanism under the control of the spacer bar for actuating said shaft to feed the carriage, said pawls being normally disengaged from said ratchets. 7th. In a type-writing machine, the combination, with a series of type key levers, a spacer bar and paper carriage, of a shaft free to rotate and having operative connection with said carriage, a rocker shaft carrying a type wheel, and under the control of the type key lever, a ratchet mechanism connecting said carriage operating shaft and the rock shaft, and a second ratchet mechanism under the control of the spacer bar. 8th. In a type-writing machine, the combination, with a series of type key levers, a spacer bar, and a paper carriage, of a shaft normally free to rotate in either direction, and in operative connection with said carriage, a ratchet and pawl mechanism under the control of the type key levers, and a second ratchet and pawl under the control of the spacer bar, said pawl being normally disengaged from said ratchets, and said ratchet mechanism operating successively in the order mentioned upon said shaft to give the carriage two successive impulses. 9th. In a type-writing machine, the combination, with a series of type key levers and a paper carriage, of a shaft having operative connection with said carriage, a ratchet mechanism the ratchet of which is on said shaft, and the pawl on a moving part under control of the type key levers and normally out of engagement with the ratchet. 10th. In a type-writing machine, the combination, with a series of type key levers and a paper carriage, of a shaft free to rotate and in operative connection with said carriage, a ratchet mechanism, the ratchet of which is on said shaft, and a pawl normally out of contact with said ratchet, and on a moving part under control of the type key levers. 11th. In a type-writing machine, the combination, with a series of type key levers, and a carriage having a rack, of a shaft free to rotate and having a pinion meshing with said rack, and a ratchet mechanism, the ratchet of which is on the said shaft, and the pawl on a moving part under control of the type key levers, and normally out of engagement with the ratchet. 12th. In a type-writing machine, the combination, with a paper carriage and spacer bar, of a shaft normally free to rotate, and in operative connection with said carriage and having a ratchet, and a pawl under control of the spacer bar, and which is normally disengaged from said ratchet, and normally out of contact with said ratchet when the spacer bar is depressed, and engages and moves said ratchet while said spacer bar is returning to its normal position. 13th. In a type-writing machine, the combination, with a paper car-

riage, of a shaft normally free to rotate and in operative connection with said carriage and having a ratchet, a spacer bar having a spring for returning it to its normal position when depressed, and a pawl normally out of engagement with said ratchet, and connected to said spacer bar by a link which moves said pawl in engagement with said ratchet when the spacer bar is depressed, and causes said pawl to move said ratchet when the spacer bar is returning to its normal position. 14th. In a type-writing machine, the combination, with a paper carriage and a spacer bar, of a shaft having mechanism thereon for moving said carriage, a ratchet for rotating said shaft and having a spring guard, and a rocking pawl which passes outside said guard when the spacer bar is depressed and between the guard and ratchet while the spacer bar is returning to its normal position. 15th. In a type-writing machine, the combination of a carriage feeding shaft having a ratchet, a guard for said ratchet, a pawl having a cam edge and a lateral flange, and a finger lever controlling said pawl. 16th. In a type-writing machine, the combination, with the paper carriage, of a shaft having mechanism thereon for moving said carriage, a ratchet for rotating said shaft, and a pawl for moving said ratchet, having a cam face which acts upon the teeth of said ratchet. 17th. In a type-writing machine, the combination with the paper carriage, of a shaft having mechanism thereon for moving said carriage, a ratchet for rotating said shaft, having angular teeth, with radial notches at the base of said teeth, and a pawl for moving and locking said ratchet, having a cam face which acts upon said teeth and a flange face which engages said radial notches. 18th. In a type-writing machine, the combination with a paper carriage, of a shaft having mechanism thereon for moving said carriage, a ratchet for rotating said shaft, having angular teeth with radial notches at the base of said teeth, and a pawl for moving and locking said ratchet, having a cam face to act upon said teeth and a flange face to engage said radial notches, and which pawl is normally out of engagement with said ratchet. 19th. In a type-writing machine, the combination, with a paper carriage and a series of type key levers, of a shaft having mechanism thereon for moving said carriage, a ratchet for rotating said shaft having angular teeth with radial notches at the base of said teeth, and a pawl for moving and locking said ratchet, having a cam face to act upon said teeth and a flange face to engage said radial notches, and which pawl is normally out of engagement with said ratchet. 20th. In a type-writing machine, the combination, with a paper carriage and a series of type key levers, of a shaft having mechanism thereon for moving said carriage, a ratchet for rotating said shaft having angular teeth with radial notches at the base of said teeth, and a pawl normally out of engagement with and for moving and locking said ratchet and having a cam face to act upon said teeth and a flange face to engage said radial notches and is operated by the action of any of said type key levers. 21st. In a type-writing machine, the combination, with a paper carriage, a type wheel, a series of type key levers, a rock shaft carrying said type wheel and operated by said key levers, and a shaft for moving said carriage, of a pawl on said rock shaft and moving therewith, and having a cam face and a flange face thereon, and a ratchet on said carriage moving shaft for rotating the same, which is moved and locked by the action of said pawl when any of the said type key levers are operated. 22nd. In a type-writing machine, the combination, with a paper carriage, a type wheel, a series of type key levers, and a spacing lever, of a rock shaft carrying the type wheel and operated to impress the type wheel by the downward stroke of the type key levers, a connecting pawl carried by said rock shaft and forwardly actuated during the downward movement of the type key levers, a second rock shaft operated by the spacer lever, a second cam acting pawl carried by said second rock shaft and forwardly actuated as the spacer lever is moving up, a shaft for moving the paper carriage, and two ratchet wheels on said carriage moving shaft and for rotating the same, one of which is actuated by the pawl controlled by the key levers and the other by the pawl controlled by the spacer levers. 23rd. In a type-writing machine, the combination, with the paper carriage, the type key levers, and a shaft in gearing with the paper carriage, of a ratchet on said shaft, and a pawl moved by said key levers for acting upon said ratchet and having a cam face and a laterally acting joint on its axis, whereby it can swing laterally while moving axially to engage said ratchet. 24th. In a type-writing machine, the combination, with rotating paper carriage moving shaft and a type wheel moving rock shaft at right angles to said carriage moving shaft, of a ratchet or said carriage moving shaft for rotating the same, and a pawl on said type wheel moving rock shaft for moving said ratchet. 25th. In a type-writing machine, the combination, with a rotating paper carriage moving shaft and a type wheel moving rock shaft at right angles to said carriage moving shaft, of a ratchet on said carriage moving shaft for rotating the same, and having angular teeth with radial notches at the base of said teeth, and a pawl on said type wheel moving rock shaft for moving said ratchet, having a cam face for acting on said teeth, and a flange for engaging said notches. 26th. In a type-writing machine the combination with rotating paper carriage moving shaft and a type wheel moving rock shaft at right angles to said carriage moving shaft of a ratchet on said carriage moving shaft for rotating the same having angular teeth with radial notches at the base of said teeth and a spring resisted laterally movable pawl on said type wheel moving rock shaft for moving said ratchet having a cam face for acting on said teeth and a flange for engaging said notches. 27th. In a type-writing machine the com-

ination with a rock shaft carrying the type wheel and at right angles to the type key levers and a rotating shaft for moving the paper carriage and at right angles to said rock shaft of a ratchet on said carriage moving shaft having angular teeth with radial notches at their base and a pawl on said rock shaft moving with the same and movable pivotally longitudinally of said shaft and having on its forward acting face a cam for acting upon said ratchet teeth and on its rear face a flange concentric with said rock shaft for engaging said radial notches and type key levers which rock said rock shaft. 28th. In a type-writing machine the combination with a rock shaft at right angles to the type key lever and a rotating shaft for moving the paper carriage and at right angles to said rock shaft of a ratchet on said carriage moving shaft having angular teeth with radial notches at their base and a pawl on said rock shaft moving with the same and movable pivotally longitudinally of said shaft and having on its forward acting face a cam for acting upon said ratchet teeth and on its rear face a flange concentric with said rock shaft for engaging said radial notches and a finger lever for rocking said rock shaft. 29th. In a type-writing machine the combination with a type wheel and a mechanism for rotating and vibrating said wheel and type key levers of tumblers acting upon said mechanism to both rotate and vibrate said wheel and in changing contact with said levers whereby the leverage is compounded and made variable during the downward movement of the key levers. 30th. In a type-writing machine the combination with a type wheel mechanism for both rotating and vibrating said type wheel simultaneously and type key levers of tumblers acting upon said rotating and vibrating mechanism and having arms K^2 in changing contact with said key levers when the latter are depressed. 31st. In a type-writing machine the combination with a type wheel and its immediate actuating connections and type key levers for actuating said actuating connections of tumblers having arms K^2 changeable contacting with said key levers and having gear teeth K^3 engaging like teeth b^1 on said key levers. 32nd. In a type-writing machine the combination of a type wheel mechanism for both propelling it toward the roller or platen and rotating it during such propelling movement and key levers for actuating said mechanism by a changeful leverage, substantially as set forth. 33rd. In a type-writing machine the combination of key levers having a bearing face b^2 and teeth b^1 and tumblers K , having arm K^2 and teeth K^3 , substantially as set forth. 34th. In a type-writer, the combination, of a type wheel, driving racks L , L^1 , having frames I , I^1 , ratchet pawl j , having frame j^1 , supporting shaft h^3 , tumblers K , and key levers B , substantially as set forth. 35th. In a type-writing machine, the combination, with a series of type key levers, of a type wheel, a ratchet for stopping the axial movement of said type wheel, mechanism for moving said type wheel and having an operating frame, a pawl for engaging said ratchet, and having an operating frame, and a series of tumblers connected with said key levers for actuating both of said frames which act upon the type wheel moving frame continuously during their movement and upon the pawl moving frame at varying later points in their movement. 36th. In a type-writing machine, the combination, with a series of type key levers, of a type wheel, a ratchet for stopping the axial movement of said type wheel, an operating frame, a pawl for engaging said ratchet, and having an operative frame, and a series of tumblers connected with said key levers for actuating both of said frames which act upon the type wheel moving frame continuously during their movement, and with varying leverage, and upon the pawl moving frame at varying later points in their movement. 37th. In a type-writing machine, the combination, with a series of type key levers of a type wheel, a ratchet for stopping the axial movement of said type wheel and having an operating frame, a pawl for engaging said ratchet and having an operating frame, and a series of tumblers connected with said key levers for actuating both of said frames, and having uniformly positioned bearing faces K^1 , and variably positioned bearing faces K , which bearing faces act respectively upon the type wheel moving frame continuously during their movement, and upon the pawl moving frame at varying later points in their movement. 38th. In a type-writing machine, the combination, with a type wheel which moves axially at the same time it moves laterally, and an eccentric ratchet which moves coincidentally with said type wheel, of a pawl for engaging said ratchet which stands in the plane of lateral movement of said ratchet, and remains stationary while the said ratchet moves axially and laterally from or toward said pawl, and thereby passes its teeth in uniform proximity to said pawl, and mechanism for moving said pawl into contact with said ratchet as any desired tooth comes opposite said pawl. 39th. In a type-writing machine, the combination, with a type wheel, of a ratchet which moves axially coincidentally with said type wheel, and has teeth of different length graded from an initial point, and a pawl acting upon said ratchet. 40th. In a type-writing machine, the combination, with a type wheel, of an eccentric ratchet which moves axially coincidentally with said wheel, and has teeth of differing length graded from an initial point, and a pawl acting upon said ratchet. 41st. In a type-writing machine, the combination, with a type wheel, of a ratchet that moves axially coincidentally with said wheel, and has teeth of differing length graded from an initial point, which move in different paths, and a pawl which engages said ratchet. 42nd. In a type-writing machine, the combination with a type wheel which moves axially in opposite directions from an initial point, of a double ratchet, each part of which has teeth of differing length graded from an initial point, and a pawl which engages said

ratchet. 43rd. In a type-writing machine, the combination, with a type wheel which moves axially in opposite directions from an initial point, of a double ratchet which moves axially coincidentally with said wheel and has the teeth of each of its parts correlatively positional of different lengths, graded oppositely from an initial point, and moving in different paths and pawl for engaging said ratchet. 44th. In a type-writing machine, the combination with a laterally vibrating shaft, of a type wheel which moves axially concentrically with said shaft, a ratchet wheel which moves axially coincidentally with said type wheel, and has teeth of differing length graded from an initial point, and a pawl which engages said ratchet. 45th. In a type-writing machine, the combination with a laterally vibrating shaft, of a type wheel which moves axially concentrically with said shaft in opposite directions from an initial point, a double ratchet which moves axially coincidentally with said wheel and has the teeth of each part thereof of different length graded from an initial point, and a pawl which engages said ratchet. 46th. In a type-writing machine, the combination with a rotating and laterally vibrating shaft, of a type wheel which moves axially concentrically with said shaft, a ratchet which moves axially coincidentally with said type wheel and has teeth of differing length graded from an initial point, and a pawl which engages said ratchet. 47th. In a type-writing machine, the combination, with a rotating and laterally vibrating shaft, of a type wheel which moves axially concentrically with said shaft in opposite directions from an initial point, a double ratchet which moves axially and coincidentally with said wheel and has the teeth of each part thereof of differing length graded from an initial point, and a pawl which engages said ratchet. 48th. In a type-writing machine, the combination with a laterally vibrating shaft, of a type wheel which moves axially concentrically with said shaft, vibrates laterally with said shafts, is shiftable in the direction of said shaft, and moves in opposite directions axially from an initial point, a double ratchet, the teeth of each part of which are of differing length graded from an initial point, moves axially coincidentally with said wheel, is in operative connection to stop said wheel and has the teeth of each part thereof moving in separate paths, and a pawl for engaging said ratchet which has a graduated movement inversely proportional to the movement of said ratchet. 49th. In a type-writing machine, the combination with a rotating and laterally vibrating shaft of a type wheel which moves axially concentrically with said shaft, vibrates laterally with said shaft, is shiftable in the direction of said shaft, and moves in opposite directions axially from an initial point, a double ratchet, the teeth of each part of which are of differing lengths graded from an initial point, moves axially coincidentally with said wheel, is in operative connection to stop said wheel and has the teeth of each part thereof moving in separate paths, and a pawl for engaging said ratchet which has a graduated movement inversely proportional to the movement of said ratchet. 50th. In a type-writing machine, the combination with a laterally vibrating shaft, of an axially moving type wheel carried by said shaft, a ratchet for arresting the axial movement of said wheel which has an axial movement coincident with said wheel and has teeth of differing length graduated from an initial point, a pawl for engaging said ratchet, operating mechanism for actuating said type wheel shaft and pawl, and a system of key levers for actuating said operating mechanism. 51st. In a type-writing machine, the combination of a type wheel which is laterally vibrated to produce an impression of its type upon a pad or paper and is moved axially more or less in opposite directions from an initial point to position a letter or character, a ratchet for arresting the axial movement of the type wheel at any degree thereof and which has oppositely toothed faces, the teeth of both faces being of differing length and graded from a common initial point which coincides with the initial point of axial movement of the wheel, a pawl for engaging said ratchet which has a varying movement inversely proportional to the varying axial movement of said wheel, operating mechanism for imparting both the axial and vibrating motions to the wheel and the varying movement to the pawl, and a system of key levers for actuating said operating mechanism. 52nd. In a type-writing machine, the combination with a type wheel which moves axially variably in opposite directions from an initial point to position its type and laterally to impress its positioned type, a ratchet for arresting the axial movement of said wheel at any degree thereof and which has oppositely toothed faces, the teeth of both faces being of differing length and graded from a common initial point which coincides with the initial point of axial motion of said wheel and a pawl for engaging said ratchet which has a varying movement inversely proportional to the varying axial motion of said wheel, of operating mechanism for imparting the aforesaid movements to the said pawl and type wheel, and a series of key levers for actuating said vibrating mechanism to impart said varying action to said pawl and wheel and which move like distances to effect their purposes. 53rd. In a type-writing machine, the combination with a type wheel having all the characters of a field in a single peripheral row which moves axially to position a type and laterally to impress said type, of mechanism for moving said type wheel laterally and axially simultaneously, and mechanism for stopping the axial movement of the wheel where the proper type is positioned without retarding or interfering with the lateral movement. 54th. In a type-writing machine, the combination of a type wheel which moves axially to position a type and vibrates laterally to impress said type, actuating mechanism which moves said type wheel laterally, and thereby imparts to it a simultaneous

axial movement until said axial movement is prevented, and then continues the said lateral movement until the type wheel strikes the platen, a double faced eccentric ratchet connected to and moving coincidentally with said type wheel, two pawls arranged on diametrically opposite sides of the centre of axial movement of said ratchet, which remain stationary until the proper type is to be positioned, and then engage said ratchet substantially simultaneously on opposite sides and in oppositely pointed teeth, and then move laterally together with said type wheel and key levers, and connecting gear for imparting said movements to said type wheel, ratchet and pawls while any one of them is being depressed. 55th. In a type-writing machine, the combination of a type wheel which moves axially to position a type and vibrates laterally to impress said type, actuating mechanism which moves said type wheel laterally, and thereby imparts to it a simultaneous axial movement until said axial movement is prevented, and then continues the said lateral movement until the type wheel strikes the platen, a double faced eccentric ratchet connected to and moving coincidentally with said type wheel, two pawls arranged on diametrically opposite sides of the centre of axial movement of said ratchet, which remain stationary until the proper type is to be positioned, and then engage said ratchet substantially simultaneously on opposite sides and in oppositely pointed teeth and then move laterally together with said type wheel, a paper carriage, a shaft and pinion for moving said carriage, a pawl and ratchet device for moving said shaft which is operated during the forward vibratory movement of the type wheel and key levers, and connecting gear for imparting said movements to said type wheel, ratchet, pawls, shaft and carriage while any one of them is being depressed. 56th. In a type-writing machine, the combination of a rotating or oscillating type wheel, a pawl for arresting the rotation of the wheel, and a second pawl acting upon the same ratchet for arresting rebounding of said wheel, substantially as set forth. 57th. In a type-writing machine, the combination of key levers, a rotating type wheel, and a single mechanism under the control of said key levers, which mechanism rotates said wheel and at the same time vibrates it toward the platen or roller. 58th. In a type-writing machine, the combination of key levers, a rotating wheel, and a single mechanism which initially vibrates the wheel toward the platen or roller and simultaneously rotates the type wheel. 59th. The combination, in a type-writing machine, of a type wheel, a pinion connected with said type wheel, and two toothed racks which are in simultaneous engagement with said pinion for rotating and vibrating it at the same time, one of said racks moving by the other to cause the motion of the type wheel. 60th. In a type-writing machine, the combination of a shaft, a type wheel and pinion by said shaft, and two racks in engagement with said pinion and adapted to simultaneously rotate and laterally vibrate said type wheel. 61st. The combination with the type key levers, of a type wheel shaft, a pinion on said shaft, segmental racks on either side of and meshing with said pinion, and driving mechanism under the control of the key levers for propelling the racks to cause the wheel shaft to move toward the platen and rotate during such movement, substantially as set forth. 62nd. In a type-writing machine, the combination with a type wheel, having an axial movement and an eccentric ratchet, and a concentric ratchet wheel moving coincidentally with said type wheel, of arresting pawls, two for the eccentric ratchet and one for the concentric ratchet wheel. 63rd. The combination of a type wheel shaft h , sleeve h^1 , on said shaft, pinion h^2 , an eccentric ratchet and a concentric ratchet wheel on said sleeves, and two arresting pawls for said eccentric ratchet, substantially as set forth. 64th. The combination of shaft h^3 , supporting a type wheel and type wheel shaft h , a pinion h^2 , on shaft h , racks l , l , with frames i , i , loosely supported on shaft h^3 , and engaging said pinion arresting pawls J and L , loosely supported on shaft h^3 , tumblers K , on said shaft h^3 , engaging said tumblers, and key levers B , substantially as set forth. 65th. In a type-writing machine, the combination with a type wheel having axial and vibratory movement and an eccentric ratchet, and a concentric ratchet wheel moving coincidentally with said type wheel, of arresting pawls, two for the eccentric ratchet and one for the concentric ratchet wheel. 66th. In a type-writing machine, the combination with the cross shaft a^3 , and the key levers loosely hung upon said shaft, of a comb or separating device W , applied to the top of said levers above their pivots. 67th. In a paper carriage C , the combination of a roller D , and a second or bearing roller E , consisting of a bar having at intervals along its length the adjustable rollers e^1 , adjustable laterally and normally held in place by friction, substantially as set forth. 68th. In a paper carriage, the combination with a hinged roller D , and a hinged roller E , which is supported in adjustable bearings, of a catch for engaging said roller E , and holding both rollers in place. 69th. In a paper carriage, the combination of a hinged roller D , and a roller E , journaled at one end in a hinged bearing, and having a catch at the opposite end, substantially as set forth. 70th. In a paper carriage, the combination of a slotted standard e^2 , the hinged rollers D and E , and catch e^3 , pivoted in an elongated slot e^4 , in standard e^2 , and having reacting spring, substantially as set forth. 71st. In a paper carriage, the combination of a standard e^3 , having an elongated slot e^4 , a journal e^5 , pivoted in said slot, a reacting spring for said journal, a roller e^6 , supported at one end in bearing or journal e^7 , and a spring catch at the opposite end of roller E , substantially as set forth. 72nd. In a paper carriage, the combination of a rotating roller E , hinged at one end and free at its other end, and the removable

roller D, substantially as set forth. 73rd. In a paper carriage, the combination with the hinged roller D and E, of the presser plate F, substantially as set forth. 74th. In a paper carriage, the combination, with the paper roller or platen, of a sleeve or collar d^2 , having a ratchet cam d^3 , and pawl d^4 , and adjusting screw for said ratchet cam, substantially as set forth. 75th. In a paper carriage, the combination, of a tubular sleeve c^{11} , having turning wheels with ratchet c^{12} , a collar d^2 , having cam ratchet d^3 , and lever d^4 , for engagement with ratchet c^{12} , a retaining pawl c^{13} , for ratchet c^{12} , and adjusting screw d^5 , for cam ratchet d^3 , substantially as set forth. 76th. In a type-writing machine, underscoring or analogous device, the combination with a pivoted plate, of separate boxes containing marking wheels and ink rollers or supplies, and said marking wheels in the separate boxes being arranged in different planes, substantially as set forth. 77th. In a type-writing machine, the combination, with the pivoted plate g , of boxes g^1 , g^2 , one containing a vertically located and the other a horizontally located marking wheel with ink supply, substantially as set forth. 78th. In a type-writer, the combination, with the plate g , having oppositely inclined faces, of marking wheel boxes with the supplies on said plate, and a reacting spring for the plate, substantially as set forth. 79th. In combination with a type wheel and its shaft, a supporting cross shaft h^2 , levers R, R¹, and devices interposed between said levers and mechanism supported on shaft h^2 , and the lower end of the type wheel shaft for raising the letter and the type wheel, substantially as set forth. 80th. In combination with a cross shaft h^3 , the type wheel and its shaft supported on shaft h^3 , mechanism mounted on shaft h^3 , and in engagement with the lower end of the type wheel shaft, and separate key levers, and actuating devices for said mechanism on shaft h^3 , for raising the type wheel and its shaft, substantially as set forth. 81st. The combination of a vibrating type wheel, a rod secured to the frame of the machine, and a vibrating arm pivotally secured to the rod, and having an ink roller projected in the path of said wheel, and vibrated thereby. 82nd. In a type-writing machine, the combination of a type wheel, and a reversible standard l^2 , having at each end pivoted arms with inking rollers constructed to be independently used, substantially as set forth.

No. 40,998. Type-writer. (Clavigraphie.)

The Blickensderfer Manufacturing Company, New York, N. Y., assignee of George Canfield Blickensderfer, Stamford, Connecticut, U. S. A., 15th November, 1892; 6 years.

Claims.—1st. In a type-writing machine, the combination of a type wheel, a sleeve, a non-rotative longitudinally movable spindle, part of which passes through said sleeve to support the type wheel, and the other part bent upon itself to form a bail, and means which engage said bail to hold said spindle against rotation. 2nd. In a type-writing machine, the combination, with the type wheel, of a sleeve, a non-rotative longitudinally movable spindle, part of which passes through said sleeve to support the type wheel and the other part bent upon itself, means which engage said bent part to move said spindle longitudinally, and means which engage with said bent part to lock the spindle against further longitudinal movement when moved to the desired position. 3rd. In a type-writing machine, the combination of a type wheel, a shaft having a sleeve, and a spindle bent upon itself to form a bail, one part passing through said sleeve to support the type wheel and the other through the shaft to hold said spindle against rotation. 4th. In a type-writing machine, the combination of a type wheel, a shaft having a sleeve, a spindle bent upon itself to form a bail, one part passing through said sleeve to support the type wheel and the other through the shaft to hold said spindle against rotation, and means for moving said spindle longitudinally. 5th. In a type-writing machine, the combination, with the type wheel, of a non-rotative longitudinally movable spindle carrying the type wheel and having a lateral extension at its lower end, a lever acting upon said extension for moving said spindle longitudinally, special key levers for moving said lever, and means for engaging said extension and holding said spindle against undue longitudinal movement. 6th. In a type-writing machine, the combination, with the type wheel, of a non-rotative longitudinally movable spindle carrying the type wheel and having a lateral extension at its lower end, a lever acting upon said extension for moving said spindle longitudinally, special key levers for moving said lever, and a locking bar for engaging said extension and holding said spindle against undue longitudinal movement. 7th. In a type-writing machine, the combination, with the rock shaft which carries the type wheel spindle or shaft and is rocked when the type wheel is vibrated laterally, of an eccentrically faced cam carried by said rock shaft, a lever moved by said cam, and a feeding mechanism for the paper carriage, which is actuated to move said carriage by said lever. 8th. In a type-writing machine, the combination, with the rock shaft which carries the type wheel spindle or shaft and is rocked when the type wheel is vibrated laterally, of an eccentrically faced cam carried by said rock shaft, a lever moved by said cam, a feeding mechanism for the paper carriage, which is actuated by said lever, and a spacer key lever for moving said lever independently of said cam. 9th. In a type-writing machine, the combination, of a rock shaft, key levers for rockers of said shaft, a type wheel on said rock shaft, a paper carriage having feeding and checking pawls, a lever for operating said pawls, and a cam operating upon said lever to feed and check said carriage when said shaft is rocked. 10th. In a type-writing machine, in which the carriage is fed and checked during

the down movement of the key lever, the combination of a key lever for operating the pawls and a shaft under control of the key levers and having a cam with faces q and q^1 , for operating said lever, for the purpose set forth. 11th. The combination of a paper carriage, feeding and checking pawls for said carriage, a pawl controlling lever, a rock shaft having a cam in contact with said pawl controlling lever, and key levers connected by intermediate mechanism with said rock shaft, the cam of which operates upon the pawl controlling lever to move and hold the pawls in engagement with the carriage when a key lever is depressed. 12th. In a type-writing machine, the combination with the type wheel, of a pinion for moving said wheel axially, two segment gears for moving said pinion, vibrating arms carrying said segmental gears and having gear teeth thereon, two vibrating frames carrying arms having gear teeth thereon, which mesh with the gear teeth on said segment carrying arms, and two groups of type key levers for moving said vibrating frames. 13th. In a type-writing machine, the combination with the type wheel, of a rock shaft carrying the spindle of said wheel, a pinion concentric with said wheel for moving the same axially and stopping ratchet carried by said pinion, a pawl for engaging said ratchet, that is pivoted on said rock shaft and having gear teeth arranged concentric with said rock shaft, two segment gears for moving said pinion, carried on arms pivoted on said rock shaft concentric with said pawl and having gear teeth arranged in an arc of the same radius as the gear teeth on the said pawl, two vibrating frames carrying arms having gear teeth thereon which mesh with the gear teeth on said segment carrying arms, two groups of type key levers for vibrating said frames, a third vibrating frame pivoted concentric with the other frames and embracing both of said frames and in position to be actuated by any of the type keys of both of said groups, and an arm carried by said third frame, having gear teeth which mesh with the gear teeth on said pawl. 14th. In a type-writing machine, the combination with the type wheel, the pinion for moving the type wheel axially, the pawl and ratchet for stopping the type wheel, the two vibrating frames for moving the mechanism which moves the pinion, and the single frame for moving the said pawl, of key levers for actuating said frames, which are pivoted on a common pintle shaft, are arranged above said frames in two distinct groups and act thereon when depressed, and have uniformly placed bearing faces for contacting with the two pinion actuating frames and other bearing faces for moving the pawl actuating frame which are gradatively arranged in each group of key levers. 15th. In a type-writing machine, the combination with a series of type key levers that are pivoted on a common shaft and divided into two groups, of the type actuating frames pivoted concentrically with said key levers and arranged each below one of said groups of key levers, a third frame pivoted concentrically with said type key levers, arranged below said groups of keys embracing the two other frames, mechanism operated from said third frame for stopping the type actuating mechanism operated by the two first named frames, and two bearing faces on each of the type key levers for contacting with the two frames below it, said bearing faces on each key lever being so graded relative to each other that the outer frame will be moved later than the inner, more or less, according to the distance between the planes of said faces. 16th. In a type-writing machine, the combination of a series of type key levers pivoted on a common pintle shaft, two frames for actuating the type wheel from said keys pivoted on the same pintle shaft, a frame for operating means for stopping the type wheel pivoted on said shaft, a lever for actuating the feed mechanism of the paper carriage, moved from the action of the type wheel pivoted on said shaft, a spacer key lever for actuating said feed mechanism independently of the type wheel mechanism pivoted on said shaft, and a lever for longitudinally moving the type wheel spindle also pivoted on said shaft. 17th. In a type-writing machine, the combination of a series of type key levers pivoted on a common pintle shaft, two frames for actuating the type wheel from said keys pivoted on the same pintle shaft, a frame for operating means for stopping the type wheel pivoted on said shaft, a lever for actuating the feed mechanism of the paper carriage moved from the action of the type wheel pivoted on said shaft, and a spacer key lever for actuating said feed mechanism independently of the type wheel mechanism pivoted on said shaft. 18th. In a type-writing machine, the combination of a series of type key levers pivoted on a common pintle shaft, two frames for actuating the type wheel from said keys pivoted on the same pintle shaft, a frame for operating means for stopping the type wheel pivoted on said shaft, and a lever for actuating the feed mechanism of the paper carriage moved from the action of the type wheel pivoted on said shaft. 19th. In a type-writing machine, the combination of a series of type key levers pivoted on a common pintle shaft, two frames for actuating the type wheel from said keys pivoted on the same pintle shaft, and a frame for operating means for stopping the type wheel pivoted on said shaft. 20th. In a type-writing machine, the combination, with the type wheel D, ratchet D³ for stopping said wheel, and pawls E, E² and E¹ for acting on said ratchet, of a shield at the apex of the lobe of said ratchet for preventing the engagement of said pawl E¹ with the extreme teeth on said ratchet. 21st. In a type-writing machine, the combination, with the vibrating type wheel D, of the swinging arm G, carrying the ink roller G and engaging with its pintle g^2 detachably by means of the open ended slot g^1 . 22nd. In a type-writing machine, the combination, with the paper carriage, of a ratchet on the side of the carriage, having rectangular teeth b , and a

pushing pawl and a checking pawl, which engage said teeth by moving between them by a vertical movement. 23rd. In a type-writing machine, the combination, with the paper carriage, of a ratchet on said carriage, having rectangular teeth, a checking pawl pivoted to the framework, a pushing pawl pivoted to the checking pawl, and a lever controlled by the key levers for operating said pawls. 24th. In a type-writing machine, the combination, with the paper carriage, of a type wheel that vibrates to impress a type a lever for operating the feed mechanism of the carriage, that is rocked as the type wheel is vibrated, a checking pawl that is pivoted to the frame work and is moved by said lever, a pushing pawl that is pivoted to the checking pawl and carried by it, and a ratchet on said carriage, having rectangular teeth and engaged first by the pushing and then by the checking pawl. 25th. In a type-writing machine, the combination of a paper carriage normally free to be moved manually, a stop mechanism for arresting the carriage at different points as it moves to the left, and key mechanism for manipulating said stop mechanism to stop the traverse of the carriage at any desired position in the line. 26th. In a type-writing machine, the combination of a paper carriage normally free to be moved manually, a stop mechanism and a key mechanism for positioning said stop mechanism at any desired point in the line during a motion toward a uniform terminal point. 27th. In a type-writing machine, the combination with the paper carriage thereof, of a stop device capable of being adjusted at varying points, and when so adjusted remains fixed and determines the position of the unit or right hand figure of amounts to be printed in vertical order, and a series of catches for engaging said stop, representing units, tens, hundreds, thousands, etc., and which will when operated severally stop the carriage while moving toward the left at the point where the numeral represented by said catch should be printed relative to the unit point. 28th. In a type-writing machine, the combination with the paper carriage thereof, of a variable stop mechanism for stopping said carriage at varying predetermined points within its forward traverse and means for bringing said stop into action and out of action and fixing the variable point at which said carriage shall be stopped, which means are under the control of the hand of the operator while it is moving the carriage. 29th. In a type-writing machine, the combination with the paper carriage thereof, of a variable stop mechanism for stopping said carriage at varying predetermined points within its traverse and a series of keys and mechanism controlled by said keys for bringing said stop mechanism into action and fixing the variable point at which said carriage shall be stopped, which keys are under the control of the hand of the operator, while it is moving the carriage. 30th. In a type-writing machine, the combination with the carriage thereof, of a variable stop or catch mechanism carried by said carriage and under the control of the operator's hand, used for moving the carriage, and a stop on the frame of the machine for engaging with said variable stop or catch mechanism. 31st. In a type-writing machine, the combination with the carriage thereof, of a variable stop or catch mechanism carried by said carriage and under the control of the operator's hand, used for moving the carriage, and an adjustable stop on the frame of the machine for engaging with said variable stop or catch mechanism. 32nd. In a type-writing machine, the combination with the paper carriage thereof, of a stop on the frame of the machine, a variable catch mechanism on the carriage, and a series of keys controlling said variable catch mechanism. 33rd. In a type-writing machine, the combination with the paper carriage thereof, of an adjustable stop on the frame of the machine, a variable catch mechanism on the carriage, and a series of keys controlling said variable catch mechanism. 34th. In a type-writing machine, the combination with the paper carriage thereof of a detachable and adjustable stop on the frame of the machine, a variable catch mechanism on the carriage and a series of keys controlling said variable catch mechanism. 35th. In a type-writing machine, the combination with the paper carriage thereof, of a stop on the frame of the machine, a variable catch mechanism on the carriage and means for manually actuating said variable catch while moving the carriage. 36th. In a type-writing machine, the combination with the paper thereof, of an attachment for regulating the point of commencement of the lines, consisting of a graded series of catches on the carriage, and a variable stop on the frame work. 37th. In a type-writing machine, the combination with the paper carriage thereof, of an attachment for regulating the point of commencement of the lines, consisting of a graded series of fixed catches on the carriage and a variable stop carried by the frame work that can be moved into line with any of the said series of fixed stops. 38th. In a type-writing machine, the combination with the paper carriage thereof, of an attachment for regulating the point of commencement of a line, consisting of a series of catches and a variable stop, one part of said attachment being on the carriage and the other on the frame of the machine. 39th. In a type-writing machine, the combination with the carriage thereof, of a variable stop mechanism for variously vertically aligning the beginning of the several lines of printing, having one part thereof on the frame of the machine and the other part on the carriage, and a second variable stop mechanism for variously vertically aligning matter to be printed between the beginning and the ends of the lines, having one part thereof on the frame of the machine and the other part on the carriage and key mechanism for manipulating said stop mechanism, to stop the traverse of the carriage at any desired position in the line. 40th. In a type-writing machine, the combination with the carriage thereof, of

a series of fixed graduated catches on the carriage, and a lever on the frame, carrying a stop and movable, so as to bring said stop into line with either of said catches. 41st. In a type-writing machine, the combination with the carriage thereof, of a series of fixed catches arranged diagonally on the carriage, and a swinging lever carrying a stop and movable, so as to bring said stop into line with either of said catches. 32nd. In a type-writing machine attachment, the combination of a removable or detachable bar having a lug and a series of keyed bars having catch notches which engage said lug on the removable bar. 43rd. In a type-writing machine attachment, the combination of an adjustable bar having a lug and a series of keyed bars having catch notches, which engage said lug on the removable bar. 44. In a type-writing machine attachment, the combination of an adjustable bar having notches on one side, a frame for the adjustable bar, having similar notches to those on the bar, and means for holding the notched side of the bar in contact with the notches of the frame. 45th. In a type-writing machine attachment, the combination of an adjustable bar, having notches on one side, a frame for the adjustable bar, having notches similar to those on said bar, and a flexible retaining device for holding the notched bar in contact with the notches of the frame. 46th. In a type-writing machine attachment, the combination of a notched adjustable bar having a lug, a notched frame, means for holding said notched bar against the notched frame, and a series of keyed levers having catch notches, which engage said lug.

No. 40,999. Bee Hive. (*Ruche*.)

John Conser and John Housam, Sedalia, Missouri, U. S. A., 15th November, 1892; 6 years.

Claim.—1st. The combination of a hatching box, provided with compartments adapted for the reception of brood frames, hives arranged adjacent to the hatching box, and having brood frames adapted to be placed into the compartments of the hatching box, substantially as and for the purpose described. 2nd. The combination of a hatching box provided with an opening, a hive arranged adjacent to the hatching box and provided with an opening, and a queen excluder connecting the box and the hive, and composed of two blocks secured together and having their opposed faces provided with recesses, a perforated plate interposed between the blocks, and tubular conductors extending from outer faces of the block, and adapted to fit in the openings of the hatching box and the hive, substantially as described. 3rd. The combination, with a hive, of adjustable partitions 3, provided at the top and bottom with horizontal flanges and having at their ends flexible strips arranged in kerfs, substantially as described. 4th. A temporary cover having a central opening combined with plates arranged opposite the opening, and angle pieces interposed between the plates and forming contracted bee openings, substantially as described. 5th. The combination of a temporary cover provided with a central opening, and having recesses arranged at the sides of the opening, an upper plate secured to the cover and provided with openings, a lower plate secured to the cover, and angle pieces interposed between the plates and arranged in the form of a star, and forming contracted bee openings, substantially as and for the purpose described.

No. 41,000. Ring Armature. (*Armature annulaire*.)

John George Pool, Newham, Connecticut, U. S. A., 15th November, 1892; 6 years.

Claim.—1st. The combination, with an annular or ring armature, of a series of conductors or wire coils wound around the section of the ring and connected in endless or closed circuit, with the successive coils alternated or wound in opposite directions, and arranged at intervals or radial spaces apart on the ring corresponding to the distances between neutral points of adjacent poles of the field magnets, the corresponding coils of successive cycles or subseries of conductors being disposed in uniform precession or recession, and commutator connections corresponding to the cycles or subseries of conducting coils, substantially as and for the purpose specified. 2nd. The combination, with an annular or ring armature core, of a series of conductor or wire coils wound around the section of the ring and connected in endless or closed circuit, with the successive coils alternated or wound in opposite directions, and arranged at intervals or radial spaces apart on the ring corresponding to the distances between neutral points of adjacent poles of the field magnets, the corresponding coils of successive cycles or subseries of conductors being disposed in uniform precession or recession over a range corresponding to two field spaces of opposite polarity or the portions of the field included between three successive neutral points of the field, and commutator connections corresponding to the cycle or subseries of conducting coils, substantially as and for the purpose specified. 3rd. In a dynamo or motor, the combination of the brushes, the commutator composed of separate bars or segments corresponding in number to a multiple of the number of magnetic poles of the fields, an annular or ring armature core, a series of conductors or wire coils wound around the section of the ring, of double the number of the commutator segments, connections joining the coils in each cycle or subseries at intervals corresponding to the spaces between the neutral points of the fields, the corresponding coils of successive cycles being disposed in uniform precession or recession, covering a range corresponding to two field spaces or the intervals between the successive neutral points of the field, the successive coils throughout the circuit alternating or being wound in

opposite direction, and commutator connections corresponding to the said cycles or subseries of coils, and embracing two field spaces of opposite polarity, substantially in the manner and for the purpose specified. 4th. In a dynamo or motor, the combination of the brushes, the commutator bars, connected substantially as described, and corresponding in number to a multiple of the number of the poles in the fields, and connected under or to correspond to similar poles of the field, an annular or ring armature core, a series of conductors or wire coils wound around the section of the ring, of double the number of the commutator segment, the connections joining the coils in a closed circuit, the successive coils in which are alternated or wound in opposite directions and arranged at intervals or radial distances apart on the ring, corresponding to the distances between neutral points of adjacent poles of the field magnet, the corresponding coils of successive cycles or subseries being disposed in uniform precession or succession, commutator connections corresponding in number and succession to the said cycles or subseries of conductors, all arranged substantially in the manner and for the purpose set forth.

No. 41,001. Machine for Making Matches.

(*Machine pour la fabrication des allumettes.*)

Augustus E. Ellinwood, Akron, Ohio, U.S.A., 15th November, 1892; 18 years.

Claim. 1st. In a match making machine, the combination of the longitudinally expandible carrier belt and rollers actuating the same, the outer roller being caused to revolve at a greater speed than the inner roller, thus causing the longitudinal expansion of the carrier belt to produce a space between and separation of the match splints, substantially as described and for the purposes set forth. 2nd. In a match making machine, the combination of the splint supporting receptacle that supplies the matches to a splint separating device consisting of an expandible endless carrier or splint moving belt that receives the splints in a compact condition from said receptacle and causes the same to be separated while in process of being conveyed forward through said separating device by the longitudinal expansion of the carrier, which delivers the splints thus separated to a continuous carrier of the match making machine for passing the same through the machine that finishes the match, substantially as and for the purposes known and described. 3rd. In a match making machine, an expandible carrier belt or belts, by which the match splints are carried forward and delivered to the match making machine, said carrier belt or belts being caused to expand longitudinally in carrying the splints outwardly, and thereby separate the splints, substantially as and for the purposes shown and described. 4th. In a match making machine, an expandible endless carrier belt combined with a splint supporting surface upon which the splints are received and separated, said endless carrier forming a space or separation between the splints, substantially as shown and described. 5th. The expandible separating belt provided with rollers actuated by gearing which gives a greater speed to the outer roller for the purpose of elongating or stretching the carrier belt, substantially as and for the purposes described. 6th. The combination of the chute or passageway provided with a lower extended plate or surface H, of curvilinear form, that supports the splint, with the expandible separating carrier belt F, operating substantially as described.

No. 41,002. Bookbinders' Machine.

(*Machine pour relier les livres.*)

Horace Lucien Arnold, Brooklyn, assignee of Robert Whitehill Smith, New York, all in the State of New York, U.S.A., 15th November, 1892; 6 years.

Claim. 1st. A rotary book carrier provided with an automatically operated grasping device, substantially as described. 2nd. An intermittently rotated book carrier provided with an automatically operated grasping device, substantially as described. 3rd. The combination, with a rotary book carrier provided with a grasping device, of means for automatically opening and closing the grasping device, substantially as described. 4th. The combination, with a book carrier provided with a grasping device, of means for rotating said carrier intermittently, and means for automatically opening and closing the grasping device, substantially as described. 5th. The combination, with a rotary book carrier provided with a plurality of grasping devices, of means for automatically opening and closing each grasping device, substantially as described. 6th. The combination, with a book carrier provided with a plurality of grasping devices, of means for rotating said carrier intermittently, and means for automatically opening and closing each grasping device in succession, substantially as described. 7th. The combination, with a book carrier provided with a plurality of grasping devices, of means for automatically opening and closing each grasping device in succession, substantially as described. 8th. The combination, with a book carrier provided with a plurality of grasping devices, of means for rotating said carrier intermittently, and means for automatically opening and closing each grasping device in succession, substantially as described.

No. 41,003. Culinary Chopper. (Hache-viande.)

John Bennett Coe, Boston, Massachusetts, U.S.A., 15th November, 1892; 6 years.

Claim. 1st. A culinary chopping or mincing device comprising in its construction a reciprocatory rod, a spring for holding the said rod raised or withdrawn, and cutters on the lower or inner end of said rod, as set forth. 2nd. A culinary chopping or mincing device comprising in its construction a reciprocatory rod, a spring for holding the said rod normally raised or withdrawn, cutters on the lower or inner end of the said rod, and a closed casing surrounding the said cutters and space in which they operate, as set forth.

No. 41,004. Lamp Stove. (Poêle à lampe.)

Sarah L. Walker, Bloomville, Ohio, U.S.A., 16th November, 1892; 6 years.

Claim.—In a device of the character set forth, the combination of a wooden box having a central vertically disposed partition dividing the same into opposite compartments, one of which is formed as a baker, and provided with a hinged door lined with asbestos and with a horizontal partition above the bottom of the box, with a central opening therein dividing the compartment in which it is situated into an upper enlarged closed baking chamber space, and a lower reduced lamp chamber having a tier of drawers in one end thereof, a lining of asbestos entirely surrounding the interior of the said baking chamber space, and having a central opening in the bottom thereof aligning with the opening in said horizontal partition, feet projecting upward from the said horizontal partition on opposite sides of the opening therein, a baking chamber removably resting on the said feet and having a hinged door, and a wooden box having a lamp compartment for supporting a lamp and elevating the same so that the chimney thereof will be projected through the central opening in the aforesaid horizontal partition, the single hinged door of the entire compartment supporting said baking apparatus, forming a closure for the baking space and lamp chamber, and said baking space and lamp chamber both opening out toward said door, substantially as described.

No. 41,005. Corset. (Corset.)

Lewis Schiele, New York, State of New York, U.S.A., 16th November, 1892; 6 years.

Claim.—A corset having the parts adapted to meet at the front, one part of the front having a stay at the edge, and a second stay B, distant therefrom and parallel therewith, so as to have a flexible portion C between the two stays, the other part constructed with flexible straps projecting therefrom, the said straps on the one part and the flexible portion on the other part, provided the one with studs and the other with corresponding sockets, the said sockets being adapted to set upon the studs and engage therewith, substantially as and for the purpose described.

41,006. Diving Armour. (Armure de plongeur.)

Arthur Hemenger, Algona, Michigan, U.S.A., 16th November, 1892; 6 years.

Claim. 1st. In a diving armour, the combination with head, chest, body, leg, boot and shoe sections, pivotally connected together, and a waterproof covering for the whole, of an air inlet pipe opening into the chest section, and a discharge pipe leading from the head section to the surface of the water, substantially as and for the purpose described. 2nd. In a diving armour, the combination with head, chest, body, leg, boot and shoe section, pivotally connected together, and a waterproof covering for the whole, of a double pipe leading from the surface of the water, and having diverging ends, one of which enters the head section and the other the chest section, the fresh air entering the armour through one pipe and vitiated air escaping through the other, substantially as and for the purpose described. 3rd. In a diving armour, the combination of a metallic body section, having a spherical front and rear, a chest section pivoted to the body section and provided with overlapping ends, a leg section having an enlarged upper portion arranged to fit within the body section and pivoted thereto, a boot section having an enlarged spherical upper end fitting within the lower portion of the leg section, said boot and leg sections having reduced portions to permit the two to move freely back and forth, a cap secured to cover said reduced portions, and a shoe section hinged to the boot section in the manner and for the purpose substantially as described.

41,007. Fifth Wheel Attachment for Vehicles.

(*Rond d'avant train de voiture.*)

Lewis Stewart Browning, of Montreal, Quebec, Canada, 16th November, 1892; 6 years.

Claim.—1st. A fifth wheel attachment for vehicles, consisting of a telescoping cylinder and means for securing the ends of such cylinder respectively to the body of the vehicle and to the axle thereof as set forth. 2nd. A fifth wheel attachment for vehicles, consisting of a telescoping cylinder, a yielding resistance contained therein, and means for securing the ends of such cylinder respectively to the body of the vehicle and to the axle thereof as set forth. 3rd. A fifth wheel attachment for vehicles having a yielding resistance located centrally of its axis between the fifth wheel and the body of the vehicle, and means for securing vertical alignment, for the pur-

poses set forth. 4th. In a fifth wheel attachment for vehicles, the combination of the cylindrical section A, having a contracted end, the cylindrical section B, having an expanded end, the yielding resistance C, and means for securing such sections, respectively to the vehicle body and the axle, as set forth.

No. 41,008. Stove Pipe Drum. (*Tuyau de poêle.*)

Moses Pember Farnham, Maynard, Iowa, U. S. A., 16th November, 1892; 6 years.

Claim.—1st. The combination with a pipe section having an upper and lower opening of a drum surrounding the pipe section and having three vertical partitions, one extending from top to bottom and the other two being of less length than the drum, one terminating short of the top and the other short of the bottom, and a damper in said pipe section, and a stop in the lower end of said pipe section below said damper, substantially as described. 2nd. The end closed stove or furnace pipe drum having upright partitions within it of different heights or depths, establishing flues in between them, and having a central through draft pipe provided with upper and lower draft openings and an intermediate damper, the lower head of the drum provided with a soot or ash clearance hole exterior of one side of the through draft pipe, provided with a lid or door and arranged to form a clearance outlet for two adjacent flues formed by the partitions with the drum, substantially as described. 3rd. The combination, with the radially partitioned closed end drum B, and central draft pipe A, having upper and lower side apertures *b b'*, and intermediate damper D, and with the drum partition C², which stops short of the top of the drum, of the adjustable slide E, substantially as and for the purpose herein set forth.

No. 41,009. Damping Device for Musical Boxes.

(*Appareil à humecter pour boîtes à musique.*)

Gustav Adolf Brachhausen and Paul Riessner, Eutritzsch, Kingdom of Saxony, 16th November, 1892; 6 years.

Claim.—1st. For musical boxes and other instruments in which reeds or combs are vibrated by toothed wheels or cylinders a damping lever *c*, which after the toothed wheel or cylinder *b*, has actuated a reed *t*, is brought into contact by the further revolution of the wheel with a wire *a*, fixed on the point *e*, of the reed *t*, the damping lever *c*, being returned to its imperative position by means of a spring *d*, substantially as described.

No. 41,010. Condenser. (*Condenseur.*)

Thomas Craney, Bay City, Michigan, U.S.A., 16th November, 1892; 6 years.

Claim.—1st. In a condenser, the combination of the vapour pipe, a condensing chamber into which said pipe leads, and a tangential water supply adapted to produce a whirlpool in the condensing chamber. 2nd. In a condenser, the combination of the vapour pipe, a condensing chamber into which said pipe leads, a water chamber around said condensing chamber, closed at the bottom and open at the top, a tangential water supply pipe entering said water chamber, adapted to force the water over into the condensing chamber to produce a whirlpool therein, substantially as described.

No. 41,011. Toy. (*Jouet.*)

Maximilian Thiele, Carl Kupperling and Fritz Sichternann, Berlin, Prussia, 16th November, 1892; 6 years.

Claim.—Toy for testing muscles, characterized by a metal blade A, in the form of a table knife, which, held in a horizontal position, bears a bent wire loop formed like a U, so that the ends of the same lie on the surface, when the loop is in an inclined position, substantially as described.

No. 41,012. Baker's Oven. (*Four de boulangerie.*)

Edward August Claus Petersen, Chicago, Illinois, U.S.A., 16th November, 1892; 6 years.

Claim.—1st. In a baker's oven, in combination, with the circulating flues, a dead air chamber 5, substantially as and for the purpose set forth. 2nd. In a baker's oven, in combination, with the circulating flues, a dead air chamber 5, located at the back of the oven and with which the flues communicate, substantially as and for the purpose set forth. 3rd. In a baker's oven, the combination, with the baking chamber and the circulating flues passing through the chamber, of the plates 8 surrounding the flues, substantially as and for the purpose set forth. 4th. In a baker's oven, provided with circulating pipes located beneath the crown, a shield or plate 9 located beneath the circulating pipes, substantially as and for the purpose set forth. 5th. In a baker's oven, provided with circulating pipes in the baking chamber at the crown, a removable shield or plate 9, substantially as and for the purpose set forth.

No. 41,013. Washing Machine. (*Machine à blanchir.*)

Charles Frederick Lane, Tulare, California, U. S. A., 16th November, 1892; 6 years.

Claim.—In an improved washing machine, the combination, with a sud's box, having a corrugated bottom, of the end covering pieces provided with air vents, the valves arranged upon the under sides of said end pieces beneath the air vents, the removable lid arranged

between the end pieces, the machine shelves arranged beneath each end piece, the supporting frame, and the gudgeons attached to the sud's box, all arranged substantially as shown and described.

No. 41,014. Neck Yoke. (*Volée de bout de timon.*)

Lewis W. Rothrock, Morrisdale Mines, Pennsylvania, U.S.A., 16th November, 1892; 6 years.

Claim.—As an improved article of manufacture, a harness attachment consisting of the continuous ring A, provided with the tangential parallel arms *a, a*, projecting in the same direction from opposite sides of the ring, and the roller B, removably mounted between the extreme outer ends of said arms, whereby the portion of the ring between the arms serves to strengthen the device and to prevent a strap passed between the roller and said partition from contacting with the neck yoke or other connected part, as set forth.

No. 41,015. Bob-sleigh. (*Traineau-jumeau.*)

John Henry Weicher and George Washington Clark, both of Penfield, New York, U.S.A., 16th November, 1892; 6 years.

Claim. 1st. In a bob sled, the combination, with the bolster F, and reach C, of the bearing consisting of the plate *h*, provided with the ball *a*, the two half sections *k, k*, fitted to the ball, the stirrup *l*, to which the end of the reach is swivelled, and the loop shaped clips *m, m*, attaching the stirrup and half sections together, as shown and described and for the purpose specified. 2nd. In a bob sled, the combination, with the rear bolster G, of the bearings *n, n*, attached to the top of the sled, said bearings being convex and of shorter radius in front than in rear, and the studs *p, p*, attached to the bolster and passing through slots of the bearings, as shown and described and for the purpose specified.

No. 41,016. Electrical Propulsion Car. (*Char électrique.*)

Archibald H. Brintnell, Toronto, Ontario, Canada, 16th November, 1892; 6 years.

Claim.—1st. In a trolley system for the electrical propulsion of cars, a completely encased and insulated trolley wire, a series of rods extending at intervals through the casing and connected to hinged flaps on the road bed, each preceding flap along the line being designed to be raised so as to complete the circuit through its rod and trolley wire, before the rod of the flap following is lowered, so as to break the circuit over the trolley wire, as and for the purpose specified. 2nd. In a trolley system for the electrical propulsion of cars, a completely encased and insulated trolley wire, a series of rods extending at intervals through the casing and connected to hinged flaps on the road bed, each preceding flap along the line being designed to be raised so as to complete the circuit through its rod and the trolley wire before the rod of the flap following is lowered, so as to break the circuit over the trolley wire, and having spring jaws at the bottom ends, as and for the purpose specified. 3rd. The trolley wire Q, the rods L, having spring jaws S, secured to their lower end and extending up at intervals through the casing, each rod being connected to the flap K, by the slotted lug forming part of the flap, and each flap having turned up lower corners K¹, and designed to be successively raised by a series of horizontally journalled trolley wheels on the end of the trolley bar or arm, as and for the purpose specified. 4th. The trolley wire Q, the rods L, having spring jaws S, secured to their lower end and extending up at intervals through the casing, each rod being connected to the flap, by the slotted lug forming part of the flap and spiral spring *r*, extending between the plate O, and plate R, and each flap having turned up lower corners K¹, and designed to be successively raised by a series of horizontally journalled trolley wheels on the end of the trolley bar or arm, as and for the purpose specified. 5th. The trolley wire Q, the rods L, having spring jaws S, secured to their lower end and extending up at intervals through the casing, each rod being connected to the flap K, by the slotted lug forming part of the flap, the spiral spring *r*, extending between the plate O, and plate R, a layer of waterproof flexible material N, secured around the rod M, by the nuts *m*, and each flap having turned up lower corners K¹, and designed to be successively raised by a series of horizontally journalled trolley wheels on the end of the trolley bar or arm, as and for the purpose specified. 6th. The trolley wire Q, the rods L, having spring jaws S, secured to their lower end and extending up at intervals through the casing, each rod being connected to the flap K, by the slotted lug forming part of the flap, each flap being formed in three portions K, K¹ and K¹¹, secured together as specified, hinged at the horizontal apex of the block J, and having supporting lugs K¹¹, and each flap having turned up lower corners K¹, and designed to be successively raised by a series of horizontally journalled trolley wheels on the end of the trolley arm or bar, as and for the purpose specified. 7th. The trolley wire Q, the rods L, having spring jaws S, secured to their lower end and extending up at intervals through the casing, each rod being connected to the flap K, hinged at the longitudinal apex of the block J, by the slotted lug forming part of the flap, in combination with the horizontal trolley wheels G, journalled on the end of the spindle I, and extending downwardly from the bar E, and spiral spring *e*, extending between the bottom of the bar and the top of the trolley wheel, the bar E, being electrically connected to the motor, as and for the purpose specified. 8th. The trolley wire Q, the rods L, having spring

jaws S, secured to their lower end and extending up at intervals through the casing, each rod being connected to the flap K, hinged at the longitudinal apex of the block J, by the slotted lug forming part of the flap, in combination with the trolley wheels G, journaled at the bottom end of the spindles H, the springs I, bar E, and rocking bar F, as and for the purpose specified. 9th. The trolley wire Q, the rods L, having spring jaws S, secured to their lower end and extending up at intervals through the casing, each rod being connected to the flap K, hinged at the longitudinal apex of the block J, by the slotted lug forming part of the flap, in combination with the trolley wheels G, journaled at the bottom end of the spindles H, the springs I, bar E, rocking bar F, and springs *e*, as and for the purpose specified. 10th. The trolley wire Q, the rods L, having spring jaws S, secured to their lower end and extending up at intervals through the casing, each rod being connected to the flap K, hinged at the longitudinal apex of the block J, by the slotted lug forming part of the flap, in combination with the trolley wheels G, journaled at the bottom of the spindles H, the springs I, the rocking bar F, having a hooked end, and the bar E, having a clevis 4, which is connected to the hooked end by the chain 3, as and for the purpose specified. 11th. The trolley wire Q, the rods L, having spring jaws S, secured to their lower end and extending up at intervals through the casing, each rod being connected to the flap K, hinged at the longitudinal apex of the block J, by the slotted lug forming part of the flap, in combination with the trolley wheels G, journaled at the bottom of the spindles H, the springs I, the rocking bar F, having a hooked end and the bar E, having a clevis 4, which is connected to the hooked end by the chain 3, and means whereby the bar E, and trolley wheels may be swung laterally, as and for the purpose specified.

No. 41,017. Adjustable Axle Nut for Running Vehicles. (*Noix pour essieux de voitures.*)

Joseph L. House, Peter B. Christian and Peter Faber, Minneapolis, Minnesota, U. S. A., 26th November, 1892; 6 years.

Claim.—1st. The combination, in a device of the class described, of the threaded end of the axle with the adjustable nut, the recess in said nut of greater diameter than that of the end of the axle, one or more sets of oppositely placed openings extending transversely through said nut, a slot or slots in the end of the axle and a pin or key adapted to be inserted through the openings in the nut and through said slot, substantially as and for the purpose specified. 2nd. The combination, in a device of the class described, of the axle having the slotted and threaded end, with the nut 6, the recess 7 in said nut, the openings 9 in the nut, and the pin or key adapted to be inserted through said openings and the slotted end of the axle, substantially as described. 3rd. The combination of the axle 2 with the sleeve 3, having the threaded outer end 4, the slots 11 in said ends 4, the nut 6, having the recess 7 of greater diameter than the end of the axle 2, openings 9 provided in the nut, and the spring key or pin 8, adapted to be inserted through opposite pairs of said openings and through the slot 11 to lock said nut upon the end of the axle and against the end of the hub, substantially as described.

No. 41,018. Heating Apparatus.

(*Appareil de chauffage.*)

Mary Roe, Dayton, Minnesota, U.S.A., 26th November, 1892; 6 years.

Claim.—1st. The combination, in a heating drum, of removable heads held in place by removable rods encircled by caps which press downward upon the upper head of the drum, substantially as set forth, for the purpose specified. 2nd. The combination, in a heating drum, of removable rods which pass downward through the upper head and inner part of the drum, thence through the lower head and removable section (to which standards are to be attached) into nuts, said rods being encircled by caps which press downward upon the upper head of the drum, all substantially as shown for the purpose specified. 3rd. The combination, in a heating drum, of hot air spaces below and above a cavity, the inner and outer cylinders of said drum uniting on either side of the cavity in the form of a half circle, all substantially as described for the purpose specified.

No. 41,019. Medicinal Compound.

(*Composition medicinale.*)

Henry Mullin, Hamilton, Ontario, Canada, 26th November, 1892; 6 years.

Claim.—The herein described composition of matter to be used as a cure for rheumatism, throat and lung diseases, etc., etc., consisting of spirits of turpentine, camphor, liquid ammonia, extract of mustard, tincture of capsicum, sulphur and extract of pine tar, substantially in the proportions set forth.

No. 41,020. Electrical Surgical Instrument.

(*Instrument de chirurgie électrique.*)

Stephen Rowe Bradley, Nyack, State of New York, U. S. A., 26th November, 1892; 18 years.

Claim.—1st. The above-described instrument comprising a finger sheath, wires extending from the interior of the sheath to or near the exterior of the bulb at the other end of the instrument, an elas-

tic exterior bulb or covering for the said bulb, the inner surface whereof is a conductor of electricity, and wire extending to the said inner surface of the exterior bulb, substantially as set forth. 2nd. The above described instrument comprising essentially a finger sheath, wires extending from the interior of the sheath to the exterior of the bulb at the other end of the instrument, an elastic exterior bulb or covering for said bulb, the inner surface whereof is a conductor of electricity, a wire extending to the said inner surface of the exterior bulb, and means to hold the finger tip firmly upon the finger of the operator, substantially as set forth. 3rd. The above described instrument comprising a finger sheath at one end, wires extending from the interior of the sheath to or near the exterior of the bulb at the other end of the instrument, as elastic exterior bulb or covering the inner surface whereof is a conductor of electricity, a wire extending to the said inner surface of the exterior bulb, and a tube extending from near the finger sheath and discharging at or near the exterior bulb, substantially as set forth.

No. 41,021. Straw Elevator. (*Monte-paille.*)

James Buchanan, Indianapolis, Indiana, U. S. A., 26th November, 1892; 6 years.

Claim.—1st. The combination, in a pneumatic straw elevator and stacker, of the fan, the base portion C, and fan upper portion D, hinged thereto, the adjacent end of the said two portions being fitted one within the other, whereby a sliding union is provided as the relative positions are changed, thus permitting one portion to be elevated relatively to the other while still maintaining a substantially air tight relation between said two parts, substantially as set forth. 2nd. The combination, in a pneumatic straw elevator and stacker, of the fan, a tubular base portion mounted on a turn table, a tubular upper portion united to said base portion by a joint, said joint being flexible and air tight, and a tackle mounted upon and connected to said two portions and consisting of the rope E, the frame E', the sheaves *e*, *e'* and *d'*, and the windlass, whereby said upper portion can be elevated in relation to said lower portion, all substantially as shown and described. 3rd. The combination in a pneumatic straw elevator and stacker, of the two tubular portions C, and D, hinged together, said portion C, having its upper end in the form of a sector of a circle and arranged inside of the lower end of said upper part when the device is in operative condition, and said upper part having pieces secured inside with concave edges corresponding to the concave surfaces of said lower portion, substantially as shown and described. 4th. The combination, in a pneumatic straw elevator and stacker, of the tubular part C, having a flexible portion *e'*, and the tubular part D, into which the upper end of said portion C, including said flexible parts extends, said parts C, and D, being hinged together, substantially as set forth. 5th. The combination in a pneumatic straw elevator and stacker, of the two portions C, and D, united by a hinge or pivot, and a rope E, secured to the lower portion at one end, passing around the sheave on the upper portion, and returning to a windlass, also secured to the lever portion, substantially as shown and described. 6th. The combination, with a pneumatic straw elevator and stacker, of a mouth portion hinged thereto, having an inclined upper side and an open under side, and means whereby said mouth portion may be adjusted to a desired position, substantially as set forth. 7th. The combination with a pneumatic straw elevator and stacker, of a mouth portion D', hinged thereto and adjustable thereon from a position substantially in line with the main portion of the stacker to a position at an angle therewith, whereby the direction that the straw takes at the point of the discharge may be controlled, substantially as shown and described. 8th. A pneumatic straw elevator and stacker having a mouth portion provided with an inclined upper side and an open under side, the inclination being at an obtuse angle with the general direction of the main portion, substantially as shown and described. 9th. The combination with a thrashing machine, of a pneumatic straw elevator and stacker attached thereto, as described, and a fan located within the machine and communicating with said straw elevators, said fan being arranged centrally of said machine and arranged to take its supply of air from the interior of the machine, thus drawing into itself the dust caused by the operation of said machine and discharging said dust into the straw, substantially as set forth.

No. 40,022. Paper Pulp Digester.

(*Pourrissoir de pâte à papier.*)

Charles Curtis, Newton, Massachusetts, and Nathaniel Morrison Jones, Bangor, Maine, both in the U.S.A., 26th November, 1892; 6 years.

Claim.—1st. A digester composed of a shell, a cement lining and a series of independent lining plates of acid resisting material, each connected to the cement at a number of points between its edges, as set forth. 2nd. The combination with a digester shell and a cement lining therefor, of a series of lining plates, each having a plurality of fastening devices secured to it and to the cement lining at points within the edges of the plates, as set forth. 3rd. A digester lining block composed of cement, having a lining plate attached to its inner surface by a plurality of fastening devices projecting from the back of said plate at points between the edges thereof. 4th. The combination of a lining plate, a series of fastening devices projecting from the back of the plate, and a cement support formed upon said

fastening devices, as set forth. 5th. The combination of a lining plate, having sockets on its back, a series of fastening devices each engaged at one end with one of said sockets and provided with a headed outer end, and a cement support formed upon the headed ends of said fastenings, as set forth. 6th. A digester, comprising in its construction an external metal shell, a lining of blocks or sections of artificial stone cemented to the shell, and an inner lining composed of independent plates or sheets of acid resisting material, each of said plates or sheets being engaged independently with one of said blocks or sections, as set forth.

No. 41,023. Saw-mill Set Works.

(*Délic de chariot de scierie.*)

Isaac Newton Kendall, New Westminster, British Columbia, Canada, 26th November, 1892; 6 years.

Claim.—In set works for saw-mills, the combination with the open pillar or stand A, having a notched extension arm O, of the shaft D, provided with a gear wheel C, the dial plate L, inscribed with concentric rings, spaces divided and figured as set forth, and an indicator bar J, provided with a wire N, and journaled to the stand A, whereby the wire will move above the face of the dial, a spring W, to engage the notched arm O, and a device to hold said indicator at an adjusted position, as described.

No. 41,024. Combined Pipe Coupling and Internal Tube Rests. (*Joint de tuyau et support de tube combinés.*)

Isaac Newton Kendall, New Westminster, British Columbia, Canada, 26th November, 1892; 6 years.

Claim.—A pipe coupling of a tubular casting A, having externally feet or brackets B, and tapped ends C, and internally a block or rest E, fitting semi-circumferentially within the coupling, said rest having a semi-circular groove to support concentrically an internal tube or conduit G, as set forth.

No. 41,025. Manufacture of Asphaltum.

(*Fabrication d'asphalte.*)

Jesse Adams Dubbs, Alleghany, Pennsylvania, U. S. A., 26th November, 1892; 6 years.

Claim.—1st. The method herein described of manufacturing asphaltum, which consists in heating the crude petroleum or residuum practically free from paraffine wax to sufficient heat to remove the moisture therefrom, adding sulphur to the heated material in about the proportions stated and then raising the temperature of the mixture to a point a little below that of distillation of the oil or residuum and maintaining it at such temperature until the desired chemical combination has been effected, substantially as set forth. 2nd. The method herein described of manufacturing asphaltum, which consists in mixing a crude petroleum or residuum practically free from paraffine wax and sulphur in about the proportions stated, heating the mixture to a point a little below the point of distillation and maintaining it at such temperature until the desired combination has been effected, substantially as set forth. 3rd. The method herein described of manufacturing asphaltum, which consists in subjecting crude petroleum or residuum thereof to the action of steam, thereby removing paraffine wax therefrom, adding sulphur to the material thus purified in about the proportions stated, subjecting the mixture to a temperature a little below the temperature of distillation, and maintaining the mixture at such temperature until the desired combination has been effected, substantially as set forth.

No. 41,026. Governor for Steam Engines.

(*Gouverneur de machine à vapeur.*)

George H. Evans, Saint John, New Brunswick, Canada, 26th November, 1892; 6 years.

Claim.—1st. The combination, with the horizontal governor shaft T, of the hollow cylinders B, C sleeved on said shaft, and connected by yoke arms D, E, of the hub Z sleeved on said shaft, and having arms Z', Z', the governor balls A, A, having curved arms A' pivoted in slots in said arms Z', Z', a sleeve G reciprocating on said shaft, and pushed by the ends of the governor arms, a speed regulating spiral spring S surrounding said shaft, and intervening an adjusting screw J, and the reciprocating sleeve G, and a saddle H straddling said sleeve, and connected to a crank lever F, fulcrumed to said yoke arm E, for maintaining uniform speed of the engine. 2nd. The combination, with the shaft T, and hub Z having slotted arms, and balls A, A having curved arms pivoted in said slotted arms, a reciprocating sleeve G rotating with said shaft, and enclosing the hub Z, a spring S coiled around said shaft, and intervening an adjusting screw J, and the sleeve G, a saddle H straddling said sleeve G, a pull rope f attached to its saddle, and leading to any place in a building, and a crank lever F connecting said saddle to the stem O, of the steam engine throttling valve governor whereby disconnection of the saddle and lever is effected by pulling the rope to stop the engine for shutting off steam by permitting the valve stem to fall, as set forth. 3rd. The combination, with the shaft T, having a driving belt pulley L, and a saddle H straddling a reciprocating sleeve carried by said shaft, of an auxiliary shaft V having a

crank at both ends, one end carrying an idler pulley Y, and the other end connected by a rod W, and chain X to said saddle, and automatically acting to stop the engine when driving belt becomes disabled, by gravitation of the idler pulley, as set forth.

No. 41,027. Process of and Apparatus for the Preparation of Gaseous Mixtures. (*Procédé et appareil pour la préparation des mélanges gazeux.*)

James Howarth Parkinson, Strretford, Lancaster, England, 26th November, 1892; 6 years.

Claim. 1st. The herein described method of separating and obtaining the constituents of a gaseous mixture, which consists in reducing said gaseous mixture to a condition in which the desired constituent assumes the liquid state and removing the remaining gas or gases. 2nd. The herein described method of separating and obtaining the constituents of a gaseous mixture, which consists in reducing the temperature of the gaseous mixture to a point sufficient to cause the desired constituent or constituents to assume the liquid form and separating the remaining gas or gases, as set forth. 3rd. The herein described method of separating and obtaining the constituents of a gaseous mixture, which consists in reducing the temperature of the gaseous mixture in successive stages to points corresponding to or below the liquefying points of the desired constituents, as set forth. 4th. The herein described method of separating oxygen from nitrogen, consisting in subjecting the mixture of such gases to great reduction in temperature by the rapid volatilization of a fluid having a low boiling point, such, for example, as liquid air, oxygen, nitrogen or hydrogen, whereby the said oxygen and nitrogen are liquefied, and then separating the mixed liquid oxygen and nitrogen from each other, as set forth. 5th. The herein described method of separating oxygen from nitrogen, consisting in reducing the temperature of the mixture by the volatilization of a fluid having a low boiling point, to a degree at which the oxygen becomes liquefied, subjecting the mixture of cooled fluids to magnetic action and removing the nitrogen, as set forth. 6th. In the method of separating the constituents of a gaseous mixture by the methods referred to in the preceding claims, utilizing the separated and cold constituents to reduce the temperature of further quantities of gaseous mixture by causing them to flow through pipes or conduits with which the gaseous mixture is caused to come in contact on its way to the liquefying chamber, substantially as herein described for the purposes specified. 7th. The herein described method of separating and obtaining the constituents of a gaseous mixture, which consists in subjecting the said mixture to a pressure corresponding to the liquefying point of the desired gas and removing the remaining gas or gases. 8th. The herein described method of separating and obtaining the constituents of a gaseous mixture by subjecting the gaseous mixture to successive degrees of pressure corresponding to the liquefying points of the desired constituents, as set forth. 9th. Apparatus for the separation of the constituents of a gaseous mixture comprising two vessels, each to contain a volatile fluid having a low boiling point, cooling tubes arranged to be cooled by the cooling action of said fluids, and through one of which the gaseous mixture is caused to flow, and a pump arranged to draw off vapour from the upper end of one of said vessels and return it thereto through the cooling tube cooled by the other vessel, as set forth. 10th. Apparatus for the separation of the constituents of a gaseous mixture comprising two vessels, each to contain a volatile fluid having a low boiling point, cooling tubes arranged to be cooled by the cooling action of said fluids and through one of which the gaseous mixture is caused to flow, a pump arranged to draw off vapour from the upper end of one of said vessels, and return it thereto through the cooling tube, cooled by the other vessel, and a separating vessel into which the partly liquefied gases are caused to flow, and in which they are separated, substantially as herein described. 11th. Apparatus for the separation of the constituents of a gaseous mixture comprising two vessels, each to contain a volatile fluid having a low boiling point, cooling tubes arranged to be cooled by the cooling action of said fluid, and through one of which the gaseous mixture is caused to flow, a pump arranged to draw off vapour from the upper end of one of said vessels and return it thereto through the cooling tube cooled by the other vessel, a separating vessel in communication with the cooling tube in which the gaseous mixture is cooled, and a magnet arranged to act upon the liquid supplied to said separating vessel, substantially as herein described. 12th. In apparatus for the separation of the constituents of a gaseous mixture, the combination of vessels 8 and 11, cooling tubes 9, 12 and 16, a pump connecting the upper part of said vessel 8 with said tube 9, a pump 10 connecting the upper part of said vessel 11 with said tube 12, means for cooling said tube 9, an air inlet valve for admitting air to said pump 10, and pipe connections between said vessels, tubes and pumps, substantially as herein described. 13th. In apparatus for the separation of the constituents of a gaseous mixture, the combination of vessels 8 and 11, cooling tubes 9, 12 and 16, a pump connecting the upper part of said vessel 8, with said tube 9, a pump 10 connecting the upper part of said vessel 11 with said tube 12, means for cooling said tube 9, an air inlet valve for admitting air to said pump 10, pipe connections between said vessels, tubes and pumps, a separating vessel in communication with said cooling tube 16, separate outlet pipes from said separating vessel, and regenerator tubes in connection with said outlet pipes, substantially as described for the purposes specified.

No. 41,028. Spool Holder. (Porte-bobine.)

Oscar J. Israel and Don E. Lewis, both of Chariton, Iowa, U.S.A.,
26th November, 1892; 6 years.

Claim.—1st. The combination, with the casing comprising the opposite side walls having opposite grooves terminating at their lower ends midway the side walls in bearings, of the spool tray having compartments and opposite trunnions located at the sides of the tray and adapted to ride in the grooves of the side walls, substantially as specified. 2nd. The combination, with the casing comprising the opposite side walls having vertical grooves upon their inner sides and terminating midway of the side walls in bearings, of a spool holder consisting of a series of trays located one upon the other, and each arranged slightly in rear of the tray below, each tray having a series of partitions dividing it into compartments, and opposite trunnions extending from the opposite walls of one of the trays and located in front of the centre of the combined series of trays, substantially as specified. 3rd. The combination, with the opposite side walls having the vertical grooves or ways, the lid, the front stationary cover, and the sliding cover located in front of the spring clasp, secured to the stationary cover, the series of spool trays offset from each other and mounted upon each other, each tray comprising a series of longitudinal partitions reduced at their front ends and front connecting rest strips, the opposite trunnions extending from the sides of the trays in front of the transverse centre thereof and riding in the groove, and the transverse strip 15, located above the ends of the grooves and connecting the rear edges of the side walls, substantially as specified. 4th. The casing having the grooves or ways 13, combined with the series of inclined spool trays secured one upon the other, with the upper offset from the lower tray, so that said trays do not interfere with free access to each other, and bearing trunnions 23 for the trays to rest in the grooves or ways, substantially as described. 5th. The casing having the grooves or ways 13, combined with the series of inclined spool trays secured one upon the other, with the upper tray offset from the lower tray, so that said trays do not interfere with free access to each other, and bearing trunnions 23 for the tray to rest in the grooves or ways, and the sliding door 11 to close over the front of the trays, substantially as specified.

No. 41,029. Car Coupler. (Attelage de chars.)

Nicholas Joseph Hopkins, Owen Sound, Ontario, Canada, 26th
November, 1892; 6 years.

Claim.—1st. The bevelled mouth drawhead A, A, with slot J, J, and the tongue B, B, and the bent tongue G, substantially and for the purposes hereinbefore set forth. 2nd. The combination with the draw pin and damp E, E, the lever J, and the hand wheel H, substantially as and for the purposes hereinbefore set forth.

No. 41,030. Governor for Steam Engines.

(Gouverneur pour machines à vapeur.)

Frederick W. Mount, St. John, New Brunswick, Canada, 26th
November, 1892; 6 years.

Claim.—1st. The regulation of the point of cut off in an engine, by arresting the motion of the governor balls in any desired orbit of said balls, substantially as described. 2nd. A device of the character described, having the point of cut off or the regulation of the load directly under the control of the engineer, thus enabling him with the engine running or at rest to fix the governor balls in the required orbit and give the desired cut off in the steam valve, substantially as described. 3rd. The combination with an engine governor having the centrifugally actuated fly balls, of a mechanism for arresting the inward motion of the balls at any part of their orbit, substantially as described. 4th. The combination with an engine governor having centrifugally operated fly balls and a sliding sleeve connected with the balls, of a swinging lever pivotally connected with the sleeve so as to move the same, and a screw mechanism for adjusting the lever, substantially as described. 5th. The combination with an engine governor having centrifugally operated fly balls and a sliding sleeve, of a swinging lever having one end pivotally connected with the sleeve, a pair of adjustable hand wheels or nuts arranged to clamp the lever and regulate its movement, and an indicator operated by the lever and arranged to indicate the cut off of the engine as regulated by the regulator and the governor, substantially as described. 6th. The combination with an engine governor having centrifugally operated balls and a sliding sleeve operating to control the movement of the said balls, of a swinging lever having one end pivotally connected with the sleeve a screw mechanism for adjusting and fastening the swinging lever and indicating scale arranged on one side of the lever, and a pointer carried by the lever and held to move over the scale, the scale and pointer being arranged to indicate the point of the engine cut off as controlled by the regulator and the governor, substantially as described.

No. 41,031. Fish Net. (Filet de pêche.)

Charles Leiding, Duluth, Minnesota, U.S.A., 26th November, 1892;
6 years.

Claim.—1st. A fish net having floats and sinkers secured thereto of semi-circular shape or outline, as set forth. 2nd. A fish net having a semi-circular float provided with holes or apertures, and bands

or cords for securing said float to the net, as set forth. 3rd. A fish net having a sinker provided with a pivoted bail or loop, as set forth. 4th. A fish net having a sinker provided with socketed ends, and the bail or loop having angular ends inserted in said socketed ends, substantially as set forth. 5th. The herein described improved sinker having the flexible ears and socketed ends, and the bail or loop having angular ends inserted in said socketed ends, substantially as set forth. 6th. The herein described improvement in fish nets, consisting of the fish net, the semi-circular float having holes or apertures, the bands or cords passed therethrough, the lead sinker having flexible ears, and the pivoted bail or loop, substantially as set forth.

No. 41,032. Thrashing Machine. (Machine à battre.)

James Buchanan, Indianapolis, Indiana, U.S.A., 26th November,
1892; 6 years.

Claim.—1st. The thrasher cylinder or beater composed of a shaft, a spline thereto, and a large number of knives or teeth formed of sheet metal and placed thereon, each succeeding knife having a notch in the side of the opening therein which fits over the shaft, located slightly differently from the notch in the preceding knife, whereby by means of said notches and said spline each succeeding knife is caused to extend in a direction slightly in advance of that of the preceding knife thus causing said knives to assume a spiral relation to the shaft at their outer or operative ends when ready for use, and washers interposed between said knives, whereby they are separated, substantially as shown and described. 2nd. The combination, with the thrasher cylinder or beater, of a concave composed of bars of a wedge shaped formation in cross section and set at an angle with the face of the beater, substantially as shown and described. 3rd. Bars E, from which to form the concave to a thrashing machine, said bars being wedge shaped in cross section throughout the greater portion of their length, and substantially rectangular ends thereon at an angle with the direction of the bodies thereon, substantially as set forth. 4th. The combination, in a thrashing machine, of the screens and riddles, a receptacle for grain which needs further cleaning, a blast fan, a conduit leading therefrom to an auxiliary fan, and a conduit leading therefrom to above the grain table, substantially as set forth. 5th. The combination, in a thrashing, of the grain table F, terminating in the screen F', the screen G, arranged below said screen F', the perforated plate H, below said screen G, and above the receptacle K, said receptacle K, the plate T, against which the tailings from the screen F' strike, the perforated plate J, the receptacle L, arranged below said perforated plate J, and the fans N and Q, substantially as shown and described.

No. 41,033. Buckle. (Boucle.)

John Henry Smith, Fairchild, Wisconsin, U.S.A., 26th November,
1892; 6 years.

Claim.—In a buckle, a keeper having flanged guides upon its sides and a plurality of teeth or other like holding devices, in combination with a slotted tongue and a flat spring suitably connected thereto and located over the slot, the free end of the spring having a suitable catch to engage with the teeth or other similar device on the keeper, and a thumb piece for raising the spring, substantially as and for the purpose set forth.

No. 41,034. Indicator for Stations and Streets.

(Indicateur de station et de rue.)

Gerald de Courcy O'Grady and John Robimette Collins, both of
Toronto, Ontario, Canada, 26th November, 1892; 6 years.

Claim.—1st. In a station indicator, a band mounted upon connected rollers, a gear wheel loose on the spindle on one of the rollers, and carrying pawls reversed to each other, and a ratchet wheel loose upon the said spindle, having teeth reversed to each other, mechanism for rotating the gear wheel, and means for retracting the said mechanism to its normal position, all substantially as described. 2nd. In a station indicator, a band mounted upon connected rollers, a gear wheel loose on the spindle of one of the rollers and carrying pawls reversed to each other, and a ratchet wheel loose upon the said spindle, having teeth reversed to each other, said teeth consisting of four sets arranged in relation to each other as described, and operated in connection with the pawls to give longer and shorter movements, mechanism for rotating the gear wheel, and means for retracting the said mechanism to its normal position, all substantially as described. 3rd. In a station indicator, a roller case having cavities for the upper and lower rollers, and an intermediate space for the band connected with said rollers, apertures in said intermediate space upon both sides, positive connections between the spindles of said rollers, and yielding connections between one of the rollers and its spindle, and mechanism for moving the spindles intermittingly, as and for the purpose specified. 4th. In a station indicator, a roller case having at its upper end connection for holding it to the roof of the car, an upper and lower cavity for the rollers, rollers mounted upon removable spindles, one of said rollers being positively connected to its spindle, and the other having yielding connection between its spindle and the roller, a band connected to said roller, and arranged to be wound upon one or the other rollers, and means for intermittingly moving the rollers in either direction, substantially as described. 5th. In a station indicator, a band mounted upon

rollers, within a case, said rollers having hollow axial tubes, angular in cross section; and spindles fitted thereto, with cylindrical journals and removable bearings upon one end of said spindles, substantially as described. 6th. The case provided with upper and lower cavities for the rollers, and an intermediate apertured space between said upper and lower cavities, rollers in said cavities held upon spindles movable laterally, connection between the said spindles and means for rotating said spindles and the rollers and openings for the removal of the rollers from the case, all substantially as described. 7th. In a station indicator, having rollers with a band connecting them, said rollers being mounted upon connected spindles, a pinion upon one of said spindles, and mechanism for operating the same in either direction a limited distance, a flange upon said wheels carrying pawls in reverse direction to each other, said pawls resting upon the periphery of the ratchet wheel, having four sets of teeth a, a' , means for limiting the movement of said pawls, and a dog on each side of said ratchet wheel, pivoted upon a bar and arranged to permit the said pawls in one direction, but to trip them in the opposite direction, all substantially as described.

No. 41,035. Gang Saw-mill. (*Scierie verticale.*)

William T. MacKay, Vancouver, British Columbia, Canada, 26th November, 1892; 6 years.

Claim.—1st. A gang saw-mill, comprising reciprocating frames arranged, one in front of the other and provided with gangs of saws, and mechanism for changing the angles of the frames in relation to each other, substantially as described. 2nd. A gang saw-mill, comprising a vertically reciprocating saw frame having a gang of saws therein, a second reciprocating frame held to move opposite the first frame and having gangs of saws arranged obliquely with respect to the first saws, and means of adjusting the pitch of the second saw frame, substantially as described. 3rd. A gang saw-mill, comprising a supporting frame or standard, a vertically reciprocating saw frame held to move in rigid guides in the standard and having a gang of saws secured therein, a second reciprocating frame provided with a gang of saws and held to move opposite to the first frame, the second frame being inclined laterally, and a crank mechanism for actuating the frames, substantially as described. 4th. A gang saw-mill, comprising a supporting frame or standard, a vertically reciprocating saw frame held to move in rigid guides in the standard and having a gang of saws therein, an inclined guide frame held in front of the saw frame, a screw mechanism for adjusting the inclined frame laterally, and a second saw frame provided with a gang of saws and held to slide in the inclined guide frame, substantially as described. 5th. A gang saw-mill comprising oppositely reciprocating saw frames having gangs of saws therein, one of the frames being inclined in relation to the other, and a feed mechanism actuated by the movement of the frame and adapted to feed a bolt against the saws, substantially as described. 6th. The combination with a reciprocating saw frame, of the oscillating cam wheels arranged adjacent to the frame, means for tipping the cam wheels back and forth by the reciprocating of the frame, oppositely arranged feed bars adapted to be clamped upon a bolt, and an operative connection between the feed bars and the cam wheels whereby the movement of the cam wheels will force the bars toward each other and feed them forward and back, substantially as described. 7th. The combination of the reciprocating saw frame, the oscillating connected cam wheels arranged adjacent to the frame, the feed bars connected with the cam wheels so as to be forced toward each other and fed forward and back by the movements of the cam wheels, contact rollers journaled on the cam wheels, an inclined plate secured to the saw frame and adapted to engage the cam wheel rollers and tilt the cam wheel, and a lug carried by the saw frame and adapted to engage the roller and throw back the cam wheel on the return stroke of the saw frame, substantially as described.

No. 41,036. Shutter Slat Tenon. (*Fermeture à tenons.*)

Albert M. Clay and Rodney Vernon, both of Toronto, Ontario, Canada, 26th November, 1892; 6 years.

Claim.—1st. A shutter tenon comprising a suitable spindle, an extension from said spindle adapted to be firmly secured to the shutter slat, substantially as and for the purpose specified. 2nd. A tenon for a shutter slat comprising a spindle terminating in a crown, two branches extending from said crown, the ends of each of said branches pointed, each of said ends bent at an angle to its respective branch and adapted to be pressed into the shutter slat to hold the shutter slat in place, substantially as and for the purpose specified.

No. 41,037. Electrical Elevator. (*Elevateur électrique.*)

Otis Brothers & Company, New York, assignees of Rudolph C. Smith, Yonkers, New York, U.S.A., 26th November, 1892; 6 years.

Claim.—1st. The combination, with a multiple wire system of electrical distribution, of a shunt motor, and means for connecting said motor to said system to vary the speed of the motor, substantially as described. 2nd. In an electric elevator apparatus, the combination, with a multiple wire system of electrical distribution, of a shunt motor, connections between the field magnet coils of the motor and the wires of the system, and mechanism, substantially as

described, for connecting the armature of the motor to the various wires of the system to alter the speed of the motor, substantially as described. 3rd. In an electric elevator apparatus, the combination, with a multiple wire system of electrical distribution, of a shunt motor, the field magnet coils of which are connected to have a constant field of force, and means for connecting the armature to the main leading wires, or to the main and neutral wire for varying the speed of the motor, substantially as described. 4th. In an electric elevator apparatus, the combination, with a multiple wire system of electrical distribution, of a shunt motor, the field magnet coils of which are connected to produce a constant field of force, a switch device, and means for automatically connecting the armature circuit to the leading wires of the system to vary the speed of the motor, substantially as described. 5th. In an electric elevator apparatus, the combination, with a multiple wire system of electrical distribution, and a shunt motor, the field magnet coils of which are connected to produce a constant field of force, of a switch controlling the circuit of the motor, and a resistance device, and means for automatically controlling said resistance device, whereby the speed of the motor may be varied, substantially as described. 6th. In an electric elevator apparatus, the combination, with a multiple wire system of electrical distribution, a shunt motor, the field magnet coils of which are connected to produce a constant field of force, of a switch, a cam controlled by the switch, a resistance device controlled by the cam for regulating the speed of the motor, substantially as described. 7th. In an electric elevator apparatus, the combination, with a multiple wire system of electrical distribution, a shunt motor, the field magnet coils of which are connected to produce a constant field of force, of a switch device controlling the circuit to the armature, a cam controlled by said device, a resistance device controlled by the cam, and solenoids connected in the circuits for regulating the operation of the cam, substantially as described. 8th. In an electric elevator apparatus, the combination, with a multiple wire system of electrical distribution, a shunt motor, the field magnet coils of which are connected to produce a constant field of force, of a switch device controlling the circuit to the armature, a cam controlled by the switch device, the resistance device controlled by the cam, brushes bearing on said resistance device, a solenoid in one of the main leading wires, and a solenoid in the neutral wire, substantially as described.

No. 41,038. Combined Night Light and Time Indicator. (*Lumière de nuit et registre horaire combinés.*)

Stephen Alderson, Leeds, assignee of Henry Bennett, Middleton, St. George, Durham, both in England, 26th November, 1892; 6 years.

Claim.—1st. The combination of a candle c , enclosed in a tube a , and movable upward as it is consumed by a spring d , with a time dial s , and pointer o , the latter being caused to move over the graduated face of the dial by the movement of the free end of the spring d , substantially as set forth. 2nd. The combination of a tube a , carrying a candle c , arranged to illuminate a time dial s , a coiled spring d , raising the candle c , as it is burned, a flexible connection i , between the upper end of the spring d , and the loose barrel l , with the pointer o , attached thereto and mounted on the fixed shaft m , and the spring p , connecting the loose barrel l , with the fixed shaft m , all substantially as herein set forth and shown. 3rd. The combination of a tube a , carrying a candle c , with a time dial s , arranged to be illuminated thereby, a spring d , arranged to raise the candle as it is burned, a flexible connection i , between the spring d , and the loose barrel l , having the pointer o , attached thereto, the fixed shaft m , on which the said barrel is mounted, the spring p , connecting the said barrel with the said shaft, and an adjustable metallic connecting piece r , and the pointer o , being respectively in electrical contact with the conducting wires from the battery of an electric bell, substantially as and for the purpose set forth. 4th. In combination with a candle supporting spring and a pointer, and intermediate connections whereby the burning of the candle and consequent movement of the spring impart motion to said pointer, a fixed dial over which the said pointer travels, and a metallic connecting piece arranged for contact with the said pointer to close an electric circuit, the said pointer and connecting piece being in electrical connection with the wires from the battery of an electric bell, substantially as set forth.

No. 41,039. Life Preserver. (*Appareil de sauvetage.*)

Christian Paulsen, Hamburg, Prussia, 26th November, 1892; 6 years.

Claim.—1st. An automatically inflatable life saving apparatus for use in water substantially as herein described. 2nd. An automatically inflatable life saving apparatus, substantially as herein described, wherein the combustion of a cartridge fired in the water inflates a vessel which, in its normal condition, is folded up. 3rd. In an automatically inflatable life saving apparatus of the kind herein described, the employment, for keeping in engagement the sear or catch which retains the igniting device in its active position, of a solid substance easily soluble in water. 4th. In an automatically inflatable life saving apparatus, of the kind herein described, the employment, for igniting the cartridge, of a hammer actuated by a spring and retained in the cocked position by a lever or catch which is released by the dissolving of a substance easily soluble in water.

No. 41,040. Rail Fastening.*(Appareil pour assujettir les rails.)*

Thornton E. W. Fay, Philadelphia, Pennsylvania, U.S.A., 26th November, 1892; 6 years.

Claim.—1st. A rail fastening, consisting of an oblong flat plate bent up transversely from its under side at both ends, from edge to edge of the plate, to form the two pairs of raised ribs 13, 13, on its upper side and corresponding grooves across its lower side, flat surfaces for the rail bases being formed between each pair of ribs, and provided with bolt or spike apertures 11 to align those in the rail bases, substantially as described. 2nd. As an improved article of manufacture, a rail fastening comprising a plate having surface ribs near its ends, said ribs being placed at an angle to each other and adapted to clasp the flanges of the rails, substantially as described.

No. 41,041. Safety Gate for Bridges.*(Barrière de sûreté pour ponts.)*

Humphrey Hillock Reynolds and John William Hangstefer, both of Detroit, Michigan, U.S.A., 26th November, 1892; 6 years.

Claim.—1st. In a safety gate for bridges, the combination with the approaches having the vertical uprights and the gate adapted to rise and fall between said uprights, of the mechanism mounted on the approach for raising the gate, the springs mounted on the approach, the swinging bridge section, the rack slidingly mounted thereon, said rack having the bolt *d*, the sliding rod *D*, having engagement at one end with the rack, and the head *G*, said head being pivoted at the centre of the bridge, its arm having engagement with the bar *D*, for the purposes specified. 2nd. In a safety gate for bridges, the combination with the approach having the vertical uprights, the gate proper adapted to raise and fall between said uprights, of the mechanism mounted on said approach for raising said gate, the springs *s*, mounted on said approach, the swinging bridge section, and the rack slidingly mounted thereon, said rack having the projection *d*, substantially as set forth.

No. 41,042. Method of Distilling Petroleum.*(Appareil pour distiller le pétrole.)*

The Solar Refining Company of Ohio, assignees of Herman Frasch, Cleveland, Ohio, U.S.A., 26th November, 1892; 6 years.

Claim.—1st. In a distillation of petroleum, the method herein described of purifying and decolorizing the distillate obtained by cracking the oil, after such distillate has been treated with sulphuric acid, said process consisting in re-distilling such distillate in the presence of dry hydrate of lime with or without subsequent sulphuric acid treatment, substantially as described. 2nd. In the distillation of petroleum, the treatment of any of its distillates by agitation with sulphuric acid, and after neutralizing the acid more or less in any convenient manner, subjecting the distillate to re-distillation in the presence of a desulphurizing agent with or without subsequent sulphuric acid treatment, substantially as described.

No. 41,043. Method of Distilling Petroleum.*(Appareil pour distiller le pétrole.)*

The Solar Refining Company, of Ohio, assignees of Herman Frasch, of Cleveland, Ohio, U. S. A., 26th November, 1892; 6 years.

Claim.—In the art of distilling petroleum oils, containing sulphur compounds of the character specified, the improvement which consists in eliminating the sulphur, by subjecting the oil during the process of distillation, either in a liquid or vaporous condition, to roasted and pulverized copper matte, substantially as described.

No. 41,044. Fly Trap. (Attrape-mouche.)

William John Kayser and William Gender, both of Milwaukee, Wisconsin, U.S.A., 26th November, 1892; 6 years.

Claim.—1st. In a fly trap, the combination of a receptacle, provided with a well extended below the bottom thereof, and a base block grooved to engage the extended portion of the well, substantially as set forth. 2nd. In a fly trap, the combination of a receptacle provided with a well, a base block arranged to support the receptacle, and a poison roll arranged within the well, substantially as set forth. 3rd. In a fly trap, the combination of a base block grooved upon its upper face and provided with side ribs, a receptacle having an angular well for engagement with the grooves, whereby the ribs are inclosed by the corners of said well, and a transparent cover for the receptacle, substantially as set forth. 4th. In a fly trap, the combination of a receptacle provided with a well, a base block, and a poison roll arranged on the base block to extend up into the well, substantially as set forth.

No. 41,045. Machine for Making Paper Bags.*(Machine pour faire les sacs en papier.)*

The Diamond Paper Bag Company, assignees of Frank L. Baker, all of Wilmington, Delaware, U.S.A., 26th November, 1892; 6 years.

Claim.—1st. The method, substantially as hereinbefore set forth, of forming the bottom of paper bags, which consists in creasing and applying paste to the end of the blank, pressing the end against the paste blade, holding the end of the tube to allow sufficient slack for

severing the bag length therefrom, and then completing the fold in the bottom by tucking the creased portion between folding rolls, substantially as described. 2nd. The combination, with the paste blade carrying paste on one of its sides, of a paste bar, between which and the paste the paper is grasped, substantially as described. 3rd. The combination, with the paste blade carrying paste on one side, of the paste bar, between which bar and the blade the paper is grasped, one of the parts being movable with respect to the other, substantially as described. 4th. The combination, with the reciprocating paste blade carrying paste on one of its sides, of the movable bar adapted to press the paper against the paste blade, substantially as described. 5th. The combination, with the feed rolls, the guide and cutting blades, of a paste bar having an inclined surface and a reciprocating paste blade, the arrangement being such that the paper is fed over the incline surface of the bar, and is pressed against the face of the paste blade, substantially as described. 6th. The combination, with the feed rolls, guide, and cutters, of the paste bar, reciprocating paste blade, an operative mechanism for said bar and blades, the arrangement being such that the paper is grasped between the bar and blade and held while the bag length is being severed, substantially as described. 7th. The combination, with the rolls, of a reciprocating paste blade, a paste bar co-operating with the paste blade to crease the end of the tube, and apply paste thereto, and a tucker for tucking the creased portion into the bite of the roller, substantially as described. 8th. The combination, with the pasting and creasing device, of a tucker blade having projecting portions on its tucking edge, substantially as described. 9th. The combination, with the rolls having recesses, of a tucking blade having projections corresponding with said recesses, substantially as described. 10th. The combination, with the pasting and creasing device, of a tucking blade having projections, and the rolls having recesses to form a clearance for said projections, substantially as described. 11th. The combination, with the paste box and paste blade, of a doctor plate for the blade, and adjusting screw rods, substantially as described.

No. 41,046. Bicycle. (Bicycle.)

Robert W. Shannon, Assignee of James Bradley, both of Albany New York, U.S.A., 26th November, 1892; 6 years.

Claim.—1st. In a bicycle, the combination with the driving wheel, of a pedal gear train, bearings for the outer members of said gear, train and friction balls separating the bearings from the gear wheel journals, substantially as subscribed. 2nd. In a bicycle the combination with the driving wheel, of a pedal gear train bearing for the outer members of said train, a shaft or arbor for each of said numbers and upon each of which is fixed, sleeves on the shaft, and friction balls separating the bearing from the said sleeves, substantially as described. 3rd. In a bicycle the combination with the driving wheel, of a pedal gear train, bearings for the outer members of said train, said bearings consisting of a main body portion and a two part nut having a recess between the parts for the reception of friction balls, a shaft or arbor for each of said outer gear wheels upon which it is fixed, sleeves on the shaft, and friction balls separating the interior of the two part nut from the sleeves, substantially as described. 4th. In a bicycle, the combination with the driving wheel, of a pedal gear train and bearings from the outer members of same train, and rods upon which the bearings are mounted, said bearings being split at their ends and provided with clamping screws for clamping the split ends upon the rods, substantially as described. 5th. In a bicycle a pedal gear frame consisting of two pairs of guide rods or members for the wheel bearings, said rods being connected to form a rigid frame, and said frame being suspended at one end from the driving wheel hub and at the other end from backbone frame, substantially as described. 6th. In a bicycle a framework consisting of two pairs of guide bars or members for the gear wheel bearings, one pair of said bars or members being shorter than the other, connecting pieces for securing said pairs to form a rigid frame, one of said connecting pieces being connected to the wheel hub, and the other ends of the longer pair of guide bars being secured to the cross connecting piece supported from the backbone of the main frame, substantially as described. 7th. In a bicycle, a frame work consisting of two pedal gear frames, each formed of two pairs of guide bars or members for the gear wheel bearings connected to form rigid frames, said frames being suspended at one end from the driving wheel hub, a double saddle supporting backbone having at its end a cross connecting piece connecting it to the ends of the pedal gear frames and rods extending rearwardly from the hub, and having connection with the backbone, substantially as described.

No. 41,047. Barrel. (Baril.)

Clement Aitkens, Saltfleet, and Peter Duncan Cregar, and Patrick Macindoe Bankier, both of Hamilton, all in Ontario, Canada, 26th November, 1892; 6 years.

Claim.—The device of two floors or bottoms placed midway between the top and bottom of the barrel, and so fastened that the barrel is divided into two compartments, each with its own top and bottom and separated from each other by sufficient space to allow of the barrel being divided in two by a saw, thus making two half barrels out of one whole barrel.

No. 41,048. Nut Tapping Machine. (Machine à tarauder.)

Wells W. Leggett and Thomas H. Simpson, Detroit, Michigan, and the Capitol Manufacturing Company, Chicago, Illinois, assignees of Frank Steel Cook, Springfield, Ohio, U.S.A., 26th November, 1892; 6 years.

Claim. 1st. The combination with a feeding hopper of a conduit adapted to convey the blanks therefrom, means for agitating said hopper and a clutch mechanism between said conduit and agitating mechanism adapted to automatically connect and disconnect the said agitating mechanism by a variation of the quantity of blanks in said conduit, substantially as set forth. 2nd. The combination with a feeding hopper provided with a false bottom, at an angle therein, of an opening in the said hopper at or near the lower edge of said false bottom, means for alternately rotating said hopper around the said false bottom, and at the same time raising it to cause the opening to move parallel to the plane of the false bottom, substantially as set forth. 3rd. The combination with a hopper and means for agitating said hopper to cause the blanks to be fed therefrom, of a pivoted conduit adapted to receive said blanks, an elastic connection supporting the pivoted conduit, a clutch mechanism adapted to stop and start the said hopper, and a connection from said clutching mechanism to the pivoted conduit, whereby the movement of said conduit is adapted to stop and start the said hopper, substantially as described. 4th. The combination with a feeding hopper, of a conduit adapted to convey the blanks therefrom, said conduit being formed of a varying cross section in the length thereof, adapted as the blanks pass successively therethrough to bring the said blanks to a uniform position, substantially as set forth. 5th. The combination with the hopper, provided with a false bottom at an angle therein, an opening in said hopper at or near the lower part of said false bottom, and cam faces on the bottom proper of said hopper, adapted to be engaged by cam projections as the hopper is rotated, and thus raise and lower the said hopper, of a cam wheel adapted to produce an alternating rotary motion of said hopper, and a continuously revolving mechanism adapted to be connected and disconnected to and from said cam wheel, substantially as set forth. 6th. The combination, with a hopper, a false bottom at an angle therein, an opening in said hopper, and cam faces and projections under said hopper, of a reciprocating bar provided at one end with a rack adapted to engage teeth on said hopper, substantially as set forth. 7th. The combination, with the hopper, the false bottom at an angle therein, an opening in the side of said hopper and the cam faces and projections under said hopper, of a reciprocating bar provided with a rack adapted to engage teeth on said hopper, a cam wheel adapted to operate said reciprocating bar, and a clutch mechanism on said cam wheel adapted to automatically engage and disengage the same from a continuously rotating mechanism, substantially as set forth. 8th. The combination, with a hopper, and a cam wheel adapted to operate the said hopper to discharge the blanks therefrom, and a clutch mechanism on said cam wheel adapted to engage and disengage the same with and from a continuously revolving mechanism, of a conduit adapted to receive the blanks discharged from said hopper, and a pivoted connection from said conduit to said clutch mechanism, whereby the variation of the blanks therein will automatically operate the said clutch mechanism, substantially as set forth. 9th. The combination, with a vertically revolving tap, of a feeding mechanism adapted to feed the blanks respectively over said tap at right angles thereto, and a spring plunger adapted to force the blanks on said revolving tap, substantially as set forth. 10th. The combination, with the vertically revolving tap, of a three way feeding chamber, into one arm of which the said tap is adapted to extend, a spring plunger over said tap in another arm of said chamber, and a reciprocating plunger adapted to move back and forth and feed the blanks successively between said tap and spring plunger, substantially as set forth. 11th. The combination, with a feeding chamber, provided with a spring plunger over the vertically revolving tap, and a reciprocating plunger at right angles thereto, of a conduit opening into said chamber and adapted to feed the blanks therein, and means for turning the blanks to a horizontal position at the same time they are fed between the tap and the spring plunger, by the reciprocating plunger, substantially as specified. 12th. The combination, with the hopper and a conduit leading therefrom, said conduit being connected to a feeding chamber and curved so as to deliver the blanks vertically therein, of a reciprocating plunger in the said feeding chamber adapted to press the blanks forward over the vertically revolving tap, and at the same time to turn it to a horizontal position, substantially as set forth. 13th. The combination, with a conduit and a feeding chamber, of a reciprocating plunger adapted to press the blanks forward from said conduit to a point immediately above the vertically revolving tap, a clamping device for holding the blank over the tap and means for automatically pressing the blank onto said tap, substantially as set forth. 14th. The combination, with the revolving tap, of the spring plunger in a line therewith, and the reciprocating plunger at right angles thereto, said plunger being operated from a single connecting rod and adapted respectively to press the blank into engagement with the tap and feed the said blank to said tap, and means for permitting an independent movement of said plungers, substantially as set forth. 15th. The combination with the feeding chamber, of a conduit adapted to convey the blanks in a continuous stream to said chamber, and a feeding in said chamber,

adapted to automatically feed the blanks at intervals to the tapping mechanism, and at the same time cut off the supply of blanks from the conduit, substantially as specified. 16th. The combination with the feeding chamber and the revolving tap extended therein, of the spring plunger over said tap and the rack arm attached to said plunger, the reciprocating plunger at right angles to said spring plunger, and the vibrating arm, provided with a cam groove adapted to engage said feeding plunger, the said rocking arm and vibrating arm being attached to a common connecting rod by means which permit an independent movement thereof, substantially as set forth. 17th. The combination with the feeding chamber and the revolving tap, of the conduit leading to said chamber, the feeding plunger having the forwardly projecting shoulder thereon, the stop projections in said chamber, the clamping spring over said tap, the spring plunger at right angles to said feeding plunger, and means for simultaneously moving said plunger to feed the blanks, substantially as set forth. 18th. The combination with the vertical tap, of the revolving sleeves having two pairs of jaws therein, adapted to engage said tap, a longitudinally moving collar around said sleeve, and means for opening and closing said jaws alternately as the collar is moved longitudinally, substantially as and for the purpose set forth. 19th. The combination, with the sleeve C, of the jaws pivoted therein, the sliding collar C¹, having projections therein adapted to engage said jaws, means for revolving said sleeve, and means for automatically reciprocating said collar at intervals after a given number of revolutions of said sleeve, substantially as set forth. 20th. The combination, with the agitating hopper, the conduit leading therefrom, the feeding plunger and spring plunger at right angles to each other, of the vertical tap supported by a chuck mechanism provided with automatically and alternately opening jaws, the said parts being so timed one with the other as to automatically feed the blanks to the tap and discharge the finished nuts therefrom without removing the tap or interrupting the operation of the machine, substantially as set forth. 21st. The combination, with the main shaft, of the bevelled gear supporting a sleeve therein, the alternately opening jaws in said sleeve, the reciprocating collar about said sleeve, adapted to open and close said jaws, the transverse shaft provided with cam wheels connected to said main shaft, and means for connecting said cam with said collar, substantially as set forth.

No. 41,049. Mower. (Fauçeuuse.)

McCormick Harvesting Machine Company, assignee of Henry E. Fridmore, all of Chicago, Illinois, U.S.A., 26th November, 1892; 6 years.

Claim. 1st. The combination, substantially as hereinbefore set forth, with the driving gear, of the prime pinion, its spindle having eccentric journals and arranged to be rocked in the direction of the vicinal motion of the driving gear to throw the pinion into mesh, a lug projecting from said spindle, a stop against which said lug is brought when the pinion has fully engaged with the gear, to bar the further rocking of the spindle in that direction, a lever whereby said spindle is rocked, and a shouldered ledge past which the revolution of the driving gear tends to carry the lever to lock it against accidental retrograde movement. 2nd. The combination, substantially as hereinbefore set forth, with the driving gear and prime pinion, of the spindle having an eccentric integral journal at one end, and at the other end an eccentric sleeve journal provided with offset, the spring lever and the shouldered ledge or shield setting out from the gear case. 3rd. The combination, substantially as hereinbefore set forth, with the rigid forked coupling frame composed of lateral brace and thrust bar integral therewith and the journal extension of said lateral brace beyond the junction, of the finger bar bridge sleeved to said journal extension and provided with a lever arm, the tilting lever, and the link connecting said arm and lever. 4th. The combination, substantially as hereinbefore set forth, of the main frame, the coupling frame hinged thereto, the finger bar having a hinge connection with said coupling frame, the gag lever supported from the coupling frame and acting upon a spur on the inner end or heel of the finger bar, a lifting lever and a spring connection between said lifting lever and the power arm of the gag lever, arranged to have its energy increased as the lifting lever is thrown back to raise the coupling frame. 5th. The combination, substantially as hereinbefore set forth, of the coupling frame hinged to the main frame, the finger bar bridge having a sleeve bearing upon a journal extension from said coupling frame, a gag lever pivoted upon a stub axle from said sleeve, the finger beam hinged to the bridge and having a spur on the inner side of said bridge against which the nose of the gag lever acts, a lifting lever, a link connecting said lifting lever with the gag lever and a spring interposed as to action between said link and the lifting lever. 6th. The combination, substantially as hereinbefore set forth, of the forked coupling frame hinged to the main frame, the finger bar bridge having a long sleeve bearing upon a journal extension from said coupling frame, the gag lever pivoted to a stub axle from said sleeve bearing, the finger bar hinged to the bridge and having a spur on the inner side of its pivot therewith against which the nose of the gag lever comes a stop or ledge from the sleeve, against which a finger from the gag lever comes whenever the finger bar is sufficiently rocked upon its connection with the bridge, a lifting lever, and a spring connection between said lifting lever and gag lever. 7th. The combination substantially as hereinbefore set forth with the coupling frame hinged to the main frame, finger bar bridge having a sleeve bearing

upon said coupling frame, and finger bar pivoted to said bridge, of the draft rod extending from the finger bar bridge above the shoe to a connection with the shifting double tree. 8th. The combination substantially as hereinbefore set forth with the coupling frame, the finger bar bridge having a sleeve bearing on said coupling frame, and the finger bar hinged to said bridge, of the tilting lever connected with an arm from said sleeve bearing, and the draft rod connecting the finger bar bridge above the shoe with the friction double tree. 9th. The combination substantially as hereinbefore set forth, with the finger bar and coupling frame, and with the lifting lever, of a spring connected with the lifting devices and normally under considerable tension, and means whereby the tension of said spring is abnormally increased or stored up in the initial lifting movement of the lifting lever, and released in its further movement, whereby it is caused to assist the lifting operation in the further movement of said lever. 10th. The combination substantially as hereinbefore set forth with the finger bar and the coupling frame, of the lifting segment, the spring connected with said segment and normally under considerable tension, to tend to lift the finger bar and coupling frame, the lifting lever, and intermediate connections between said lever and the spring, whereby the tension of the spring is abnormally increased in the initial lifting movement of the lever before the latter begins to act positively upon the coupling frame. 11th. The combination substantially as hereinbefore set forth, of the finger bar, and the coupling frame, the lifting segment, a lifting spring acting upon said segment to raise the finger bar and coupling frame, and intermediate connection between the segment and the opposite end of the spring, whereby said end will be pulled away from the segment to increase the tension as the cutting apparatus falls. 12th. The combination substantially as hereinbefore set forth, of the finger bar, the coupling frame, the lifting segment, the spring connected to said segment, the cam lever to which said spring is attached, and apparatus acting upon said cam lever to stretch said spring and increase its tension as the cutting apparatus falls. 13th. The combination substantially as hereinbefore set forth, of the finger bar, the coupling frame, the lifting segment, a spring secured at one end to said segment, the cam lever to which the other end of said spring is secured, the radius bar, the lifting lever, and the link connecting said lifting lever with the radius bar. 14th. The combination substantially as hereinbefore set forth, of the finger bar, the coupling frame, the gag lever, the lifting link and segment, the coiled spring attached to said segment, the lifting lever, and connections between said lifting lever and the opposite end of the spring, whereby its tension is abnormally increased in the initial lifting movement of said lifting lever. 15th. The combination substantially as hereinbefore set forth, of the finger bar, the coupling frame, the gag lever, the lifting link and segment, the spring secured to said segment at one end, the cam lever to which the other end of said spring is secured, the stop for said cam lever, and a link from the lifting lever connected with a roller travelling on the cam lever. 16th. The combination, substantially as hereinbefore set forth, of the finger bar and coupling frame, the lifting segment, the coiled spring attached to said segment, the cam lever to which the other end of the spring is attached, provided with an additional oblique reach and a succeeding curved reach, the radius bar, the lifting lever and the link connecting said lifting lever with the radius bar. 17th. The combination substantially as hereinbefore set forth, with the floating coupling frame and lifting apparatus in a mower, of a freely acting lifting spring normally under high tension, and means whereby a portion of said tension may be stored up and rendered ineffective until released in the positive lifting operation. 18th. The combination substantially as hereinbefore set forth, with the finger bar and coupling frame, of the lifting link and segment, the lifting lever, the rack for said lever having an initial smooth reach, the spring secured at one end to the segment, the cam lever to which the other end of the spring is secured, the radius bar and the link connecting said radius bar with the lifting lever.

No. 41,050. Tinsmith's Machine.

(*Machine de ferblantier.*)

Peck, Stow, and The Wilcox Company, Southington, Connecticut, assignees of Enos E. Stow, Plantsville, Connecticut, U.S.A., 26th November, 1892; 6 years.

Claim.—In a tinsmith's machine, the combination of the frame, and vertically adjustable bearing for the front end of the upper shaft having the recess 5 at its upper end, the lifting spring 4 for raising said bearing, the corrugated spring 6 within said recess, and the crank screw or its equivalent with its lower end bearing upon the upper side of said spring, substantially as described and for the purpose specified.

No. 41,051. Air Brake. (Frein atmosphérique.)

Christopher R. James, Jersey City, New Jersey, U.S.A., 28th November, 1892; 6 years.

Claim.—1st. The combination, with the auxiliary reservoir and brake cylinder, of the piston valve having the larger and smaller heads, and controlling the brake cylinder and exhaust ports by the larger head, and being constantly open between said heads to the pressure of the reservoir, and the other side of said larger head in communication with and normally subject to the pressure of the main tank, but subject also to release of said pressure by the engineer's valve, said reservoir being suitably connected with the main tank to be supplied with compressed air, substantially as de-

scribed. 2nd. The combination, with the auxiliary reservoir and brake cylinder, of the piston valve having the larger and smaller heads, and controlling the brake cylinder and exhaust ports by the larger head, and being constantly open between said heads to the pressure of the reservoir and on the other side of said larger head in communication with and normally subject to the pressure of the main tank, but also subject to release of said pressure by the engineer's valve, said piston valve having the check valve admitting the air from the main tank to the reservoir, substantially as described. 3rd. The combination, with the auxiliary reservoir and brake cylinder, of the piston valve having the larger and smaller heads and controlling the brake cylinder and exhaust ports by the larger head, and being constantly open between said heads to the pressure of the reservoir, and the other side of said larger head in communication with and normally subject to the pressure of the main tank, but subject also to release of said pressure by the engineer's valve, said piston valve having the check valve admitting the air from the main tank to the reservoir, and said reservoir also connected with the main tank by a separate pipe, and said pipe provided with a check valve in proximity to the reservoir. 4th. The combination, with the brake piston and cylinder, of the piston valve controlling the brake cylinder port, the constantly open main compressed air pipe connected to the case of said valve in the arrangement for opening and normally keeping the brake cylinder port open to the exhaust by the pressure of the main tank and for admitting compressed air from the main tank to the brake cylinder to apply the brakes when said valve is reversed, and the pipe connecting said valve case behind the large end of the valve with the main tank, subject to the engineer's valve in the arrangement to overbalance the pressure on said valve through the main pipe and reverse the valve to open the brake cylinder to the compressed air from said main pipe by the air admitted by the engineer's valve through the pipe connected with the valve case behind said large end of the valve, substantially as described. 5th. The combination with the valve controlling the brake cylinder port for admitting the compressed air to apply the brakes, and for exhausting it to release the brakes, of the constantly open pipe connecting the case of said valve between the heads thereof with the main tank, the pipe connecting said case behind the large head with the main tank through the engineer's valve, said first mentioned pipe admitting the air for opening and keeping the brake cylinder open to the exhaust and admitting air to the brake cylinder, to apply the brakes when the valve is reversed, and the other pipe admitting to reverse the valve for so applying the brakes when the engineer's valve is opened, substantially as described. 6th. The combination with the brake piston and cylinder, of the valve controlling the brake cylinder, of the valve controlling the brake cylinder port, the main supply pipe admitting air to actuate said valve for normally exhausting the brake cylinder and for filling said cylinder when the valve is reversed, also another supply pipe, subject to the engineer's controlling valve, and admitting overpowering pressure to reverse said valve to open the brake cylinder port and admit air from the main supply pipe to apply the brakes, and also the secondary valve intermediate to the main supply pipe and the said valve controlling the brake cylinder port, and automatically admitting overpowering pressure from the chambers of the two valves behind said valve controlling the brake cylinder port to reverse it and apply the brakes when the supply through the main pipe fails. 7th. The combination, with the brake piston and cylinder, of the valve controlling the brake cylinder port, the main supply pipe admitting air to actuate said valve for normally exhausting the brake cylinder and for filling said cylinder when the valve is reversed, also another supply pipe subject to the engineer's controlling valve and admitting opposing and overpowering pressure to reverse said valve and open the brake cylinder port to apply the brakes, also the secondary valve intermediate to the main supply pipe and the said valve controlling the brake cylinder port and automatically admitting overpowering pressure from the chambers of the two valves behind said valve controlling the brake cylinder port to reverse it and apply the brakes when the supply through the main pipe fails, the inlet passages for the air from the main pipe through the large head of the secondary valve, and the disc and spring for closing said passage when said air supply through the main pipe fails, said pipe connecting with the main tank through the engineer's valve, having a check valve in close proximity to the chamber of the valve controlling the brake cylinder port. 8th. The combination with the brake and the brake lever connecting rods, of the levers connected at one end to the said rods respectively and pivoted together between the ends, and at the other ends connected to the piston rod and to a fixed fulcrum respectively, substantially as described. 9th. The combination with the brake piston and the brake lever connecting rods, of the levers respectively connected at one end to said rods respectively, and pivoted together between the ends, and at the other ends connected to the piston rod and to a fixed fulcrum respectively, the distance from the fulcrum to the pivot coupling, the two levers being greater than from the piston rod to said coupling pivot, substantially as described.

No. 41,052. Apparatus for Dispensing Liquids.

(*Appareil de distribution des liquides.*)

William Miles Fowler, Milford, Connecticut, U.S.A., 28th November, 1892; 6 years.

Claim.—1st. In combination, a seat for a liquid receptacle, a stopper for the liquid receptacle having a movement toward and

away from the seat for the liquid receptacle, an air receptacle, means for communicating the movement of the stopper to the air receptacle to force the air therefrom, an air conduit leading from the interior of the air receptacle to the liquid receptacle through the stopper, a liquid conduit leading from the interior of the liquid receptacle through the stopper to a discharge opening, and means for operating the stopper, substantially as set forth. 2nd. In combination, a bellows, a seat on the bellows for a liquid receptacle, a stopper adapted to close the liquid receptacle, an air conduit through the stopper to the bellows, a liquid conduit through the stopper to a discharge opening, means for compressing the bellows and an indicator under the control of the bellows compressing means, substantially as set forth. 3rd. In combination, a base or pedestal, a bellows located within the base or pedestal, a seat on the bellows for a bottle, a standard fixed to and uprising from the base, a stopper adjusted to close the nozzle of the bottle when the latter is in position in the bellows, means for locking the stopper in engagement with the standard, an air conduit through the stopper to the bellows, a liquid conduit through the stopper to a discharge, a reservoir interposed in the liquid channel, and means for compressing the bellows, substantially as set forth. 4th. In combination, a base or pedestal provided with a guard rim, a bellows within the base, a seat on the bellows for a bottle, a standard fixed to and uprising from the base, a stopper engaged with the standard, a bottle forming when in position a connection between the stopper and bellows, an air conduit through the stopper to the bellows, a liquid conduit through the stopper to a discharge, a reservoir interposed in the liquid conduit in the stopper and means for depressing the stopper and bottle, and thereby compressing the air in the bellows, substantially as set forth. 5th. The combination with a suitable supporting base or pedestal, and means for locking a bottle therein, in yielding adjustment, of a bellows under the control of the yielding bottle and its operating mechanism, an air conduit adapted to communicate between the interior of the bottle and the bellows, a liquid conduit adapted to communicate between the interior of the bottle and a discharge, and means for operating the bottle and hence the bellows, substantially as set forth. 6th. The combination with the base, and the uprising bar or standard fixed thereto, of the bellows within the base, a bar fixed to the bellows and uprising therefrom, a seat on the bellows for a bottle, a stopper, means for locking the stopper to the bar fixed to the bellows, conduits through the stopper adapted to establish communication between the interior of the bottle and the bellows and a discharge respectively, and means for depressing the stopper and thereby depressing the bellows, substantially as set forth. 7th. The combination with the base and the channel bar uprising therefrom and fixed thereto, of the bellows, an uprising bar fixed to the bellows and extending upwardly within the hollow face of the channel bar, a seat within the base for a bottle, a stopper, means for locking the stopper to the bar connected with the bellows, means for forcing the stopper along the face of the channel bar, and conduits adapted to establish communication between the interior of the bottle and the bellows and a discharge, substantially as set forth. 8th. The combination with a suitable base, a bottle seat having a movement up and down therein and a bellows under the control of the bottle seat, of a bar uprising from and fixed to the base, a stopper having a rotary reservoir seated therein, means for locking the stopper in engagement with the uprising bar, means for rotating the reservoir and thereby depressing the stopper inlet and discharge ports through the wall of the reservoir inlet and discharge channels in the stopper with which the ports in the reservoir register, and an air conduit through the stopper to the bellows, substantially as set forth. 9th. The stopper, comprising a portion adapted to enter the nozzle of the bottle, and a head portion provided with a seat for a reservoir, a channel leading from the reservoir seat through the end of the stopper to be inserted within the bottle, a channel leading from the reservoir seat to a discharge spout and a channel leading from the end of a stopper to be inserted with the bottle of the exterior of the stopper, in combination with a reservoir seated within the stopper and provided with ports adapted to register with the channels leading from its seat, an operating lever fixed to said reservoir to rotate it into position to bring its ports to register with the channels, an uprising bar, means for holding the operating lever in engagement with the bar, means for retaining the bottle in position to receive the stopper and means for forcing air into the bottle as the reservoir is rotated, substantially as set forth. 10th. The combination with the base provided with a seat for a bottle and a standard fixed to and uprising from the base, of the stopper provided with a reservoir seated in its head, a locking device loosely mounted on the cylinder, a vertically movable bar adapted to engage said locking device, an operating lever fixed to the reservoir and provided with a toothed sector, rack teeth on the uprising bar fixed to the base, means for holding the toothed sector on the operating lever in engagement with the rack teeth on the bar, ports in the reservoir adapted to establish communication with the interior of the bottle and with the outside air, and means for forcing air into the bottle as the stopper is depressed, substantially as set forth. 11th. The combination, with the base, the bar fixed thereto and uprising therefrom, and the bellows located within the base, of a bar fixed to the bellows and uprising therefrom, a seat on the bellows for a bottle, a stopper provided with lugs adapted to embrace the opposite sides of the uprising bar fixed to the base, a locking device on the stopper adapted to engage the bar fixed to the bellows, a

pin extending through the lugs on the stopper to lock the stopper to the bar, and a lock for holding the pin in position, whereby the bottle when placed in position is locked against removal from its seat until the stopper is released from the uprising bars, substantially as set forth. 12th. The combination, with the base provided with an uprising rim fixed thereto, a bellows located within the base and a seat on the bellows for the bottle, of an uprising bar fixed to the base, a stopper for the bottle, means for engaging the stopper with the uprising bar, tubes leading respectively upwardly from the bellows and downwardly from the stopper, and having a telescopic connection with one another, air and liquid conduits through the stopper, and means for depressing the stopper and thereby depressing the bottle when in position and forcing the air in the bellows through the telescoping tubes into the bottle to drive the liquid therein out, substantially as set forth.

No. 41,053. Driving Gear for Wood Planing and Moulding Machines. (*Engrenage pour machine à dresser et mouler le bois.*)

Louis T. Pyott, Lower Merion, Pennsylvania, U.S.A., 28th November, 1892; 6 years.

Claim.—1st. The combination, in a planing machine, of an upper and lower line of feed rolls, each line geared together independently, driving pulleys 3, 5, connected with the upper and lower lines of rolls, respectively, and the driving belt 1 arranged, substantially as herein shown and described, to impart simultaneous movement to both upper and lower sets of rolls and gearing. 2nd. The combination, in a planing machine, of an upper and lower line of feed rolls, each line geared together independently, driving pulleys 3, 5, each mounted on the shaft of an intermediate pinion of the upper and lower lines of rolls, the driving belt 1 passing over said pulleys, and the tightening pulley 4 arranged intermediate of the horizontal planes of said driving pulleys, substantially as set forth.

No. 41,054. Construction of Arms for Water Wheels and Windmills. (*Construction de bras pour roues d'eau et moulins à vent.*)

John Williamson, Whitechurch, Ontario, Canada, 28th November, 1892; 6 years.

Claim.—The combination of the radiating arms B, with the central shaft A, about which the arms are placed, and to which they are pivoted by the clasps and bolts D, with the short arm of lever E, connected by the clasps G, and the rods H, to the centre disc F, at I, by which arrangement the arms act as levers of the first class, substantially as and for the purpose hereinbefore set forth.

No. 41,055. Pneumatic Transfer and Storage Station for Food Products. (*Transfert pneumatique et station d'emmagasinage pour produits alimentaires.*)

Lyman Smith, Chicago, Illinois, U. S. A., 28th November, 1892; 6 years.

Claim.—1st. A landing storage and transfer station for feed products, consisting of piers separated by intervening slips, railway tracks upon the piers and parallel to the slips, a railway track parallel to the water front and connected with the railway tracks on the piers, and storage cells upon the piers, said cells being parallel to the slips and the water front as shown, fig. 1, substantially as and for the purposes specified. 2nd. A storage station for food products, comprising a plurality of contiguous cells having their interiors separated from each other by intersecting cylindrical partitions, substantially as and for the purposes specified. 3rd. A storage station for food products, comprising a plurality of contiguous cells having their interiors separated from each other by intersecting cylindrical partitions, the axial centres of adjacent partitions being equal distances from each other throughout the system, substantially as and for the purposes specified. 4th. The combination, with a plate metal storage tank or tanks having concrete bottoms for such, of a supporting anchor Z-shaped in cross section, fig. 76, to one flange of which the tank is riveted, said anchor being in part embedded in the concrete bottom, substantially as and for the purposes specified. 5th. A plate steel storage tank, comprising a cylindrical or substantially cylindrical body, an encompassing topping angle at the upper end, and an encompassing anchor plate Z-shaped in cross section at the lower end, in combination with a dome secured to the topping angle, arch girders of angular section for supporting the dome, and an angular crown plate secured to the arch girders or rafters and to the dome, substantially as and for the purposes specified. 6th. A plate metal storage tank comprising a cylindrical or substantially cylindrical body, an encompassing topping angle at the other end, figs. 12, 13, and an encompassing anchor plate Z-shaped in cross section at the lower end, in combination with a dome secured to the topping angle, arch girders or rafters, fig. 11, of angular section for supporting the dome, an angular crown plate secured to the arch girders or rafters and to the dome, and a vertical stay for supporting the crown plate, substantially as and for the purposes specified. 7th. A storage station for food products, comprising a plurality of storage cells composed of mutilated cylinders grouped together and interconnected, so that a portion of one cell will form a corresponding portion of one or more contiguous cells, a valved air conduit, and a carbonic acid gas conduit

connected with the tanks at the bottom, fig. 49, said carbonic acid gas conduit having a valved branch for each of said cells, substantially as and for the purposes specified. 8th. A storage station for food products, comprising a plurality of storage cells composed of mutilated cylinders grouped together and inter-connected so that a portion of one cell will form a corresponding portion of one or more contiguous cells, valved air conduits connected with the cells at bottom, valved carbonic acid gas conduits also connected with the cells at bottom, and an exhaust blower D, fig. 6, connected with the cells at top, a receiver interposed in the connection between the cells and the exhaust blower, and a transfer pipe F, figs. 6, 9, connected with the receiver, substantially as and for the purposes specified. 9th. A storage station for food products, comprising a group of air tight storage cells composed of mutilated cylinders grouped together and inter-connected so that a portion of one cell will form a corresponding portion of a plurality of contiguous cells, an exhaust blower for each set of cells, said sets being composed of a given number of cells, valved conduits connecting the exhaust blower with each cell at top, and air conduits connected with the cells at bottom, whereby a partial vacuum may be formed in said cells or air drawn there through, and a conduit for admitting carbonic acid gas at the bottom of the cells, substantially as and for the purposes specified. 10th. A storage station for food products, comprising a group of air tight storage cells composed of mutilated cylinders grouped together and inter-connected so that a portion of one cell will form a corresponding portion of a plurality of contiguous cells, pneumatic transferring appliances for each set of cells, said sets being composed of a given number of cells for transferring the products to or from the same, comprising a receiver, valved conduits connecting the receiver with the cells, a suction and exhaust blower connected with the receiver, and a conduit for connecting the carbonic acid gas to said cells, substantially as and for the purpose specified. 11th. A storage station for food products, comprising a group of air tight storage cells composed of mutilated cylinders grouped together and inter-connected so that a portion of one cell will form a corresponding portion of a plurality of contiguous cells, pneumatic transferring and automatic weighing appliances for each set of cells (said sets being composed of a given number of cells) for weighing and transferring the products to or from the same, valved conduit connecting the transferring device therewith, an exhaust blower for operating the pneumatic transfer device, a valved connection between said exhaust blower and each of the cells, and a conduit for conducting carbonic acid gas thereto, substantially as and for the purposes specified. 12th. A storage station comprising a group of storage tanks adapted to be hermetically closed, in combination with a pneumatic transfer mechanism and a motor C, fig. 4, therefor, located above the tanks and ducts for admitting air and carbonic acid gas to said tanks at the bottom thereof, substantially as and for the purposes specified. 13th. A storage station comprising a group of steel plate storage tanks, adapted to be hermetically closed, in combination with a pneumatic transfer mechanism, such as herein referred to, connected with a plurality of tanks, and a motor for operating the same, said transfer mechanism and motor being located above the tanks and principally supported thereby, as shown in fig. 4, substantially as and for the purposes specified. 14th. A structure for the storage of grain, comprising a bottom and a tank, having its lower edge embedded in said bottom below the level of the adjacent ground and provided with a lateral flange or Z-bar, as shown in fig. 23, for the purpose set forth. 15th. A structure for the storage and elevation of grain, comprising an air tight metallic tank, a bottom therefor, said bottom extending below the level of the adjacent ground, having its sides inclining inwardly and downwardly, and means extending to or substantially to the bottom of the structure, for removing the contents therefrom, as and for the purpose set forth. 16th. A structure for the elevation and storage of grain, comprising an air tight metallic tank, a bottom therefor composed of a plastic composition and having its interior sides declining inwardly and downwardly and terminating in a horizontal central portion, and means adapted to rest on said central portion for removing the grain, substantially as described. 17th. The combination, with an air tight metallic tank, having an inclined bottom, of a grain pipe, and an incasing air pipe H, fig. 23, said air pipe extending to near the bottom of the tank, the lower end of which is provided with a hood or mouth piece secured to said air pipe and resting on the bottom of tank on supporting feet, as and for the purposes set forth. 18th. The combination with an air tight metallic tank, of the main pipe, an inclosing pipe for the latter, said pipe extending into and adjacent to the bottom of said tank, and an adjustable valve, fig. 29, above the cover of said tank and carried by the inclosing pipe outside, substantially as described. 19th. The combination, with an air tight metallic tank, of a main pipe extending thereto, an inclosing pipe also extending thereto and closed at its upper end, said inclosing pipe provided with a series of openings at a point outside the tank, and a rotatable band surrounding the enclosing pipe H, fig. 31, and provided with corresponding openings, whereby air may be conducted to the lower end of the main pipe to cut off the supply of grain thereto, or for the purpose of drying and cooling the grain, as the exigencies of the case may require, substantially as and for the purpose described. 20th. The combination, with a storage structure, of a grain pipe incased in an air pipe, the air pipe extending below the grain and having a contracted end below the grain pipe, fig. 32, as and for the purpose set forth. 21st. The combination with a storage struc-

ture, of a main pipe extending thereto, a supplemental pipe, I, fig. 21, also extending a short distance into the tank, and a movable pipe adapted to be shifted so as to register with either of the pipes, as and for the purposes set forth. 22nd. The method of preserving and storing food products, which consists in inclosing the same within a receptacle, subjecting said receptacle to the refrigerating action of the earth, removing the excessive or surplus moisture from the food products, and then closing the receptacle air tight, whereby the food products will be maintained in their natural dry condition excluded from the outer air and at a low temperature. 23rd. The method of preserving and storing food products which consists in inclosing the same within the receptacle, subjecting said receptacle to the refrigerating action of the earth removing the excessive surface moisture from the food products, closing the receptacle air tight, and excluding the light from the food products, substantially as described. 24th. A storage tank for food products, consisting of a plate metal tank adapted to be hermetically closed and provided with suitable gates or doors, figs. 42, in combination with independent air and carbonic acid gas conduits, having their outlets at or near the bottom of the tank, fig. 43, and an air exhaust apparatus K, fig. 41, connected with the tank at top, A, substantially as and for the purpose specified. 25th. A storage tank for food products, consisting of a plate metal tank adapted to be hermetically closed, a concrete bottom for said tank having the form of an inverted cone, and a discharge duct adapted to be hermetically closed, said duct communicating with said bottom, figs. 37, 38, 39, 40 and 41, in combination with means, substantially such as described, for admitting air and carbonic acid gas to the tank at the bottom, and exhausting the air at the top, substantially as and for the purpose specified. 26th. A storage tank consisting of a shell having a filling opening and provided with a concrete bottom within said shell having a central conical depression and a transverse discharge duct, fig. 41, substantially as and for the purposes specified. 27th. A storage tank consisting of a shell having a filling opening and provided with a concrete bottom within said shell having a central conical depression and transverse discharge duct, in combination with an exhaust pipe at the top of said tank, and an air inlet pipe and carbonic acid gas inlet pipe at opposite sides of the transverse discharge duct, substantially as and for the purposes described. 28th. A plate metal tank silo for ensilage and farm products, figs. 56, 57 and 58, as shown, having hermetically closed doors, an exhaust pipe at its top, and gas and air pipes at its bottom, together with a lifting device J, for raising the tank silo, and releasing its contents, substantially as described. 29th. As a means for storing and preserving food products, a tank or box, figs. 50, 51 and 52, adapted to be hermetically closed, shelves for said box, and endless chains from which said shelves are suspended, suitable chain pulleys adapted to be revolved, and a rotary exhauster for exhausting the air from and a pipe admitting carbonic acid gas to the bottom of said box, as and for the purposes specified. 30th. As a means for storing and preserving food products, a tank or box adapted to be hermetically closed, shelves for said box, and endless chains from which said shelves are suspended, suitable chain pulleys adapted to be revolved, a lock adapted to lock the pulleys against revolution, and means, substantially such as described, for exhausting the air from and admitting carbonic acid gas to said box, as and for the purposes specified. 31st. As a means for storing and preserving food products, a tank or box adapted to be hermetically closed, shelves for said box, endless chains from which the said shelves are suspended, suitable chain pulleys adapted to be revolved, in combination with an air exhauster connected with said box at top K, fig. 50, and a carbonic acid gas duct connected with said box at bottom, substantially as and for the purposes specified. 32nd. As a means for storing and preserving food products, a tank or box adapted to be hermetically closed, and provided with a door for gaining access thereto, shelves for said box, endless chains from which said shelves are suspended, an indicator controlled by the movements of the shelves and adapted to indicate the position thereof relatively to the door, a lock for locking the chain pulleys against revolution, and means, substantially such as described, for exhausting the air from admitting carbonic acid gas to said box, as and for the purposes specified. 33rd. As a means for storing and preserving food products, a polygonal tank or box adapted to be hermetically closed, a door located at the upper end thereof, revolvable chain pulleys arranged within the box at top and bottom, endless chains passing over said pulleys, cross rods or shafts connected with the chains, shelves suspended from said shafts, an index wheel adapted to be revolved by the cross shafts, an index hand or pointer on the shaft of the index wheel, and a graduated dial, fig. 54, on the outside of the box, on which and over which the index is adapted to revolve, and means, substantially such as described, for exhausting the air from and admitting carbonic acid gas to the box, as and for the purposes specified. 34th. The combination, with the polygonal box, fig. 52, provided with a door at its upper end, chain pulleys arranged within the box at top and bottom, figs. 50 and 51, endless chains passing over said pulleys, cross shafts connected with said chains, shelves suspended from the cross shafts, a chain pulley outside of the box on the lower pulley shaft, a square pinion at the upper end of the box, an endless chain connecting the square pinion with the outer chain pulley, and means for revolving the said pinion, of a pinion adapted to be revolved by the cross shafts of the shelves, an index on the shaft of the pinion, and a graduated dial over which said index is adapted to travel, said index and dial being arranged

on the outside of the box at the upper end thereof, substantially as and for the purposes specified. 35th. A floating metallic silo or vessel for the storage of grain, figs. 59 60, comprising two series of steel tanks arranged in the hull lengthwise thereof, a central metallic partition forming the inner end wall of said tanks, to which the side partitions forming said tanks are secured, spaces formed by the bottom of the said tanks and the true bottom of the vessel, and interposed frames or ribs upon which said tank bottoms rest, all substantially as and for the purposes hereinbefore set forth. 36th. A cotton storehouse consisting of a vertical shell of general cylindrical contour and provided with a dome or roof of spherical contour, in combination with a central supporting post or mast, fig. 74, extending from the foundation to the roof, said mast forming one member of a suitable elevating apparatus, substantially as described. 37th. A cotton storehouse consisting of a vertical shell having at its bottom portion a Z-bar, and a concrete foundation in which said Z-bar is embedded, substantially as described. 38th. A cotton storehouse consisting of a vertical shell of general cylindrical contour and a dome or roof of spherical contour, in combination with a central mast reaching to the apex of the roof, said mast forming one member of a suitable elevating apparatus, and having a cap piece, the roof rafters being connected at one end to the cap piece and at the other end to the upper end, to the upper edge of the shell, fig. 80, substantially as described. 39th. A cotton storehouse, consisting of a vertical cylindrical shell, a spherical dome or roof surmounting said shell, a central mast supporting the roof rafters and a ventilator device mounted upon said roof, said ventilator device consisting of a vertical shell supporting two intersecting cylindrical shells, said cylindrical shells having ventilating openings provided with closing doors, fig. 72, substantially as described. 40th. A cotton storage plant consisting of a plurality of storehouses, having a baling and pressing chamber common to all, each storehouse having independent entrances and doors, whereby the separate chambers may be completely isolated from each other, figs. 70 and 71, substantially as described. 41st. A cotton storehouse, consisting of a vertical shell, a central mast carrying a boom, and a runway connected to the interior of the vertical shell and supporting the outer end of the boom, fig. 74, substantially as described. 42nd. A cotton storehouse, consisting of a vertical shell and a roof surmounting said shell, a central mast carrying a boom, a runway connected to the interior of the vertical shell supporting the outer end of the boom, a shaft parallel to the boom and bearing at its outer end a wheel and at its inner end a pulley, and means for operating said pulley, substantially as described. 43rd. A cotton storehouse consisting of a vertical shell and a roof surmounting said shell, a central mast carrying a boom, a runway connected to the interior of the vertical shell and supporting the outer end of the boom, a shaft parallel to the boom and bearing at its outer end a wheel and provided at its inner end with two pulleys loose upon the shaft, a friction clutch for connecting either pulley to the shaft, and a driving pulley geared to drive one of said pulleys in one direction and the other in an opposite direction, substantially as described. 44th. A cotton storage plant consisting of a series of storehouses, whose vertical walls are of general circular contour, said storehouses being connected by walls of reverse curvature, figs. 84 and 85, substantially as described. 45th. A cotton storage plant consisting of a series of storehouses whose vertical walls are of general circular contour, said storehouses being connected by walls of reverse curvature and posts or masts for supporting the roofs of said storehouses at their apexes and at their planes of intersection, fig. 86, substantially as described. 46. A cotton storage plant, consisting of a series of storehouses whose vertical walls are of general circular contour, said storehouses being connected by walls of reverse curvature posts or masts for supporting the roofs of said storehouses at their apexes and at their planes of intersection, and a second floor or story supported by said posts or masts, fig. 86, substantially as described.

No. 41,056. Ear Muff. (Cache-oreille.)

Harvey Hadden, Peekskill, New York, U. S. A., 28th November, 1892; 6 years.

Claim.—An ear muff, comprising a wire frame, a covering therefor, and a hanger for securing said cover to a hat, the wire frame terminating in spirals wound around the shank of the hanger, substantially as herein set forth.

No. 41,057. Table Bracket for Bedsteads.

(Support de table pour lits.)

Charles E. Elston, Elmira, New York, U. S. A., 28th November, 1892; 6 years.

Claim.—A bracket comprising a standard, having a longitudinal recess in its inner face, and a transverse opening extending from the rear wall of the recess to the opposite side of the standard from the said recess, a depending clamping jaw having a horizontal arm which extends into the said recess, a depending vertical arm made integral with the inner end of the longitudinal arm, the said vertical arm being the same width as the said recess, a screw threaded rod connected at its inner end to the lower end of the said vertical arm and which extends outward through the rod opening, and a clamping button for the outer end of the rod, substantially as shown and described.

No. 41,058. Weighing Machine. (Balance à bascule.)

Luther C. Farmer and James Howard White, both of Minneapolis, Minnesota, U.S.A., 28th November, 1892; 6 years.

Claim.—1st. In a scale, the combination, with a fixed supporting bar, of a curved bar supported and adapted to rock thereon, a lever pivoted to a suitable support and to said curved bar, a scale platform or scoop connected with said lever and indicating means consisting of a pointer and rack, and adapted to be operated by the movement of said lever and bar, as described. 2nd. In a scale, the combination, with the fixed supporting bar, of the curved bar resting and adapted to rock thereon, a lever pivoted to said bar, and to a suitable support and connected with a suitable scale scoop or platform, a dial, a pointer adapted to move over said dial, a shaft upon which said dial is mounted, provided with a suitable pinion and a toothed device engaging said pinion, and adapted to move with said curved bar and lever, substantially as described. 3rd. In a scale, the combination, with a fixed support, of a curved bar arranged to move thereon, a scale or receptacle having a connection with said curved bar, a dial, a pointer engaging said curved bar for moving said pointer over said dial as the bar is rocked by its support, and a plate having figures and operated by said bar to show the weight indicated by the dial when the pointer has made one or more revolutions, substantially as described. 4th. In a scale, the combination, with the fixed bar 11, of the curved bar 13 arranged thereon, an adjustable counterbalance weight upon said curved bar, a scale platform having a connection with said curved bar, an indicating scale and a pointer arranged to be moved over said scale by the movements of said curved bar, substantially as described. 5th. In a scale, the combination, with a suitable dial, a pointer arranged to move over said dial, and an indicator for showing the total reading of said dial when the pointer has made a complete revolution of the dial. 6th. In a scale, the combination, with the fixed bar 11, of the curved bar 13, arranged and provided with a suitable counterbalance, a rod connecting the scale platform or scoop with said curved bar, a pointer to be operated by the movements of said curved bar, and the plate 33 arranged to move with said curved bar and provided with figures indicating one or more multiples of the total reading of the scale indicator, substantially as described. 7th. In a scale, the combination, with the casing 2, of the bar 11 arranged therein, the curved bar 13 supported thereon, and provided with the adjustable counter weight 17, the lever 19 pivoted in said casing and also pivoted to said curved bar, the dial 21, the pointer 22, the shaft 23, carrying said pointer and provided with the pinion 26, and the rack bar 29, arranged to move with said curved bar and lever and engaging said pinion, substantially as described.

No. 41,059. Cord Knotter for Grain Binders.

(Appareil à nouer de lieuse à grain.)

Andrew Stark, Chicago, Illinois, U.S.A., 28th November, 1892; 6 years.

Claim. 1st. In combination with the needle, the knotter bill having its axis at one side of the plane of the needle's movement, and a cord deflecting device which moves from the side of said plane opposite the knotter bill, across said plane at a position beyond the knotter bill toward the discharge side, to deflect the cord against the knotter bill shank at said discharge side of the bill, substantially as set forth. 2nd. In combination with the needle, the knotter bill having its axis at one side of the plane of the needle's movement, the holder receiving the cord at a point farther from said plane than the knotter bill axis, and on the same side of said plane, a cord deflecting device operating from the side of said plane opposite the knotter bill axis across said plane, and past the knotter bill and cord receiving notch of the holder, to carry the cord to the holder, substantially as set forth. 3rd. In combination with the needle, the knotter bill, a fixed finger projecting transversely to the plane of the needle's movement between the path of the needle's eye and the knotter bill at a point dischargeward from the knotter bill axis, and a cord deflecting arm moving across the plane of the needle in a path also located dischargeward from the bill near to said fixed finger, to take the cord lodged thereon by the needle in its advance, substantially as set forth. 4th. In combination with the needle and the knotter bill, said knotter bill having its vibrating jaw freely pivoted to the fixed jaw, means for opening the vibrating jaw and holding it open during part of its revolution, the jaw being otherwise free from actuation by the mechanism, a fixed finger located dischargeward from the bill's axis, and projecting across the plane of the needle's movement between the path of the needle's eye and the bill, to receive the cord as the needle recedes, and cause it to be lodged on top of the freely pivoted jaw of the knotter bill to close the same, substantially as set forth. 5th. In combination with the needle and with the knotter bill, located at one side of the plane of the needle's movement, the holder located and operating in a plane, substantially parallel to that of the needle's movement, and on the opposite side of the knotter bill axis from the plane of the needle, and a cord deflecting arm operating across both said planes from the side of the plane of the needle's movement, which is opposite the knotter bill, to the side of the plane of the cord holder movement opposite the knotter bill, thus carrying the cord on to the bill and into the holder, substantially as set forth. 6th. In combination with the needle and the knotter bill, the holder on the opposite side of the knotter bill from the plane of the needle's move-

movement, mechanism which rotates the holder to cause it to carry the cord away from the discharge side of the machine, and a fixed knife against which the cord is carried by said movement of the holder, whereby the cord is wrapped around the knotter bill by the movement of the holder carrying the cord into it up to the moment of cutting, substantially as set forth. 7th. In combination with the needle and the cord holder operating in substantially parallel planes, and the knotter bill between said planes, mechanism which actuates the bill, and mechanism which revolves the holder grainward on the side whereat it carries the cord to the shoe, said mechanism timed to give the holder its said rod actuating movement, while the bill is revolving stubbleward on the side toward the holder, substantially as set forth. 8th. In combination with the needle and the knotter bill, and the knotter actuating cam wheel revolving in a plane parallel to the path of the needle, the cord holder actuated directly by said cam wheel and revolving in a plane substantially parallel to that wheel, substantially as set forth. 9th. In combination, substantially as set forth, the cam wheel, the knotter bill, a fixed cord severing knife, a holder disc adjacent to the knife and located substantially parallel to the cam wheel, said cam wheel having abutments which engage the holder disc and rotate it in two stages, with an interval for each knotting operation, the first to carry the cords to the shoe before they are received between the jaws of the bill, the second to carry the cord in the holder notches against the knife after the bill has revolved to take in the cords between the jaws. 10th. In combination with the holder having two discs, the cam wheel having two abutments which engage the discs respectively, each once in each revolution of the cam wheel, the position of said abutments and of their respective engaging points on the discs being so located that said abutments actuate the holder at different times, the actuation of the one ceasing and being followed by an interval of rest of the holder before the actuation of the other commences, substantially as set forth. 11th. In combination with the holder having two discs, the cam wheel having two abutments which engage the discs respectively, each once in each revolution of the cam wheel, said abutments and their respective points of engagement on the disc being so situated relatively that the actuation caused by one of the abutments is followed by an interval of rest before that caused by the other commences, the knotter bill and the mechanism which actuates it timed to cause the bill to receive the cords between its jaws and accomplish a portion of its rotation after so receiving them, in said interval of the movement of the holder, substantially as and for the purpose set forth. 12th. In combination with the needle, the knotter bill and the holder on the opposite side of the knotter bill from the plane of the needle's movement, mechanism which moves the holder to carry its cord notch in its cord actuating movement substantially to a plane transverse to that of the needle's movement and containing the knotter bill axis, substantially as set forth. 13th. In combination with the needle, the knotter bill and the holder on the opposite side of the knotter bill from the plane of the needle's movement, a cord severing knife operating to cut the cord at a point in a plane substantially transverse to the plane of the needle's movement and containing the knotter bill axis, as and for the purpose set forth. 14th. In combination with the needle, the knotter bill, a knife located on the opposite side of the knotter bill from the plane of the needle's movement, and leaving its cord cutting point substantially in a plane at right angles to the plane of the needle's movement and containing the knotter bill axis, and means for carrying the cord away from the discharge side of the machine to the knife, substantially as set forth.

No. 41,060. Pulley. (*Poulie.*)

Henry J. Gilbert, Saginaw, Michigan, U.S.A., 28th November, 1892; 6 years.

Claim.—1st. The herein described pulley section, composed of a set of spokes A, having recessed butts locked together by the dovetail keys D, and the rim section B, having the outer ends of the spokes secured therein. 2nd. The herein described pulley section, composed of two sets of spokes A, the spokes of each set having their butts locked together by dovetail keys D, the hub block F, interposed between the hub portions of the two sets of spokes, and the rim section B, in which the outer ends of the spokes are secured. 3rd. The herein described pulley section, composed of two sets of spokes A, the spokes of each set having their recessed butts locked together by dovetail keys D, the hub block F, interposed between the hub portions of the two sets of spokes and the blocks G, interposed between the outer ends of the spokes of each pair, and the rim section B, in which the outer ends of the spokes are secured. 4th. The herein described method of constructing pulleys of different widths, consisting in first forming pulley sections, each composed of a set of arms or spokes, and a rim section, and then securing two or more of said sections together with an interposed hub block and rim section, to form the complete pulley of the desired width. 5th. The herein described method of constructing pulleys of different widths, consisting in first forming pulley sections, each composed of a rim section and set of spokes dovetailed together at their butt ends, and then securing said sections together with interposed hub blocks and rim sections, to form the complete pulley of the desired width. 6th. The herein described method of constructing pulleys of different widths, consisting in first forming pulley sections, each composed of a rim section and two sets of spokes, the two sets of spokes being secured together at

their butt ends with an interposed hub block, and then securing said sections together with other interposed hub blocks and rim sections, to form the complete pulley of the desired width. 7th. The herein described method of constructing pulleys of different widths, consisting in first forming pulley sections, each composed of a rim section and two sets of spokes, the spokes of each set being dovetailed together at their butt ends, and the two sets being secured together, with a hub block interposed between their hub portions and with spacing blocks between the outer ends of the spokes; and then securing said sections together with other interposed hub blocks and rim sections, to form the complete pulley of the desired width.

No. 41,061. Car Coupler. (*Attelage de chars.*)

Thomas Heard, St. Thomas, Ontario, Canada, 28th November, 1892; 6 years.

Claim.—1st. The combination, in a car coupler of the draw head A, and a gravity locking latch B, substantially as and for the purpose hereinbefore set forth. 2nd. The combination of a gravity locking latch B, and a coupling link E, substantially as and for the purpose hereinbefore set forth. 3rd. The combination of a draw head A, and a locking latch B, with a latch rod C, having latch levers terminating with a weight, substantially as and for the purpose hereinbefore set forth.

No. 41,062. Fountain Attachment for Inkstands.

(*Bouteille fontaine pour l'encre.*)

James V. Bergen, Austin, Texas U. S. A., 28th November, 1892; 6 years.

Claim.—1st. An attachment for inkstands, consisting of a tubular vessel C, having its bottom G, provided with a central aperture G¹, the upper end of the vessel being contracted at E, and terminating in an integral funnel F, and a hollow float H, held within the vessel, of greater diameter than the contracted portion of the vessel E, and having a central vertical opening I, substantially as shown and described. 2nd. An inkstand, comprising an ink pot A, a centrally apertured cover B, therefor, a flexible ring D, held in the aperture of the cover, a tubular vessel C, held by the ring and provided at its bottom with a central aperture C¹, at its top with a contracted neck E, and an integral funnel F, above the neck and the ring, and a hollow float H, in the tubular vessel and having a central vertical aperture I, substantially as shown and described.

No. 41,063. Automatic Fastener for Mechanism.

(*Attache automatique pour mécanismes.*)

Jacob Sterns, New York, State of New York, U.S.A., 28th November, 1892; 6 years.

Claim.—1st. The combination of the swivler coupler bar A, and its weight C, and pointed head b, with the keeper having slot c, the vertical sides of which are straight and rounding and the ends curved and rounding, said slot c, being adapted to rotate and deflect the head b, to enable said head to pass through said keeper at a predetermined height, substantially as and for the purposes shown. 2nd. The combination of the bar B, with the bar A, swivelled directly to the end of the bar B, so as to have but one point of support and with the arrow head b, at the free end of the bar A, and slotted keeper D, substantially as and for the purpose shown. 3rd. The combination of the swivelled coupler rod A, having head b, and pins g, on said head, with the slotted keeper D, having recesses h, for the reception of the pins g, on its outer surface, substantially as and for the purpose herein shown and described. 4th. The combination of the bar B, having the tapering point B', at one end with the bar A, swivelled directly to the end of the bar B, so as to have one point of support, and having the arrow head b, and a slotted keeper D, substantially as shown and described. 5th. A keeper for automatic fastenings formed with a slot having rounded edges on its sides and curved ends with rounded edges, substantially as shown and described. 6th. A keeper for automatic fastenings, formed with a diagonal slot having rounded edges on its sides and curved ends with rounded edges, substantially as shown and described. 7th. A keeper for automatic fastenings formed with a slot having rounded edges on its sides and curved ends with rounded edges and an automatically closing and opening spring lock located across the slot of the keeper on its outer face, substantially as shown and described. 8th. The keeper D, with a slot having rounded side edges and curved ends with rounded edges and the spring lock or keeper F, with the spring arm F¹, extending across the slot of keeper D, on its outer face, substantially as shown and described.

No. 41,064. Cross Cut Saw. (*Scie de travers.*)

Isaac S. Wilson, Cedar Gap, Missouri, U.S.A., 28th November, 1892; 6 years.

Claim. 1st. A cross cut saw having a central straight portion and curved end portions, substantially as described. 2nd. A cross cut saw having a central straight portion with teeth extending inward toward a central straight tooth, and curved end portions with outwardly extending teeth, substantially as described. 3rd. A cross cut saw having the teeth of the central part thereof extending inward in reverse directions to a central tooth, substantially as described. 4th. In a cross cut saw, a middle portion with sets of

cross cut or scoring teeth arranged in even number, in combination with a clearing tooth having a throat on either side thereof, said cross cut or scoring teeth gradually assuming an erect position as they approach a central pyramidal tooth, substantially as described. 5th. In a cross cut saw, a central pyramidal tooth having cross cut and clearing teeth extending obliquely in reverse directions, and outer cross cut and clearing teeth extending in reverse directions, and obliquely to the said central cross cut and clearing teeth, the central portion of said saw being straight and the end portions thereof curved, substantially as described.

No. 41,065. Electric Lamp for Lighting Cigars.

(*Lampe électrique pour allumer les cigares.*)

William Joseph Eastman, Waterville, New York, U.S.A., 28th November, 1892; 6 years.

Claim.—1st. A self-lighting and self-extinguishing lamp, consisting essentially of a stationary sheath or holder, electrodes of an electric circuit applied thereto, and a torch adapted to be removed from said sheath to close the circuit and thereby ignite the torch, and to be inserted in said sheath and thereby extinguish the torch, substantially as described. 2nd. A self-lighting and self-extinguishing lamp, comprising a base, a sheath or holder constructed as an open ended, longitudinally slotted tube mounted thereon, electric spark producing means, an extinguisher overhanging one end of the sheath or holder, and a torch fitted to slide in said sheath or holder, and having a projecting wick tube which travels in the slot, substantially as described. 3rd. A lamp having a base, a sheath or socket composed of sections secured to said base and separated by a passage way, and light producing and extinguishing means, combined with a torch adapted to be moved into and out of said sheath, and having a wick tube travelling in said passage way, substantially as described. 4th. The combination with the tubular slotted sheath and its igniting and extinguishing device, of a torch having a wick tube fitted to said slotted sheath, substantially as described. 5th. The combination with the tubular, slotted sheath, and its electric igniting devices, comprising a spring contact overhanging the slot in the sheath, of a torch having a wick tube travelling in said slot, and curved transversely so as to insure engagement with the spring contact centrally over its wick, substantially as described. 6th. The combination with the sheath, of a torch having a wick tube, which torch is adapted to be slid longitudinally in said sheath, and a stationary end strip having a terminal overhanging the sheath in the line of movement of the wick tube, and serving as an extinguisher for the torch, substantially as described. 7th. A torch open at one end and thereby adapted to be filled at such end, and a screw plug for closing such end and terminating in a handle for the torch, substantially as described.

No. 41,066. Chuck for Pipe Nipples.

(*Mandrin pour bouts de tuyau.*)

William Orlando McFarlane, Toronto, Ontario, Canada, 28th November, 1892; 6 years.

Claim.—1st. In a chuck for holding nipples, the combination with a head 1, provided with three slots extending throughout its length, and located at equidistant points on its periphery, and also provided at its rear end with a threaded shank, and with a spindle, and at its forward end with a threaded recess to receive the nipple, and three long levers respectively fulcrumed in the said slots, and extending beyond the rear end thereof and bevelled, a cone mounted upon the said threaded shank for engagement with the bevelled ends of the levers, substantially as and for the purpose hereinbefore set forth. 2nd. In a chuck for holding nipples, the combination with a head provided with levers respectively fulcrumed therein, and a threaded recess, substantially as and for the purpose hereinbefore set forth.

No. 41,067. Apparatus for Propelling Vessels.

(*Appareil pour propulser les vaisseaux.*)

Thomas Mills, Charter-towers, Queensland, Australia, 28th November, 1892; 6 years.

Claim.—A vessel with the whole fore part of a covered conical form surrounded by a hollow conical propeller of corresponding form, having blades projecting from its exterior and winding around it like the screw threads at the point of an auger, substantially as described.

No. 41,068. Window Blind. (*Store de fenêtre.*)

Harvey Murdock, Brooklyn, New York, U. S. A., 28th November, 1892; 6 years.

Claim.—1st. The combination of the casing, the box secured to the top of the casing and extending across the same, the box having an opening near the top and on the inner side, and a curved guard extending across it beneath the opening, vertical grooves or tracks produced in the casing and extending into the box, the grooves being widened at their upper ends, guide rollers pivoted in the end of the box and in the path of the blind, and a blind comprising a series of slats hinged together, held to slide in the groove, and adapted to fold one upon another within the box, substantially as described. 2nd. The combination of the window casing, the box secured at the upper end of the casing, vertical grooves produced in

the casing, and having their upper ends curved and made to enter the box, a curved guard extending across the box beneath its front opening, said guard forming one side of the upper end of the grooves, guide rollers pivoted in the ends of the box immediately above the guard, and a sliding blind mounted in the groove, and comprising a series of slats hinged together at the ends and adapted to fold one upon the other within the box, substantially as described.

No. 41,069. Churn. (*Baratte.*)

James Albert Hamilton and Bethnel R. Hamilton, both of Neepawa, Manitoba, Canada, 28th November, 1892; 6 years.

Claim.—1st. A churn, comprising a vessel of elliptical form in cross section, having a smooth inner surface without ribs or breakers, said vessel being mounted on rockers, with the longest diameter of the ellipse in a horizontal plane, substantially as described. 2nd. A churn body, comprising a vessel of elliptical form in cross section, having a curved bottom plate, the ends of which extend upwardly, inwardly and downwardly, and terminate above the bottom on the opposite sides of a line passing centrally through the shortest diameter of the ellipse, leaving an opening at the top of the vessel, said opening being provided with a suitable cover, substantially as described. 3rd. In combination with the rockers, the churn body mounted thereon, consisting of a body of elliptical form in cross section, having a smooth interior and provided with an opening at the top and a hinged cover, substantially as described. 4th. A churn, consisting of a vessel of elliptical form in cross section, mounted on rockers with its longest diameter in the plane of the rockers, said vessel having a bottom plate with end extended upwardly, inwardly and downwardly, and terminating above the bottom, with an opening between the ends, said opening being provided with a suitably hinged cover, substantially as described.

No. 41,070. Hay Rake. (*Rateau à foin.*)

John H. Soehren, Everly, Clay Co., Iowa, U.S.A., 28th November, 1892; 6 years.

Claim.—1st. In an implement of the character described, a pivoted hay rake, as and for the purpose specified. 2nd. In an implement of the character described, a pivoted hay rake and means for securing the said rake in a diagonal position with reference to the line of draft, as and for the purpose specified. 3rd. In an implement of the character described, the combination, with a mounted frame of a hay rake pivoted thereon, a rack bar attached to the rake head, and a latch connected with the frame and engaging the rack bar, substantially as and for the purpose specified. 4th. In an implement of the character described, the combination, with a frame, of a rake pivotally attached thereto, a segmental rack bar attached to the rake head, a latch connected with the frame and engaging with the rack bar, and levers having link connections with the rake head, one lever being adapted to laterally adjust the head and the other to vertically adjust it, as and for the purpose specified.

No. 41,071. Electric Heating Apparatus for Electric Railway Systems. (*Appareil de chauffage électrique pour systèmes de chars.*)

Mark Wesley Dewey, Syracuse, New York, U. S. A., 28th November, 1892; 6 years.

Claim.—1st. The combination, with an electrically propelled vehicle, working conductors supplied with currents along the path of said vehicle, a conductor on the vehicle in movable contact with the working conductors, and the electric motor to propel the vehicle, of a dynamo generator on the vehicle, operated by the same source of energy and constructed to generate currents of great volume, a circuit of low resistance connected to the dynamo, one or more electric heating devices included in the latter circuit, and means to control the movement of the dynamo independent of the movement of the motor. 2nd. In an electric railway, a line working conductor, a travelling vehicle, an electric motor to propel said vehicle, a dynamo generator on the vehicle, an electric circuit connected to the dynamo, one or more heating devices in the latter circuit, and an electrical connection carried by said vehicle, and in movable contact with the working conductor to supply electricity to propel the vehicle and operate the generator. 3rd. In an electric railway, a line working conductor, a travelling vehicle, an electric motor to propel said vehicle, a dynamo generator on the vehicle constructed to generate currents of great volume, a circuit of lower resistance than the line conductor, connected to the dynamo and having one or more heating devices in the latter circuit, and an electrical connection carried by said vehicle and in movable contact with the working conductor to supply electricity to propel the vehicle and operate the generator. 4th. In an electric railway, a line working conductor, a travelling vehicle, an electric motor to propel said vehicle, an electrical connection carried by said vehicle, and in contact with the working conductor, a dynamo generator on the vehicle operated by or through the current passing through the said electrical connection, an electric circuit connected to the dynamo, and one or more heating devices in the latter circuit. 5th. The combination of a vehicle, a line working conductor, an electric motor on the vehicle, an electrical connection between said motor and working conductor and in movable contact therewith, a dynamo generator on the vehicle driven by said motor, an electric circuit connected to the dynamo, and one or more heating devices in the latter circuit. 6th. The

combination of a vehicle, a dynamo generator on the vehicle constructed to generate directly currents of great volume and low electro motive force, a source of energy to both move the vehicle and drive the dynamo, a circuit of low resistance connected to the dynamo, and one or more electric heating devices in the circuit. 7th. The combination of a vehicle, a dynamo generator on the vehicle constructed to generate directly currents of great volume and low electro motive force, a source of energy to both move the vehicle and drive the dynamo, means to control the movement of the dynamo independent of the movement of the vehicle, a circuit of low resistance connected to the dynamo, and one or more electric heating devices in the circuit. 8th. The combination of a train of cars, dynamo generator on one of the cars, constructed to generate directly currents of great volume and low electro motive force, a source of energy to both move the vehicle and drive the dynamo, and extending to one or more cars in the train, and one or more heating devices in each of the cars in the circuit. 9th. The combination of an electrically propelled train of cars, a conductor on one of the cars, supplied with current, an electric motor connected with the conductor to move the train, a dynamo generator on one of the cars driven by said motor and constructed to generate directly currents of greater volume than the current supplied a circuit of low resistance connected to the dynamo and extending to one or more cars in the train, and one or more heating devices in each of the cars in the circuit. 10th. The combination of a vehicle, a dynamo generator on the vehicle, constructed to generate directly currents of great volume and low electro motive force, a stationary source of energy to both move the vehicle and drive the dynamo, a circuit of low resistance, connected to the dynamo, and one or more electric heating devices in the circuit.

No. 41,072. Machine for Setting Buttons.

(*Machine pour poser les boutons.*)

The American Button Fastener Company, New Britain, Assignees of George Monroe Griswold, New Haven, both in Connecticut, U.S.A., 28th November, 1892; 6 years.

Claim.—1st. In a button setting machine, the combination of the pitmen 25 and 29, shafts 16, 31, the receptacle B, crank shaft 22, the stirring device 26, mounted on said crank shaft within the receptacle, the crank 27, the cross arm 24, loosely mounted on the shaft 22, and connected with said pitmen, and a locking mechanism as for instance the spring pin 28, for connecting and disconnecting said cross arm and crank shaft, substantially as described and for the purpose specified. 2nd. In a button setting machine, the combination of a button chute, the spring top for arresting the lowermost button in a given position in said chute, a carrier having chuck jaws located relatively to the position of said button within said chute as to bring said button when thus arrested within the path of said jaws, and mechanism substantially as described for opening and closing said jaws, and also for moving them bodily to and from the position for the button that is arrested by said stop, substantially as described and for the purpose specified. 3rd. In a button setting machine, the combination of the carrier shaft 31, mechanism for oscillating said shaft, the head 33, loosely mounted on said shaft, suitable stops for limiting the movement of said head, chuck jaws mounted in said head and fitted to open and close, and the operating cam 32, substantially as described and for the purpose specified. 4th. In a button setting machine, the combination of a button chute, an anvil or die 57, the carrier shaft 31, mechanism for oscillating said shaft, the head 33 loosely mounted on said shaft, suitable stops for limiting the movement of said head, chuck jaws mounted on said head, the operating cam 32, the button holding spring 42 and supplemental cam 41 for acting upon one end of said spring, substantially as described and for the purpose specified. 5th. In a button setting machine, the combination of the carrier shaft 31, mechanism for oscillating said shaft, the head loosely mounted on said shaft, suitable stops for limiting the movement of said head, the chuck jaw 34 sliding radially in said head, the jaw 35 pivoted in said head, the springs for forcing said jaws toward each other, and the operating cam 32, substantially as described and for the purpose specified. 6th. In a button setting machine, the combination of the carrier shaft 31, mechanism for oscillating said shaft, the head 33 loosely mounted on said shaft, suitable stops for limiting the movement of said head, spring pressed chuck jaws 34 and 35, mounted on said head, one of which jaws is provided with a projecting and rounded inner face as at 39, and the operating cam having the recess or notch 40 for engagement of said inner face 39, substantially as described and for the purpose specified. 7th. In a button setting machine, the combination of a button chute, the spring top for arresting the lowermost button in a given position in said chute, an anvil or die 57, the button holding spring 42, a carrier having chuck jaws, a supplemental cam for acting on said button holding spring and mechanism for opening and closing said jaws and moving them bodily to and from said button chute and die, substantially as described and for the purpose specified. 8th. In a button setting machine, the combination of the driver, guide, and operating mechanism with the spring knock out fingers, substantially as described and for the purpose specified. 9th. The combination of a button feeding and holding mechanism and button fastener driving mechanism, with the actuating oscillating crank shaft, and a ratchet, pawl and cam for preventing a reverse motion

of said shaft until after it has passed a given point, substantially as described and for the purpose specified. 10th. The combination of the oscillating crank shaft 16, the ratchet 60, having pin or projection 68, the dog or pawl 62, and the cam 64, loosely mounted on its axis and having shoulders for engagement with said projection, substantially as described and for the purpose specified.

No. 41,073. Coin-freed Holder for Reference Books.

(*Livre de référence actionné par une pièce de monnaie.*)

Frederick William Jacob, London, Middlesex, England, 28th November, 1892; 6 years.

Claim. 1st. In apparatus for giving access to a book, the combination with a case or cases or plates containing such book, of devices by which such case or cases or plates are only capable of being opened after a predetermined coin has been inserted into the apparatus, substantially as described. 2nd. The combination of the platform *a*, case or cases *b*, *b*, hinges *c*, *c*, arms *d*, *d*, frame or bar *e*, bar *g*, and treadle or lever *l*, substantially as and for the purposes described and illustrated. 3rd. The combination with the case or cases *b*, *b*, arms *d*, *d*, and frame or bar *e*, of the socket *f*, slotted bar *g*, head *h*, guide *i*, and coin shoot *r*, substantially as and for the purpose described and illustrated. 4th. In combination with the case or cases *b*, *b*, arms *d*, *d*, frame or plate *e*, and movable bar *g*, the ratchet teeth *k*, lever *l*, and pawl *m*, substantially as described and illustrated. 5th. The combination with the case or cases *b*, *b*, arms *d*, *d*, frame or bar *e*, and movable bar *g*, of the lever *s*, fork or perforation *v*, bar *w*, knob or handle *x*, and stop A, substantially as described and shown in figure 8.

No. 41,074. Electrolytic Cell. (*Cellule électrolytique.*)

Ernest Arthur LeSueur, Ottawa, Ontario, Canada, 28th November, 1892; 6 years.

Claim.—1st. An electrolytic cell having a bell of stoneware or similar material, a positive electrode located within said bell and secured therein by metallic securing and supporting rods, which pass through apertures in said bell, and secure said positive electrode in position therein, substantially as shown and described. 2nd. An electrolytic cell having a bell as B, of suitable material, a positive electrode within said bell, and a diaphragm covering the mouth of said bell, substantially as shown and described. 3rd. An electrolytic cell having a negative electrode composed of layers or strands of metallic tape or wire netting, substantially as shown and described. 4th. An electrolytic cell having a bell of stoneware or similar material, a diaphragm covering the mouth of the bell, a positive electrode placed within said bell, and in proximity to the inner surface of said diaphragm, and a negative electrode secured outside of said diaphragm in proximity to the outer surface thereof, whereby the bulging or displacement of the diaphragm is prevented, substantially as shown and described. 5th. An electrolytic cell comprising the combination with a tank to contain liquid, of a bell in said tank, a positive electrode in said bell, a negative electrode below said bell, a metallic piece or ring in contact with said negative electrode and a flexible diaphragm held between the said piece or ring and the lower edge of the said bell, whereby the gas which is formed between the said piece or ring and said diaphragm serves to pack the latter and prevent leakage, substantially as set forth. 6th. An electrolytic cell comprising a bell of earthenware, a positive electrode therein, a diaphragm covering the mouth of said bell, a negative electrode and a tank in which said bell is placed, the level of the liquid within the bell being higher than that of the liquid outside the bell, whereby the diaphragm is prevented from bulging, substantially as set forth. 7th. An electrolytic cell comprising the combination with a tank to contain liquid, of a bell in said tank, positive and negative electrodes, a flexible diaphragm between said electrodes and covering the bottom of said bell, said diaphragm being adapted to maintain the liquid on the positive electrode side of the said diaphragm on a higher level than that of the liquid on the negative side of the diaphragm, whereby the diaphragm is kept from approaching the positive electrode, substantially as set forth. 8th. An electrolytic cell comprising a bell of earthenware or similar material, a positive electrode therein, a negative electrode, and a diaphragm separating said electrodes, said diaphragm being placed on a slant below the positive electrode, whereby the escape of the gas formed at the negative electrode is facilitated and the efficiency of the cell maintained without exposing the diaphragm to the action of the gas formed at the positive electrode, substantially as shown and described. 9th. An electrolytic cell adapted to maintain the liquid which is in contact with the positive electrode on a higher level than the liquid in contact with the negative electrode, and having an outer vessel, as *n*, containing liquid of the same level as the liquid in contact with the positive electrode and connected therewith, and means for breaking the circuit when the level of the liquid in the outer vessel falls, whereby, when the diaphragm breaks, the circuit will be broken, substantially as shown and described. 10th. An electrolytic cell adapted to maintain the liquid which is in contact with the positive electrode on a higher level than the liquid in contact with the negative electrode, and having an outer vessel, as *n*, containing liquid of the same level as the liquid in contact with the positive electrode and connected therewith, whereby, when the diaphragm breaks, the change of level in the liquid of the outer vessel will indicate the breaking of the diaphragm, substantially as shown and described.

11th. An electrolytic cell comprising the combination with a tank to contain liquid, of a bell in said tank, a positive electrode in said bell, a negative electrode below said bell, a flexible diaphragm between said electrodes, a magnet in circuit with a conductor, a pivoted armature also in circuit with said conductor, a vessel or compartment to contain a liquid which is to be on a level with the liquid within the bell, and which is connected with the liquid in the latter, and a weight partly or wholly immersed in the liquid of said vessel or compartment, whereby when said diaphragm breaks the liquid in said vessel or compartment will be lowered, and the armature will be separated from the said magnet, breaking the circuit, substantially as set forth. 12th. An electrolytic cell, comprising the combination with a tank, to contain liquid, of a bell of earthenware or similar inactive material, said bell having a closed top, a positive electrode within the said bell, hollow metallic supports for said electrode, said supports passing through the top of said bell, and some or all of the same serving to admit the liquid to the cell, to convey the electric current and to discharge the gas formed at the positive electrode, substantially as set forth. 13th. The combination with a containing tank, of a series of inner cells, each of said cells having a bell as B, of suitable material, a positive electrode therein, and one or more pipes communicating only with said cell and projecting through the said bell and downwardly to a level with the lowest portion of said electrode therein for the admission or withdrawal of the fluid of the said cell, without disturbing the liquid in the said tank, substantially as shown and described. 14th. The combination with a tank adapted to contain liquid, and provided in its bottom with suitable electrical connections, of a series of independent, removable cells contained in said tank, and which are in electrical communication with said connections, substantially as shown and described. 15th. An electrode for an electrolytic cell, consisting of a number of pieces of rough carbon cut to equal length, and having rough uncut sides, and a metallic backing in which said carbon pieces are imbedded at one end, substantially as shown and described.

No. 41,075. Receptacle for Preserved Substances.

(*Receptacle pour conserves.*)

Dan Rylands, Stairfoot, England, 28th November, 1892; 6 years.

Claim.—1st. A jar or other receptacle, provided with a lid or cover having a hole for the escape of air, and with packing or jointing material between the said lid or cover and the jar or receptacle, whereby when a vacuum or partial vacuum is created within the receptacle, and the said hole is closed, the lid or cover will be held securely upon the said receptacle by the external pressure of the atmosphere, without the aid of fastening devices. 2nd. The combination with a jar or other receptacle, of a lid or cover having a hole for the escape of air, and packing or jointing material adapted to be squeezed between the said lid or cover and the jar or receptacle when a vacuum or partial vacuum is created within the latter, substantially as and for the purposes above specified. 3rd. A jar or other receptacle, which is provided with a lid or cover having a hole for the escape of air, and with packing or jointing material adapted to be squeezed between the said lid or cover and the jar or receptacle when a vacuum or partial vacuum is created within the latter, and which is formed with an external flange adapted to bear against packing or jointing material on the top of a vessel or bath, when the said receptacle is inserted in a hole therein, for the purposes above specified. 4th. A jar or other receptacle formed with an external flange and adapted to be inserted in a hole in the top of a vessel or bath so that the said flange will bear against packing or jointing material placed between the same and the top of the said vessel or bath, for the purpose above specified. 5th. A jar or other receptacle formed without any internal shoulder or projection and provided with a lid or cover having a hole for the escape of air and with packing or jointing material adapted to be squeezed between the said lid or cover and the jar or receptacle when a vacuum or partial vacuum is created within the latter, for the purposes above specified. 6th. A jar or other receptacle which is provided with a lid or cover having a hole for the escape of air and with packing or jointing material adapted to be squeezed between the said lid or cover and the jar or receptacle when a vacuum or partial vacuum is created within the latter, and which is formed with a helical projection or screw thread to receive a removable device for temporarily securing the said lid or cover upon the said jar or receptacle, for the purposes above specified. 7th. A jar or other receptacle which is tapered internally from the open to the closed end thereof and which is provided with a lid or cover having a hole for the escape of air and with packing or jointing material adapted to be squeezed between the said lid or cover and the jar or receptacle when a vacuum or partial vacuum is created within the latter, substantially as and for the purposes set forth. 8th. A receptacle provided with a lid or cover having a hole for the escape of air and a central hole and recess whereby fruit or the like may be secured to the lid or cover by means of wax, cement or similar material, substantially as set forth. 9th. The combination, with a jar or other receptacle, of a lid or cover having a hole for the escape of air, a self acting valve for closing the said hole, and packing or jointing material between the said lid or cover and the jar or receptacle, whereby, when the air is exhausted or removed from the said jar or receptacle, the said hole will be automatically closed and the said lid or cover will be held securely upon the said jar or receptacle without the aid of fastening devices.

No. 41,076. Steam Engine. (Machine à vapeur.)

Joseph A. Mumsford, Hantsport, Nova Scotia, Canada, 28th November, 1892; 6 years.

Claim. 1st. In a steam engine, the combination with cylinder, having the extended end and with lateral steam and exhaust ports opening into the same, of the piston working in the cylinder, and the valve working in the end extension of said cylinder, and controlling the entrance and exhaust port, substantially as described. 2nd. In a steam engine, the combination of the cylinder having the extended end, with lateral steam and exhaust ports, of the piston working in said cylinder, the annular valve working in the extended end and having the steam passages through the same, and controlling the steam and exhaust ports, substantially as described. 3rd. In a steam engine, the combination with the cylinder having the extended end, of the same internal diameter with lateral steam and exhaust ports, of the piston working in the cylinder, and the tubular valve working in the extended end of the same, and controlling the steam and exhaust ports, substantially as described. 4th. In a steam engine, the combination with the cylinder having the extended end with the lateral steam and exhaust ports, of the piston, the tubular valve working in the extended end, and controlling the steam and exhaust ports, and the cylinder head having the inward extension passing within the tubular valve, substantially as described. 5th. In a steam engine, the combination with the cylinder having the extended end, with the lateral steam and exhaust ports, of the piston, the tubular valve working in the extended end and having a cross bar, the valve rod connected to said cross bar, the cylinder head having the inward extension passing within the tubular valve, and the stuffing box or gland located within said extension, substantially as described. 6th. In a steam engine, the combination with the cylinder having the extended end, with the lateral steam and exhaust ports, of the piston, the tubular valve working in the end extension provided with the annular steam passage around the outside, the twin cylinder having its entrance and exit ports in line with said annular passage, the steam and exhaust ports first mentioned being located in position to register with said annular passage when the valve is at opposite extremes of its movement, and the cylinder head having the inward extension passing within the tubular valve, substantially as described. 7th. In a steam engine, the combination with the high and low pressure cylinders, a valve controlling the admission and exit of steam to said cylinders respectively, of a steam chamber in communication with the low pressure cylinder through said valve, said chamber being of substantially the same area as the area within the low pressure cylinder, and a piston working within and varying the size of said chamber at the same ratio as the area of the space within the low pressure cylinder is varied, whereby the pressure of the steam within the low pressure cylinder is maintained uniformly during the return stroke, said chamber being put in communication with the exhaust port through the aforesaid valve, substantially as described. 8th. In a steam engine, the combination with the high and low pressure cylinders, the piston working therein, the third cylinder and the piston working therein in unison with the high pressure piston, of the valve and steam exit and exhaust ports leading respectively from the high pressure cylinder to the low pressure cylinder, from the low pressure cylinder to the top of the third cylinder, and from the latter to exhaust, substantially as described. 9th. In a steam engine, the combination with the three cylinders, as described, the high pressure piston, the piston working in unison therewith in the third cylinder and the low pressure piston below the same in communication with the third cylinder of the valve and steam entrance, exit and exhaust ports, and passages leading from the high pressure cylinder to the low pressure cylinder, from the latter to the third cylinder, and the space below the low pressure piston and to exhaust, the valve being adapted to control the passage of steam from one cylinder to another and to exhaust, substantially as described.

No. 41,077. Signal for Railways. (Signal de chemin de fer.)

James Spencer Parmenter, Woodstock, Ontario, Canada, 28th November, 1892; 6 years.

Claim. 1st. In a railroad signal an extension wing held by suitable mechanism to project at about right angles towards the railroad track and at suitable distance above it, so as to operate a swinging bracket attached to the top of the locomotive which bracket operates the mechanism by which the bell is rung, substantially as and for the purpose specified. 2nd. In a railroad signal an extension wing B, attached to the sprocket wheel D, which is connected by the wires O, to the sprocket wheel D, on the shaft J, the mechanism of the switch being so arranged that when the main line is incomplete the extension wing extends towards the track, but when the main line is complete the extension wing is parallel to the track, as specified. 3rd. In a railroad signal an extension wing B, attached to the sprocket wheel D, which is connected by the wires O, to the sprocket wheel D, on the shaft J, in combination with the swinging bracket U, eccentric corrugated plate V, springs *v*, sliding rod W, spring *u*, lever X, and bell Y, all arranged as and for the purpose specified. 4th. In a railroad signal an extension wing B, attached to the sprocket wheel D, which is connected by the wires O, to the sprocket wheel D, on the shaft J, in combination with a turnbuckle comprised of the plates P, forked rod Q, central spindle K, and nuts *s*, and spring S, for the purpose set forth. 5th. The extension wing B,

adjustably secured, laterally by the bolts c, which extend through slots in the bar C, and sprocket wheel D, and perpendicularly by the bolt I, extending through the slotted forked bracket H, as specified.

No. 41,078. Top Joint for Vehicles.

(*Joint principale pour voitures.*)

Amos Musser Hess, Martinsville, Pennsylvania, U.S.A., 28th November, 1892; 6 years.

Claim.—1st. The combination, with the rock shaft and braces, of a lever head loosely mounted on the rock shaft and having a shoulder formed on the face thereof, a detent passing through an opening in the shaft and adapted to engage said shoulder, and a lever arm connected with the head, substantially as and for the purpose specified. 2nd. The combination, with the rock shaft and braces, of a lever head loosely mounted on the rock shaft and having a shoulder formed on the face thereof, a screw passing through the rock shaft back of said shoulder, and a lever arm connected with the head, substantially as and for the purpose specified. 3rd. The combination, with the rock shaft and braces, of a lever head loosely mounted on the rock shaft and having a shoulder formed on the thereof, a detent passing through the rock shaft back of said shoulder, and a lever arm detachably connected with the head, substantially as and for the purpose specified. 4th. The combination, with the rock shaft and a lever for operating the same, of a spring actuated plunger having a pivotal connection at one end with the frame of the vehicle and pivoted at the other to an arm on the rock shaft, substantially as and for the purpose specified. 5th. The combination, with the rock shaft and a lever for operating the same, of a cylinder pivoted to the front of the seat, a spring actuated plunger located in the cylinder and having the outer end pivoted to an arm on the rock shaft, substantially as and for the purpose specified. 6th. The combination, with the rock shaft and braces, of a lever head loosely mounted on the rock shaft and having a shoulder formed on the face thereof, a detent passing through the rock shaft back of said shoulder, a lever arm connected with the head, and a spring actuated plunger having a pivotal connection at one end with the frame of the vehicle and pivoted at the other to an arm on the rock shaft, substantially as and for the purpose specified. 7th. The combination, with the rock shaft and braces, of a lever head loosely mounted on the rock shaft and having a shoulder formed on the face thereof, a detent passing through the rock shaft back of said shoulder, a lever arm detachably connected with the head, a cylinder pivoted to the front of the seat, a spring actuated plunger located in the cylinder and having the outer end pivoted to an arm on the rock shaft, substantially as and for the purpose specified. 8th. The combination, with the rock shaft and braces, of means for operating said shaft, and a spring connection between the ends of the shaft, substantially as and for the purpose specified. 9th. The combination, with the braces, of a rock shaft having a reduced portion between its ends, said reduced portion being tempered to form a spring and a lever secured to the shaft, substantially as and for the purpose specified.

No. 41,079. Signal for Railways.

(*Signal de chemin de fer.*)

William Elsworth Swin, Ansonia, Connecticut, U. S. A., 28th November, 1892; 6 years.

Claim.—1st. In a railroad signal, the combination of a pivoted signal arm or semaphore having a recess, a pivoted lever for raising and locking said signal arm or semaphore in danger position, and suitable actuating mechanism, substantially as set forth. 2nd. In a railroad signal, the combination of a pivoted signal arm or semaphore having a recess, a pivoted lever, and suitable actuating mechanism for operating said lever, to set and to lock said signal arm or semaphore in danger position, and to release said lever from said signal arm or semaphore, to admit of its dropping to safety positions, substantially as set forth. 3rd. In a railroad signal, the combination of a separate pivoted signal arm or semaphore, a separate lever, and actuating mechanism for moving said lever into engagement with the signal arm or semaphore, to raise and lock it in danger position, and for releasing the said lever from the semaphore, substantially as set forth. 4th. In a railroad signal, the combination of a pivoted signal arm or semaphore, a separate pivoted lever directly contacting therewith, pivoted shoes having inclined edges, connection between said shoes and lever, and actuating mechanism, substantially as set forth. 5th. In a railroad signal, the combination of a pivoted signal arm or semaphore, a separate lever for engagement by direct contact with said semaphore, setting and releasing shoes having inclined sides, connection between the setting shoe and said lever, and between the setting and releasing shoes, substantially as set forth. 6th. In a railroad signal, the combination of a pivoted signal arm or semaphore, a separate pivoted lever for engagement by direct contact with said semaphore, setting and releasing shoes having inclined sides, connection between the setting and said lever, and between the setting and releasing shoes, and a roller or wheel on a train for infringement with said shoes, substantially as set forth.

No. 41,080. Apparatus for Forging and Finishing Circular Articles. (*Appareil de forgeage d'articles circulaires.*)

Charles Fairbairn, of Sale, Manchester, England, 28th November, 1892; 6 years.

Claim.—1st. In a machine for forging or for finishing balls, projectiles and other malleable articles having circular cross sections, a pair of discs having a spiral groove or spiral grooves formed upon their contiguous faces, the cross section of each of the grooves corresponding to one half the section of the article to be forged or finished, and one of the discs having a central opening or openings for the admission of the article fed thereto, or for the escape of the forged or finished article, substantially as hereinbefore described with reference to the accompanying drawings. 2nd. In a machine for forging or for finishing cylindrical, conical and similar malleable articles, a pair of contiguous discs, one of which has a spiral groove or spiral grooves formed upon its face, and one of which also has an opening or openings near its centre for the admission of the forged or finished articles, substantially as hereinbefore described with reference to the accompanying drawings. 3rd. In a machine for forging or for finishing balls, projectiles and other malleable articles having circular cross sections, the combination and arrangement with a pair of discs having a spiral groove or spiral grooves in their contiguous faces, and an opening or openings in the central part of the lower disc, of a hollow shaft having its hollow part in communication with the opening or openings in the lower disc, and suitable gearing for rotating one of the discs only, or for rotating both of the discs in opposite directions, substantially as hereinbefore described with reference to the accompanying drawings. 4th. In a machine for forging and for finishing balls, projectiles, and other malleable articles having circular transverse sections, the combination and arrangement with two pairs of discs having a spiral groove or spiral grooves in their contiguous faces, and a central opening or central openings in the lower disc of the upper pair and the upper disc of the lower pair, of a hollow shaft having the lower disc of the upper pair and the upper disc of the lower pair secured thereon, and having also its hollow part in communication with the openings in the respective discs, and suitable gearing for rotating the two discs fixed upon the hollow shaft in one direction, and the other two discs in the opposite direction, at an equal speed, substantially as hereinbefore described, and as illustrated by the accompanying drawings.

No. 41,081. Buoyant Life Saving Apparatus.

(*Appareil de sauvetage.*)

Frederic Pelham Warren, Cosham, Hants, England, 28th November, 1892; 6 years.

Claim.—1st. The use of wood fibre treated in the manner hereinbefore described for the manufacture of buoyant articles to be employed as appliances for saving life at sea. 2nd. The construction of detachable portions of ships' fittings and seats to float away from a ship when sinking, in the form of life buoys, substantially as described.

No. 41,082. Carving Machine. (*Machine à sculpter.*)

James Hay, jr., Woodstock, Ontario, assignee of Stephen F. Moore, Milwaukee, Wisconsin, U.S.A., 28th November, 1892; 6 years.

Claim.—1st. In a carving machine, the combination with a horizontally swinging post as C, a thereto hinged and horizontally swinging standard as 10, and a thereon supported vertically movable rod as 14, having a plurality of tool carrying arms affixed thereto, of a lever as 38, pivoted medially on the standard, from one end of which lever the rod 14, and the tool carrying arms thereon are suspended, a strap as 41, provided as with a swivel 45, which strap is located in the continuation of the line of the axis of the standard 10, on the post C, an arm 43, to which the strap 41, is attached medially, the arm being pivoted at one end on the post, and suspended by the strap 41, from the lever 38, and carrying a counterpoise weight as 44, substantially as described. 2nd. In a carving machine, the combination of a horizontal swinging post as C, having a recurved upper portion, a standard 10 hinged and swinging horizontally on the post C, and a rod, as 14, having tool carrying arms fixed thereon, a tilting lever, as 38, pivoted medially on the standard 10, from one arm of which lever the rod 14 and the tool carrying arms thereon are suspended, a counterpoise arm, as 43, pivoted at one end in the extremity of the recurved end of the post C, a slot in the post through which the arm passes and is guided movable vertically, and a strap having a swivel located in the continuation of the axis of the standard 10 on the post C, which strap is attached medially to the arm 43, and to an arm of the lever 38, whereby the arm 43 is suspended from the lever, substantially as described. 3rd. In a carving machine, the combination, with a horizontally swinging standard, as 10, and thereto affixed rearwardly extending arms 12, of vertically movable frames, as 15, located alongside and at the rear of the standard 10 and the arms 12, to which frames are affixed, a frame connecting rod 14 supporting the tool carrying arms, pins 17 and 18 arranged in pairs and bearing opposite each other against the arms 12, pins 19 and bearing wheels 23, interposed between the standard and rod and opposing the bearing of the pins 19, substan-

tially as described. 4th. In a carving machine, a rod, as 14, a tool carrying arm 16 secured to and projecting horizontally from the rod 14, a shield 29 rigid on the arm 16, and in which shield a tool carrying spindle is pivoted, a straight brace and rod located at a distance from the arm 16, which rod is secured rigidly to the rod 14 and to the shield 29, an arbor 34 supported and adjustable on the brace rod, a pulley 33 loose on arbor 34, and a belt running on the tool carrying spindle and against and beyond the pulley 33, all combined substantially as described. 5th. In a carving machine, straight vertical post C, hinged so as to swing horizontally on a fixed bracket, a therewith parallel straight vertical standard 10, hinged so as to swing horizontally on post C, a straight vertical rod 14 located near to and movable vertically alongside of and guided by the standard 10, a plurality of homogeneous horizontally projecting tool carrying arms, and a substantially similar guide carrying arm affixed to the rod 14, and means for supporting and balancing the rod 14 and the thereto attached mechanism, all combined substantially as described. 6th. In a carving machine, the combination, with a horizontally swinging post, as C, a thereto hinged and horizontally swinging standard, as 10, and a thereon supported vertically movable rod, as 14, having tool carrying arms affixed thereto, of a lever, as 38, pivoted medially on the standard, segmental heads formed on the extremities of the arms of the lever, a strap secured to the upper edge of the segmental head of one arm of the lever, which strap is attached to and supports the vertically moving post and tool carrying arms thereon, and a strap secured to the upper edge of the segmental head of the other arm of the lever, which latter strap is provided with a swivel and carries thereon a rod supporting a counterpoise, substantially as described.

No. 41,083. Coin-freed Dynamometer.

(*Dynamomètre actionné par une pièce de monnaie.*)

Charles Arthur Barrett, London, England, 28th November, 1892; 6 years.

Claim.—1st. A coin-freed dynamometer, for testing the power of torsion, the twist spindle of which contains a slot, into which the coin drops and from which the coin falls either into the apparatus, or if the power exerted be great enough, into a chute by which it is returned to the operator, substantially as described. 2nd. In a coin-freed dynamometer for testing the power of torsion, the combination with the twist spindle, of a bolt adapted to engage with a lug upon the said spindle, the said bolt being operated to unlock the apparatus through the medium of a lever actuated by the falling coin, substantially as described. 3rd. In a coin-freed dynamometer for testing the power of torsion, the combination of a slotted twist spindle, having springs arranged in connection therewith, substantially as described, and means for unlocking the spindle, substantially as set forth. 4th. In a coin-freed dynamometer, in which the coin is returned to the operator upon a certain power being exerted, a shutter for closing the slot through which the coin is returned, substantially as described.

No. 41,084. Telephone Receiver and Transmitter.

(*Recepteur et transmetteur de téléphone.*)

Arthur Thomas Collier, Catherham Valley, Surrey, England, 28th November, 1892; 6 years.

Claim.—1st. A telephone provided with two diaphragms or tympan, each arranged between two magnet poles or between two groups of magnet poles, one of which is actuated by the current in the line wire, and the other of which is independent of such line current, and with one or more ear pieces or mouth pieces connected with the space or spaces between the tympan, substantially as herein described. 2nd. The combination of an electro magnet, produced by a current in the line wire, a solid permanent magnet so arranged that its poles are in proximity to those of the said electro magnet, and diaphragm or tympan situated between the poles of the electro magnet and those of the permanent magnet, substantially as herein described. 3rd. A telephone comprising the diaphragms or tympan, an electro magnet produced by a current in the line wire arranged between the said tympan, in a box or case provided with an ear piece or mouth piece, and a solid permanent magnet, the poles or pole pieces of which are in suitable proximity to the said tympan, substantially as herein described. 4th. The employment in a telephone, of an electro magnet produced by the current in the line wire, which is not in contact with any independent magnet, and which possesses a solid core of comparatively large diameter, formed with longitudinal slots, substantially as shown in the drawings.

No. 41,085. Thermostat and Indicator.

(*Thermoshéostat et indicateur.*)

Harvey Murdock, Brooklyn, New York, U.S.A., 28th November, 1892; 6 years.

Claim.—1st. A thermostat and indicator for ovens, comprising an aperture hanger for the interior of the oven, an expandible and revoluble rod passed through the said hanger, a screw thread connection between the rod and the hanger to cause the former to rotate in the latter upon expanding, and indicating devices for the exterior of the oven operated by the said rod, substantially as set forth. 2nd. The combination with an oven having an indicating dial on its outer wall, and a threaded hanger within, or an expan-

sible rod having one end screw threaded and adapted to fit the hanger, and the opposite end journaled in the dial and provided with an indicating hand, substantially as described.

No. 41,086. Method of and Apparatus for Receiving and Distributing Tickets. (*Méthode et appareil pour recevoir et distribuer les tickets.*)

John A. Milliken, Brooklyn, New York, U.S.A., 28th November, 1892; 6 years.

Claim.—1st. The herein described system of collecting and registering railroad and other tickets, wherein a circular disc shaped ticket is deposited in a receptacle having a return way or tube of exact dimensions for the reception of said ticket, and a separator adapted to intercept and throw out improper matter while permitting good tickets only to enter said tube, as set forth. 2nd. The herein described system of receiving, registering and delivering fares, the same consisting of the combination of a receiving apparatus arranged to receive a disc shaped ticket formed of hardened and ground steel and other suitable material having exact proportions, a return tube or way connected with said receiving apparatus and leading to a delivering apparatus, and a separator adapted to throw out counterfeits or improper matter, said tube being of such exact dimensions as to receive said disc shaped ticket only, in the manner and for the purpose substantially as described. 3rd. In a fare receiving apparatus adapted to receive disc shaped tickets, a separator, and ticket receptacle provided with an inclined track or way for the tickets, in combination with a forcing wheel, and return tube, as and for the purpose set forth. 4th. In a fare receiving apparatus, a pair of plates having a ticket receiving space or channel between them, said space being adapted to receive a disc shaped ticket in combination with a track separator, return tube and delivering apparatus as and for the purpose set forth. 5th. In a fare receiving device, a rotary separator for detecting and throwing out improper matter, substantially as described. 6th. The combination of a fare receiving device, a rotary separator, return tube or way and the delivering apparatus as set forth. 7th. The combination with a ticket receptacle, provided with a separator, of a forcing device, return tube or way, delivering and registering apparatus, and a recessed slide located at or near the exit of said tube and resting upon a plate having a discharge opening adapted to coincide with the recess in the slide as and for the purpose specified.

No. 41,087. Belt Fastener. (*Agrafe de courroie.*)

Isaac Jackson, Glossop, Derby, England, 28th November, 1892; 6 years.

Claim.—1st. A belt fastener consisting of an upper plate having two or more cupped parts, two or more cupped washers having teeth or fangs formed on their inner surfaces, and projections on their outer surfaces, two or more screws having recesses engaging with the projections on the washers, and a nut for each of the screws, substantially as hereinbefore described, and as illustrated by the accompanying drawings. 2nd. A belt fastener, consisting of an upper plate having two or more cupped parts, two or more cupped washers having teeth or fangs formed on their inner surfaces, and projections on their outer surfaces, two or more screws having recesses engaging with the projections on the washers, a nut for each of the screws, and a safe or cover piece over the joint below the upper plate, substantially as hereinbefore described, and as illustrated by the accompanying drawings. 3rd. A belt fastener, consisting of an upper plate having two or more cupped parts, a similar number of screws having teeth or fangs formed on the inner surfaces of their heads, and a nut for each screw, substantially as hereinbefore described, and as illustrated by the accompanying drawings. 4th. A belt fastener, consisting of an upper plate having two or more cupped parts, a similar number of screws having teeth or fangs formed on the inner surfaces of their heads, a nut for each screw, and a safe or cover piece arranged over the joint and below the upper plate, substantially as hereinbefore described, and as illustrated by the accompanying drawings. 5th. In a belt fastener, of the type hereinbefore described, an upper plate having two or more cupped parts, substantially as set forth, and as illustrated by the accompanying drawings. 6th. In a belt fastener of the type hereinbefore described, nuts having a lower tubular part, substantially as and for the purpose set forth, and as illustrated by the accompanying drawings. 7th. In a belt fastener, the combination, with a cupped washer having teeth formed upon its inner surface, and projections on its outer surface, of a screw having recesses formed in its head capable of engaging with the projections on the washers, substantially as hereinbefore described, and as illustrated by the accompanying drawings. 8th. In a belt fastener of the type hereinbefore described, and in which the two ends of the belt form a butt joint, a safe or cover piece having holes formed therein for the passage of the fastener screws, substantially as and for the purpose hereinbefore described, and as illustrated by the accompanying drawings.

No. 41,088. Milk Cooler. (*Aérateur à lait.*)

Marvin Dean Main, Cortland, New York, U.S.A., 28th November, 1892; 6 years.

Claim.—1st. In a milk cooler, the combination, with an open top truncated cone refrigerating chamber provided with an inlet pipe, of a reservoir adapted to fit over the open top refrigerating cham-

ber, and provided with a ventilating tube opening into said refrigerating chamber, and with a circular row of perforations arranged to deliver the milk at a point some distance below the top of the cone chamber, substantially as specified. 2nd. In a milk cooler, the combination, with an open top truncated cone refrigerating chamber, having its base formed with a circular milk channel, and provided with an inlet pipe, of a reservoir having a flange adapted to encircle the open top truncated cone, and provided with a ventilating tube to permit the escape of the heated air from the refrigerating chamber, and with a circular row of perforations arranged in the bottom of said reservoir outside of the flange, and adapted to deliver the milk at a point some distance below the top of the truncated cone chamber, substantially as specified.

No. 41,089. Foot Power Mechanism.

(*Mécanisme à pied.*)

Gaston Hervien and Nicholas A. Aubertin, both of London, England, 28th November, 1892; 6 years.

Claim.—1st. In mechanism for driving sewing and other machines worked by foot power, the angle piece *a*, regulated by a spring or springs, in combination with a rocking frame, all substantially as described and shown in figs. 2 and 3 of the drawings. 2nd. In mechanism for driving sewing and other machines by foot power, the angle piece or arms *a, a*, regulated by a spring or springs, substantially as set forth. 3rd. The improved mechanism for driving sewing and other machines by foot power, substantially as set forth.

No. 41,090. Method of Embalming.

(*Méthode d'embaumer.*)

Graham Hazelrig Hamrick, Philippi, West Virginia, U.S.A., 28th November, 1892; 6 years.

Claim.—1st. The herein described method of embalming, consisting in partially opening a cavity of the body, subjecting the interior of the body to contact with a solution containing a mineral salt such as saltpetre, and submitted to the fumes arising from burning sulphur, as set forth, and subjecting the body in a closed chamber, and while the interior is so filled or in contact with said solution to contact with the fumes arising from the combustion of sulphur, substantially as set forth. 2nd. The herein described method of embalming, consisting in partially opening the cavity of the body, subjecting the exterior of the body to contact with the fumes arising from the combustion of sulphur, subjecting the interior of said cavity to contact with a solution of saltpetre impregnated with the said fumes, and finally subjecting both the exterior of the body and the interior of said cavity to direct contact with said fumes, substantially as set forth. 3rd. The herein described method of embalming, consisting in partially opening the cavity of the abdomen, subjecting the exterior of the body to contact with the fumes arising from the combustion of sulphur, and subjecting the interior of said cavity and the exterior of the bowels to the alternate action of a solution containing saltpetre and of said fumes directly, substantially as set forth.

No. 41,091. Box for Seeds. (Boîte pour graines.)

Sherman Ralsey Miller, Detroit, Michigan, U. S. A., 28th November, 1892; 6 years.

Claim.—1st. The combination, with a box, of a laterally arranged series of connected trays therein, adapted to be moved into an inclined series, and a support to hold them in such inclined position, substantially as described. 2nd. The combination, with a box, of a laterally arranged series of trays therein, a limited sliding connection between the front and rear of the adjusting trays, whereby they may be moved to form an inclined series, and a support to hold them in their adjusted position, substantially as described. 3rd. The combination, with a box, of a laterally arranged series of trays therein, a partition across the front of the box, a pin on the front tray slidingly engaging in a slot in the partition, and a limited sliding connection between the front and rear of the adjoining trays in the series, substantially as described. 4th. The combination, with a box, of a laterally arranged series of open topped partitions, trays with a low front, of a pin in the front of each tray engaging in a slot in the back of the adjoining tray, a cover for the box, a support therefor in its open vertical position, and a connection between the upper tray and the cover, substantially as described. 5th. The combination, with a box, of partitioned trays therein made of sheet metal and formed from a single piece, substantially as described. 6th. The combination, with a box, of trays therein, each formed of sheet metal, bent to form the sides, and ends, and of partitions formed by sections struck out of the back, substantially as described. 7th. The combination, with a box, of trays therein, each formed of a single piece of sheet metal, bent as described, to form the sides and ends, the sections *l*, struck out of the back to form partitions, and the lug *u*, projecting above the bottom at the back, substantially as described.

No. 41,092. Machine for Cutting Cloth.

(*Machine pour couper le drap.*)

John Penman, assignee of Richard Schofield, both of Paris, Ontario, Canada, 28th November, 1892; 6 years.

Claim.—1st. A spindle A, fixed to the driving shaft P, supported by an adjustable pin I, and working in a vertical socket C, and

having a bevelled pinion F, fixed to it, in combination with a revoluble gear wheel E, meshing with the bevelled pinion F, and pinion G, fixed to the spindle of the cutter H, substantially as and for the purpose specified. 2nd. A spindle A, fixed to the driving shaft P, supported by a vertical socket C, and having a bevelled pinion F, fixed to it, and an adjustable pin I, forming a step for the spindle A, in combination with a revoluble gear wheel E, meshing with the bevelled pinion F, a pinion G, fixed to the spindle of the cutter H, and a friction roller K, butting against the back surface of the gear wheel E, opposite to its connection with the bevelled pinion F, substantially as and for the purpose specified.

No. 41,093. Rock Drill. (Barre à mine.)

The Rand Drill Company, assignee of Addison Crittenden Rand, all of New York, State of New York, U.S.A., 28th November, 1892; 6 years.

Claim.—1st. In a rock drill, the combination, with the separable longitudinal sections of the lower cylinder head, of the tapered flanges *a, a'*, extending longitudinally of the respective sections at their edges, together with clamp shoes B¹, having tapered channels *b*, and the bolts B¹, engaging said shoes, substantially as and for the purpose set forth. 2nd. In a rock drill, the combination, with the lower cylinder head having the recess or enlarged internal diameter *a'*, at its lower end, and the follower *c'*, adapted to fit and be detachably seated in said recess, of the removable ring *c*, having an internal diameter greater than that of said follower and adapted to be seated in the bottom of said recess and with the said follower to furnish a clamping seat for the packing ring *c'*, as described. 3rd. In a chuck for rock drills, the combination, with a solid chuck body recessed and slotted as described, of a bushing fitted in said recess and provided with plane bearing faces, one or more, longitudinal of its bore, and having a slot registering with the slot in the chuck body, together with a key fitted to play in said slots and carrying a bearing face opposed to the bearing face, or faces, of the bushing, and adapted to be projected into and withdrawn from the bushing bore, substantially as set forth. 4th. In a chuck for rock drills, the combination, with the solid chuck body, recessed and slotted as described, of a bushing composed of the hemi-cylindrical sections H², and H³, seated in said recess in the body, and having inclined adjacent edges, as described, the section H², having longitudinal bearing faces, one or more, and the section H³, being slotted to register with the slot in the chuck body, together with a key fitted to play in said slots and adapted to be projected into and withdrawn from the bushing bore, substantially as set forth.

No. 41,094. Air Compressor. (Compresseur à air.)

The Rand Drill Company, assignee of Addison Crittenden Rand, all of New York, and Frederic Arthur Halsey, Philadelphia, Pennsylvania, U.S.A., 28th November, 1892; 6 years.

Claim.—1st. A compound air compressor composed of an intake cylinder in which the air is initially and partially compressed, a compression cylinder of less diameter or volume than said intake cylinder, a connection between said cylinders, through which air is discharged under pressure from the former into the latter, and the respective pistons of the said cylinders and their rods and cranks adapted to move said pistons, relatively to each other, in making their working strokes, to approximate one piston at midway of its stroke when the other piston approximates the limit of its stroke, substantially as and for the purpose specified. 2nd. A compound air compressor composed of an air intake cylinder in which the air is initially and partially compressed, an air compression cylinder of less diameter than said intake cylinder, and a connection between said cylinders, through which the air is discharged under pressure from the former into the latter, in combination with a driving shaft having cranks at right angles to each other thereon, said cranks being connected, respectively, to the rod of the pistons of said respective cylinders, together with the cylinders of a compound steam engine, the high pressure cylinder thereof being in line and having its piston in connection with the piston of the air compression cylinder, and the low pressure or expansion cylinder thereof being in line and having its piston in connection with the piston of the air intake cylinder, substantially as described.

No. 41,095. Rock Drilling and Channelling Machine.

(*Machine à forer et échaner.*)

The Rand Drill Company, New York, State of New York, assignee of Joseph Clements Githens, Ashbury Park, New Jersey, all in the U.S.A., 28th November, 1892; 6 years.

Claim.—1st. In a rock drilling and channelling machine, the combination with the drill stocks of a double or twin rock drill, capable of simultaneous reciprocatory motion, of a cross head detachably attachable to said drill stocks, and adapted to carry a channelling bit, substantially as and for the purpose specified. 2nd. In a rock drilling and channelling machine, the combination with the drill stocks of a double or twin rock drill, adapted to carry each a single drill bit and to have an independent and a simultaneous reciprocatory motion, of a cross head, detachably attachable to said drill stocks and adapted to carry a channelling bit, substantially as and for the purpose specified. 3rd. In a rock drilling and channelling machine, the combination with the drill stocks of a double or twin rock drill, capable of simultaneous reciprocatory motion, and pro-

vided with drill holding chucks at their lower ends, of a cross head provided with arms or pins adapted to be seated in and clamped to said chucks, and to carry a channelling bit, substantially as and for the purpose specified. 4th. In a rock drilling and channelling machine, the combination with the drill stocks of a double or twin rock drill, capable of simultaneous reciprocatory motion, and provided with chucks at their lower ends, having tool holding and clamping devices for detachably attaching the drill stocks thereto, of a cross head adapted to carry a channelling bit, and provided with arms or pins adapted to be seated in and detachably attached to said chucks by said drill tool clamping devices and interchangeably with said tools, substantially as and for the purpose specified. 5th. In a rock drilling and channelling machine, the combination with the tool holding chucks of the drill stocks of a double or twin rock drill, capable of simultaneous reciprocatory motion, and provided with tool clamping devices to attach the drill tools detachably thereto, of a cross head adapted to fit between said chucks and carry a channel bit and provided with lugs adapted to fit against the ends of the chucks, and with arms or pins carried by said lugs and adapted to be seated in said chucks and clamped thereto by said drill tool attaching devices, substantially as and for the purpose specified. 6th. A cross head for the drill stocks of a twin rock drill, consisting in a plate adapted to fit between the drill stocks and to carry a channelling bit, and provided with a shoulder against which said bit may abut when seated on said plate, and with lugs adapted to abut against the ends of said chucks and arms or pins carried by said lugs and adapted to be seated in and clamped to said chucks, substantially as and for the purpose specified. 7th. A cross head for the drill stocks of a twin rock drill, consisting in a plate *d*, having an overhanging shoulder *d*², lugs *d*¹, and pins or arms *d*³, scores seated in said lugs, constructed as described and for the purpose specified. 8th. In a rock drilling and channelling machine, the combination with the chucks of the drill, stocks of a double or twin rock drill, capable of simultaneous reciprocatory motion, and provided with tool holding bolts *d*², and their clamping nuts *d*³, of a cross head *D*, consisting in a plate *d*, adapted to fit between said chucks and to carry a channelling bit, and provided with lugs *d*¹, adapted to fit against the chuck ends, and with pins or arms *d*³, carried by said lugs and adapted to be seated in said chucks and there held by said tool holding bolts, substantially as and for the purpose specified. 9th. In a cross head adapted to be detachably attached to the drill stocks of a double or twin rock drill, the combination of the plate *d*, the channelling bit *D*¹, seated flatwise thereon, the cover *D*², imposed on said bit, and the U-bolt *D*³, passed through coincident apertures in said plate, bit and cover, together with the nuts *D*⁴, substantially as and for the purpose set forth. 10th. The combination within the piston cylinders *a*, *a*¹, of a double or twin rock drill having respectively the valve chests *a*², and *a*³, of steam or air inlets parts *c* and *c*¹, one for each chest, and each controlled independently by a valve *c*², *c*³, respectively, and a steam or air connection *c*⁴, between the two chests controlled by a valve *c*⁵, together with an independent exhaust part *c*⁶, for each chest, substantially as and for the purpose specified.

No. 41,006. Rock Drill. (*Barre à mine.*)

The Rand Drill Company, New York, State of New York, assignee of Joseph Clements Githens, Asbury Park, New Jersey, all in the U.S.A., 28th November, 1892; 6 years.

Claim.—1st. In a rock drill, the combination with the cylinder piston and valve chest, of spring seated blocks in the recessed cylinder wall, and the valve rocking lever pivoted in said blocks, substantially as and for the purpose set forth. 2nd. In a rock drill, the combination with the cylinder, piston and valve chest, of spring seated blocks in the recessed cylinder wall, and having on their upper faces projections adapted to fit into corresponding recesses in the valve chest wall, together with the valve rocking lever pivoted in said blocks, substantially as and for the purpose set forth. 3rd. In a rock drill, the combination with the cylinder, piston and valve chest, of the blocks *E*, seated loosely in corresponding recesses in the cylinder wall, and provided with springs *F*, seated in the recesses in said blocks, and the valve rocking lever pivoted in said blocks, substantially as and for the purpose set forth. 4th. The metal block *E*, having the cylindrical lateral aperture *e*, the recesser *e*¹, opening on its upper face, and the longitudinal lip *e*², on said upper faces, together with springs *F*, seated in and extending from said recess, whereby said block is adapted to be interchangeably seated in the recessed cylinders of rock drills immediately beneath the valve chest thereof, and to serve as bearing for a pivot of the valve rocking lever therein, as described. 5th. In a rock drill, the combination with the cylinder, its piston and valve chest of spring seated blocks *E*, in the recessed cylinder wall constituting bearings for the pivot pin of the valve rocking lever, and the bonnets *G*, on the cylinder sides inclosing said seated blocks, substantially as and for the purpose specified.

No. 41,007. Sewing Thimble. (*Dé pour Coudre.*)

William Bramley and John Evans, both of Montreal, Quebec, 29th November, 1892; 6 years.

Claim. 1st. A sewing thimble formed with one or more internal air spaces separating the body proper of the thimble from the finger when in place, and communicating with the outer air for the pur-

pose set forth. 2nd. A sewing thimble having a double casing formed by an outer shell, bearing the working surface, and a perforated inner shell or cage, both being separated by an air space communicating with the outer air as set forth. 3rd. A sewing thimble containing one or more internal partitions adapted to form one or more air spaces between the body proper of the thimble and the finger, and such air spaces communicating with the outer air as set forth. 4th. A sewing thimble having an external body proper or casing bearing the working surface and an internal fitting for the finger establishing an open space between the finger and such body proper.

No. 41,008. Winding of Cops or Balls.

(*Bobinage des fuseaux ou balles.*)

Joseph Robert Leeson, assignee of Simon Willard Wardwell, both of Boston, Massachusetts, U. S. A., 29th November, 1892; 6 years.

Claim.—1st. The within described mode of winding cops, consisting in winding the thread spirally upon a tube or cylinder in successive coils with substantially the same number of coils in each layer, and in carrying the thread of each coil at each end of the cop across the thread of a previous coil, and bending the last laid portion with an abrupt bend at a point beyond that where the previously laid portion is bent to form a cop with a substantially flat end, substantially as described. 2nd. The improvement in the art of winding cops, consisting in winding the thread in successive coils, laying each thread at the end of the coil across and over that previously laid and there bending the thread back at a point adjacent to the bend, and winding it in a course parallel with that of a previously laid coil to form a cop with a substantially flat end, substantially as described. 3rd. A cop or ball of thread, consisting of successive layers in each of which the coiled portions of thread extending from end to end of the cop have the same number of windings, and in which each coil of thread is parallel throughout its extent to one of the preceding coils, and the ends of the coils at each side are substantially in the same plane, substantially as described. 4th. A cop, in which the coiled thread in each layer extends to the extreme ends of the cop, and is there reversed, and in which the point at that end of the cop, where each thread in each coil is reversed, is beyond the point where the thread is reversed in the preceding coil, and in which the ends are in substantially the same plane, substantially as described. 5th. In a cop winding machine, the combination, with a revolving holder for supporting the cop, and with a reciprocating thread guide supported to move in a course parallel to the axis of the cop, of mechanism adapted to give the holder an increment of movement at each rotation, for the purpose set forth. 3rd. A machine for winding cops, provided with a holder for the cop, and a reciprocating guide for the thread supported to move parallel to the axis of the cop and outward as the cop increases in diameter, and means for turning the holder and for reciprocating the guide, and mechanism for varying the relative movements of the holder and guide, to insure an increment of movement to the holder at each rotation, whereby each reversal of the movement of the guide takes place after the holder has turned beyond the point of its revolution, occupied at the moment of the preceding reversal of the movement of the guide, substantially as set forth. 7th. A machine for winding cops, provided with a revolving holder for supporting the cops, and with a reciprocating thread guide and means for varying the relative movements of the thread holder and guide, constructed substantially as described, to secure each successive reversal of the movement of the guide at the outer end of the holder, after and only after the holder in its rotation has reached a point beyond the point reached at the moment of the preceding reversal of the movement of the guide at such end, substantially as set forth. 8th. In a cop winding machine, the combination of a guide and means for imparting to the same a regular reciprocating movement parallel to the cop, and a holder for supporting the cop, and means for imparting to the same a progressive rotary movement at each rotation, substantially as set forth. 9th. The combination in a cop winding machine, of a reciprocating thread guide for guiding the thread parallel to the holder, and means for imparting an increment of movement to the holder at each rotation of said shaft, substantially as set forth. 10th. The combination of the cop holder, rotating shaft for driving the holder, a cam operating independently of said shaft, and devices between the cam and the holder to rotate the latter independently of the shaft, substantially as set forth. 11th. The combination of the holder, consisting of disks carried by rotating shafts, pawls for engaging teeth upon said disks, cams, and means for moving the same independently of the disks, and devices between each cam and each pawl, whereby the latter is moved by the cam to impart additional movement to the adjoining disk independently of the movement of the shaft, substantially as described.

No. 41,009. Oil Burner. (*Bruleur d'huile.*)

Gary G. Calkins, Chicago, Illinois, assignee of Alonzo Noteman, Toledo, Ohio, U.S.A., 29th November, 1892; 6 years.

Claim.—1st. A burner for converting liquid fuel into gas and burning the same, comprising two parallel plates, the adjacent surfaces of which are placed close together, and an oil supply pipe communicating with the space between the plates, said plates being

formed to provide a narrow exit slot or opening at which the gas is burned, and having an extended area of heating surface between which the fuel is confined in passing from the supply pipe to the said slot or opening. 2nd. A burner for converting liquid fuel into gas and burning the same, comprising two parallel plates one of which rests upon the other, and an oil supply pipe communicating with the space between the plates, substantially as described. 3rd. A burner for converting liquid fuel into gas and burning the same, comprising two parallel circular plates one of which rests upon the other, and a supply pipe communicating with the space between the plates at the centre of the same, substantially as described. 4th. A burner for converting liquid fuel into gas and burning the same, comprising two plates having their adjacent surfaces parallel and close to each other, an oil pipe supplying oil to the space between said plates, and a burner casing surrounding said plates, and provided with a part or wall arranged adjacent to one of the plates, and operating to deflect or maintain the flames against or in contact with said plate, substantially as described.

No. 41,100. Art of Producing Metallic Zinc.

(*Art de produire du zinc métallique.*)

Parker Cogswell Choate, New York, State of New York, U.S.A., 29th November, 1892; 6 years.

Claim.—1st. The above described process of producing metallic zinc, which consists in separating the zinc and the equally volatile and more volatile constituents from the less volatile constituents of the ore by decomposition and volatilization in the presence of free oxygen, thereby obtaining a condensed oxidized zinc fume, subjecting this fume to a moderate heat in order to expel its soluble constituents more volatile than zinc, then treating the remaining product with an acid solvent of the zinc in which lead is insoluble such as dilute sulphuric acid, and finally obtaining metallic zinc from the solution thus formed by means of electrolysis, substantially as set forth. 2nd. The above described process of producing metallic zinc, which consists in first separating the zinc from the less readily volatilizable constituents of an ore by decomposing and volatilizing the zinc element in the presence of free oxygen, thereby obtaining a condensed oxidized zinc fume, treating this fume with an acid solvent of the zinc in which lead is insoluble, such as dilute sulphuric acid, to form a practically pure electrolytic solution and finally subjecting this solution to the action of an electric current to the zinc as a metallic deposit, substantially as set forth. 3rd. The above described process of producing metallic zinc, which consists in forming an electrolytic solution by dissolving in dilute sulphuric acid, oxide of zinc, however obtained, in the state of fume free from the lighter soluble impurities, such as the oxides of antimony, arsenic, cadmium, etc., and then treating this solution by electrolysis, substantially as set forth. 4th. The hereinbefore described process of producing metallic zinc, which consists in depositing the zinc by electrolysis from an acidulated solution of a zinc salt maintained and regenerated by dissolving in the acid set free in the bath during electrolysis, oxidized zinc, in the state of fume, purified from its more volatile impurities such as the oxides of arsenic, antimony, bismuth, etc. 5th. In the process of depositing metallic zinc, by electrolysis from an acid zinc electrolyte, the hereinbefore described method of regenerating and maintaining the electrolyte which consists in dissolving in the acid, set free in the bath during electrolysis oxidized zinc in the state of fume, freed from its more volatile soluble impurities, and maintaining the electrolyte with the solvent thus formed.

No. 41,101. Manufacture of Asphaltum.

(*Fabrication d'asphalte.*)

Jesse Adams Dubbs, Alleghany, Pennsylvania, U.S.A., 29th November, 1892; 6 years.

Claim.—1st. As an improvement in the art of manufacturing asphaltum, the method herein described, which consists in heating crude petroleum or residuum thereof, charging fluid sulphur therein and maintaining the heat of the charge until the desired combination has been effected, substantially as set forth. 2nd. As an improvement in the art of manufacturing asphaltum, the method herein described, which consists in heating crude petroleum or residuum thereof, charging vaporous sulphur therein and maintaining the heat of the charge until the desired combination has been effected, substantially as set forth.

No. 41,102. Air Compressor. (Compresseur à air.)

Arthur O'Brien, Helena, Montana, U.S.A., 29th November, 1892; 6 years.

Claim.—1st. In an air compressor, the combination, with a holder, of a water supply pipe, a vertically movable valve for controlling same, a rod extending upward from said valve and having the stops thereon, as described, a float thereon for engaging the stops, a siphon discharge pipe, a valve for controlling the same, a pivoted lever connecting the valve and rod for simultaneously operating both valves, an air pipe for admitting and discharging air, and a float valve therefor, all substantially as and for the purpose set forth. 2nd. In an air compressor, the combination, with a holder, of a supply pipe therefor, a perforated cap above the supply pipe, a valve for controlling the supply operated by a float, a siphon discharge pipe, the return bend of which terminates at a point near the base of the

holder, a valve for said discharge pipe, a lever pivoted to a standard above the base connections between the discharge valve and the float mechanism, whereby both valves are simultaneously operated, an air pipe for admitting and discharging air, having its opening, and a float valve operating therewith, all substantially as and for the purpose set forth.

No. 41,103. Flushing Apparatus for Water Closets.

(*Appareil pour laver les latrines.*)

Arthur O'Brien, Helena, Montana, U.S.A., 29th November, 1892; 6 years.

Claim.—1st. In a water closet and flushing apparatus therefor, the combination, with a bowl having a flushing rim and air passages above said rim, of a flushing apparatus comprising a water supply, a water discharge leading to the flushing rim, an air pipe leading to said air passages, valves for said water supply and discharge, adapted to be simultaneously operated by a float and a valve in the air pipe, the combination being operating substantially as set forth. 2nd. In a water closet and flushing apparatus, the combination, with a bowl having a flushing rim and air passages as described, of a flushing apparatus consisting of a water supply adapted to compress the air within the apparatus and be checked by said compression, a water discharge leading to the flushing rim, an air pipe leading from the apparatus to the air channel and passages in the closet and having a stop cock, and discharge adapted to be simultaneous operated by a float, all substantially as and for the purposes set forth.

No. 41,104. Insulating and Waterproof Material.

(*Matériel isolant et imperméable.*)

Ernst Biernath, Charlottenburg, near Berlin, Germany, 29th November, 1892; 6 years.

Claim.—As a new article of manufacture, heat insulating and waterproof material for the hereinbefore described purposes, composed of infusorial earth, fibrous material and asphalt, compounded in the proportion and manner substantially as set forth.

No. 41,105. Railway Switch.

(*Aiguille de chemin de fer.*)

James Patrick Kelly and Joseph Leslie, Ottawa, Canada, 29th November, 1892; 6 years.

Claim.—1st. In combination with the switching rails F, and G, the guard rails C, C', and the point rails D and E, extending inward between the guard and the switch rails. 2nd. In combination with the straight switch rail F, and the curved switch rail G, the guard rails C and C', the latter curved to conform to rail G, and the point D and E, arranged between the switch and guard rails parallel with the straight switch rail. 3rd. In combination with the rail C', and the point rail E, a guide block located between the end of the point rail E, and the guard rail C'. 4th. In combination with the rail C', and the point rail E, the guide block H, forming a continuation of the point rail. 5th. In combination with the rail C', and the point rail E, the guide block H, having its upper face inclined upward toward the top of the point rail. 6th. In combination with the curved rail C', the point rail E, in line with the straight portion of rail C', and a guide block H, extending from the rail E to the rail C'.

No. 41,106. Pedal for Pianos. (Pédal de piano.)

John B. Mitchell, Bowmanville, Ontario, Canada, 29th November, 1892; 6 years.

Claim.—The combination of the pedals G and T, levers A, B, C, D, and F and rod O, raising and lowering the eccentric bracket H, thereby raising and lowering the rail I, substantially as and for the purpose hereinbefore set forth.

No. 41,107. Tobacco Pouch. (Sac à tabac.)

William James Cussen and M. Millhiser & Co. (a firm composed of Moses Millhiser, Gustavus Millhiser, Sampson Hirsch and Emanuel Millhiser), all of Richmond, Virginia, U.S.A., 29th November, 1892; 6 years.

Claim.—1st. A flexible tobacco pouch provided with a fastening string and having embodied in it a flexible match receptacle said receptacle extending across one side of the pouch, so that the matches will extend lengthwise across the same, whereby the matches will be entirely inclosed and prevented from being displaced, while at the same time the pouch and the receptacle will be capable of folding as the contents of the former are consumed, substantially as described. 2nd. A flexible tobacco pouch provided with a fastening string adapted to extend lengthwise around the same and a flexible match receptacle extending across it, whereby the matches will extend lengthwise across the pouch and be securely held in place by the string, substantially as described. 3rd. A combined pouch for smoking tobacco, chewing tobacco and matches, the same consisting of a main flexible pouch a, provided with a closing string, a flexible match receptacle c, extending across one side of the main pouch and formed by securing to the interior of the main pouch a piece of fabric, and a pocket d, for plug tobacco, formed of flexible fabric stitched to the main pouch, substantially as described. 4th. The combination of a main pouch a, for smoking tobacco, provided with

a fastening string, a flexible pouch *d*, for plug tobacco, formed on one side of the main pouch, and a flexible match receptacle formed across the main pouch above the pouch *d*, substantially as described.

No. 41,108. Corn Planter.

(*Machine pour semer le blé d'inde.*)

George Solyman Sheffield and Adelbert Cullen Himebaugh, Burr Oak, Michigan, U.S.A., 29th November, 1892; 6 years.

Claim.—The combination of the box having the discharge orifice, the disc having a discharge orifice registering with the first named orifice, and having elongated adjusting slots, the set screws in said slots for holding the said disc in the desired position, the pocket disc provided with the pendant axis centrally through the bottom of the box, the upper disc provided with the holes and pendant lips for controlling the size of the pockets, the centre bolt for attaching said discs together, and the striker, composed of the casing and the two elastic metal plates attached to said casing at their upper ends at an angle to each other, and separated from each other, substantially as set forth.

No. 41,109. Advertising Device. (*Appareil d'annonce.*)

George F. Burton, assignee of George Mann, Toronto, Ontario, Canada, 29th November, 1892; 6 years.

Claim.—1st. Two parallel rods held the proper distance apart to receive a frame, in combination with a spring plate connected to the frame and arranged by its elastic pressure to hold frame in connection with the rods, substantially as and for the purpose specified. 2nd. The frame E, having the forked end spring plate D, connected at one end and the fork shaped clips F, at its other end, in combination with the rods *f*, arranged substantially as and for the purpose specified. 3rd. The frame E, having the forked end spring plate D, connected at one end, and the forked shaped clips F, at its other end, in combination with the rods *f*, each rod having an adjustable end C, and a hold fast such as the spike *a*, substantially as and for the purpose specified.

No. 41,110. Electric Block Signal System.

(*Appareil de signal électrique.*)

John La Burt, New York, and William Herman Agricola, Brooklyn, all in the State of New York, U. S. A., 29th November, 1892; 6 years.

Claim.—1st. In an electric block system, the combination with a signal post and swinging semaphore thereon, of a vertically movable contact block arranged adjacent to the rails of a track, a swinging lever arranged in the path of the contact block, connections between the swinging lever and the semaphore, whereby the latter will be operated by the swinging lever, a bent latch adapted to engage the swinging lever and hold it in a locked position, said latch having a bent arm as shown, a magnet having a vibrating armature carrying a hammer to strike the latch arm, and means for closing an electrical circuit through the magnet by the depression of a contact block in advance of it, substantially as described. 2nd. In an electric block signal system, the combination with the signal post and swinging semaphore thereon, of a movable block arranged adjacent to a track rail, a swinging lever hung in the path of the contact block, a rod and crank connection between the swinging lever and the semaphore arm, a gravity locking latch to engage the lever and hold it in depressed position, an electric magnet to release the latch, and means for closing the circuit through the magnet by the depression of a contact block in advance of it, substantially as described. 3rd. In an electric block signal system, the combination with a swinging lever adapted to be operated by a passing train, and the rods and cranks connecting the lever with the semaphore arm, of an electric light mounted on the signal post, and a switch arranged in the light circuit, said switch having a weighted arm extending into the path of one of the cranks and adapted to normally hold the switch open, substantially as described. 4th. An electric block signal system, comprising connected contacts arranged upon a track, a steam cylinder and piston carried by the locomotive and adapted to operate the shut off and brake levers, electrically operated mechanism for controlling the cylinder valve, contact brushes carried by the locomotive to strike the track contacts, electrically operated means for breaking the connection between the track contacts from a train in advance of them, and electrical connections, substantially as described. 5th. In an electric block signal system, the combination, with the locomotive, of contact brushes suspended thereon and forming the terminals of an electric circuit, connected contacts arranged upon the track in the path of the brushes, means for making and breaking the connection between the track contacts by the movements of a train in advance of them, and a lever mechanism controlling the locomotive steam supply, and set by a magnet included in the contact brush circuit, substantially as described. 6th. The combination with the shut off and brake levers of the locomotive, of a steam cylinder and piston connected therewith, a valve controlling the cylinder ports, a sliding piston rod for operating the valve, a tilting lever to move the said piston rod, a magnet and armature to operate the tilting lever, an electric battery connected with the magnet and with terminals carried by the locomotive near the track, and connected contacts on the track to contact with the terminals on the locomotive and close the circuit, substantially as described.

No. 41,111. Secondary Battery. (*Pile secondaire.*)

The Mining and General Electric Lamp Company, assignees of Desmond Gerald Fitzgerald, Loughborough Road, England, 29th November, 1892; 6 years.

Claim.—The employment of copper or of an alloy of copper in the construction of supports for the active material in positive elements (cathodes in charging) of secondary batteries, and in cathodes to be used in electrolysis.

No. 41,112. Stamp Affixer.

(*Appareil pour apposer les estampilles.*)

Joseph Coyle and Alexander McCallum, both of Ottawa, Ontario, Canada, 29th November, 1892; 6 years.

Claim.—1st. A stamp affixer consisting of a rectangular casing, a sponge holder placed at one end of said casing having perforations in its lower edge, and means for squeezing a sponge in said holder, apertures registering with each other in the top and bottom of the said casing, the said apertures being close to the said holder, a plate or plates running from the said apertures to the end of the casing, the said plate or plates being inclined from side to side, a slot or slots in the said cover running longitudinally, adapted to contain a button having a finger reaching to the said plate or plates, a reciprocating cutter sliding in the said apertures in the top and bottom of the said casing and having a cutting edge adapted to come in contact with the said plate or plates, substantially as and for the purpose set forth. 2nd. In a stamp affixer, the combination, with the casing having a removable cover *A*¹, and apertures *H* and *a*¹, of the slots *h*, *h*¹ and *h*², the plate *G*, having slots *g* and *g*¹, the plate *F*, having a slot *f*, and the plate *E*, the buttons *I*, *I*¹ and *I*², having fingers *i*, *i*¹ and *i*², sliding in the said slots *h*, *h*¹ and *h*², and reaching the several plates, the cutter *H*, having a cutting edge *j*¹, substantially as set forth. 3rd. In a stamp affixer, the combination, with a casing adapted to contain and feed stamps, and means for cutting off the said stamps, of the sponge holder *B*, having perforations *b*, at its lower edge, a spring pressed button *C*, and a reservoir *D*, and means for pressing the sponge in said holder when required, substantially as set forth. 4th. In a stamp affixer, the combination, with a casing adapted to contain and feed stamps, and means for moistening the space the stamp is to occupy, of the cutter *K*, having tongues *j*, adapted to slide in the grooves *a*², the springs *k* and catch *M*, substantially as set forth.

No. 41,113. Knife Sharpener.

(*Appareil pour aiguiser les couteaux.*)

Kittie Lee Sheridan, Toronto, Ontario, Canada, assignee of Charles F. Foster, John M. Foster and Langdon C. Foster, all of Fulton, New York, U.S.A., 29th November, 1892; 6 years.

Claim.—1st. A knife sharpener composed of a holder secured to a suitable support and abrading or sharpening bars disposed at an angle to each other, and secured in said position to the aforesaid holder, as set forth. 2nd. A knife sharpener, consisting of a holder having sockets disposed axially at an angle to each other, and abrading or sharpening bars secured longitudinally adjustable to said sockets, as set forth. 3rd. A knife sharpener, consisting of a supporting bracket, provided with sockets disposed at an angle to each other, and abrading or sharpening bars provided with a plurality of abrading surfaces, and seated in the sockets adjustably to present different parts of said surfaces at the adjacent sides of the said bars, as set forth. 4th. The improved knife sharpener, consisting of a supporting bracket provided with sockets disposed at an angle to each other, sharpening bars inserted removably in said sockets, and a clamp retaining said bars in the sockets, as set forth. 5th. The combination of a bracket, secured stationarily to a suitable support and formed with a horizontal plate having sockets extending from the top to the bottom of said plate and at an angle to each other, sharpening bars inserted in said sockets, and a key inserted between said bars beneath the plate of the bracket, as set forth. 6th. The combination of the bracket *C*, formed with the horizontal plate *C*¹, having the sockets *a*, *a* extending through said plate at an angle to each other, the sharpening bars *b*, *b* inserted in said sockets, and the spring key *c* attached at one end to the under side of the plate *C*¹, and having its free end extending between the bars *b*, *b*, and bearing on the same, substantially as described and shown. 7th. The bracket *C*, formed with the horizontal plate *C*¹, sockets *a*, *a*, leg *l*¹, having the perforated foot *l*¹, and legs *l*, *l* terminating with pointed feet, in combination with the sharpening bars *b*, *b* secured in said sockets, substantially as described and shown.

No. 41,114. Desulphurizing Oil.

(*Désulfuration de l'huile.*)

Jesse A. Dubbs, Alleghany City, and Samuel M. Boyd, Pittsburg, both of Pennsylvania, U. S. A., 29th November, 1892; 6 years.

Claim.—1st. The process herein described of desulphurizing Canada, Lima and other minerals and petroleum oils, containing a large proportion of sulphur, which consists in forcing through the oil, hydrogen gas, or a gas rich in hydrogen, whereby the sulphur in the oil will unite with the hydrogen of the gas, and pass off in the form of incondensable sulphuretted hydrogen gas, as set forth. 2nd. The process herein described of desulphurizing Canada, Lima, petroleum and other mineral oils containing sulphur, which consists in

forcing through the oil, hydrogen gas or a gas rich in hydrogen, in a superheated or in a highly heated condition, whereby the sulphur in the oil will unite with the hydrogen of the gas and pass off in the form of incondensable sulphuretted hydrogen gas, as above set forth, and used as fuel.

No. 41,115. Electric Cut Out. (*Interrupteur électrique.*)

Herbert Montague Linnell, Charles Morton and William Prutton Mashinter, all of Montreal, Quebec, Canada, 29th November, 1892; 6 years.

Claim.—1st. As an electric cut out, branch or shunt wires from the mains, insulated contacts, a film carrier, a film mounted on said carrier and extending between said contacts, and these latter affording a path for the automatically shunted current, independently of said carrier. 2nd. In an electric film cut out, insulated contacts, a film carrier, a film in the form of a flat disc mounted on said carrier, and extending between said contacts. 3rd. In an electric film cut out, a film in the form of a flat disc. 4th. In an electric cut out, the combination, with a fixed holder of a rotatory film carrier in the form of a disc, carrying the film on the flat side thereof. 5th. The combination with the holder arm D¹, having opening D², of the film carrier, formed of disc G¹, and grooved boss G, and spring d, as set forth. 6th. In an electric film cut out, insulated contacts, a film carrier, a film mounted on said carrier and extending between said contacts, which latter afford a path for the automatically shunted current, independently of said carrier, as set forth. 7th. In an electric film cut out, a pair of insulated contacts, one fixed and the other movable, a rotatory film carrier, a flat film mounted on said carrier and extending between said contacts, which latter afford a path for the automatically shunted current, independently of said carrier, and means for operating said movable contact and rotating said carrier as set forth. 8th. In an electric film cut out, a pair of insulated contacts, a film carrier, a film mounted on said carrier and extending between said contacts, which latter afford a path for the automatically shunted current, auxiliary contacts and means for operating said movable contact, rotating said carrier, and effecting a union between said auxiliary contacts, for the purpose set forth. 9th. As an electric cut out, two branch or shunt wires from the mains, an insulated base plate, two binding posts, carrier thereby for the attachment of said shunt wires, a spring contact maker extending between and bearing upon one of said posts, a rotatory film carrier, a film in the form of a flat disc mounted on such carrier, and extending between said contact maker and one of said posts, with means for moving said contact maker and rotating said carrier, as set forth. 10th. As an electric film cut out, branch or shunt wires from the mains, an insulated base plate, a pair of combined binding posts and insulated contacts, one fixed and the other movable, a centrally perforated rotatory film carrier situated centrally of said contacts, and having its under surface ratchet toothed, a film mounted on said carrier and extending between said contacts, a pair of auxiliary contacts projecting from said binding posts, and a central movable insulated key or spindle passing through said insulated base, and provided with a metallic collar, having a pin or projection on its upper side, the upper part of said spindle being adapted to pass through said film carrier, and operate the movable contact, simultaneously therewith effecting a union between said auxiliary contacts, through said metal collar, and causing the pin thereon to engage the ratchet toothed underside of said carrier, whereby it can be rotated, as set forth.

No. 41,116. Stopper for Bottles and Jars.

(*Bouchon de bouteilles et jarres.*)

Benjamin Crocker Cross, Tingley, Yorkshire, and Daniel Cross, St. Germans, Cornwall, both in England, 29th November, 1892; 6 years.

Claim.—1st. A stopper for bottles, jars and like vessels, consisting of a piece of sheet metal in the form of a capsule having two or more lugs or clips, adapted to engage with an under cut moulding on the neck of said vessel, substantially as described and for the purpose specified. 2nd. The combination with a stopper, provided with two or more lugs C, of the under cut moulding c, on the neck d of the bottle, and a disc of cork or other suitable material inserted and held in a capsule, substantially as described and for the purposes specified. 3rd. As a new article of manufacture, a bottle with an under cut moulding formed on the neck, as and for the purpose specified. 4th. The combination with the capsule a, provided with lugs C, of a tool composed of the cylinder g, the piston h, actuated by a spring e, and the springs g, k and c, arranged as and for the purpose specified.

No. 41,117. Skiving Machine. (*Machine à trancher.*)

Jacob Rookhard Scott, New York, State of New York, U.S.A., 30th November, 1892; 6 years.

Claim.—1st. In a skiving machine, the combination with the roller die, the feed roller, mechanism for imparting motion to the roller die, and the feed roller, and the knife, of an edge gauge secured to the frame of the machine, and an end gauge carried by the roller die and engaging a cam for moving it onward to its active position or inward, so as to clear the knife, substantially as described. 2nd. In a skiving machine, the combination with the roller die, the knife and the edge gauge of a conical feed roller, and mechanism for im-

parting motion to the roller die and the feed roller, substantially as described. 3rd. In a skiving machine, the combination with the roller die and the knife, of a feed roller composed of sections provided with teeth extending all around, and of sections having teeth only partially around their circumference, substantially as described. 4th. In a skiving machine, the combination with the roller die, the feed roller and mechanism for imparting motion to these rollers, of a plate I, mounted on a pin g, set screws h, h, for adjusting this plate, and a knife H, secured to said plate, substantially as described.

No. 41,118. Shingle Gage. (*Jauge simple.*)

John William Bacon, Euderby, British Columbia, Canada, 30th November, 1892; 6 years.

Claim.—A carpenter's shingling gage consisting of the slotted and rabbeted rule A, scaled on one side, the slide block D, adjustable thereon, the vertical slide bar G, having a pin g near the upper end and the dog H, at the lower end, the lever K, having curved slot for the pin g, and the spike pin L, substantially as shown and described.

No. 41,119. Branding or Marking of Cigars.

(*Machine à marquer les cigarras.*)

Bernard Goldstein, of Montreal, Quebec, Canada, 30th November, 1892; 6 years.

Claim.—1st. A distinguishing mark for cigars consisting of a word or device impressed or printed in a non-combustible substance or composition upon the cigar and appearing in the ashes as the cigar is consumed. 2nd. A distinguishing mark for cigars consisting of a word or device impressed or printed in a non-combustible composition, composed of ferric oxide, glycerine gum and water upon the cigar and appearing in the ashes as the cigar is consumed. 3rd. A distinguishing mark for cigars consisting of a word or device impressed or printed upon the cigar and appearing in the ashes as the cigar is consumed.

No. 41,120. Perspectograph. (*Perspectographe.*)

Justin Hippolyte Siméon Jechoux, Verri Noire (Loire), France, 30th November, 1892; 6 years.

Claim.—1st. A perspectograph comprising telescope sighting apparatus mounted so as to be capable of turning in any direction, but with a point of its axis constantly fixed, and a pencil at the extremity of an extensible tube fitted in such manner that the axis of the pencil passes through the fixed point of the telescope, the telescope and the pencil being so connected together that the movements of the one are imparted to the other, substantially as and for the purpose hereinbefore described. 2nd. In a perspectograph having a telescope or sighting apparatus, and a pencil mounted so as to be capable of rotating at right angles to each other, means, such as are herein described, for connecting the pencil and the telescope together in such manner that the movements of the one are imparted to the other, substantially as and for the purpose hereinbefore set forth. 3rd. In a perspectograph having a telescope or sighting apparatus, and a pencil mounted so as to be capable of rotating at right angles to each other, connecting the telescope and the pencil together in such manner that the movements of the one are imparted to the other, by the employment of a slider capable of being slid along or rotated on a fixed horizontal rod, the axis of which is at right angles to the axis of the telescope and the pencil, said horizontal rod forming part of a frame or support for the instrument, all arranged and combined so as to operate substantially as described and illustrated. 4th. An improved perspectograph comprising, as its essential, a telescope, a pencil and a slider serving to convey the movements of the pencil to the telescope, and *vice versa*, substantially as described and illustrated, and for the purpose stated.

No. 41,121. Brace. (*Vilebrequin.*)

Arthur Albert Tattersal, Glasgow, Scotland, 30th November, 1892; 6 years.

Claim.—1st. A brace having combined crank and ratchet actions, made substantially as hereinbefore described and shown on the drawings annexed. 2nd. The combination, with a ratchet a, of a cranked bar b, or its equivalent, so made as to be capable of being fitted to the ratchet arm, either as an extended handle, or as a driving crank, substantially as and for the purposes hereinbefore set forth.

No. 41,122. Lock. (*Serrure.*)

Henry Elliott, Los Angeles, California, U.S.A., 30th November, 1892; 6 years.

Claim.—A lock provided with two dissimilar keys, and with a bolt having two dissimilar key receiving notches, whereby the second key is adapted to engage the bolt and move it forward a distance after the first key has moved the bolt the usual distance, thus causing the first key to be inoperative until the second key is used to partially return the bolt.

No. 41,123. Die Plate. (*Plaque de filière.*)

Lewis Calvin Wetzel, Bellefonte, Pennsylvania, U.S.A., 30th November, 1892; 6 years.

Claim.—1st. A die plate, provided with revoluble dies, each carrying individual removable cutters, substantially as shown and described. 2nd. In a die plate, the combination with a die stock

formed of two hinged sections, of revoluble dies mounted to turn in the said sections, and each provided with removable cutters, the several cutters in each die being of different sizes, substantially as shown and described. 3rd. In a die plate, the combination with a die stock formed of two hinged sections, of revoluble dies mounted to turn in the said sections, and each provided with removable cutters, the several cutters in each die being of different sizes, and means, substantially as described, for securely holding the cutters in place in the periphery of the said dies, as set forth. 4th. A die plate provided with revoluble dies, each provided in its periphery with cutters, and guide discs held on the said dies, and formed in their peripheries with recesses to engage and guide the article to be cut by the said cutters, substantially as shown and described. 5th. In a die plate, the combination with a die stock made of two sections hinged together, of revoluble dies held in sections, and each provided in its periphery with different sized removable cutters, and guide discs secured on the shafts of the said dies, and formed in their peripheries with recesses in alignment with the cutters in the dies, substantially as shown and described. 6th. In a die plate, the combination with a die stock made of two sections hinged together, of a bolt pivoted on one of the said sections and extending through a recess in one edge of the said sections, and a nut on the said bolt engaging the section opposite that carrying the pivot of the said bolt, substantially as shown and described. 7th. In a die plate, the combination with a die stock made of two sections hinged together, of a bolt pivoted on one of the said sections and extending through a recess in one edge of the said sections, a nut on the said bolt engaging the section opposite that carrying the pivot of the said bolt, and a pin held in one of the plate sections and passing in front of the said bolt to lock the latter in place, substantially as shown and described. 8th. A die plate, provided with a die stock made in two sections, each formed with a socket carrying a pin or lug, and handles adapted

to engage the said sockets and each formed with an L-shaped recess adapted to be engaged by the corresponding pin or lug, substantially as shown and described. 9th. A die plate, provided with a revoluble die formed in its periphery with semi-circular recesses each having a V-shaped groove in its back, and cutters adapted to engage the said recesses and each formed with a double bevelled rim fitting into a correspondingly shaped groove in the recess, substantially as shown and described. 10th. A die plate, provided with a revoluble die formed in its periphery with semi-circular recesses, each having a V-shaped groove in its back, cutters adapted to engage the said recesses and each formed with a double bevelled rim fitting into the correspondingly shaped groove in the recess, and set screws screwing partly in the said die and partly in the said cutter at the ends thereof, substantially as shown and described. 11th. In a die plate, the combination, with the stock formed of two sections hinged together at one side and provided with the circular recesses, handles, and opening in the adjacent edges of the sections, of the dies, fitting in the recesses and provided with shafts mounted in bearings in the said sections, and with threaded recesses, means for locking the dies in position in said recesses, and a bar hinged to one section and having its free end detachably secured to the other section, substantially as described. 12th. In a die plate, the combination, with the stock formed of two sections, hinged together at one side and provided with circular recesses, apertures B³, handles and an opening B², in the adjacent edges of the sections, of the dies fitting the said recesses and provided with shafts, fitting in bearings in the said sections, and with the threaded recesses I¹, in their peripheries, pins extending through the dies and engaging the apertures B³, of the sections, a bar hinged to one section and provided with an inwardly projecting lug, and a set screw and catch for locking the free end of the bar to the other section, substantially as herein shown and described.

CERTIFICATES OF THE PAYMENT OF FEES FOR FURTHER TERMS HAVE BEEN ATTACHED TO THE FOLLOWING PATENTS.

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| 2763. THE WRITING TELEGRAPH COMPANY (assignee), 2nd five years of No. 27,919, from the 3rd day of November, 1892. Improvements in Autographic Telegraphs, 2nd November, 1892. | the 10th day of November, 1892. Improvements in Electrical Pressure Indicators, 9th November, 1892. |
| 2764. THE WRITING TELEGRAPH COMPANY (assignee), 2nd five years of No. 27,950, from the 7th day of November, 1892. Improvements in Autographic Telegraphs, 2nd November, 1892. | 2780. THE WESTINGHOUSE ELECTRIC COMPANY (assignee), 2nd five years of No. 27,969, from the 10th day of November, 1892. Improvements in Regulating System for Electric Circuits, 9th November, 1892. |
| 2765. JAMES FYFE, 3rd five years of No. 15,774, from the 11th day of November, 1892. Improvement on Electric Lamps, 2nd November, 1892. | 2781. THE WESTINGHOUSE ELECTRIC COMPANY (assignee), 2nd five years of No. 27,970, from the 10th day of November, 1892. Improvements in System of Electrical Conversion, 9th November, 1892. |
| 2766. WILLIAM MORRISON, 3rd five years of No. 15,719, from the 2nd day of November, 1892. Improvements on Hydraulic Dredging Machines, 2nd November, 1892. | 2782. THE WESTINGHOUSE ELECTRIC COMPANY (assignee), 2nd five years of No. 27,971, from the 10th day of November, 1892. Improvements in System of Electric Distribution, 9th November, 1892. |
| 2767. JOHN JEREMIAH CROOKE and ROBERT CROOKE, 2nd five years of No. 28,153, from the 9th day of December, 1892. Improvements in Process of Treating and Desilvering Copper Matte, 3rd November, 1892. | 2783. THE WESTINGHOUSE ELECTRIC COMPANY (assignee), 2nd five years of No. 27,972, from the 10th day of November, 1892. Improvements in Method of and Apparatus for Connecting Alternate Current Electric Generator, 9th November, 1892. |
| 2768. THOMAS J. CARROLL, 3rd five years of No. 28,111, from the 13th day of November, 1892. Improvements in Steam Injectors, 3rd November, 1892. | 2784. THE WESTINGHOUSE ELECTRIC COMPANY (assignee), 2nd five years of No. 27,973, from the 10th day of November, 1892. Improvements in System of Electrical Distribution and Conversion, 9th November, 1892. |
| 2769. ALEXANDER MARCY and HERMAN BYRON MARCY, 2nd five years of No. 28,026, from the 18th day of November, 1892. Mouse and Dust Proof Attachment for Organs, 2nd November, 1892. | 2785. THE WESTINGHOUSE ELECTRIC COMPANY (assignee), 2nd five years of No. 27,974, from the 10th day of November, 1892. Improvements in System of Electrical Distribution and Conversion, 9th November, 1892. |
| 2770. WILLARD K. DYER, 2nd five years of No. 27,941, from the 5th day of November, 1892. Improvements in Heating Attachments for Lamp Chimneys, 5th November, 1892. | 2786. THE WESTINGHOUSE ELECTRIC COMPANY (assignee), 2nd five years of No. 27,975, from the 10th day of November, 1892. Improvements in System of Electric Circuits and Automatic Controlling Apparatus therefor, 9th November, 1892. |
| 2771. PHILIPPE BALDENSPERGER, 2nd and 3rd six years of No. 40,089, from the 26th day of August, 1898. Improvements in Self re-ascending Motors, 5th November, 1892. | 2787. THE WESTINGHOUSE ELECTRIC COMPANY (assignee), 2nd five years of No. 27,976, from the 10th day of November, 1892. Improvements in System of Electric Distribution, 9th November, 1892. |
| 2772. THE WESTINGHOUSE ELECTRIC COMPANY, (assignee), 2nd five years of No. 27,961, from the 10th day of November, 1892. Improvements in Dynamo Electric Machines, 9th November, 1892. | 2788. THE WESTINGHOUSE ELECTRIC COMPANY (assignee), 2nd five years of No. 27,977, from the 10th day of November, 1892. Improvements in System of Electric Distribution, 9th November, 1892. |
| 2773. THE WESTINGHOUSE ELECTRIC COMPANY (assignee), 2nd five years of No. 27,962, from the 10th day of November, 1892. Improvements in Armatures for Electric Machines, 9th November, 1892. | 2789. THE WESTINGHOUSE ELECTRIC COMPANY (assignee), 2nd five years of No. 27,978, from the 10th day of November, 1892. Improvements in Circuit Controlling Apparatus for Electric Circuits, 9th November, 1892. |
| 2774. THE WESTINGHOUSE ELECTRIC COMPANY (assignee), 2nd five years of No. 27,963, from the 10th day of November, 1892. Improvements in Commutators for Electric Machines, 9th November, 1892. | 2790. THE WESTINGHOUSE ELECTRIC COMPANY (assignee), 2nd five years of No. 27,979, from the 10th day of November, 1892. Improvements in Incandescent Electric Lamp Sockets, 9th November, 1892. |
| 2775. THE WESTINGHOUSE ELECTRIC COMPANY (assignee), 2nd five years of No. 27,964, from the 10th day of November, 1892. Improvements in Electric Converters and Boxes for same, 9th November, 1892. | 2791. THE WESTINGHOUSE ELECTRIC COMPANY (assignee), 2nd five years of No. 27,980, from the 10th day of November, 1892. Improvements in Electric Conductors, 9th November, 1892. |
| 2776. THE WESTINGHOUSE ELECTRIC COMPANY (assignee), 2nd five years of No. 27,965, from the 10th day of November, 1892. Improvements in Boxes for Electric Converters, 9th November, 1892. | 2792. THE WESTINGHOUSE ELECTRIC COMPANY (assignee), 2nd five years of No. 27,981, from the 10th day of November, 1892. Improvements in System of Electrical Distribution, 9th November, 1892. |
| 2777. THE WESTINGHOUSE ELECTRIC COMPANY (assignee), 2nd five years of No. 27,966, from the 10th day of November, 1892. Improvements in Volt Meters, 9th November, 1892. | 2793. JOHN GOOD, 2nd five years of No. 28,131, from the 3rd day of December, 1892. Improvements in Machinery for Drawing and Spinning Hemp and other Fibrous Material, 11th November, 1892. |
| 2778. THE WESTINGHOUSE ELECTRIC COMPANY (assignee), 2nd five years of No. 27,967, from the 10th day of November, 1892. Improvements in Ammeters, 9th November, 1892. | |
| 2779. THE WESTINGHOUSE ELECTRIC COMPANY (assignee), 2nd five years of No. 27,968, from | |

2794. THE PENBERTHY INJECTOR COMPANY (assignee), 2nd five years of No. 28,205, from the 19th day of December, 1892. Improvements in Steam Injectors, 12th November, 1892.
2795. JOHN BELMER ARMSTRONG, 2nd five years of No. 28,040, from the 21st day of November, 1892. Improvements in Buggy, Carriage or Butter Poles, 14th November, 1892.
2796. JOHN BELMER ARMSTRONG, 2nd five years of No. 28,042, from the 21st day of November, 1892. Improvements in Side Spring Buggy Gears, 14th November, 1892.
2797. HERALD MARIUS HANSEN, 2nd and 3rd five years of No. 30,903, from the 8th day of March, 1894. Improvements in Chimney Caps, 14th November, 1892.
2798. THE INTERNATIONAL GAS COMPANY (assignee), 2nd five years of No. 28,013, from the 16th day of November, 1892. Improvements in the Manufacture of Gas, 15th November, 1892.
2799. HENRY D. CUSHMAN, 2nd five years of No. 28,079, from the 25th day of November, 1892. Improvements in Open Stoppers for Inhalers, &c., 15th November, 1892.
2800. HENRY SUTTON, 2nd five years of No. 28,139, from the 7th day of December, 1892. Improved Process of Converting a Photographic Image on a Gelatine Surface into a Relief or Intaglio Printing Surface, 15th November, 1892.
2801. FRANK E. LEONARD and CHARLES W. LEONARD, 3rd five years of No. 15,842, from the 22nd day of November, 1892. Improvements on Governors for Steam Engines, 16th November, 1892.
2802. THE NEW YORK FILTER COMPANY, 2nd five years of No. 28,165, from the 9th day of December, 1892. Improvements in Filters, 18th November, 1892.
2803. WILLIAM CARL ZEIDLER, 2nd five years of No. 28,080, from the 26th day of November, 1892. Improvements in applying Celluloid to Organ Keyboards and other articles, 18th November, 1892.
2804. ANTHONY KLINE, 2nd five years of No. 28,071, from the 24th day of November, 1892. Improved Device for Agitating the Screens of Fanning Mills, 21st November, 1892.
2805. ANDREW HUGHSON, 2nd five years of No. 28,374, from the 18th day of January, 1892. Improvements in Binders for a Waggon Sleigh Rack, 23rd November, 1892.
2806. THE ROYAL ELECTRIC COMPANY (assignee), 3rd five years of No. 15,917, from the 7th day of November, 1892. Improvements on Electro Magnetic Devices, 23rd November, 1892.
2807. THE ROYAL ELECTRIC COMPANY (assignee), 3rd five years of No. 16,051, from the 30th day of December, 1892. Improvements on Electric Arc Lamps, 23rd November, 1892.
2808. JAMES McCALLUM, 2nd five years of No. 28,073, from the 25th day of November, 1892. Improvements in Vehicle Wheels, 25th November, 1892.
2809. EDWIN PAYNE, 2nd five years of No. 28,302, from the 6th day of January, 1893. Improvements in Snow Ploughs, 26th November, 1892.
2810. GEORGE CARLILE, 2nd five years of No. 28,089, from the 20th day of November, 1892. Improvements in Sewer Grates, 29th November, 1892.
2811. THE HAND STITCH BROOM SEWING MACHINE COMPANY (assignee), 2nd and 3rd five years of No. 32,012, from the 5th day of August, 1894. Improvements in Broom Sewing Machines, 29th November, 1892.
2812. JOHN PETERS ENDERES, 2nd five years of No. 28,173, from the 13th day of December, 1892. Improvements in Wheelbarrows, 30th November, 1892.
2813. ARTHUR MOWAT, 2nd five years of No. 28,122, from the 30th day of November, 1892. Improvements in Mowing Machines, 30th November, 1892.

TRADE MARKS

Registered during the month of November, 1892, at the Department of Agriculture—
Copyright and Trade Mark Branch.

4463. THE WILLIAMS, GREENE & ROME COMPANY OF BERLIN, LIMITED, of Berlin, Ont. Shirts, Collars, Cuffs and similar goods, 2nd November, 1892.
4464. THE NOVA SCOTIA CIGAR MANUFACTURING COMPANY, LIMITED, of Halifax, N.S. Cigars, 3rd November, 1892.
4465. BELLHOUSE, DILLON & COMPANY, of Montreal, Que. Portland Cement, 7th November, 1892.
4466. THE WILLIAM ZAHN LEATHER COMPANY, of Newark, New Jersey, U.S.A. Leather Skins or Hides, 9th November, 1892.
4467. WILLIAM GILMAN ARMSTRONG, of the Township of Sutton, County of Brome, Que. Medicine for the cure of Rheumatism, Neuralgia, &c., 14th November, 1892.
4468. JOHN T. HAGAR, of Montreal, Que., trading as J. & T. BELL. Boots and Shoes, 14th November, 1892.
4469. THE BARBER & ELLIS COMPANY, of Toronto, Ont. Blotting Paper, 14th November, 1892.
4470. JOSEPH MIZAEI FORTIER, of Montreal, Que. Cigars, 15th November, 1892.
4471. EMIL PEWNY, of the firm of Jammet Frères & Pewny, of Montreal, Que. Gloves, 16th November, 1892.
4472. THE DUEBER WATCH CASE MANUFACTURING COMPANY, of Canton, Ohio, U.S.A. Watch Cases, 16th November, 1892.
4473. ALBERT E. RIPLEY, of Ottawa, Ont. Medical Compounds for abating pain, 16th November, 1892.
4474. KEASBEY & MATTISON, of Ambler, County of Montgomery, Pennsylvania, U.S.A. Medicinal Preparation, 18th November, 1892.
4475. DR. LUDWIG MERCK, owner of the firm E. Merck, Darmstadt, Empire of Germany. Medical Preparations for the cure of Cancerous Sores, 22nd November, 1892.
4476. } THE BELL TELEPHONE COMPANY OF CANADA, LIMITED, of
4477. } Montreal, Que. Telephone Apparatus, 22nd November, 1892.
4478. THE RUTHVEN COMPANY, of Deseronto, Ont. Cements, 24th November, 1892.
4479. BRENER BROS., of London, Ont. Cigars, 28th November, 1892.
4480. GEORGE BOOTH, of Toronto, Ont. Bath Tubs, 29th November, 1892.
4481. JOSEPH MIZAEI FORTIER, of Montreal, Que. Cigars, 29th November, 1892.
4482. THE J. B. PACE TOBACCO COMPANY, of New York, N.Y., U.S.A. Tobaccos in all forms, 29th November, 1892.

COPYRIGHTS

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Copyright and Trade Mark Branch.

6690. MARY GREEN. Song. Words and Music by Harry Lambert. Whaley, Royce & Co., Toronto, Ont., 3rd November, 1892.
6691. BELL TELEPHONE COMPANY OF CANADA, LIMITED, MONTREAL EXCHANGE, SUBSCRIBERS' DIRECTORY, NOVEMBER, 1892. The Bell Telephone Company of Canada, Limited, Montreal, Que., 3rd November, 1892.
6692. THE DÉBUTANTE WALTZES. By James K. Flock. The Anglo-Canadian Music Publishers' Association, Limited, London, England, 4th November, 1892.
6693. GOLDMAN'S IMPROVED SELF-CHECKING TRIAL BALANCE BOOK. Henry Goldman, Montreal, Que., 5th November, 1892.
6694. WHITE SHELLS. Song. Words by C. D. Bingham, Music by F. Boscovitz. The Anglo-Canadian Music Publishers' Association, Ltd., London, England, 7th November, 1892.
6695. THE ZEPHYR RIPPLE. By Marie Regenill. J. L. Orme & Son, Ottawa, Ont., 7th November, 1892.
6696. THE CANADIAN ALMANAC, 1893. The Copp, Clark Co., Ltd., Toronto, Ont., 8th November, 1892.
6697. L'ALMANACH DU PEUPLE, ILLUSTRÉ, 1893. C. O. Beauchemin & Fils, Montréal, Qué., 8 novembre, 1892.
6698. EVENTIDE. Song. Words by C. D. Bingham, Music by F. Boscovitz. The Anglo-Canadian Music Publishers' Association, Ltd., London, England, 12th November, 1892.
6699. YES. Song. Words by C. D. Bingham, Music by F. Boscovitz. The Anglo-Canadian Music Publishers' Association, Ltd., London, England, 12th November, 1892.
6700. ONTARIO GAME AND FISHING LAWS. Arthur Henry O'Brien, Toronto, Ont., 14th November, 1892.
6701. HILL'S WHOLESALE LEDGER. Joseph S. Hill, Bridgen, Ont., 16th November, 1892.
6702. CHRISTMAS NUMBER DOMINION ILLUSTRATED MONTHLY, 1892. The Sabiston Lithographic and Publishing Co., Montreal, Que., 16th November, 1892.
6703. EXPERT BOOK-KEEPING. By C. A. Fleming, Owen Sound, Ont., 18th November, 1892.
6704. THE DARKEY'S CONUNDRUM. Dance. For Piano, by A. W. Hughes. Whaley, Royce & Co., Toronto, Ont., 18th November, 1892.
6705. HER CHINA CUP. Words by F. Sharman. Music by Helen Emberson. Whaley, Royce & Co., Toronto, Ont., 18th November, 1892.
6706. SEPTEMBER. Words by H. C. Bunner. Music by Helen Emberson. Whaley, Royce & Co., Toronto, Ont., 18th November, 1892.
6707. VILLANELLE. Words by May Probyn. Music by Helen Emberson. Whaley, Royce & Co., Toronto, Ont., 18th November, 1892.
6708. THE CANADIAN HYMNAL. Revised and Enlarged. Words and Music Edition. Wm. Briggs, (Book Steward of the Methodist Book and Publishing House), Toronto, Ont., 21st November, 1892.
6709. THE CANADIAN HYMNAL. Revised and Enlarged. Words only Edition. Wm. Briggs, (Book Steward of the Methodist Book and Publishing House), Toronto, Ont., 21st November, 1892.
6710. BUSINESS MANUAL, by W. H. Anger, B. A., St. Catharines, 23rd November, 1892.
6711. THE HEIGHT OF HAPPINESS. (Lithograph). The Toronto Brewing and Malting Co., Toronto, Ont., 24th November, 1892.
6712. THE ANGEL'S MESSAGE OR ROSARY OF SONG. Music by Prof. Moure. Mrs. James Delaney, Toronto, Ont., 24th November, 1892.
6713. PROSPECTUS OF THE ANGLO-AMERICAN LOAN AND SAVINGS COMPANY OF TORONTO. Samuel G. Ginner, Toronto, Ont., 26th November, 1892.

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6714. THE SIEGE OF DERRY. (Print). Edward Frederick Clarke, Toronto, Ont., 26th November, 1892.
6715. BENEATH THE GOLDEN RAYS. Song. Words by J. R. Wood. Music by William Bohrer. The Anglo-Canadian Music Publishers' Association, Ltd., London, England, 28th November, 1892.
6716. REFERENCE BOOK FOR CANADA OF THE LEGAL AND COMMERCIAL EXCHANGE OF CANADA, VOL. III., 1892. James L. Morrison and Thomas G. Wilson, Toronto, Ont., 28th November, 1892.
6717. PETIT GUIDE DE CHERCHEUR DE MINÉRAUX. Par H. de Puyjalon, Montréal, Qué., 28 novembre, 1892.
6718. MAISIE DERRICK, by Katharine S. Macquoid. John Lovell & Son, Montreal, Que., 30th November, 1892.
6719. LOVE THROUGH ALL. Thoughts for each day, by Amy Parkenson Toronto, Ont., 30th November, 1892.

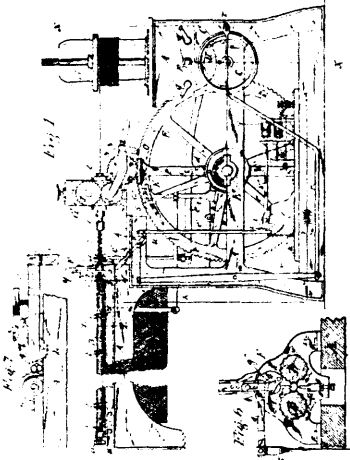
THE
CANADIAN PATENT OFFICE RECORD.

ILLUSTRATIONS.

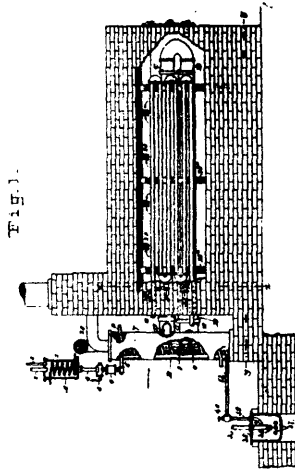
Vol. XX.

NOVEMBER, 1892.

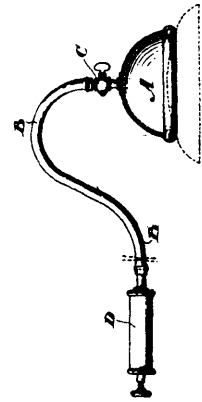
No. 11.



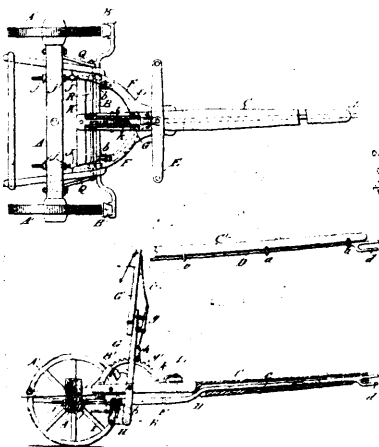
40809 Hard, Franks and Lomis' Machine for Weaving Wire Mattresses.



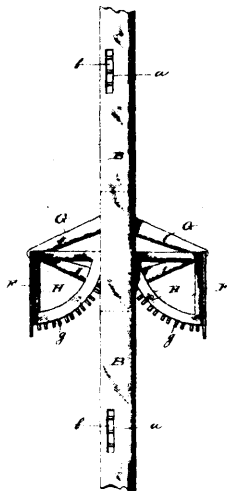
40810 Rogers and Baker's Process of and Apparatus for making Gas.



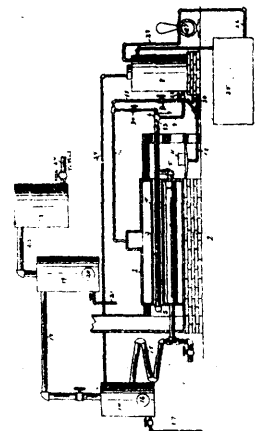
40811 McCahey's Apparatus for assisting Parturition.



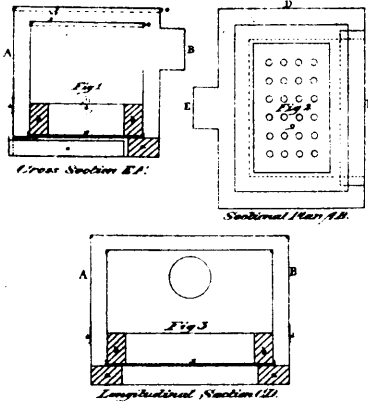
40812 Reynolds, Hooton and Busby's Brake.



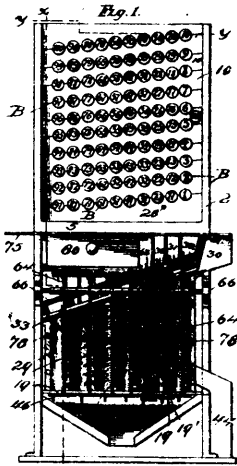
40813 Marlett's Door for Elevators.



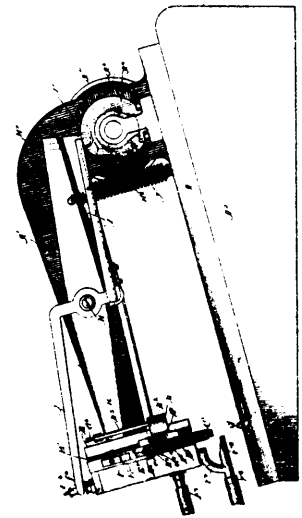
40814 Edwards' Apparatus for distilling Oil.



40815 Lundstrom's Stove.



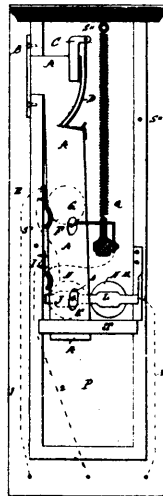
40816 Taylor's Change Maker.



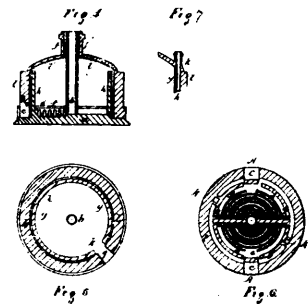
40817 Wright's Machine for Bushing Mortices.



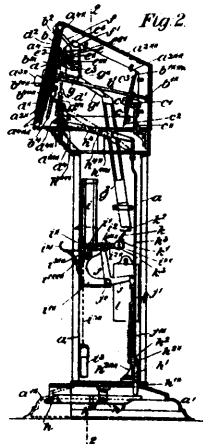
40818 Cunningham's Rocket.



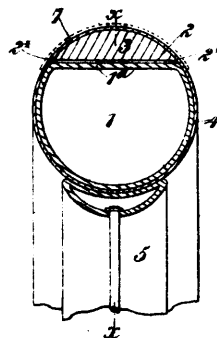
40819 McCluer's Telephone Toll Box.



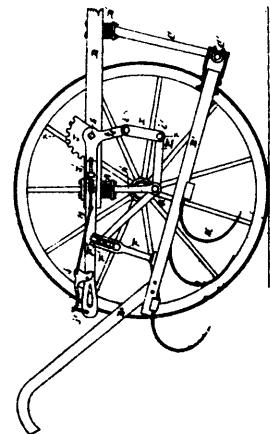
40820 Warrington's Kiln.



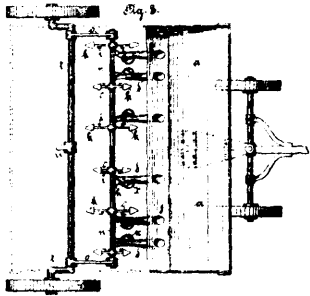
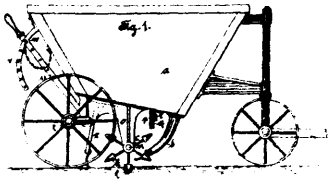
40821 Green's Sight Testing Apparatus.



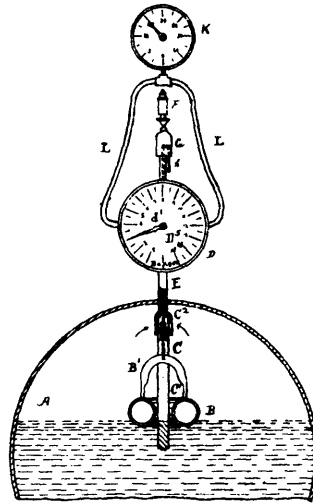
40823 Dunn's Pneumatic Tyre.



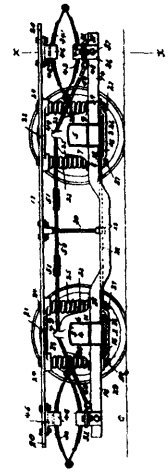
40824 Baldwin's Harrow.



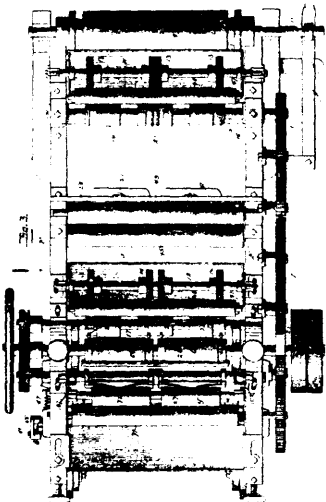
40825 Hoffmann's Potato Planting Machine.



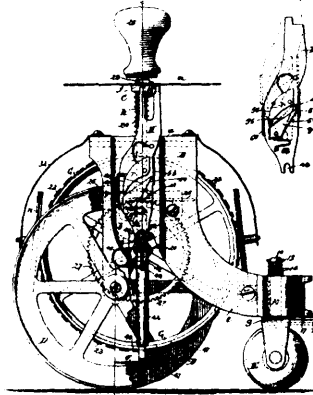
40826 Willan's Low Water Alarm and Steam Gage.



40827 Brill's Car Truck



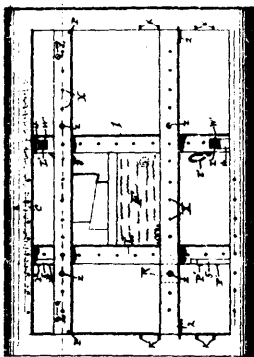
40828 West's Envelope Machine



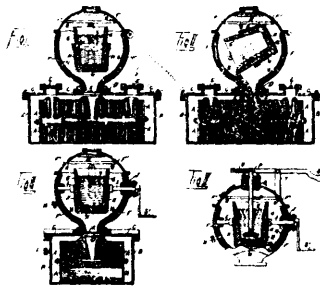
40829 Hurlbat's Type-writer.



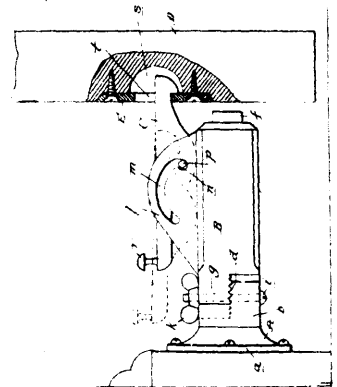
40830 Jackson's Pipe Organ.



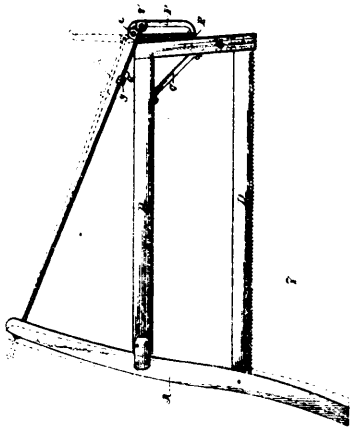
40831 Heffelfinger's Printer's Chase.



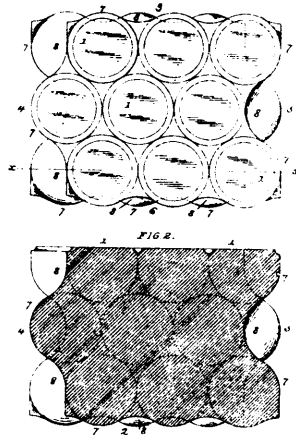
40832 Simpson's Apparatus for casting Metals in Vaccum.



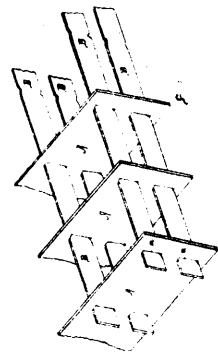
40833 Timms' Door Check.



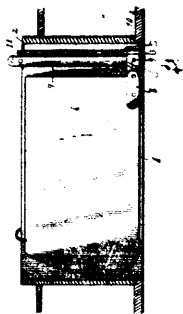
40834 Jincks' Saw Straining Device.



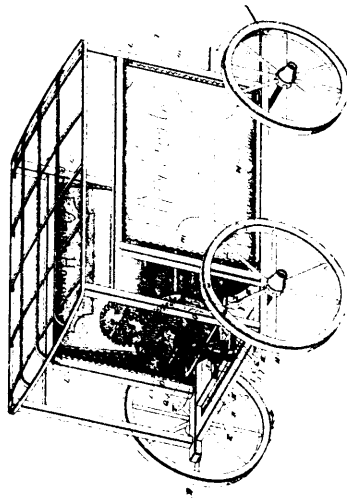
40835 Graham's Building or Paving Block.



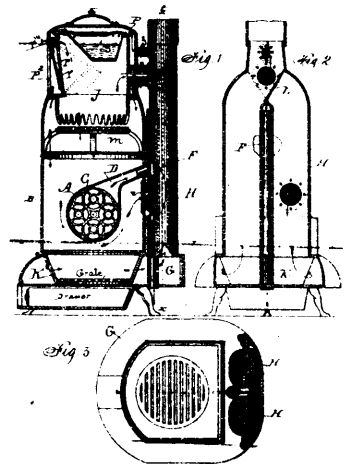
40836 Ferres' Veneer Box.



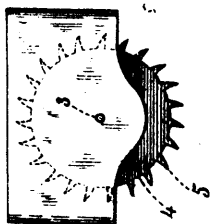
40837 Eaton's Centre-board for Boats.



40838 McCall's Advertising Waggon.



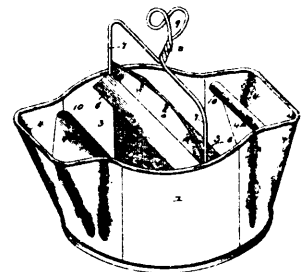
40839 Robbins' Stove.



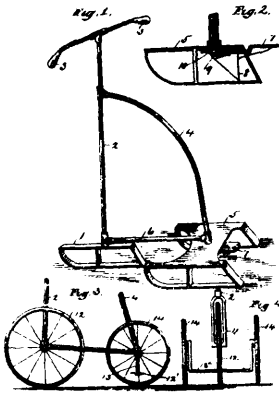
40840 Newman's Tracing Wheel.



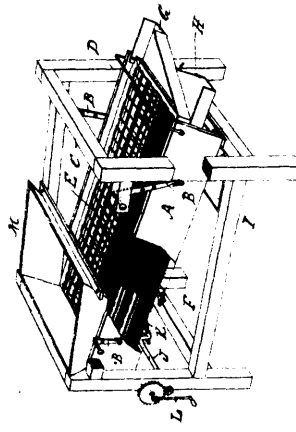
40842 Trumviller's Beer Faucet.



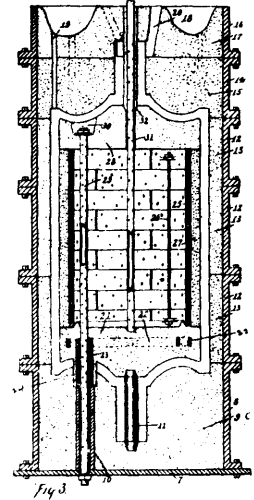
40843 Deming and Fuller's Paint Pot.



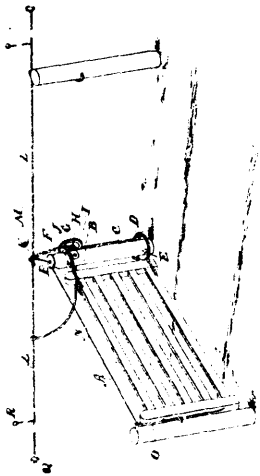
40844 Seebick's Coaster.



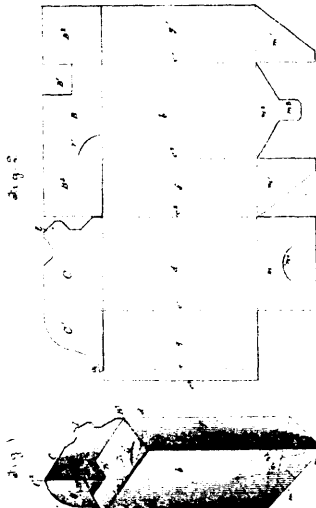
40845 Walbrook's Potato Separator and Cleaner.



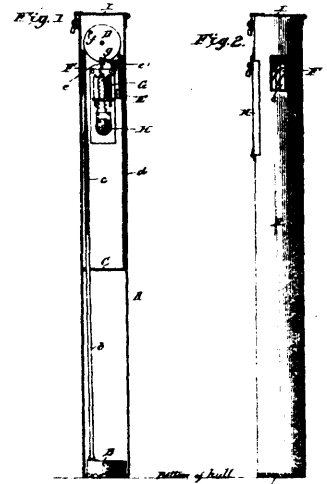
40846 Black's Mold for Closed Cylinder.



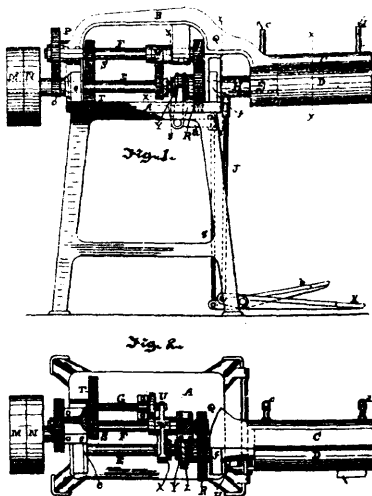
40847 Page's Gate.



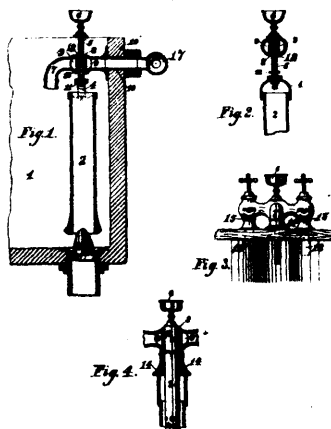
40848 Baker's Paper Box.



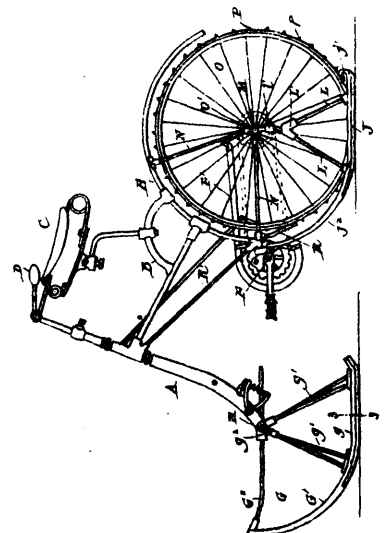
40849 Fuller's Low Water Alarm.



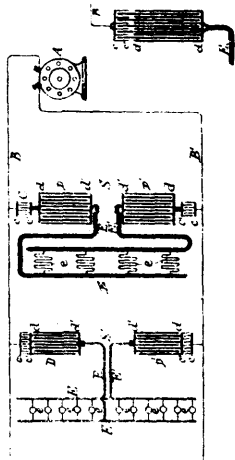
40850 Bartels' Ironing Machine.



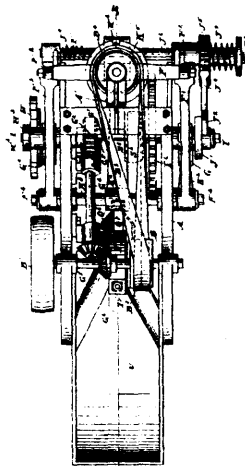
40851 Moore's Bath Tub, &c.



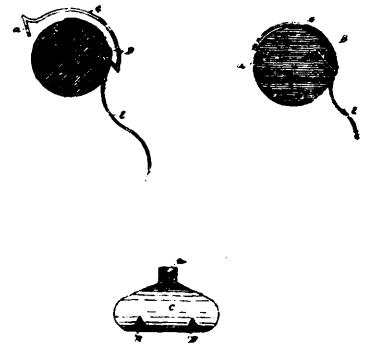
40852 Whiteman's Winter Attachment for Bicycles.



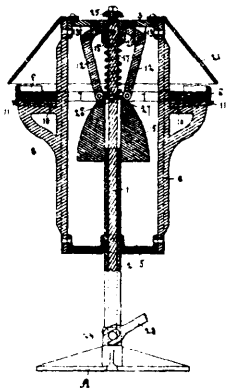
40853 Dewey's Method of Transforming and Utilizing Electrical Energy.



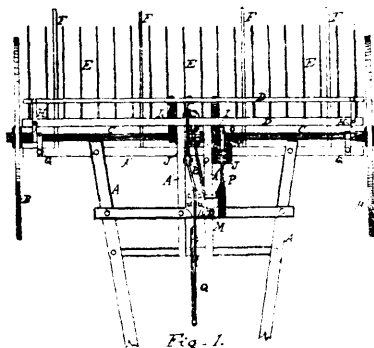
40854 Chapman's Nut-tapping Machine.



40855 Brown's Clip for Fastening Window Blinds.



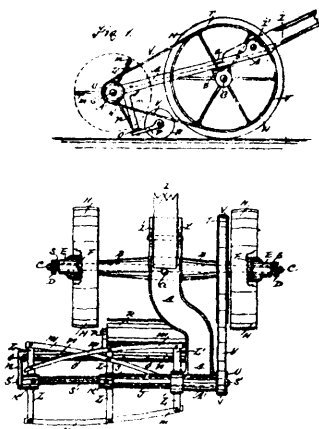
40856 Little's Barrel Expander.



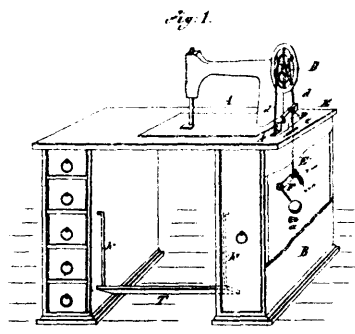
40857 Risedorph and Coulthard's Horse Hay Rake.



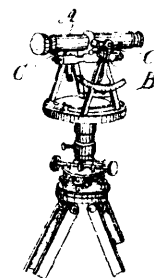
40858 Stevens' Boat Raising and Lowering Device.



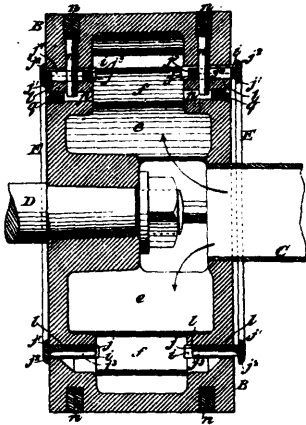
40859 Hanton and Whiteside's Lawn Mower and Trimmer.



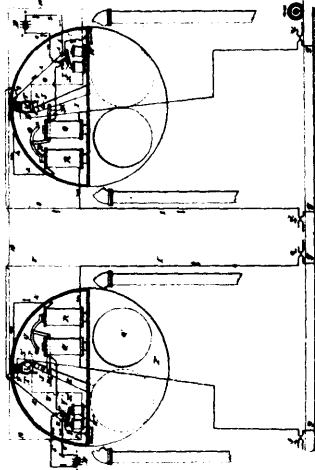
40861 Reichelt, Rattiet, Specht and Marsh's Spring Motor for Sewing Machines.



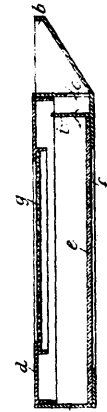
40862 Brown's Level Tube for Surveying Instruments.



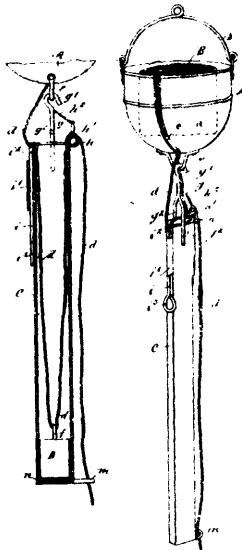
40863 Sergeant's Compressor.



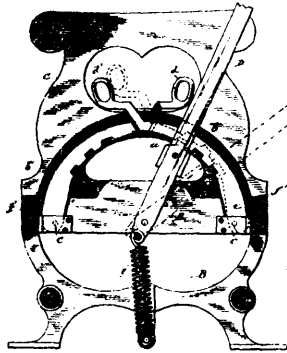
40864 Conly's Block Signal System.



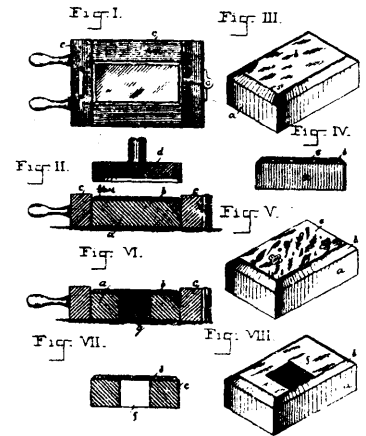
40866 Desboutin's Developing Tray for Photographic Purposes.



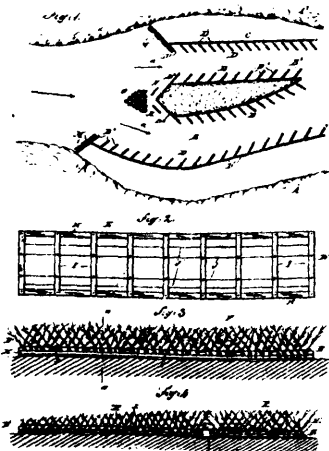
40867 Bentley and Fuller's Twine Holder Cup and Take-up.



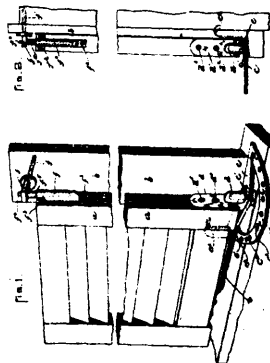
40868 Gilfillan's Car Seat.



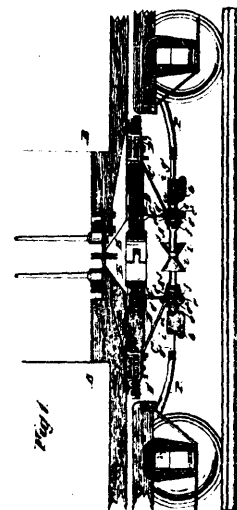
40869 Houghton and Haines' Method of Plating Clay with Glass.



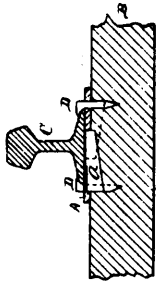
40870 Henshaw's Means of Controlling the Shifting Action of Moving Water on Land.



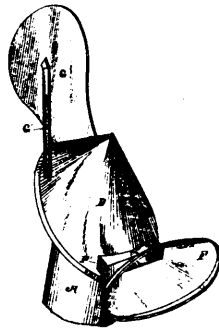
40871 Avery's Window Blind.



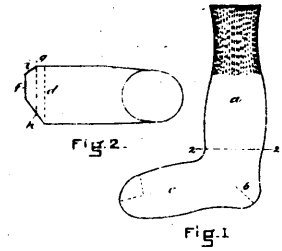
40872 Snyder's Pipe Coupling.



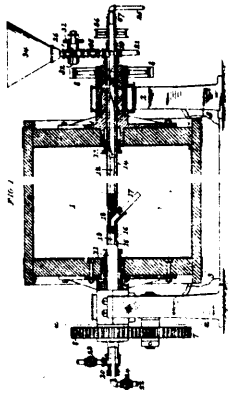
40873 Fox's Railroad Tie Plate.



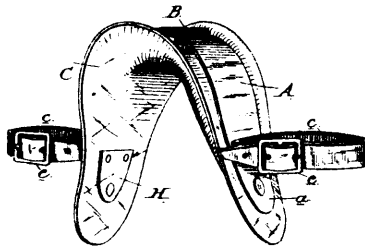
40874 Pearce's Chimney Cap.



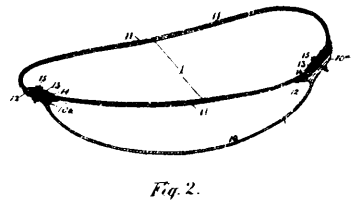
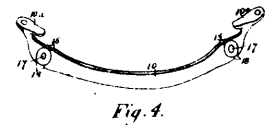
40875 Howard's Stocking.



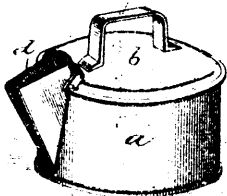
40876 Coleman's Apparatus for making White Lead, &c.



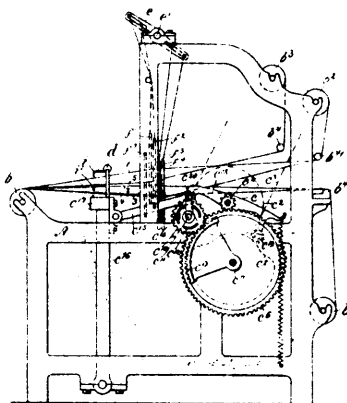
40877 Dering's Horse-collar Pad.



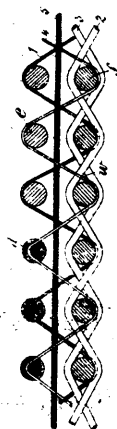
40878 Karr's Saddle for Velocipedes.



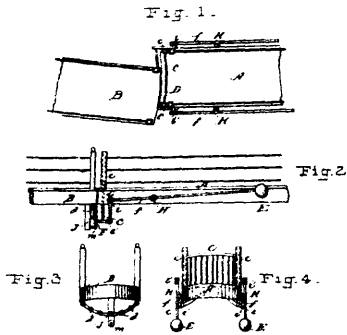
40879 Baker's Tea Kettle.



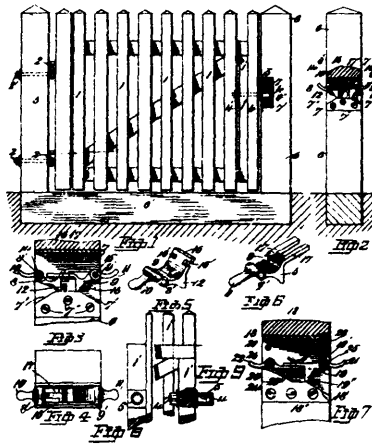
40880 Talbot's Apparatus for making Woven Fabric.



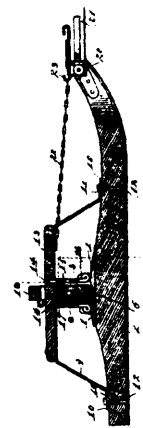
40881 Talbot's Woven Fabric.



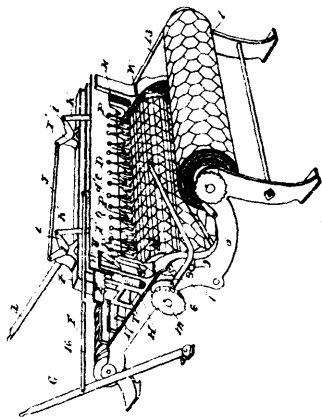
40882 Goddard's Safety Gate for Draw Bridges.



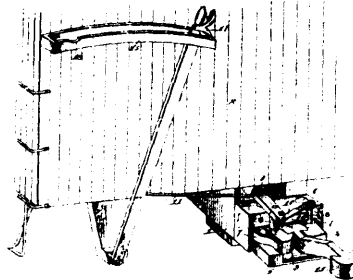
40883 Huffman's Gate Latch.



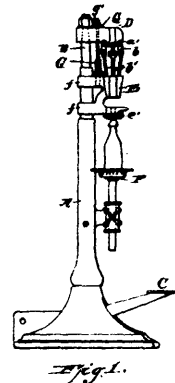
40884 Pine's Sleigh.



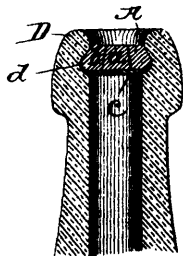
40885 Conner's Netted Wire Fabric Machine.



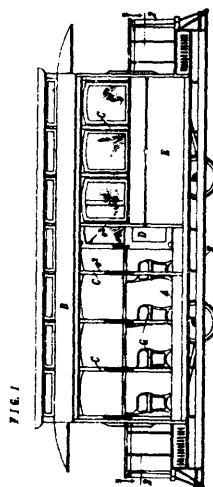
40886 Wiswall's Car Coupler.



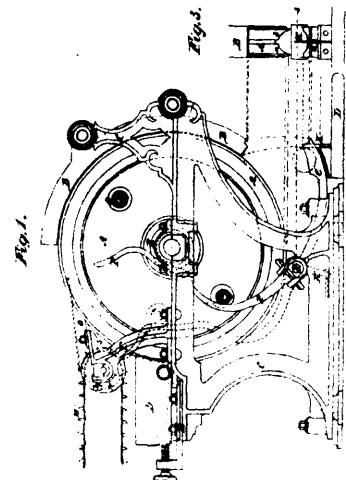
40887 Siebert's Corking Machine.



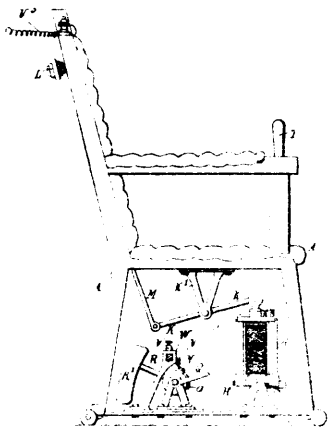
40888 Clemens' Seal Stopper for Bottles.



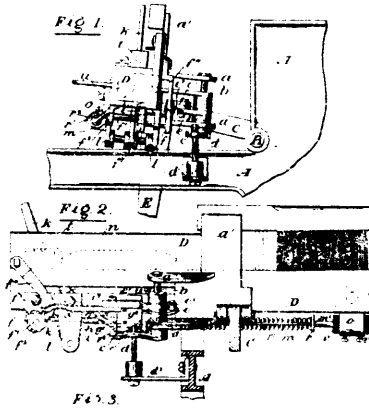
40889 Mehling and Dodge's Street Car.



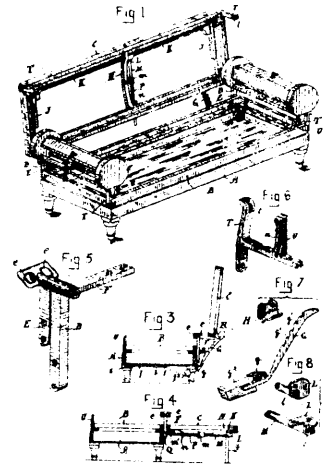
40890 Hille and Audsley's Machine for Colouring or Ornamenting India Rubber Balls.



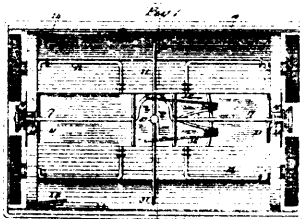
40883 Harness' Electrical Appliance to Surgical and Dental Chairs.



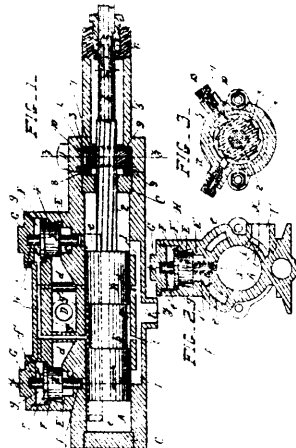
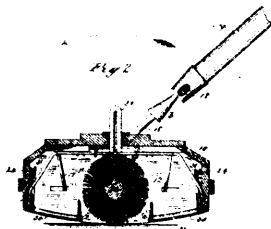
40884 Moss' Picking Motion for Looms.



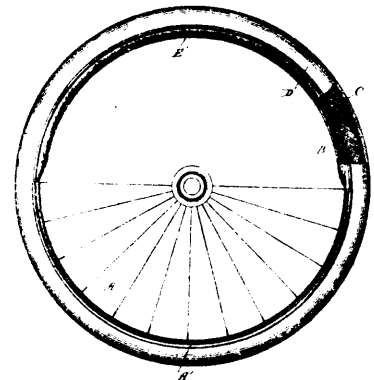
40895 Oulton's Sofa and Bed.



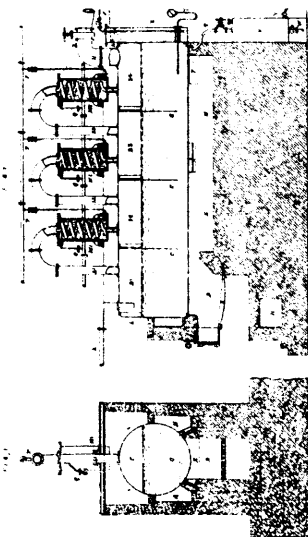
40896 Pickett's Carpet Sweeper.



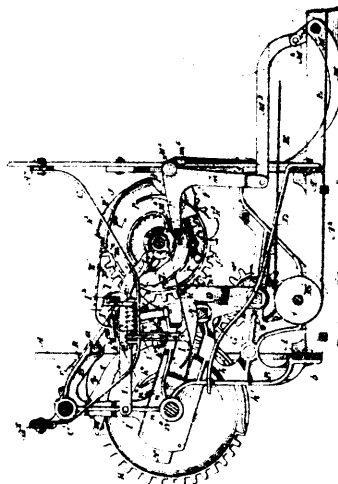
40897 Williams' Rock Drill.



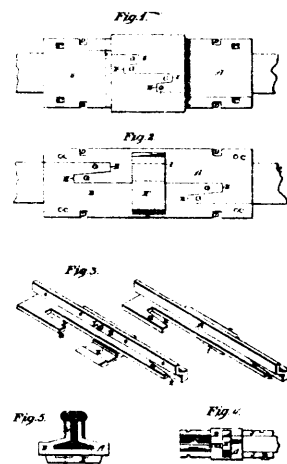
40898 Jeffrey's Pneumatic Tyre.



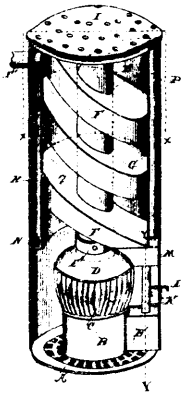
40899 Laing's Apparatus for distilling Mineral Oils.



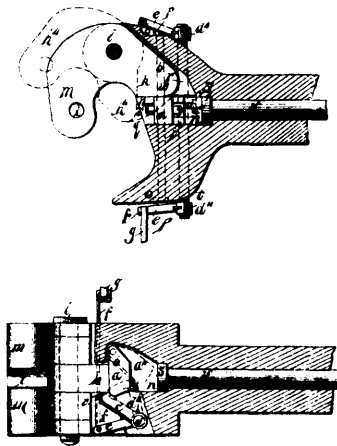
40900 Davis' Starting Mechanism for Grain Binders.



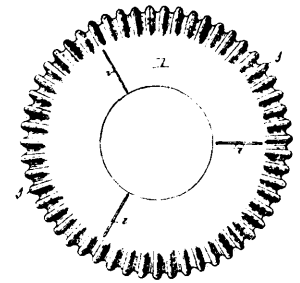
40901 Colvin's Rail Joint.



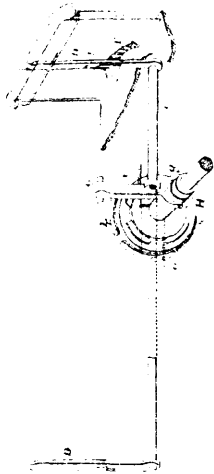
40902 Brandt's Stove and Furnace.



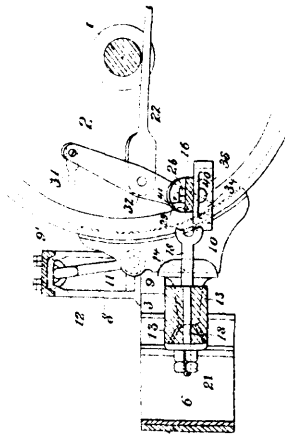
40903 Lewis' Car Coupler.



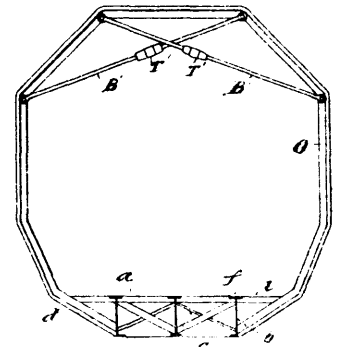
40904 De Laval's Centrifugal Separator.



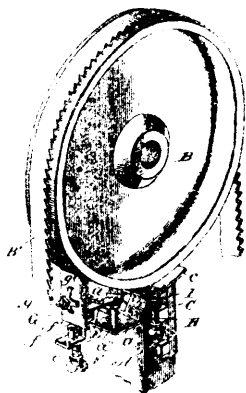
40905 Campbell's Car Brake.



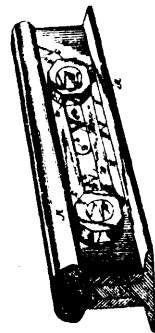
40906 Adams and Brill's Brake Mechanism.



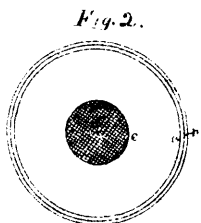
40907 Porter's Car Body.



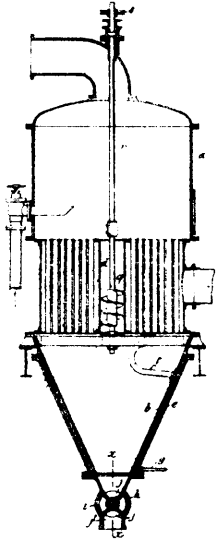
40908 Wentz's Scraper for Band Saw Pulley.



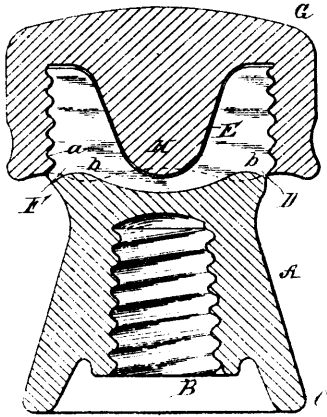
40909 Cockayne's Nut Lock.



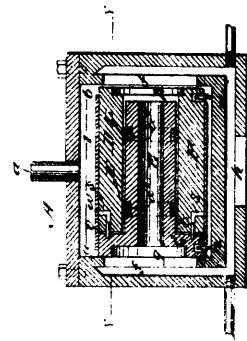
40911 Flower's Milk Can Cover.



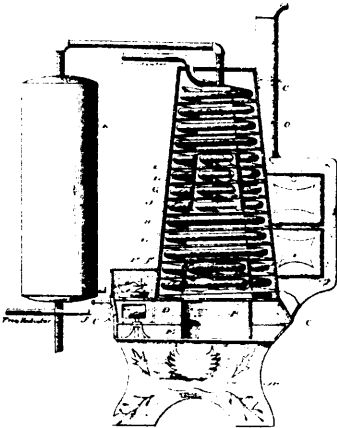
40912 Scott's Evaporating and Concentrating Apparatus.



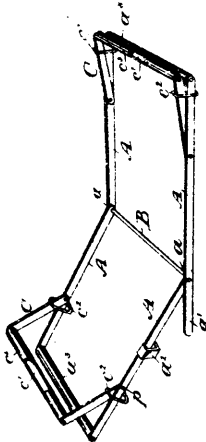
40913 Ross' Insulator.



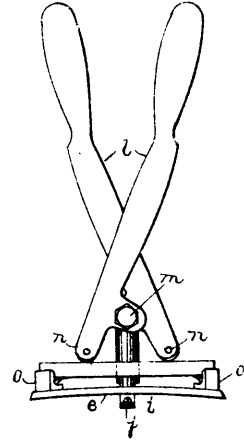
40914 Chappell's Valve.



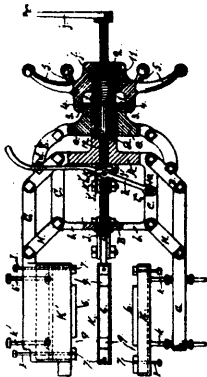
40915 Wilcox's Stove.



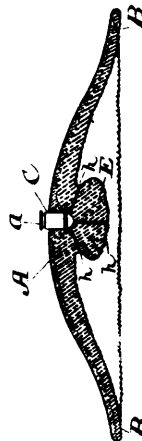
40916 Macdonald's Trousers Stretcher.



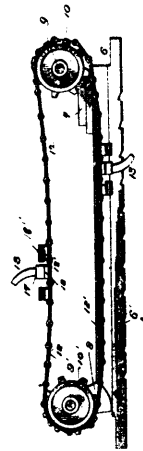
40917 Chapman's Tool for Applying and Removing Horse-shoe Guard Plates.



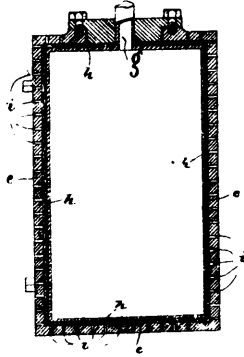
40918 Minnick's Machine for Centering Shafts.



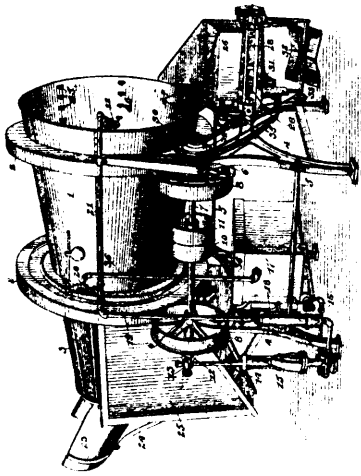
40919 Clute's Hernia Pad.



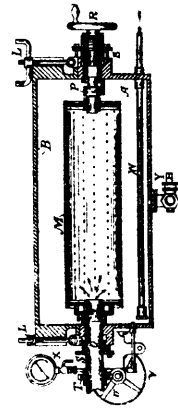
40920 Monnett's Band Cutter.



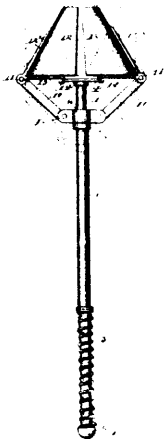
40921 Sprunt's Vessel for Holding Liquids.



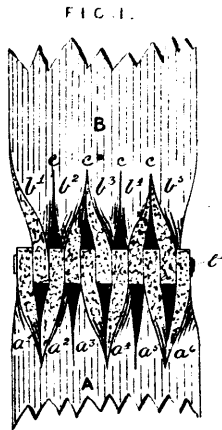
40922 Frost's Machine for Treating Tobacco



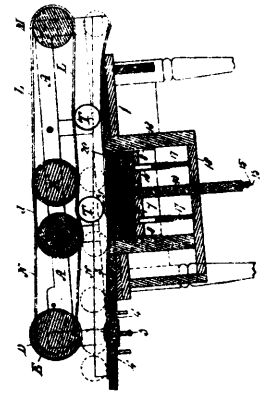
40923 Clay's Machine for Preparing and Dyeing Woven Fabrics.



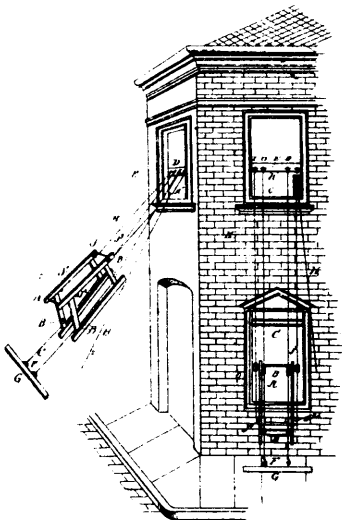
40925 Fithian's Bottle Snap.



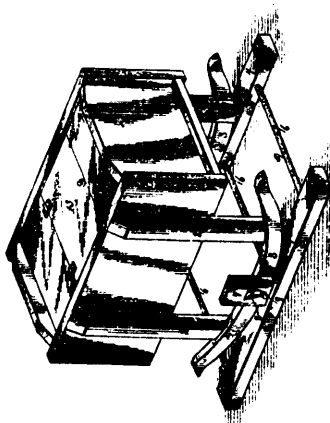
40926 Gasking's Driving Belt.



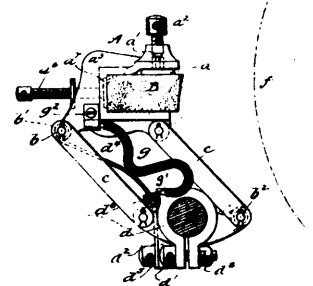
40927 Gaudrie's Can-Labeling Machine.



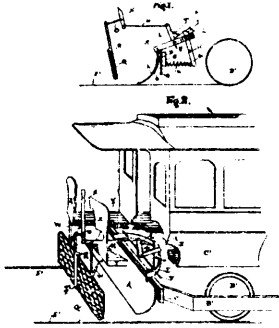
40928 Friedlaender's Fire Escape.



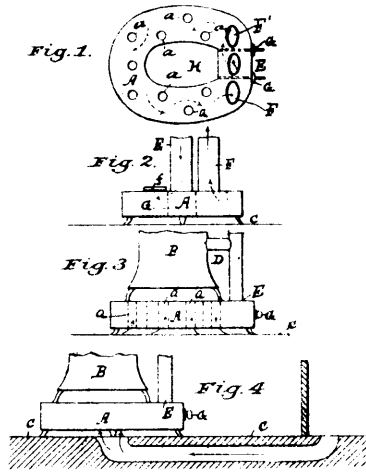
40929 William's Washing Machine.



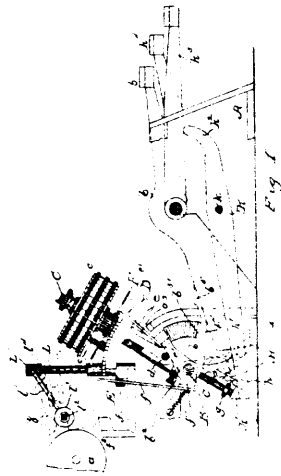
40930 Wetmore's Brush Holder for Dynamo Electric Machines.



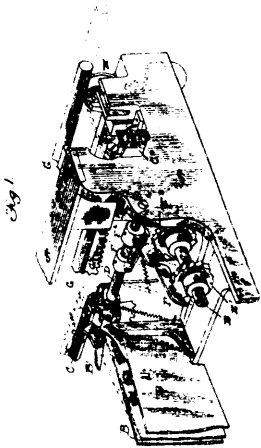
40931 Sparrow and Anderson's Pilot for Cars.



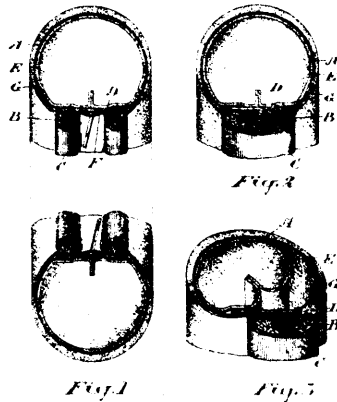
40932 Rasey's Auxiliary Base for Stoves.



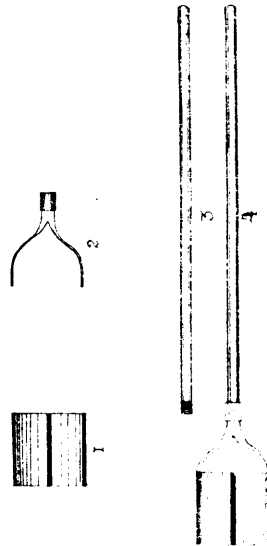
40933 Brickersderfer's Type-writer.



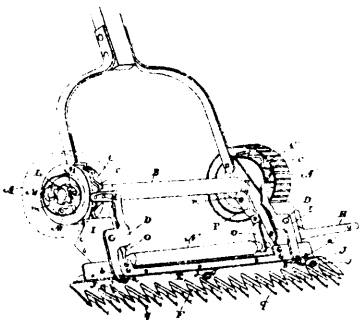
40934 Brickersderfer's Type-writer.



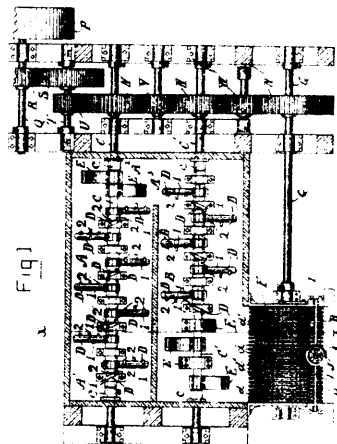
40935 La Force's Pneumatic Tyre.



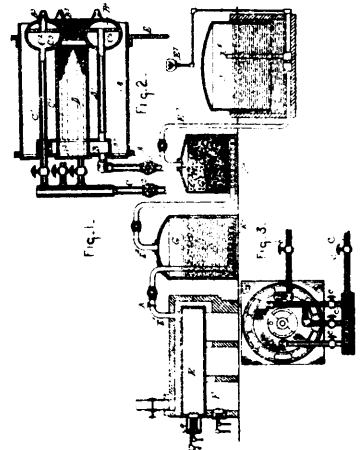
40936 Dowsell's Post Hole Digger.



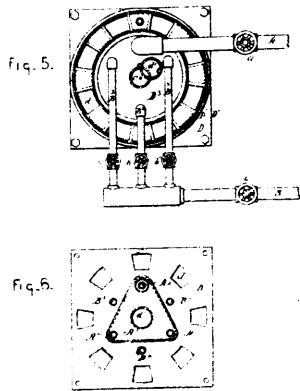
40927 Wad-El-Ward and Collins' Mower.



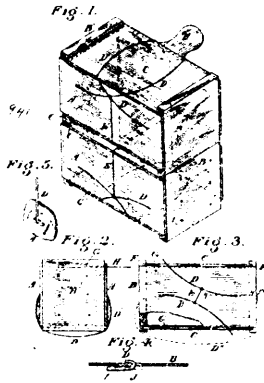
40938 Parry's Pug Mill.



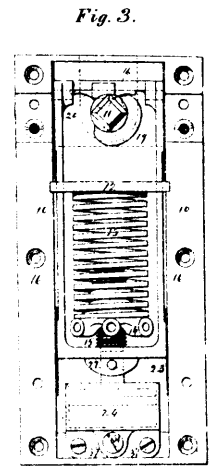
40939 Sandford's Gas-making Apparatus.



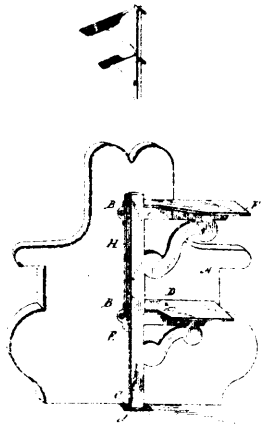
40943 Sandford's Burner for Gas or Oil.



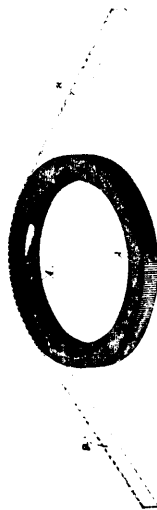
40944 Hunt, Rappley and Van Dusen's Fruit Box.



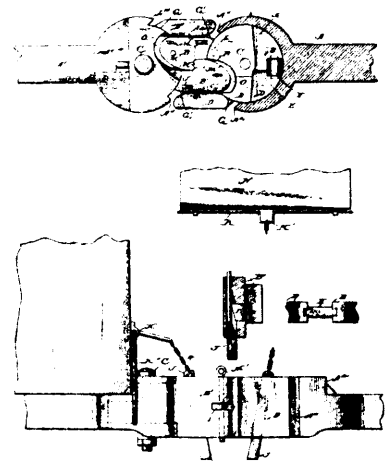
40942 Adams' Door Spring and Check.



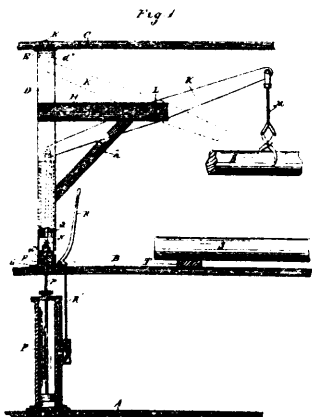
40943 Charles' Sleeping Car.



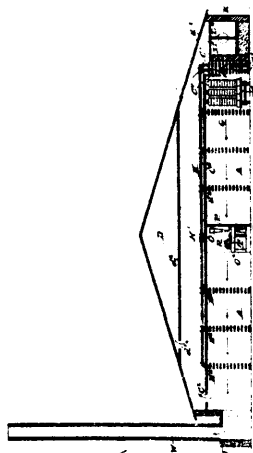
40944 Woodward's Cork Washer for Vehicle Wheels.



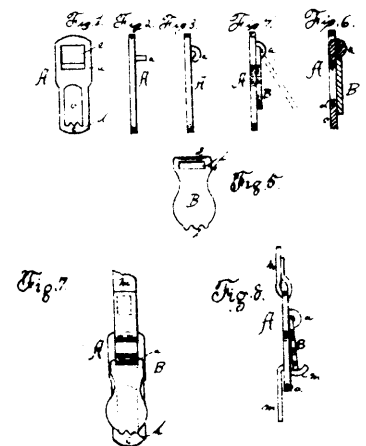
40945 Devlin's Car Coupler.



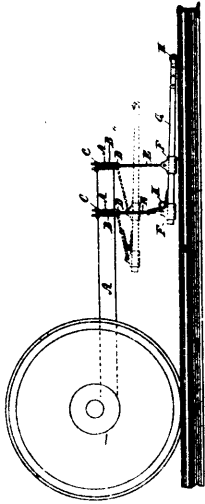
40946 Kilgore's Log Loader.



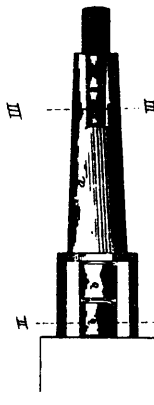
40947 Bond's Drier.



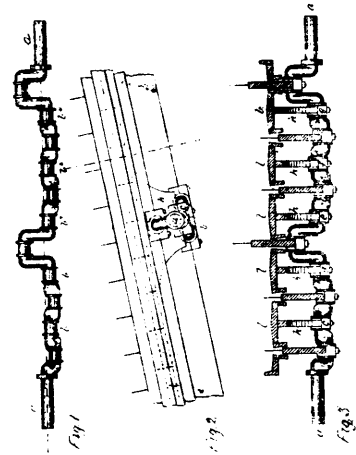
40948 Topp's Garment Supporter.



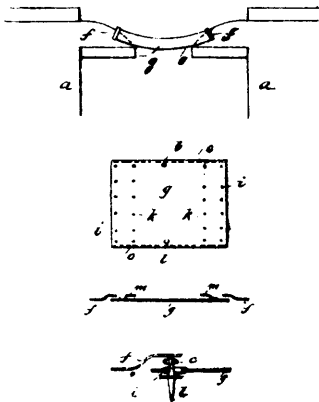
40949 Rochester's Electric Car Fender.



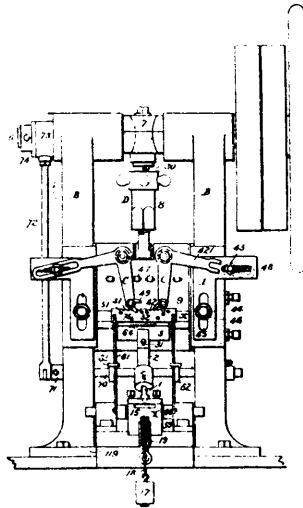
40950 Lewie's Vehicle Axle.



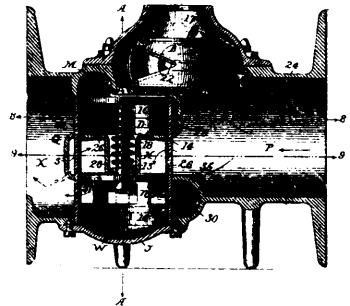
40951 Merner's Threshing Machine.



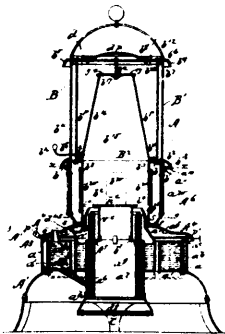
40952 Boice's Protector for Smoke, Cinders, &c.



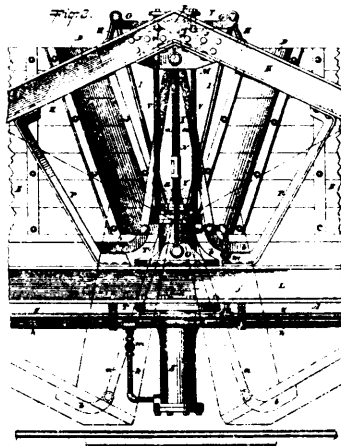
40953 Weed's Machine for making Rasps.



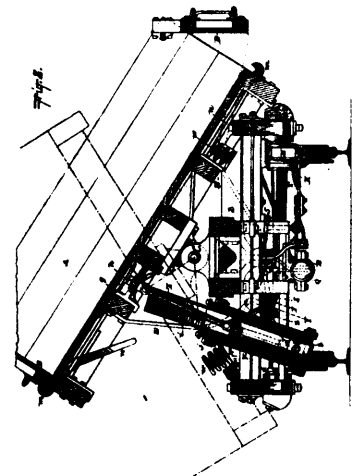
40954 Thomson's Apparatus for Maintaining a Proportional Flow of Fluids through Separate Chambers.



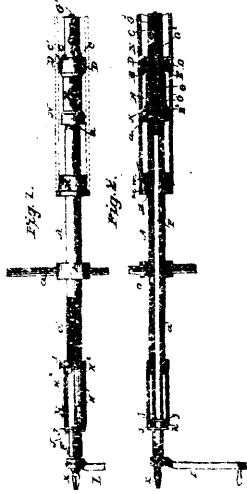
40955 Randall's Oil Stove.



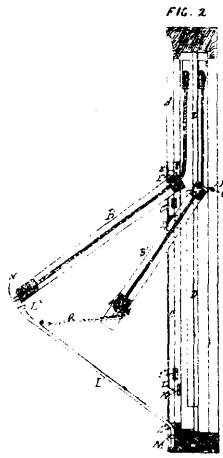
40956 Thacher's Dumping Car.



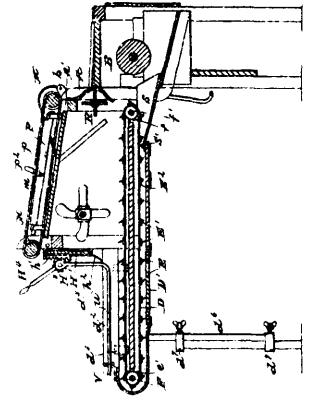
40957 Thacher's Dumping Car.



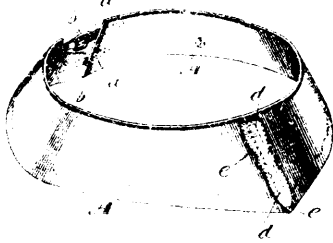
40958 Karr's Apparatus for Removing Incrustation from Boiler Tubes.



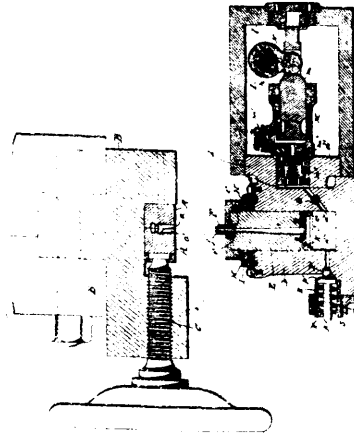
40959 Youtgen's Sliding Window.



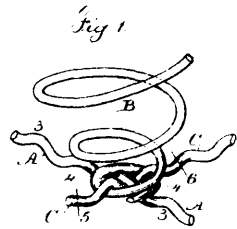
40960 Wilhite's Band Cutter and Feeder.



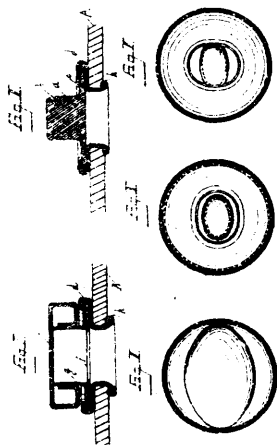
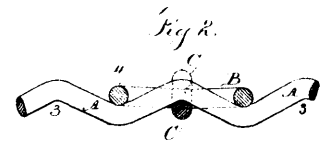
40961 Tynan's Belt.



40962 Moorfield's Apparatus for making Hollow Articles.



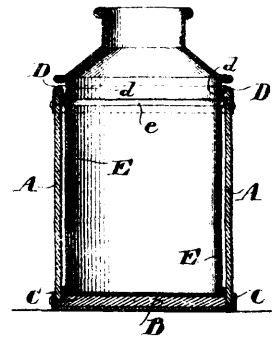
40963 Staples' Spring Support for Upholstery.



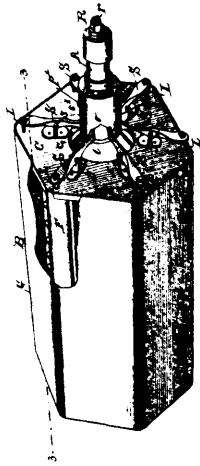
40964 Maisch's Glove Fastening.



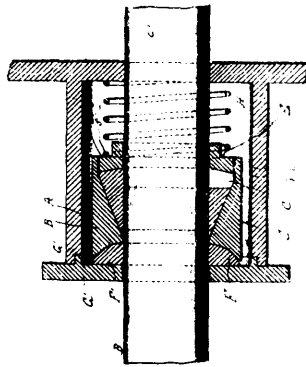
40965 Stone's Snowshoe.



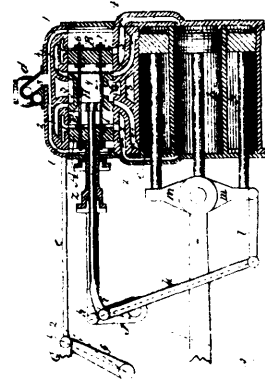
40966 Melloy's Oil-can.



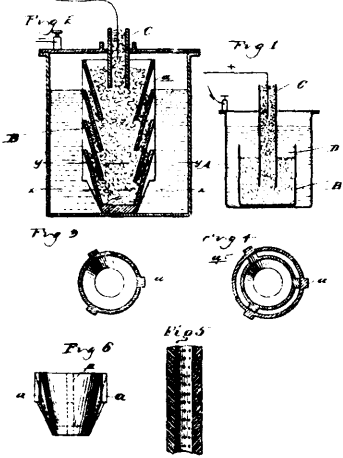
40967 Reinbold's Bolting Reel.



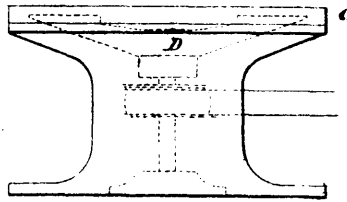
40968 Cook's Rod Packing.



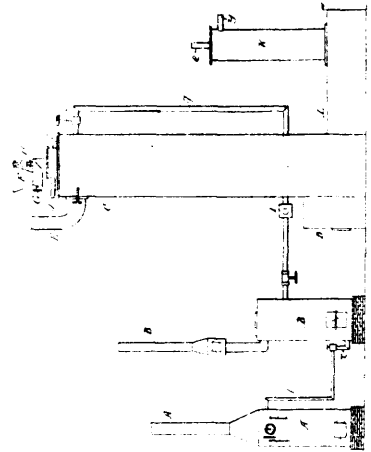
40969 Monk's Compound Locomotive Steam Engine.



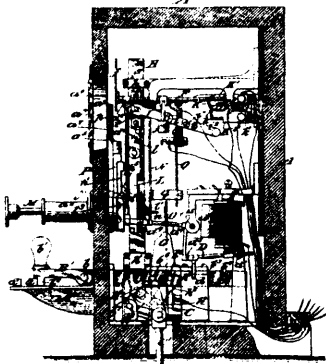
40970 Craney's Electrolytic Apparatus.



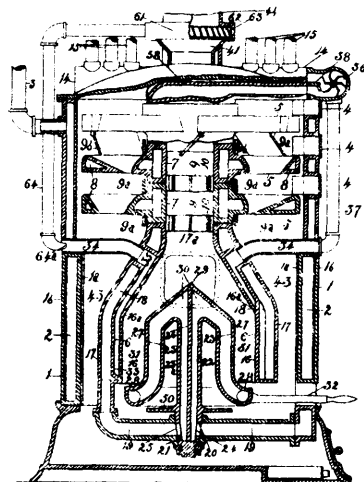
40971 Rudolph's Slate Dressing Machine.



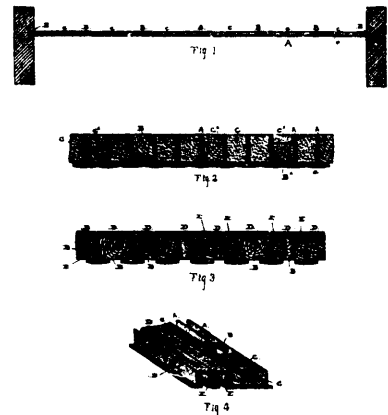
40972 Fogarty's Apparatus for making Fuel Gas.



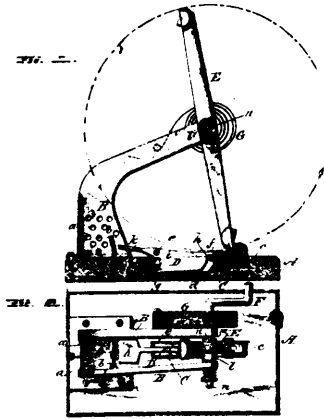
40973 Patenall's Block Signal Apparatus.



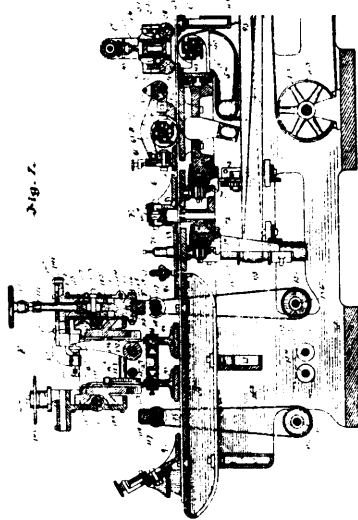
40974 Watson's Apparatus for making Heating Gas.



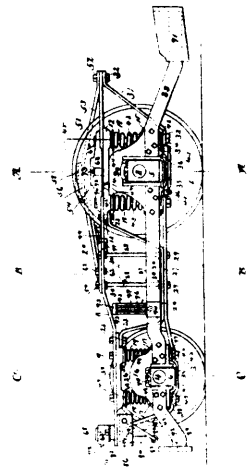
40975 Parker's Floor or Roof for Buildings.



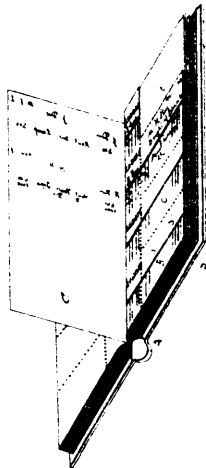
40976 Kissinger's Animal Trap.



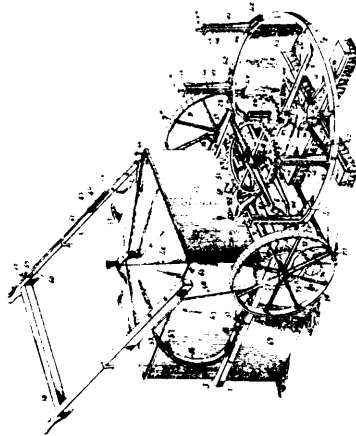
40977 Van Houten's Molding Machine.



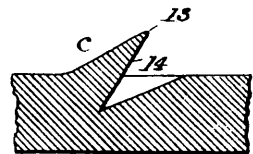
40978 Brill's Motor Truck.



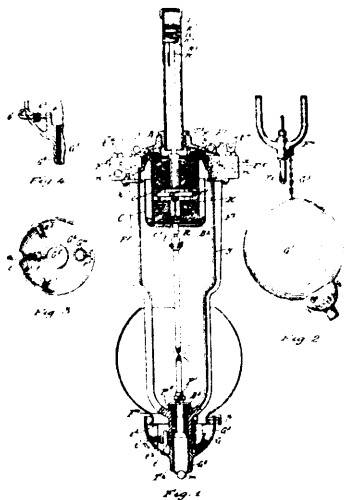
40979 Dupes's Ledger, Sales and Billing Book.



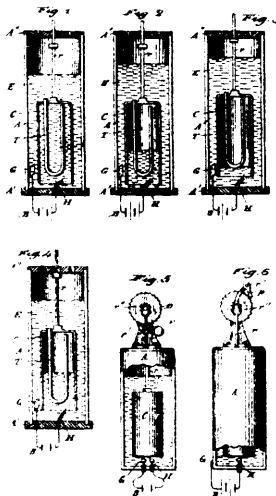
40980 Prud'homme's Scrubbing Machine.



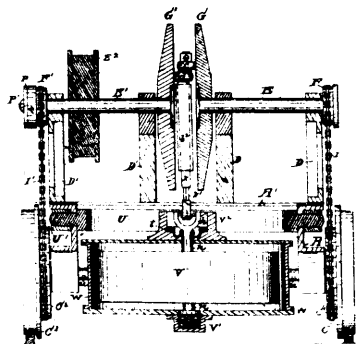
40981 Weed's Machine for making Rasps.



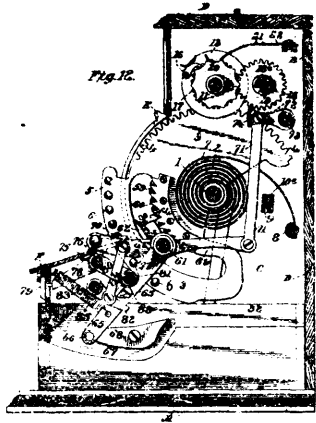
40982 Waterhouse's Arc Lamp.



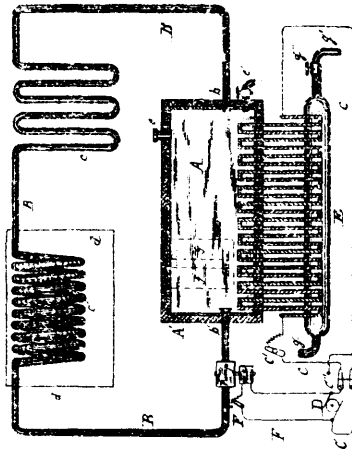
40983 Waterhouse's Electric Meter.



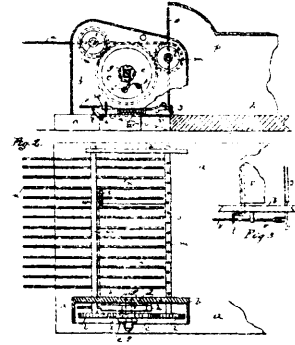
40984 Baldwin's Traction Motor.



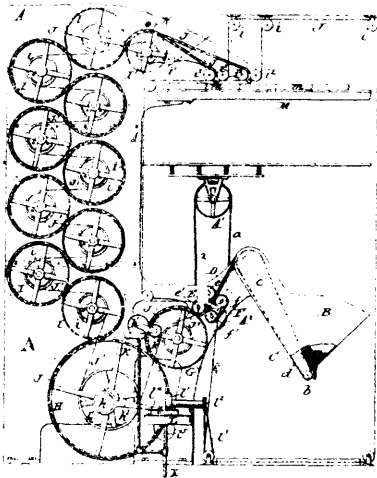
40985 Fuller and Griswold's Cash Register and Indicator.



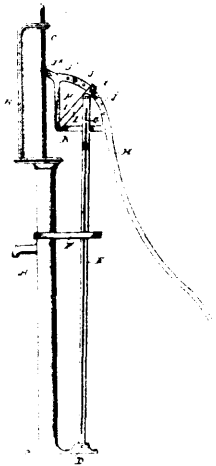
40986 Dewey's Method of Electric Refrigeration.



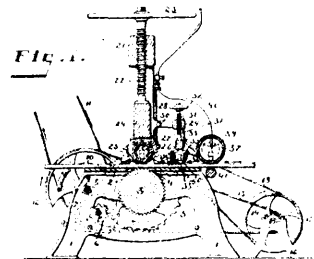
40987 Miller's Animal Trap.



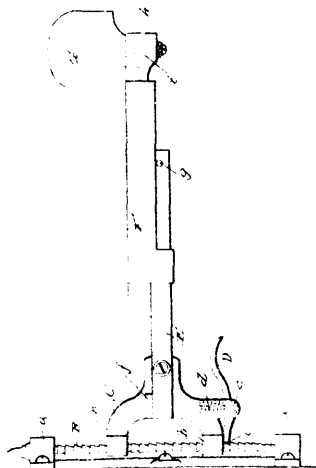
40988 Ellinwood's Machine for making Matches.



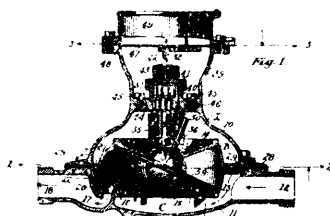
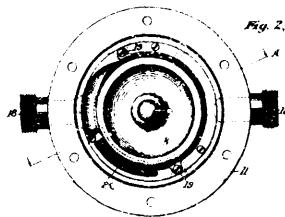
40989 Sellon's Pump Handle.



40990 Land and Van Buskirk's Machine for Embellishing Wood.



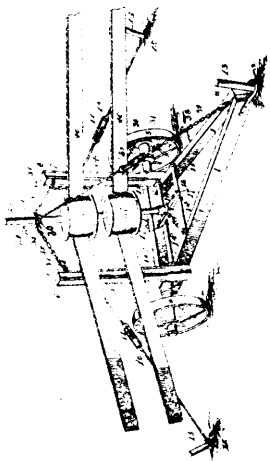
40991 Bailey and Lincoln's Arm Rest for Telephones.



40992 Thomson and Lambert's Disk Water Meter.

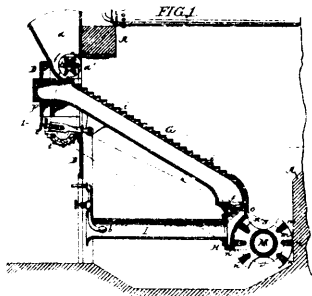


40993 Logan's Holdback.



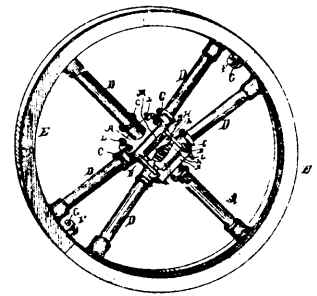
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Garbutt's Jack.



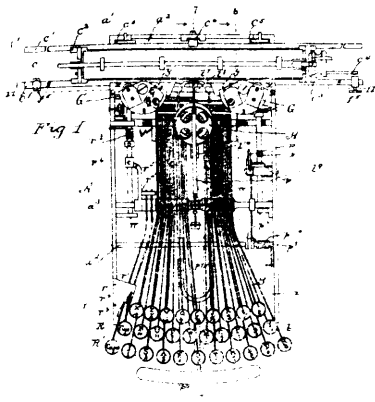
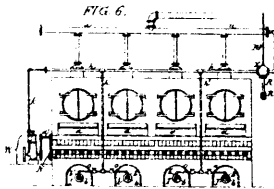
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Wilkinson's Furnace.



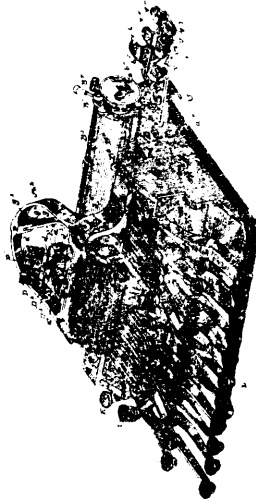
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Reitz's Split Pulley.



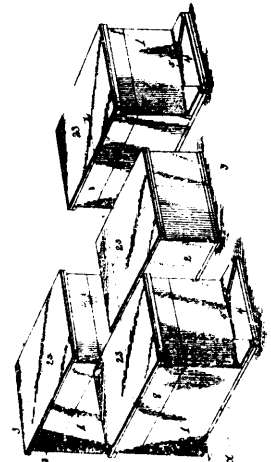
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Blickensderfer's Type-writer.



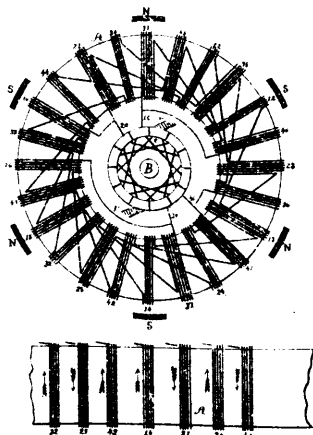
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Blickensderfer's Type-writer.



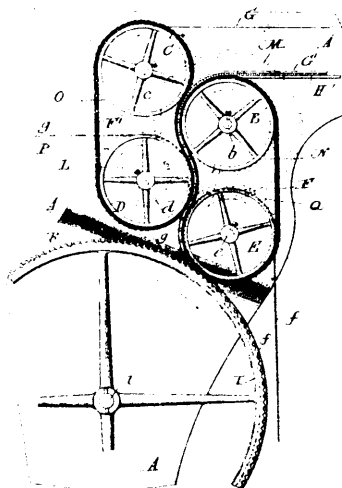
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Conser's Bee Hive.



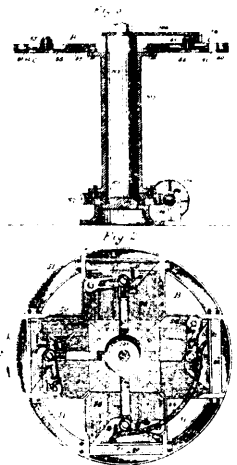
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Pool's Ring Armature.



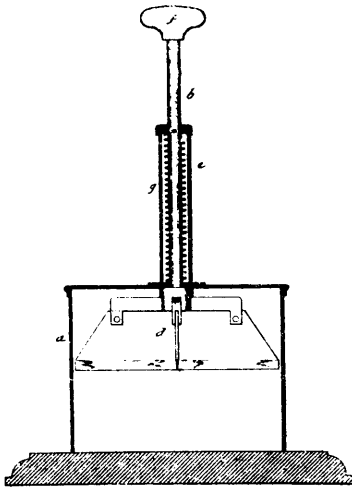
41001

Ellinwood's Machine for making Matches.

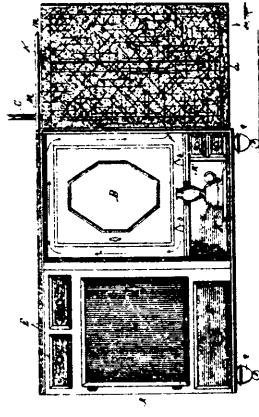


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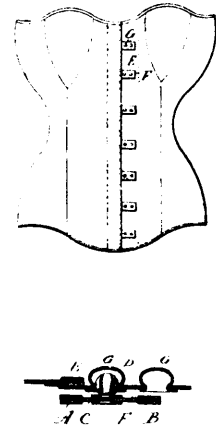
Smith and Arnold's Bookbinding Machine.



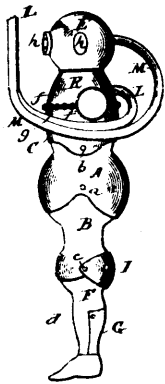
41003 Coe's Culinary Chopper.



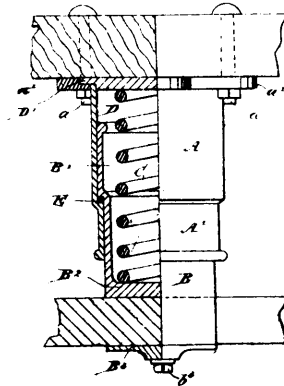
41004 Walker's Lamp Stove.



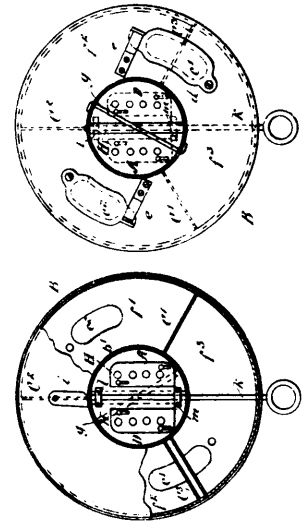
41005 Schiele's Corset.



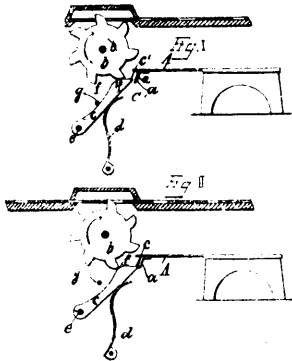
41006 Hemenger's Diving Armor.



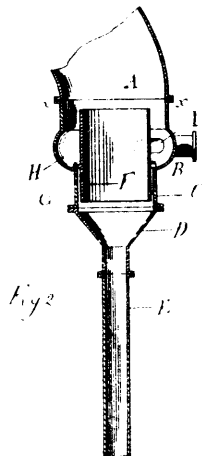
41007 Browning's Fifth Wheel.



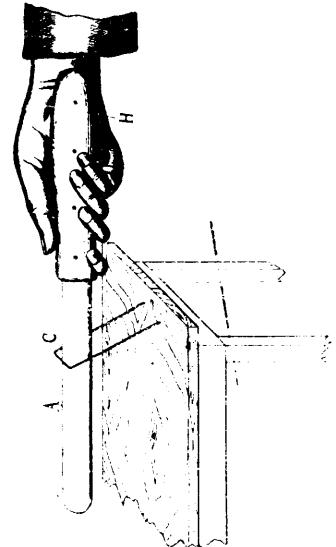
41008 Farnham's Stove-pipe Drum.



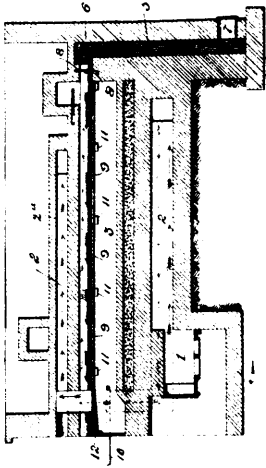
41009 Brachhausen and Riessner's Damping device for Mechanical Music Boxes.



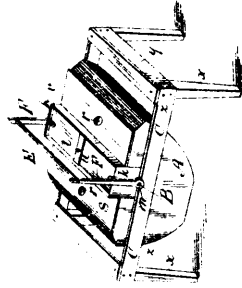
41010 Craney's Condenser.



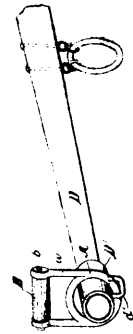
41011 Thiele, Kupferling and Sichlermann's Toy.



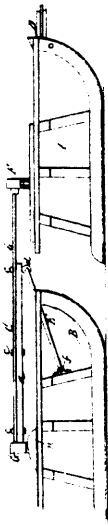
41012 Petersen's Oven.



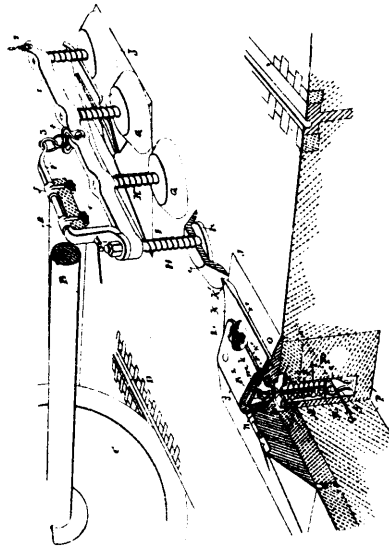
41013 Lane's Washing Machine.



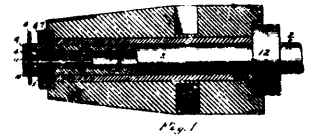
41014 Rothrock's Neck-yoke.



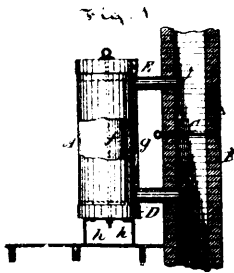
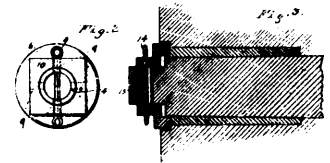
41015 Weicher's Bob-sleigh.



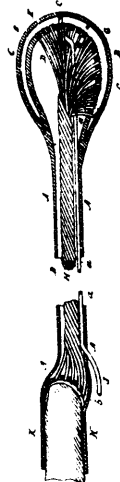
41016 Brintnell's Electrical Propulsion Car.



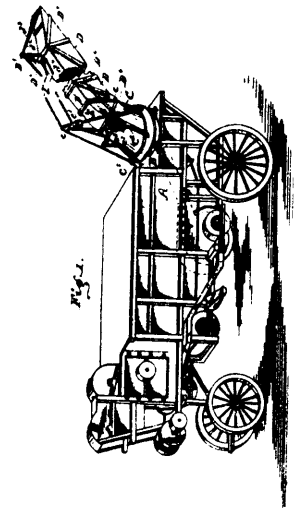
41017 House's Axle Nut.



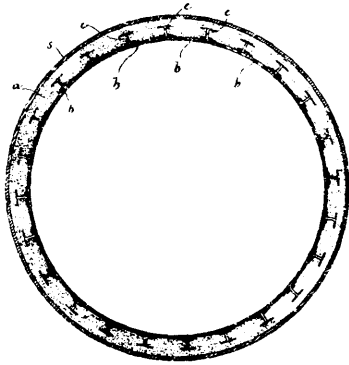
41018 Roe's Heating Apparatus.



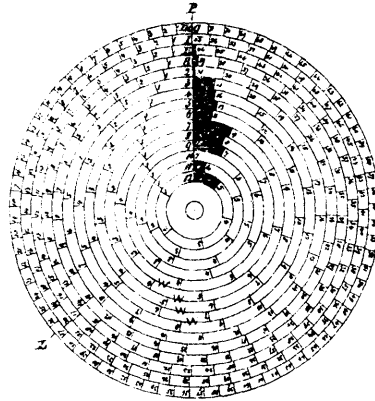
41020 Bradley's Electrical Surgical Instruments.



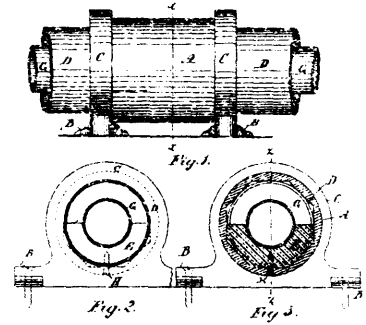
41021 Buchanan's Straw Elevator.



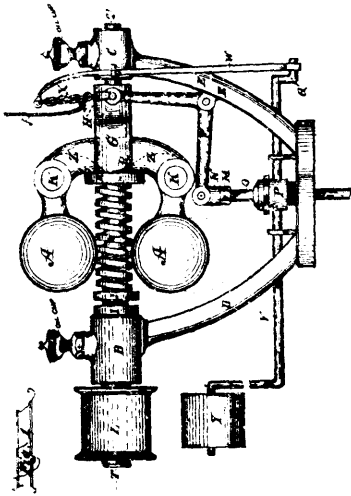
41022 Curtis and Jones' Paper Pulp Digester.



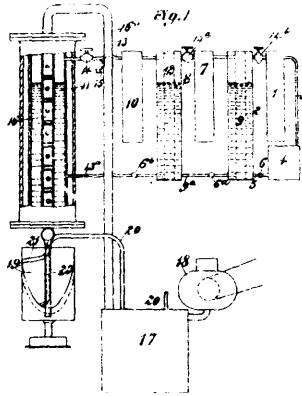
41023 Kendall's Saw-mill Set Works.



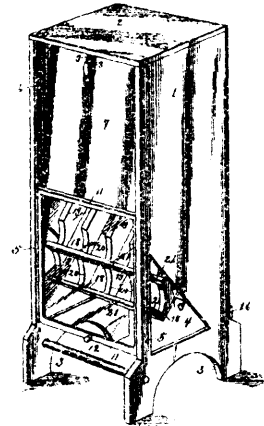
41024 Keadall's Pipe Coupling.



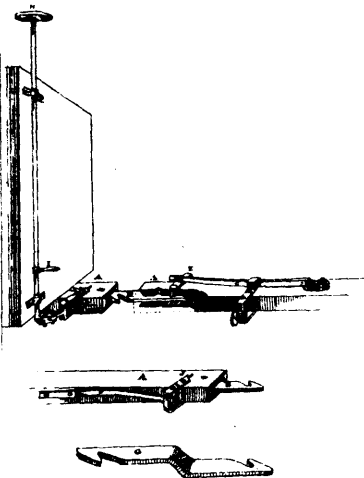
41026 Evans' Steam Engine Governor.



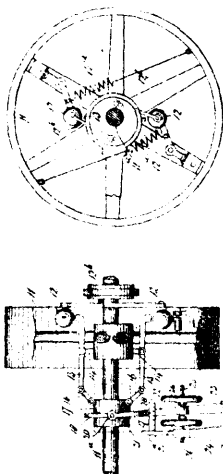
41027 Parkinson's Apparatus for Separating and Obtaining the Constituents of Gaseous Mixtures.



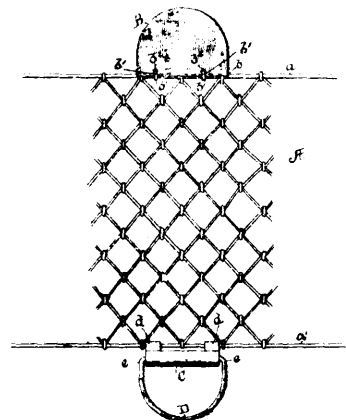
41028 Israel's Spool Holder.



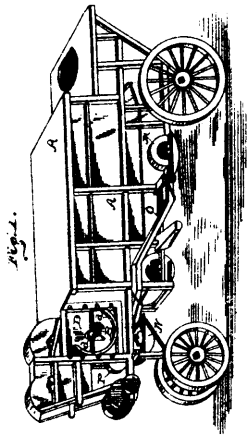
41029 Hopkins' Car Coupler.



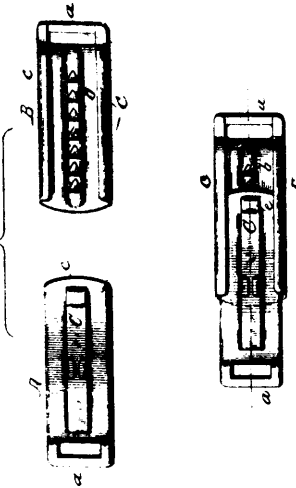
41030 Mount's Steam Engine Load Regulator.



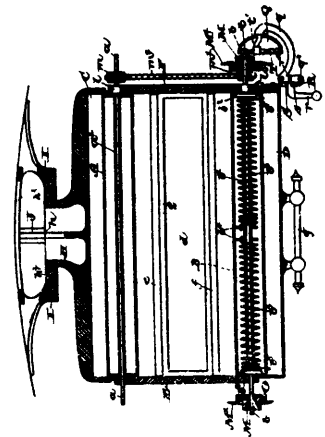
41031 Leiding's Fish Net.



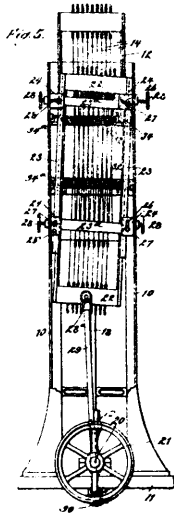
41032 Buchanan's Threshing Machine.



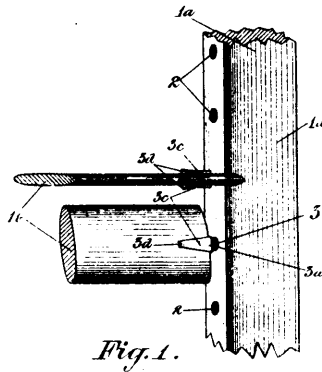
41033 Smith's Buckle.



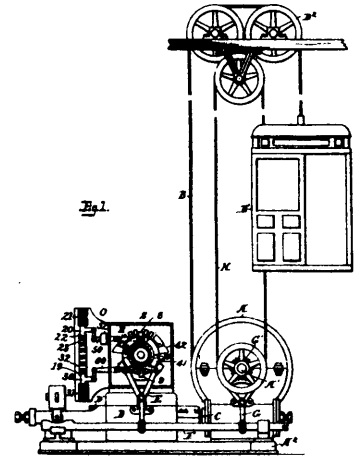
41034 O'Grady and Collins' Street and Station Indicator.



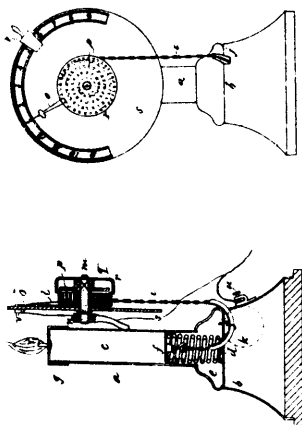
41035 Mackey's Gang Saw-mill.



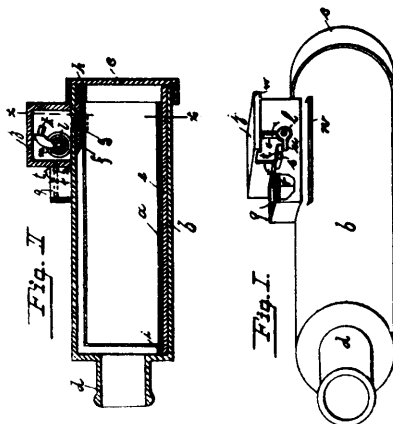
41036 Clay's Shutter-slat Tenon.



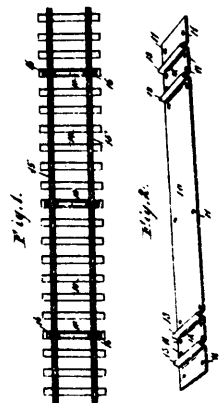
41037 Smith's Electrical Elevator.



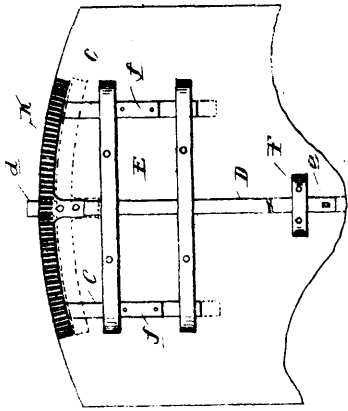
41038 Bennett's Night Light and Time Indicator.



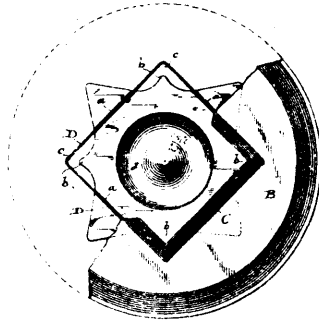
41039 Paulsen's Life Preserver.



41040 Fay's Rail Fastening.



41041 Reynolds' Safety Gate for Bridges.



41044 Kayser's Fly Trap.

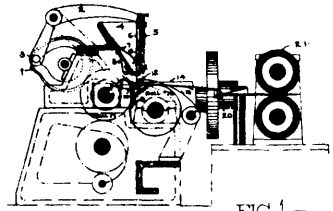


FIG. 1.

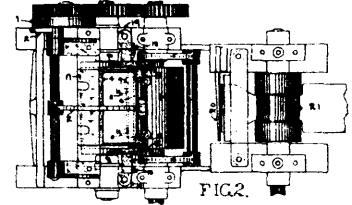
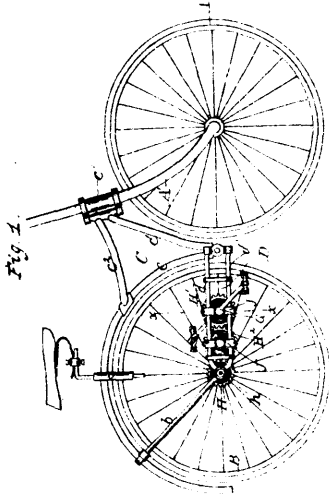
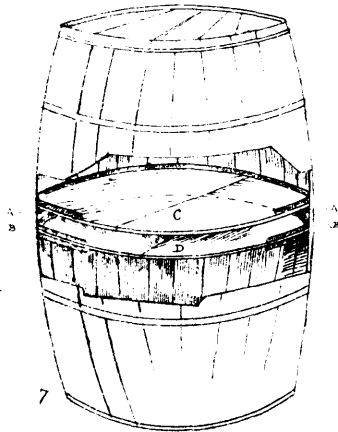


FIG. 2.

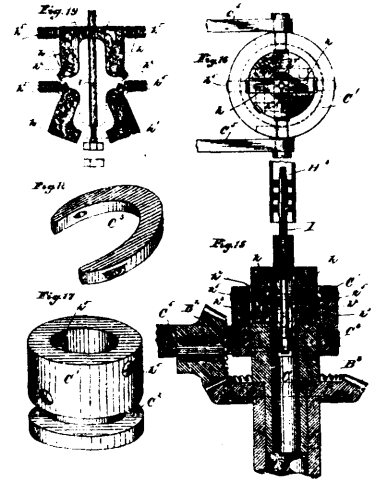
41045 Baker's Paper Bag Machine.



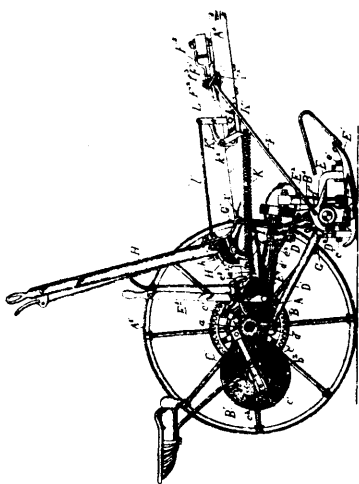
41046 Shannon's Bicycle.



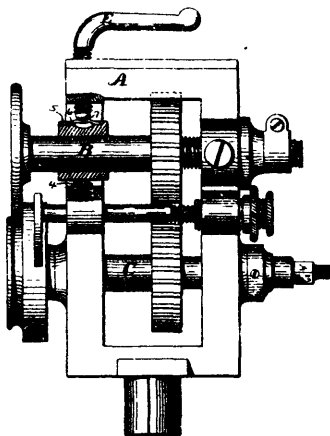
41047 Aitkens' Barrel.



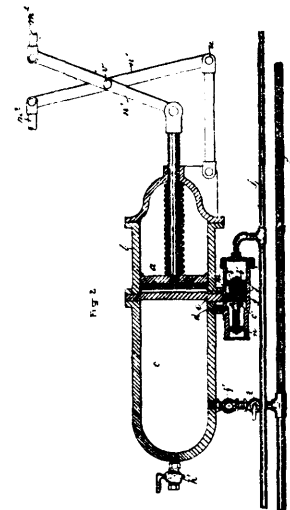
41048 Cook's Nut-tapping Machine.



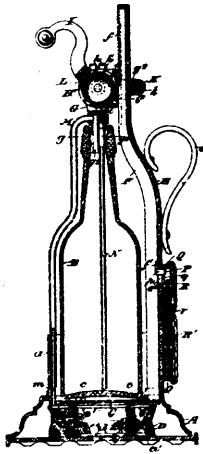
41049 Pridmore's Mower.



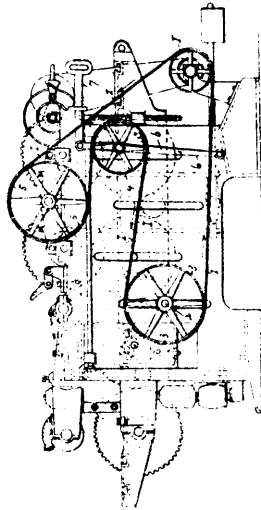
41050 Stow's Tinsmith's Machine.



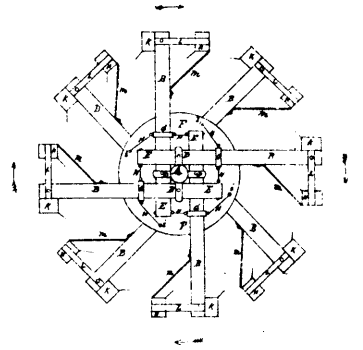
41051 James' Air Brake.



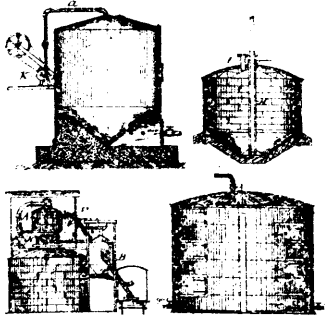
41052 Fowler's Apparatus for Dispensing Liquids.



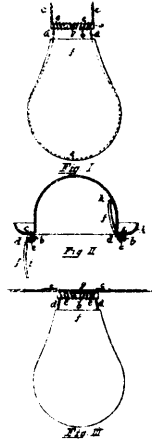
41053 Pyott's Driving Gear for Wood Planing and Molding Machines.



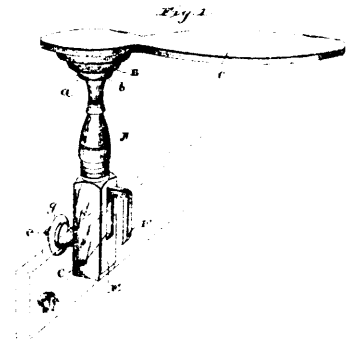
41054 Williamson's Arm for Water-wheels, &c.



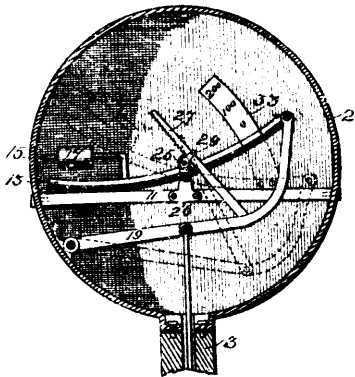
41055 Smith's Pneumatic Transferring and Preserving Apparatus.



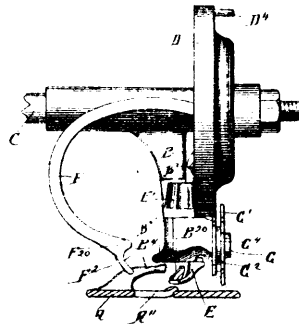
41056 Hadden's Ear Muff.



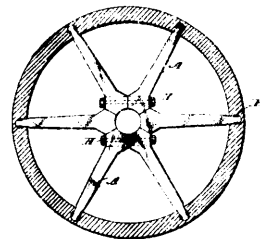
41057 Elston's Table Attachment to Bedsteads.



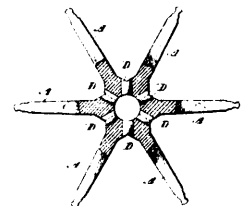
41058 Farmer's Weighing Machine.



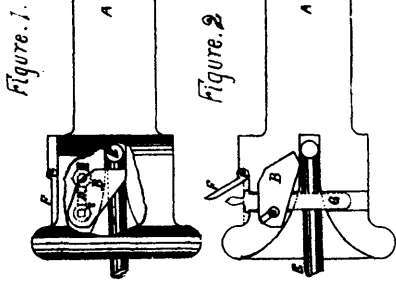
41059 Stark's Knotter for Grain Binder.



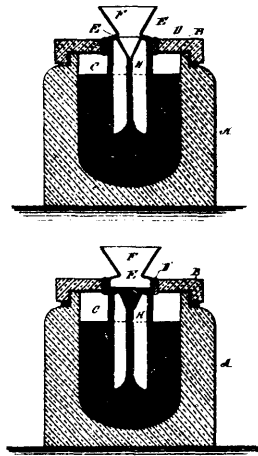
41060



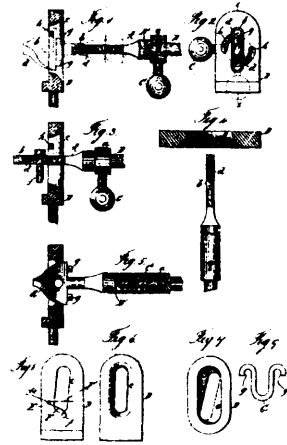
Gilbert's Pulley.



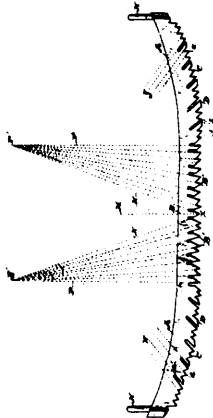
41061 Heald's Car Coupler.



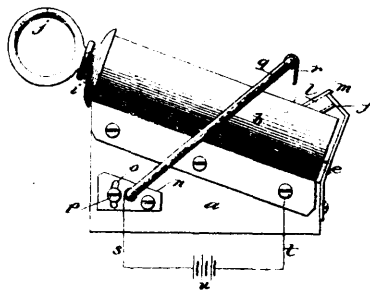
41062 Bergen's Fountain Attachment to Inkstands.



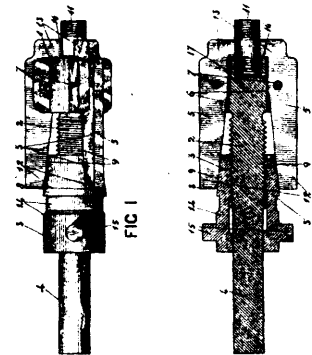
41063 Sterns' Automatic Fastener.



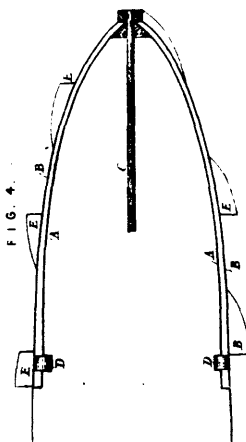
41064 Wilson's Cross-cut Saw.



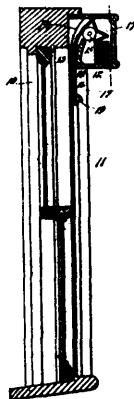
41065 Eastman's Electric Cigar Lighting Lamp.



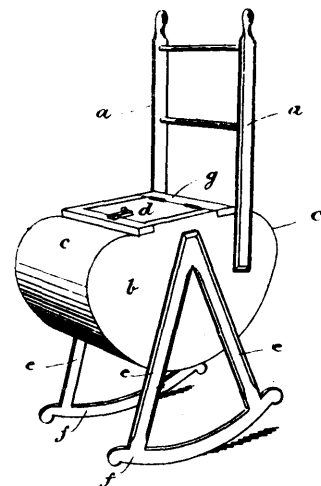
41066 McFarlane's Chuck for Pipe Nipples.



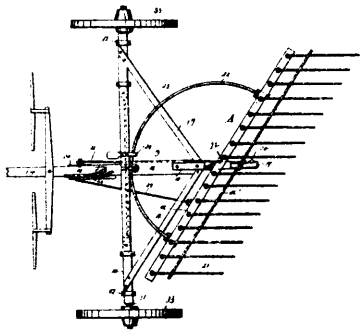
41067 Mills' Apparatus for Propelling Vessels.



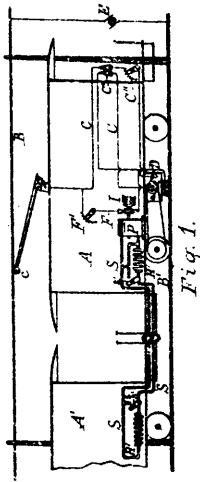
41068 Murdock's Window Blind.



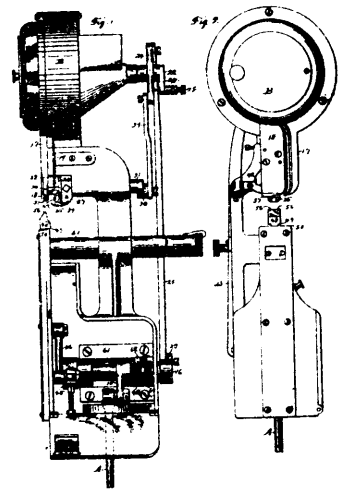
41069 Hamilton's Churn.



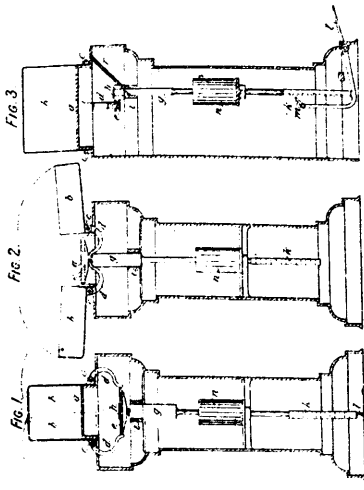
41070 Soehren's Hay Rack.



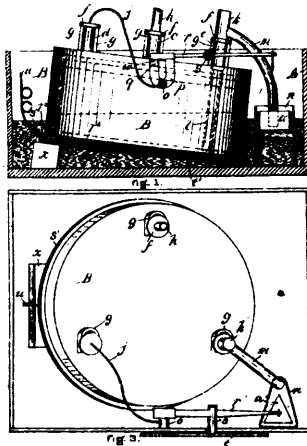
41071 Dewey's Electric Heating Apparatus for Electric Railway Systems.



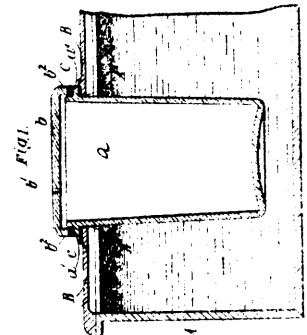
41072 Griswold's Button Setting Machine.



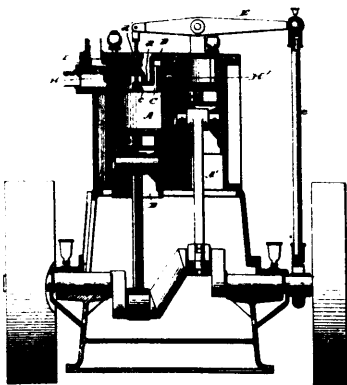
41073 Jacob's Coin-actuated Apparatus.



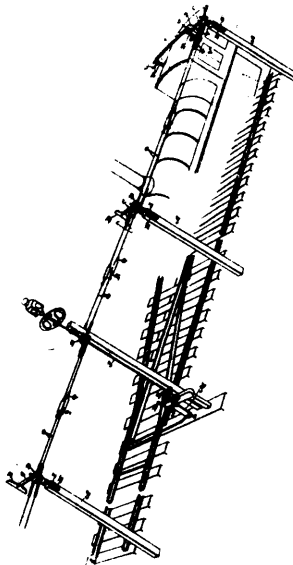
41074 Le Sueur's Electrolytic Cell.



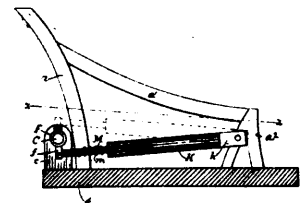
41075 Ryland's Receptacle for Preserved Meat, &c.



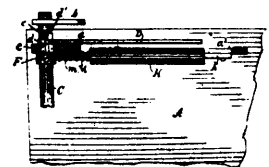
41076 Mumford's Steam Engine.

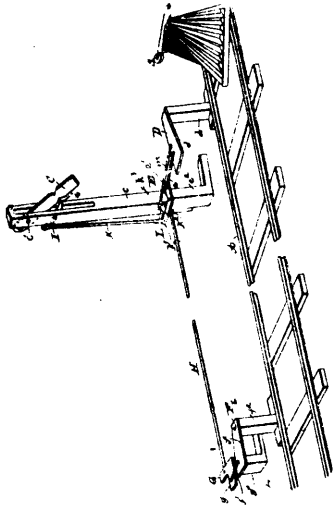


41077 Parmenter's Railroad Signal.

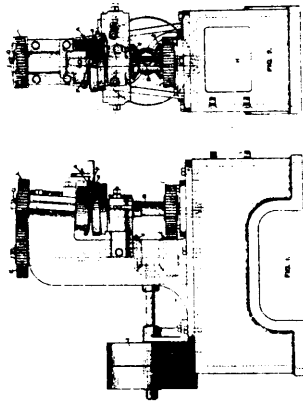


41078 Hess' Top Joint for Vehicles.

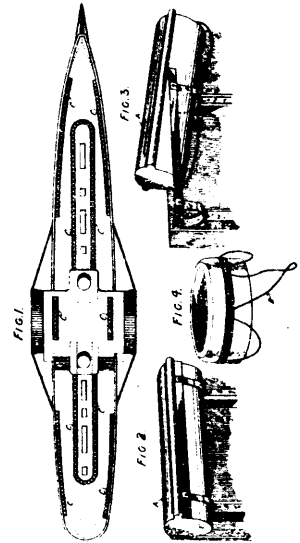




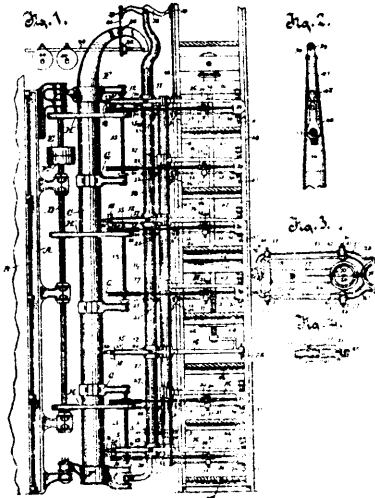
41079 Swin's Railroad Signal.



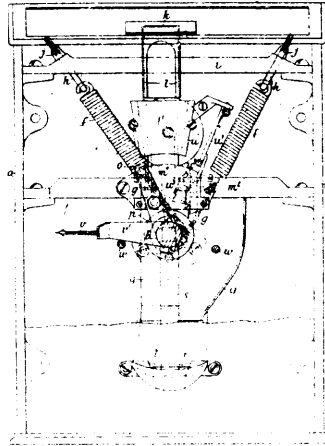
41080 Fairbairn's Apparatus for Forging and Finishing Circular Articles.



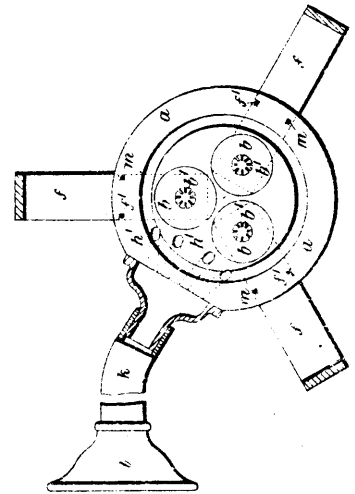
41081 Warren's Life Preserver.



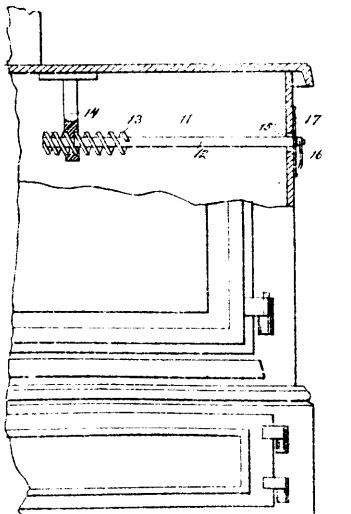
41082 Moore's Carving Machine.



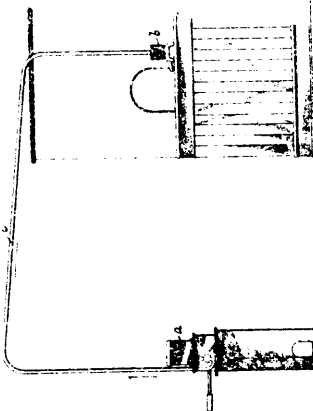
41083 Barrett's Coin-actuated Dynamometer.



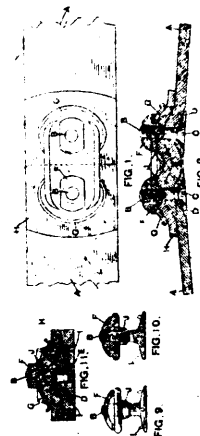
41084 Collier's Telephone Receiver.



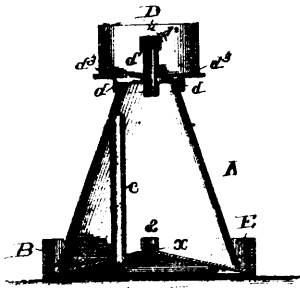
41085 Murdock's Thermostat and Indicator.



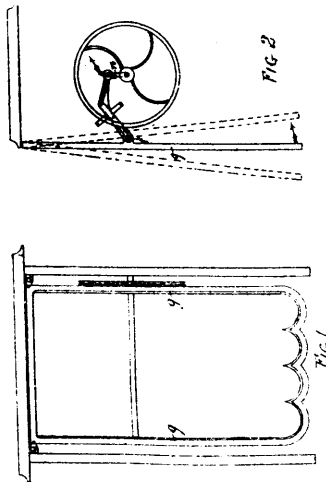
41086 Milliken's Ticket System.



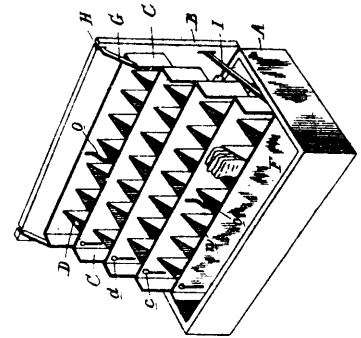
41087 Jackson's Belt Fastener.



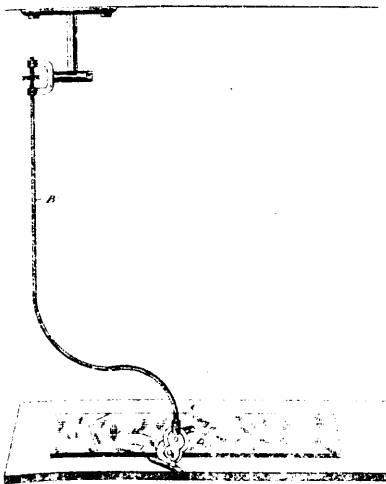
41088 Mair's Milk Cooler.



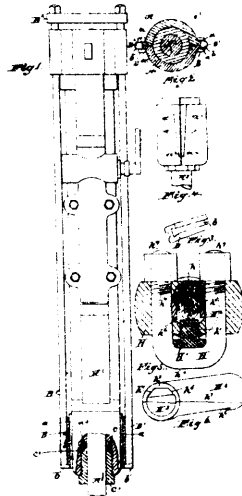
41089 Hervieu and Aubertin's Mechanism for driving Machines by Foot Power.



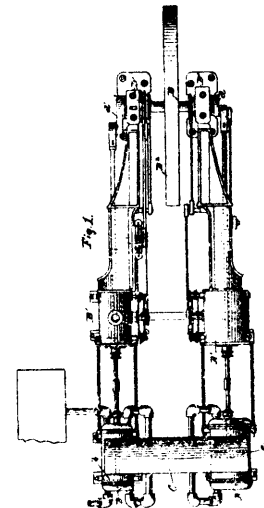
41091 Miller's Shipping and Displaying Box for Seeds.



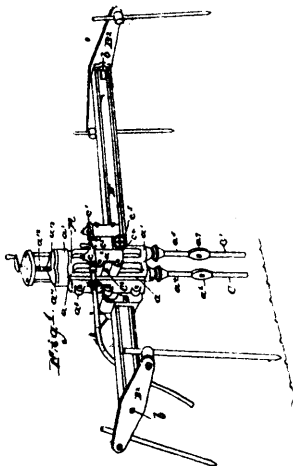
41092 Schofield's Machine for Cutting Cloth.



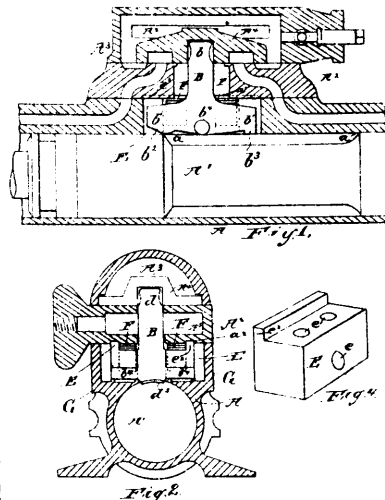
41093 Rand's Rock Drill.



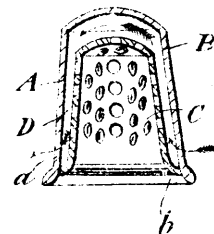
41094 Halsey's Air Compressor.



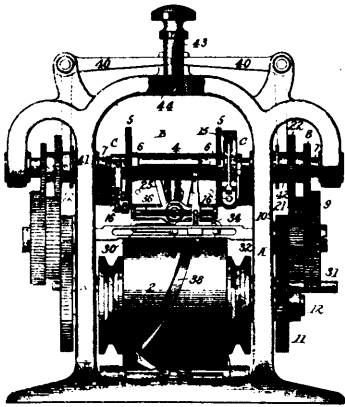
41095 Githens' Rock Drill and Channeling Machine.



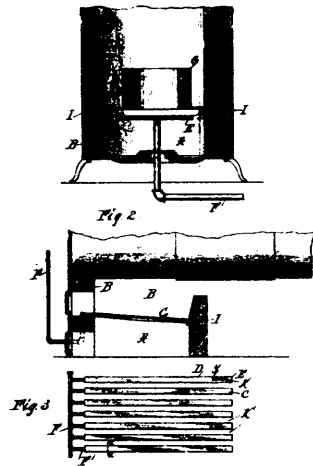
41096 Githens' Rock Drill,



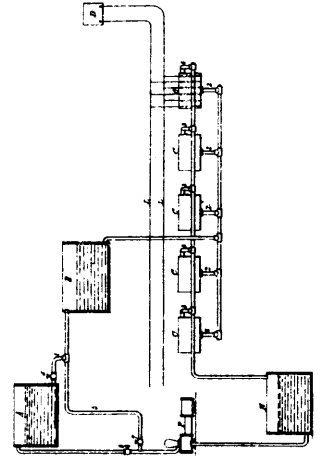
41097 Bramley's Thimble.



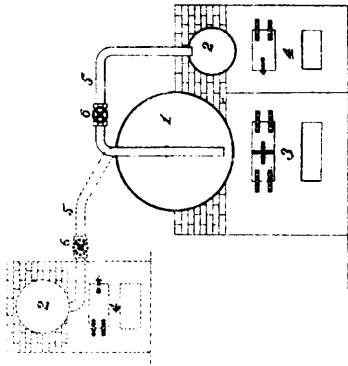
41098 Wardwell's Machine for Winding Cops or Balls.



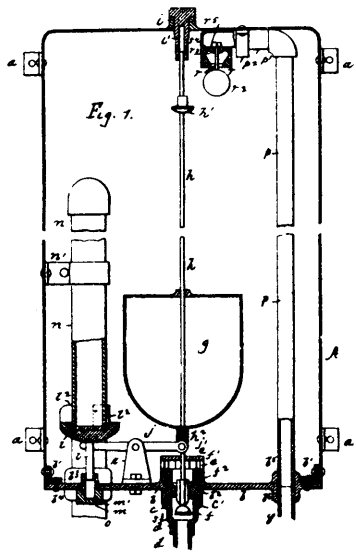
41099 Noteman's Oil Burner.



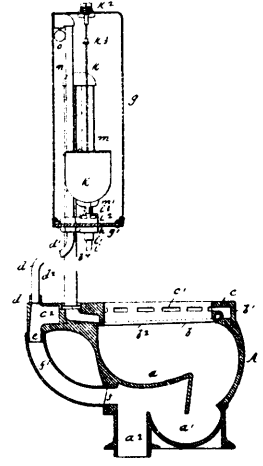
41100 Choate's Art of Producing Metallic Zinc.



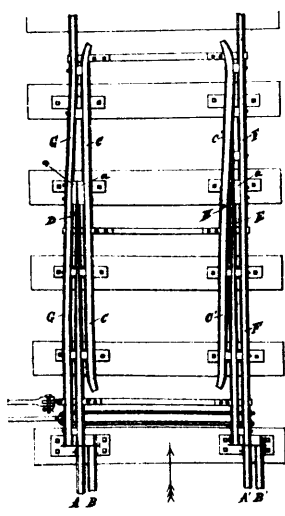
41101 Dubbs' Method of making Asphaltum.



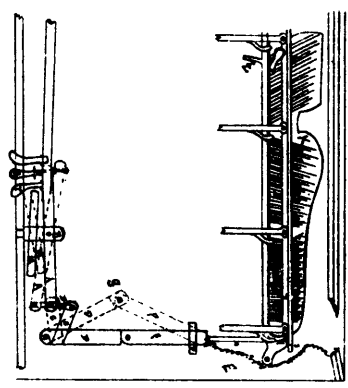
41102 O'Brien's Air Compressor.



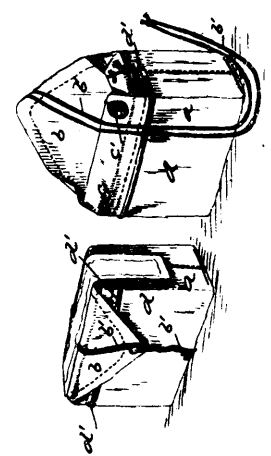
41103 O'Brien's Flushing Apparatus for Water Closets.



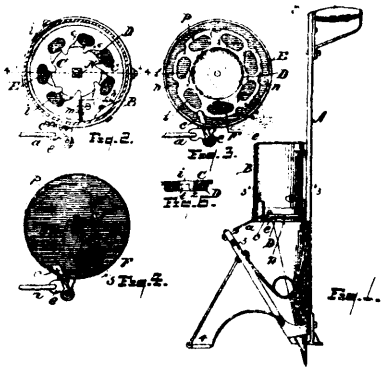
41105 Kelly and Leslie's Railway Switch.



41106 Mitchel's Pedal for Pianos.



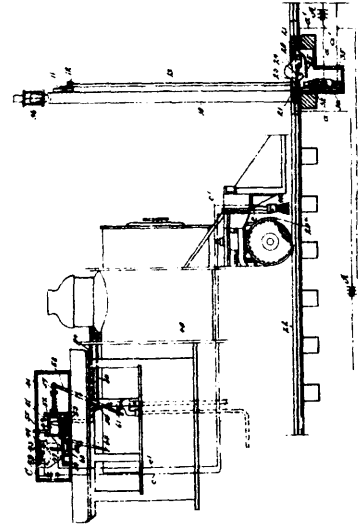
41107 Cussen's Tobacco Pouch.



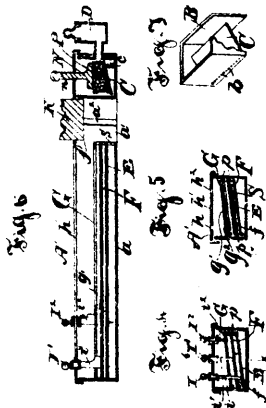
41108 Sheffield's Corn Planter.



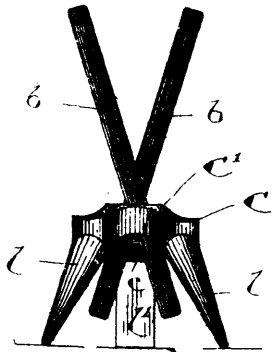
41109 Mann's Advertising Device.



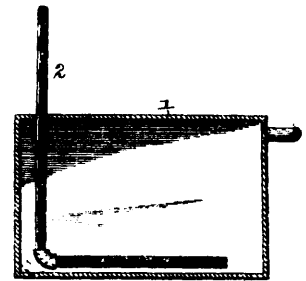
41110 La Burt's Electric Block Signal System.



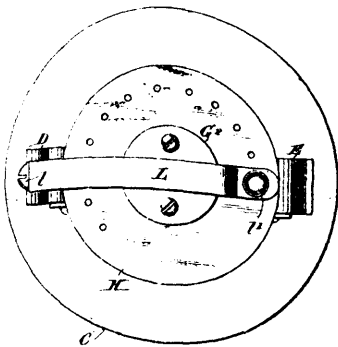
41112 Coyle's Stamp Affixers.



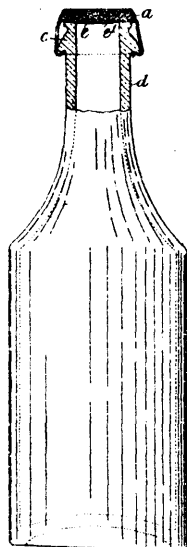
41113 Foster's Knife Sharpener.



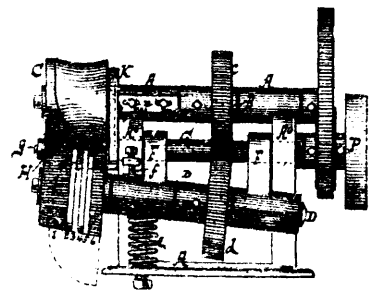
41114 Dubbs' Machine for Desulphurizing Oil.



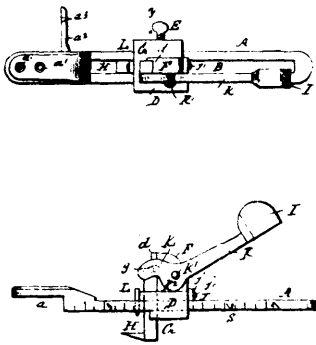
41115 Mashinter's Electric Cut-out.



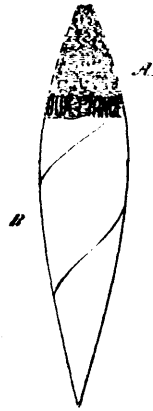
41116 Cross' Bottle Stopper.



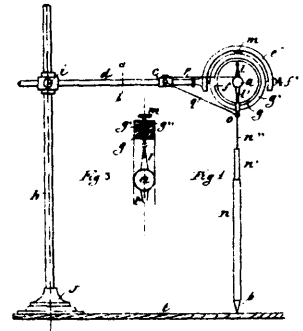
41117 Scott's Skiing Machine.



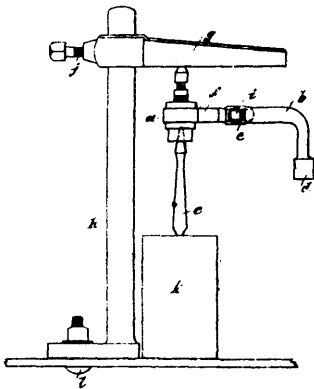
41118 Bacon's Shingle Gage.



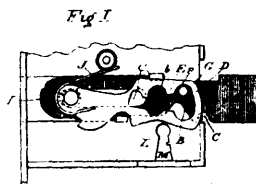
41119 Goldstein's Method of Branding Cigars.



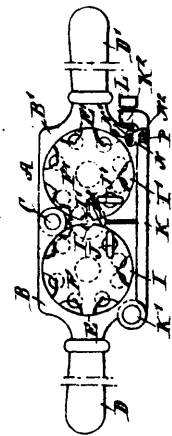
41120 Jachoux's Perspectograph.



41121 Tattersall's Brace.



41122 Elliott's Lock.



41123 Wetzel's Die Plate.