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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. 40,493. Process for Manufacturing and Preserving Pure Yeasts. (*Procédé pour fabriquer et préserver la levure.*)

Gaston Guignard, Paris, France, 1st October, 1892; 6 years.

Claim.—1st. The process for manufacturing and preserving yeast which consists in producing the latter by manuring with a pure yeast placed in sterilized wort, and injecting sterilized air therein. 2nd. The process of manufacturing and preserving yeast, which consists in sterilizing a fermentable sugary or sweet wort, sowing and causing the fermentation, in presence of sterilized air, of this wort by a pure yeast, introducing sterilized air during the fermentation, and without the contact of unsterilized air, separating the wort from the yeast and subsequently incorporating the yeast, in a gelatinated or "gelosed" wort. 3rd. In apparatus for manufacturing and preserving yeast, the combination of yeast and fermenting vats containing agitators, and coiled pipes for the circulation of cold water, and provided with dabblers to allow of the introduction of sterilized air or steam, with one or more mixing filters formed of an external casing or box containing an internal receptacle formed of penetrable material, an agitator and means for operating same, a yeast discharge tube, an outlet for fermented wort, inlet for the sterilized air or steam, an eduction cock and an inlet for the worts and yeast. 4th. The herein described device for sterilizing air, embracing a washer A containing an antiseptic, pump P, air tank R, coiled pipe *s*, furnace F, washer L containing sulphuric acid cotton filter *f*, cooler V and sterilized air tank S.

No. 40,494. Ventilating Apparatus.

(*Appareil de ventilation.*)

William Thomas Sugg, Westminster, England, 1st October, 1892; 6 years.

Claim.—1st. In ventilating apparatus, the combination, with a ventilating shaft, of a rigid or flexible disc valve, having its seat on the end of the shaft, a chamber connected with the shaft and inclosing the valve, a perforated cover provided with tubes, or the equivalent, to the chamber, and a flat deflector above, and parallel with the cover, all substantially as and for the purpose set forth. 2nd. In ventilating apparatus, the combination, with a ventilating shaft, of a chamber closed at top by a perforated cover provided with tubes or their equivalent, and a straight deflector arranged above and parallel with the cover, as and for the purpose set forth.

No. 40,495. Shutter for Photographic Cameras.

(*Fermeture pour chambre photographique.*)

Joseph J. Clairmont, Rutherford, New Jersey, assignee of Maurice A. Vanderwaag, Brooklyn, New York, both in the U.S.A., 1st October, 1892; 6 years.

Claim.—1st. The combination, with an apertured shutter, of a spring connection between the spring and shutter, an operating stud and a telescopic device uniting the stud and said connections, substantially as described. 2nd. The combination of the apertured shutter rotatably mounted, concentrically disposed pins secured to the shutter, and a spring operated rocker having teeth adapted to engage said pins, and means for operating the rocker, substantially as described. 3rd. The combination of the rotatable apertured shutter with a spring, a segmental rack, a pin disc on the shutter engaging therewith, connections between the spring and shutter, an operating stud, and a telescopic device uniting the stud and said connections, substantially as described. 4th. The combination, with a rotatable apertured shutter, a spring for actuating the shutter, devices connecting the shutter and a spring for rotating it, a movable operating stud, the union of the stud and connecting devices being articulated, substantially as described. 5th. The combination, with the rotatable apertured shutter having the pin disc, of a spring, a pivoted rocker having teeth engaging with the pin disc, a sliding stud, a connecting rod pivotally secured to the rocker, and links connecting the said stud and spring, substantially as described. 6th. The combination, with the rotatable apertured shutter having the pin disc, of a spring, a pivoted rocker arm having teeth engaging with the pin disc, a sliding stud, a connecting rod pivotally secured to the rocker, a link connecting said rod and spring, and a link telescopically united with the stud, substantially as described. 7th. The combination, with a rotatable apertured shutter having a peripheral detent, of a spring, connections between the spring and shutter, an operating stud, a pivoted pawl adapted to engage the detent, an arm on the pawl engaging the stud, and a telescopic device uniting the stud and said connections, substantially as described. 8th. The combination, with a rotatable and apertured shutter having a plurality of peripheral detents, of a spring, connections between the spring and shutter, an operating stud, a pivotal pawl adapted to alternately engage the detents, a stop for arresting the movement of the shutter, an arm on the pawl engaging the stud, and a telescopic device uniting the stud and said connections, substantially as described. 9th. The combination, with a guide way of a cross head embracing the guide way, a movable block and a thumb screw in said cross head, and a flat spring between said guide and cross head, one end of which is fixed, the other end being free, substantially as described. 10th. The combination, with a guide way, of a cross head embracing the guideway, a pointer on the cross head, a movable lock and thumb screw in said cross head, a flat spring between the said guide and cross head, an end of which is fixed, the other free, and an index adjacent to said pointer, substantially as described. 11th. The combination, with the pivoted shutter 4, having the detents 7, 8, of a spring, an operating stud 20, having the shoulder 22, the shutter spring and stud being connected, and the pivoted spring pressed pawl 30, and arm 32, the pawl alternately engaging the detents 7, 8, substantially as described. 12th. The combination, with the pivoted shutter 4, having the detents 7, 8, of a spring, an operating stud 20, having the shoulder 22, the shutter, spring and stud being connected, a stop 36, and the pivoted spring pressed pawl 30, and arm 32, the detents alternately engaging the stop and pawl, substantially as described. 13th. The combination, with the pivoted shutter 4, having the disc 10, and concentrically disposed pins 11, of the pivoted rocker 14, having the teeth 15, the connecting rod 17, on the rocker, the spring 26, the link 25, uniting the said spring and rod, the recessed stud 20,

having the apertured lug 19, and the link 18, telescopically uniting the rod 17, and stud, substantially as described. 14th. The combination, with the apertured and pivoted shutter 4, having the detents 7 and 9, of a spring, an operating stud 20, having the shoulder 22, the shutter, spring and stud being connected with the spring pressed pawl 30, and arm 32, both detents being adapted to engage the pawl, the detent 9, holding the shutter in alignment with a lens opening, substantially as described. 15th. The combination, with the arched guide way 28, having the jaw 27, of a spring 26, held in the jaw, a cross head 38, embracing the guide and spring, a movable block 40, in the cross head abutting against the spring, and a thumb screw 41, in the cross head adapted to press the block against the spring, substantially as described. 16th. The shutter 4, having the peripheral detent 7, detachable therefrom, substantially as described.

No. 40,496. Capsule. (*Capsule.*)

McKesson & Robbins, New York, State of New York, U. S. A., assignee of William Oppenheimer, London, England, 1st October, 1892 ; 6 years.

Claim.—1st. A capsule, consisting of a soluble shell or casing formed integral with a soluble partition to provide separated chambers for different kinds of medicine, said shell or casing and partition dissolving when taken internally for the purpose of liberating the medicines, substantially as described. 2nd. A capsule, consisting of a soluble shell or casing formed with a soluble partition to provide separated chambers for different kinds of medicine, said shell or casing and partition dissolving when taken internally for the purpose of liberating the medicines, substantially as described.

No. 40,497. Weighing Machine. (*Balance à bascule.*)

John Jackson and Edwin Alfred Hoad, both of London, England, 1st October, 1892 ; 6 years.

Claim.—1st. A hydrostatic weighing machine, so constructed, that the load acts upon the liquid through the medium of one or more flexible or elastic diaphragms, instead of through a movable piston or plunger. 2nd. The combination, with the flexible or elastic diaphragm forming part of the closed vessel or box, of a rod or plunger bearing upon the said diaphragm and acted upon by a cross bar, from which the body or load to be weighed is suspended, substantially as described. 3rd. The combination, with the flexible or elastic diaphragm forming part of the closed vessel or box, of a device consisting of two or more parts or pieces working one within another, and arranged to act in succession upon the said diaphragm with or without means for varying the relative movement of the said parts or pieces, substantially as and for the purposes above specified. 4th. The herein described method of providing fer the protection of a weighing machine against injury due to the too sudden application of a load, by the employment of one or more adjustable or interchangeable supports adapted to resist or sustain any excessive force exerted by the load whilst permitting the weight of the said load to act upon the weighing mechanism. 5th. A weighing machine provided with one or more adjustable screw threaded supports or nuts adapted to resist or sustain any excessive force due to the too sudden application of the load, substantially as and for the purpose above specified. 6th. A hydrostatic weighing machine provided with suitable means whereby when the gauge has been actuated to indicate the weight of the maximum or other predetermined load, such load will be supported independently of the weighing mechanism, substantially as hereinbefore described, and for the purpose specified. 7th. The combination, with a hydrostatic weighing machine, of an adjustable device whereby the cubic capacity of the space for the liquid may be varied at will, for the purpose above specified. 8th. The combination, with the closed vessel or box for containing the liquid of the cylinder provided with the adjustable piston, and communicating with the interior of the said vessel or box, by means of a pipe or passage governed by an adjustable valve, substantially as hereinbefore described, and for the purpose specified. 9th. The combination, with the diaphragm of the strengthening or supporting ring, substantially as and for the purpose above specified. 10th. The combination, with the index or pointer, of a gauge, of a spring or cushion for diminishing the shock or concussion imparted to the same on the sudden return thereof to zero, substantially as hereinbefore described.

No. 40,498. Gas Heater or Radiator.

(*Calorifère à gaz.*)

Arnovitz Wolff, New York, State of New York, U.S.A., 1st October, 1892; 6 years.

Claim.—1st. The combination in a gas heater or radiator, with a base and a gas pipe passing through the base and having burners, of vertical sheet metal tubes c rising from said base and having upper openings 13 for the escape of heated air, a movable plate to give access for lighting the burners, and a top or cover closing the upper ends of the tubes c, substantially as and for the purposes set forth. 2nd. The combination in a gas heater or radiator, with a base and a gas pipe passing through the base and having burners, of vertical sheet metal tubes c rising from said base and having openings 13 for the escape of heated air a movable plate to give access for lighting the burners, frames connected upon the faces of said tubes and containing mica or jewel glasses, and a plate or cover closing the upper ends of the tubes c, substantially as and for the purposes set forth. 3rd. The combination in a gas heater or radiator, with a base having legs or supports and collars 3, of the top plate d having collars 7, the vertical sheet metal tubes c between said base and top plate and fitting said collars, and having openings 13 near their upper ends, the top plate e covering the tops of said tubes, the open work top f resting upon the plate e, the tie rods connecting the base a and top f, and the plate m within the base, and means for securing said plate, substantially as set forth. 4th. The combination in a gas heater or radiator, with a base having legs, of vertical sheet metal tubes c rising from said base, a gas pipe passing through said base and having burners below the tubes c, and a bottom plate m fitting freely within and connected to the base and having turned up edges, around which air passes to the burners, whereby downward radiation is prevented, substantially as specified. 5th. The combination in a gas heater having a base with an opening along one side, sheet metal radiating tubes rising from said base, a gas pipe passing longitudinally within said base, and having gas burners upon the same and beneath the sheet metal tubes, of a hinged longitudinal plate fitting the opening in said base, whereby access is given for lighting the burners, substantially as specifid. 6th. The combination in a gas heater having a base, with sheet metal radiating tubes rising from said base, a gas pipe passing longitudinally within said base and having gas burners upon the same and beneath the sheet metal tubes, of a bottom plate within and smaller than the base to leave air spaces between its edges and the inner surface of the base, and a sheet of wire gauze n between the gas pipe and bottom plate for breaking the force of air passing to the flames, substantially as specified. 7th. The combination in a gas heater or radiator, with the base a, and gas pipe h, having burners, of the bottom plate m, with turned up edges to leave air spaces, and with corners 12 and the straps m^1 surrounding the gas pipe and passing through the plate m, with the ends turned over to support the plate, substantially as set forth.

No. 40,499. Stock Car. (*Char à bestiaux.*)

William Gates Avery, Cleveland, Ohio, U.S.A., 1st October, 1892; 6 years.

Claim.—1st. The combination, in a car of the character described, of guide posts with a trough provided with projections upon its ends adapted to slide in the guide posts and allow the trough to tip to one side as it is raised, and to turn the trough face up as it is lowered, substantially as specified. 2nd. The combination, with a stock car, of guide posts having a groove b, a short bearing rail b^1, and a long bearing rail b^{11}, extending to the top of the post and secured thereto, a trough having tongues a, and studs a^1, on its ends, and means for elevating said trough, substantially as shown. 3rd. The combination, in a stock car, of a trough having the tongues a, and studs a^1, on its ends, with grooved guide posts provided with the bearing rails b^1 and b^2, the pulleys C^1, C^2 and C^3, adjusted above the guide posts, the weights D, and cords d, all constructed and arranged, substantially as described. 4th. The combination, in a stock car, of the shaft E, the arms e, attached to said shaft, and means for securing said arms in a horizontal position, with a trough provided with the tongues a, and studs a^1, on its ends, guide posts grooved and having the bearing rails b^1 and b^2, and means for elevating and lowering said trough, substantially as described.

No. 40,500. Wood Distilling Apparatus.

(*Appareil pour la distillation du bois.*)

Charles J. T. Burcey, Syracuse, New York, U.S.A., 1st October, 1892 ; 6 years.

Claim.—1st. The combination, with the oven B, and the retort seated therein, of a heating furnace consisting of a central recess c, provided with radiating flues which communicate with the oven and a flue j, which extends laterally from the furnace and partly around the oven along the lining thereof, the main flue F, communicating with the said flue j, and a gas burner within the recess c, substantially as and for the purpose described. 2nd. The oven B, provided at its base with a central recess c, in combination, with the retort A, seated in said oven, the gas burner d, in said recess, a pipe d^1, extending from said burner to the exterior of said oven, the enlarged vertical pipe e, provided with lateral air ducts e^1, and gas pipe g, provided with a valve and extending lengthwise into the end of the pipe o, beyond the connection of pipes e and e^1, substantially as and for the purpose described. 3rd. The combination, with a retort A, having a cover which is provided with a short pipe n^1, of a pipe n^2, movable pipe n, hinged to pipe n^2, and provided with a short pipe which has a jet cock s, and a cap r, constructed to be removably attached to pipe n^1, of the cover, substantially as and for the purpose described.

No. 40,501. Magneto-Electric.

(*Machine magneto-électrique.*)

La Motte C. Atwood, St. Louis, Missouri, U.S.A., 1st October, 1892 ; 6 years.

Claim.—A magneto-electric machine, having bars applied to the pole pieces in the direction of the normal polar line, and suitably insulated therefrom, and coils in the circuit of the main line wound upon the ends of said bars to prevent the polar line from shifting under varying conditions, and to keep the brushes at a non sparking maximum point.

No. 40,502. Pill Machine. (*Machine à pilules.*)

Chester Albert Weller, Ossining, and John Gibney, Sing Sing, both of New York, U. S. A., 1st October, 1892 ; 6 years.

Claim.—1st. A mixer chamber formed with a recess, consisting of a channel inclined gradually to a certain depth and returning by an incline to the outline of the chamber, means for forcing a pasty mass of material into and through said recess, a die or opening therefrom, and a punch working to force a quantity of material from said recess out through said die. 2nd. A mixer chamber formed with a recess, consisting of a channel inclined gradually to a certain depth and returning by a gradual incline to the outline of the chamber, a wiper sweeping over said recess, and adapted to force a pasty mass of material thereinto, a die or opening therefrom, and a punch working to force a quantity of material from said recess out through said die. 3rd. A mixer chamber formed with a recess, consisting of a gradually descending channel, a bridge plate crossing said channel, a wiper sweeping over the channel and adapted to force a pasty mass of material into said recess, a die or opening therefrom beneath said bridge, and a punch working beneath said bridge to force a quantity of material from said recess out through said die. 4th. A mixer chamber formed with a recess, consisting of a gradually descending channel, a bridge crossing said channel, a wiper sweeping over said channel, a die or opening therefrom beneath said bridge, and a punch working to force a quantity of material from said recess out through said die, and driving mechanism connected to said wiper, and punch for retracting the punch as the wiper approaches the bridge, and protruding the punch as the wiper passes over said bridge. 5th. The combination, with a mixer chamber, of a punch for ejecting material therefrom, a slide carrying said punch, a revolving shaft having a cam projection acting against said slide to force it forward, and a cam projection for retracting said slide, and an adjustable stop carried by said slide against which said cam projection acts. 6th. The combination, with a mixer chamber formed with a recess, of a punch for ejecting material therefrom, a reciprocating slide carrying said punch, an auxiliary slide carried thereby and adjustable relatively thereto, a screw engaging said slides respectively for adjusting them relatively, and a revolving shaft having cam projections acting against said slide to protrude the punch, and against the auxiliary slide to retract the punch. 7th. The combination, of a punch for ejecting measured quantities of material, a slide carrying said punch, an auxiliary slide adjustable thereon, a shaft having cam projection engaging said slide for protruding the punch and said auxiliary slide for retracting it, an adjusting screw engaging said slides respectively, and an adjusting spindle for turning said screw having sliding connection therewith whereby the adjustment of the screw may be effected during the reciprocation of the slide. 8th. The combination, with a mixer chamber, of a punch for ejecting material therefrom, mechanism for reciprocating said punch, and means for disconnecting said mechanism at will in order to stop said punch. 9th. The combination, of a mixer chamber having rotating mixing blades, a shaft carrying said blades, a punch for ejecting material from said chamber, mechanism driven from said shaft for reciprocating said punch, and means for disconnecting said mechanism in order to stop said punch without stopping the mixture. 10th. The combination, of a mixer chamber, a punch for ejecting material therefrom, a shaft having a cam for reciprocating said punch, and means for uncoupling said cam from said shaft at will, whereby said punch may be stopped. 11th. The combination, of a mixer chamber, a punch for ejecting material therefrom, a driving shaft, a cam on said shaft for reciprocating said punch, reciprocal engaging shoulders on said cam and shaft, and means for sliding said cam along said shaft to engage or disengage said shoulders. 12th. The combination, of a mixer chamber, a punch for ejecting material therefrom, a revolving shaft, a cam on said shaft for reciprocating said punch, reciprocal engaging shoulders on said shaft and cam arranged to engage when the cam is elevated and to be disengaged when the cam is depressed, spiral inclines formed on a fixed part of the apparatus, and an oscillating part formed with inclines working against said fixed part and movable against said cam, whereby as it is oscillated in one direction it lifts said cam into engagement, and in the other direction it drops said cam out of engagement with said shaft. 13th. The combination of a mixer chamber, a die or opening therefrom, a punch for forcing a quantity of material therefrom through said die, means for reciprocating said punch, a sliding gate movable across said die to close its opening, and means for reciprocating said gate adapted to move it across said opening when the punch is retracted. 14th. The combination of a mixer chamber, a die or opening therefrom, a punch for forcing a quantity of material therefrom through said die, a reciprocating slide carrying said punch, a sliding gate movable across said die to close its opening, and a lever interposed between said gate and said slide and arranged to be vibrated to move said gate across said opening when the slide is retracted. 15th. A mixer for plastic material, consisting of a chamber formed with an outlet opening at its lower part, an upright shaft revolving in said chamber and having spirally inclined mixing arms, a door for closing said opening, and an adjustable spring for holding said door closed, whereby an excessive pressure within the mixer will be relieved by an escape of material therefrom through said door. 16th. A mixer chamber constructed with a fixed bottom, a removable upper vessel and means for uniting the two detachably together, whereby the upper vessel may be removed for cleaning or repairs. 17th. A mixer chamber constructed with a fixed bottom B^1, having a vertical cylindrical flange *b*, a removable upper vessel B having a bottom flange *a*, and means for detachably uniting said parts consisting of reciprocally engaging wedging ribs and grooves formed on said flanges respectively. 18th. In a pill machine, the combination as a means for moulding pills, of a moulding wheel having a groove in its rim, and an arc shaped moulding shoe arranged parallel with the rim of said wheel and having a coinciding groove in its inner face, said wheel constructed with a removable ring in which said groove is formed, whereby in order to make pills of different sizes or shapes said ring may be replaced by one having a differently sized or shaped groove. 19th. In a pill machine, the combination, as a means for molding pills, of a molding wheel having a groove in its rim and an arc shaped moulding shoe arranged parallel with the rim of said wheel and having a coinciding groove in its inner face, said shoe constructed with its inner portion in which said groove is formed removable, whereby in order to make pills of different sizes or shapes, said inner portion may be replaced by one having a differently sized or shaped groove. 20th. In a pill machine, the combination as a means for moulding pills, of a moulding wheel having a groove in its rim, an arc shaped moulding shoe arranged parallel with the rim of said wheel and having a coinciding groove in its inner face, and an adjusting device for moving said shoe toward or from said wheel to adjust it to the correct distance for properly rolling the pins. 21st. In a pill machine, the combination of a vessel for holding the plastic material, a die or opening therefrom, means for expelling the material through said die, and a wheel revolving with its rim close against said die so as to close its opening, and having its rim cut away to admit of the expulsion of the material from the die during the time that such cut away portion is passing the die. 22nd. In a pill machine, the combination of a vessel for holding the plastic material, a die or opening therefrom, means for expelling the material through said die, and a wheel revolving with its rim close against said die so as to close its opening, and having its rim cut away to admit of the expulsion of the material from the die, while such cut away portion is passing the die and the advancing edge of the rim at the end of said cut away portion, formed as a knife to cut off the material expelled from said die. 23d. In a pill machine, the combination of a vessel for holding the plastic material, a die or opening therefrom, means for expelling the material through said die, and a revolving wheel carrying a knife past said die to cut off after each ejection of material therefrom the mass of ejected material. 24th. In a pill machine, the combination of a vessel for holding the plastic material, a die or opening therefrom, a reciprocating punch for periodically expelling measured quantities, of the material through said die, and a revolving wheel carrying a knife past said die and timed relatively to the movements of said punch to cause said knife at each projection of the punch to sheer across the end thereof and cut off the mass of ejected material therefrom. 25th. In a pill machine, the combination of a vessel for holding the plastic material, a die or opening therefrom, a punch for expelling material through said die, a revolving cam for reciprocating said punch, and a revolving wheel carrying a knife past said die which is bevelled on the side toward said die, and said wheel timed relatively to the movements of said punch to cause its knife at each projection of the punch to sheer across the end thereof and by the impingement of its bevelled side thereagainst to start the punch back on its retractile stroke. 26th. In a pill machine, the combination of a vessel for holding the plastic material, a die or opening therefrom, means for expelling the material through said die, a wheel revolving with its rim close against said die and having its rim cut away to admit of the expulsion of the material from the die while such cut-away portion is passing the die, a revolving shaft on which said wheel is loosely mounted, and a clutch for uniting the wheel to said shaft at will. 27th. In a pill machine, the combination of a vessel for holding the plastic material, a die or opening therefrom, means for expelling the material through said die, and means for supplying a stream of powder at the exit from said die, whereby the plastic material is covered with powder and thereby prevented from adhering to other surfaces during subsequent manipulations. 28th. In a pill machine, the combination of a vessel for holding the plastic compound, a die or opening therefrom, means for expelling the compound through said die, a moulding wheel arranged to receive the expelled compound, a molding shoe, between which and the wheel the compound is rolled to form it into a pill, and means for supplying a stream of powder at the exit from said die, whereby the plastic compound is covered with powder. 29th. In a pill machine, the combination of a revolving moulding wheel, a clutch for connecting it at will to the source of power, and a powder sprinkler driven from said wheel, whereby, when the moulding wheel is stopped, said powder sprinkler is also stopped and arrests the flow of powder. 30th. In a pill machine, the combination, to form a powder sprinkler, of a powder vessel having an outlet opening therefrom, a revolving stirrer therein for agitating the powder, consisting of a succession of stirring rods mounted to move in circular paths of different diameters, and means for driving said stirrer. 31st. The combination, of a powder hopper, a revolving screen into which powder is fed therefrom, a chute receiving the powder falling through said screen, a powder vessel into which the powder is delivered from said chute, a powder outlet from said vessel and a stirrer in said vessel for agitating the powder and causing it to flow out through said outlet. 32nd. The combination, of a mixer, the revolving shaft thereof carrying a disc, a revolving screen having a friction wheel

at one end of its shaft resting on and driven by said disc, a powder vessel arranged to receive the powder sifted through said screen, and a stirrer in said vessel for agitating the powder therein and expelling it from the outlet thereof. 33rd. The combination, of a mixer, a powder vessel, a powder hopper, a revolving screen into which powder is fed from said hopper, arranged to discharge coarse particles from its lower end into said mixer, and a chute receiving the powder sifted through said screen and conducting it into said powder vessel. 34th. The combination, of a mixer, the revolving shaft thereof carrying a disc, a revolving screen having a friction wheel at one end of its shaft resting on and driven by said disc, a powder vessel receiving the powder sifted through said screen, and an adjustable frame for supporting the receiving end of said screen adjustable to varying heights to vary the inclination of the screen. 35th. In a pill machine, the combination, to form a powder sprinkler, of a powder vessel having an outlet opening therefrom, an adjusting device for varying the area of said opening, and a stirrer in said vessel for agitating the powder and causing it to flow out through said opening. 36th. The combination, with a pill machine, of a chute arranged to receive the pills as they are delivered therefrom and means for adjusting said chute to varying angles whereby it serves to separate the imperfect from the perfect pills. 37th. The combination, with a pill machine, of a chute arranged to receive the pills as they are delivered therefrom constructed with a dividing partition, and an adjustable gate movable to direct the pills to either side of said partition.

No. 40,503. Machine for Making Nails.

(Machine pour faire le clou.)

John B. Hastings. Parkersburg, West Virginia, U. S. A., and Henry Eldridge. Wesley G. Reid, and Isaac J. Lawrence, all of Toronto, Ontario, Canada, 1st October, 1892; 6 years.

Claim.—1st. In a nail machine, the combination, with the sliding tool boxes, the push rod, and anti friction rollers mounted in the ends of said rollers, having slots extending lengthwise of the push rods, and bolts passing through said slots and securing said blocks to the push rods, whereby the said blocks may be adjusted transversely of the tool boxes, substantially as set forth. 2nd. In a nail machine, the combination, with the sliding tool boxes having anti friction rollers and the push rods, of the cam blocks adapted to engage said rollers, having slotted flanges, and bolts passing through said blocks, and securing said blocks to said push rods, said cam blocks being adjustable transversely of the tool boxes, substantially as set forth. 3rd. In a nail machine, the combination, with the push rods, and the tool boxes mounted at an angle thereto and having anti-friction rollers, of the cam blocks adjustable lengthwise of the push rods, and having the lateral flanges 24 fitting on, the tops and the backs of the inclined portions 23 fitting against the sides of the said push rods, substantially as set forth. 4th. In a nail machine, the combination, with the bed 11 having ways, of the sliding tool boxes located in said ways, and having open top cavities or sockets, the tools or dies fitting in said sockets and being flush with the upper faces of said boxes, and the cap plate secured to said bed and fitting down upon said boxes and tools for holding the boxes in the ways and the tools in their sockets, substantially as set forth. 5th. In a nail machine, the combination, with a pedestal having a socket, of a slide fitting in said socket and having a pivot pin or bolt, a sleeve on said pivot having a flange resting on the pedestal, the feed lever pivoted on said sleeve and having a slot in its outer end, a tap for locking the slide in its socket, the bed 4 having a guide way, the connecting rod 92 fitting in said guide way, and a bolt passing through said rod and the slot in the end of the feed lever, substantially as set forth. 6th. In a nail machine, the combination of the bed 11, having the socket 98, the guide sleeve 99, fitting snugly in said socket so as to be capable of vertical movement only, and having a flange on its outer end resting against the side of said bed, and a set screw threaded in said sleeve, said screw having a flange or collar for locking it against movement in one direction and jam nuts for locking it against movement in apposite direction, substantially as set forth. 7th. In a nail machine, the combination, with the pointers and grippers, and a cam 51, of the partition 12, arranged between said pointers and grippers and having a passage for the wire, and the slot 75 for the exit of the nail, the pivoted knockout lever having the finger 70, and the nose 69 resting on the cam, substantially as set forth.

No. 40,504. Fare Collector. (*Récepteur de billets.*)

Brownlee W. Taylor, assignee of Arthur Wellesley Berne, all of New Orleans, Louisiana, U.S.A., 1st October, 1892; 6 years.

Claim.—1st. In a fare collector such as described, a fare case with a spring plate adjusted in the lower portion of same, said spring being controlled by a lug and bolt, with an opening H, in combination with a slide adjusted to a fare receptacle for the purpose set forth. 2nd. In a fare collector such as described, a slide for a fare receptacle with slots therein for receiving lugs and bolt, in combination with a fare case, as set forth. 3rd. In a fare collector such as described, the combination of a slide for a fare receptacle, with a lock trap placed therein, said lock trap being provided with a lever for raising and lowering same, a slide in said lock trap for the action of said lever, and a slot in said slide for a lug on said lock trap to work in for locking a bag or fare receptacle from the fare case, as set forth.

No. 40,505. Lifter for Halter Weights.

(Appareil pour lever les poids de licou.)

Walter Scott Ritchie and Robert Wesley Pearce, assignees of James W. McHenry, all of Aspen, Colorado, U.S.A., 1st October, 1892; 6 years.

Claim.—1st. The combination with a vertically swinging lever having a vertically movable weight connected with its lower end, of a rein operated catch lever having a catch engaging the upper or forward end of the first named lever and provided with an upward projecting rein holder, whereby when the reins are placed in the holder and the animal moves forward the weight will be released, substantially as set forth. 2nd. The combination with a vehicle, and a frame suspended from the axle thereof and provided with a sheave, of an angle lever fulcrumed on the bottom of the vehicle body, a weight, a cord secured to the weight, passed over the sheave of the frame, and connected to one member of the angle lever, and a pivoted catch lever having a forked end engaging one member of the angle lever, substantially as herein shown and described. 3rd. In a weight lifting attachment for vehicles, the combination of the conical frame B, attached to the axle and provided with a sheave *b*, the lever D, having offset end *f*, the cord *d*, attached to the lever and to the weight E, and the rock shaft F, provided with the forked arm G and catch *g*, engaging the end *f* of the lever D, substantially as specified.

No. 40,506. Printer's Galley. (*Gallée.*)

Chester Horne, Joseph J. Davies and Samuel E. Horne, all of Toronto. Ontario, Canada, 1st October, 1892; 6 years.

Claim.—1st. A printer's galley consisting of a skeleton frame having a vertical portion C, and a base *c* extending at right angles therefrom, and a plate or frame having its sides and end turned up around the base plate to inclose the skeleton frame, the parts being secured together substantially as described. 2nd. In a printer's galley, a side stick having connected to it a set of blocks with inclined faces having dovetail tongues formed in the side to fit into corresponding grooves in a reversely inclined side of the set of the blocks secured to the adjusting slide, in combination with the grooved bar, L-shaped piece attached to the side stick and stop, substantially as and for the purpose specified.

No. 40,507. Meat Tenderer. (*Pilon à viande.*)

Oscar M. Arnold and James M. Talkington, both of Searcy, Arkansas, U.S.A., 1st October, 1892; 6 years.

Claim.—In a meat tenderer, the combination of a base, standards rising from opposite sides of the base and provided at their upper ends with horizontal grooved bearing slots, shafts geared together and journalled in the slots, the corrugated rolls mounted on the shafts, the bearing blocks arranged in the bearing slots and provided on their upper and lower faces with lugs fitting in the grooves thereof and having lateral extensions projecting outward beyond the standards, the springs arranged on the outer faces of the standards, and engaging the lateral extensions of the bearing blocks, and the adjusting screws engaging the springs, substantially as described.

No. 40,508. Wrench. (*Clé à écrou.*)

Henry Bornstein, Boston, Massachusetts, U.S.A., 1st October, 1892; 6 years.

Claim.—1st. In a wrench, an upper jaw having a shank movable in the lower jaw and having a screw threaded spindle adapted to work in an interior screw thread of the handle, combined with a lower jaw having a sleeve inclosing the working parts of the wrench and having an interior screw thread in its lower end and a screw threaded handle working in such screw thread, substantially as and for the purpose set forth. 2nd. In a wrench, an upper jaw having a shank movable in the lower jaw and having a screw threaded spindle adapted to work in an interior screw thread of the handle, combined with a lower jaw having a sleeve inclosing the working parts of the wrench, a stop projection secured to said sleeve and an interior screw thread in the lower end of the latter, and a screw threaded handle working in the screw threaded sleeve, substantially as and for the purpose set forth. 3rd. In a wrench, an upper jaw having a shank movable in the lower jaw, and having a screw threaded spindle adapted to work in an interior screw thread of the handle, combined with a lower jaw having a sleeve inclosing the working part of the wrench, an interior screw thread in the lower part of said sleeve, a screw threaded handle and a cup shaped cheek nut having a pin or projection adapted to work in a recess or cut-away part on the lower end of the inclosing sleeve, substantially as and for the purpose set forth. 4th. In a wrench, an upper jaw having a shank movable in the lower jaw, and having a screw threaded spindle adapted to work in an interior screw thread of the handle combined with a lower jaw having an interior screw thread in its lower end, a screw threaded handle working therein and a spring pressed plug or bolt arranged in a recess in the lower jaw and adapted to bear against the shank of the upper jaw, substantially as and for the purpose set forth.

No. 40,509. Magnetic Separator.

(*Séparateur magnétique.*)

William Durant Hoffman, Brewster, New York, U.S.A., 1st October, 1892; 6 years.

Claim.—1st. In a magnetic separator, mechanism for completing the separation, a stratifying magnet located in advance of the completing mechanism and means for conducting the material to be operated upon within the field of the stratifying magnet, substantially as set forth. 2nd. In a magnetic separator, a feeding device, a finishing magnet, a stratifying magnet located intermediate of the feed and finishing magnet, and means for conducting the material to be operated upon successively within the fields of the stratifying and finishing magnets, substantially as set forth. 3rd. In a magnetic separator, a feeding device, a finishing magnet, a stratifying magnet located intermediate of the feed and finishing magnet, and an endless belt carrier for conducting the material to be operated upon within the fields of the stratifying and finishing magnets, substantially as set forth. 4th. In a magnetic separtor, the combination with an endless belt carrier, means for feeding the material to be operated upon on to the belt, and mechanism for completing the separation, of a stratifying magnet located intermediate of the finishing mechanism and comprising a series of poles of opposite polarity located in proximity to the belt, substantially as set forth. 5th. The combination with an endless belt carrier, and means for feeding the material to be operated upon on to the belt, of a stratifying magnet and a finishing magnet, each comprising a series of poles of opposite polarity, and arranged to act successively upon the materlal as it passes along the belt, substantially as set forth. 6th. In a magnetic separator, the combination with an endless belt carrier, and a separating magnet located in proximity thereto, of drums forming supports for the opposite ends of the carrier, and a swinging frame in which one of said supporting drums is mounted, and means for adjusting the same, and hence the drum toward and away from the opposite drum to determine the tension of the belt, substantially as set forth. 7th The combination with the separating magnet arranged in curved form and the hollow perforated shaft at the centre of the curved magnet, of the partition within said hollow shaft, and means for directing the current of air through the shaft for cooling the magnets, substantially as set forth. 8th. The combination with the separating magnet and endless belt carrier extending in proximity to the magnet, of the casing spaced from the endless belt carrier to form an air conduit between the two and the feed chute and hinged to its support and resting with its free end upon the belt for distributing the material evenly upon the belt and sealing the air conduit at the feed end of the casing, substantially as set forth. 9th. The combination with the separating magnet arranged in curved form, the hollow shaft at the centre and the endless belt carrier in proxmity to the curved magnet, of a conduit for the air in proximity to the outer face of the belt, an air chamber, an adjustable gate for opening and closing communication between the chamber and the air conduit in proximity to the belt, and an exhaust conduit in communication with the air chamber, substantially as set forth.

No. 40,510. Means for Electrically Giving Reciprocating Motion. (*Moyen de donner un mouvement électrique reciproque.*)

Henry S. McKay, Boston, Massachusetts, U.S.A., 1st October, 1892; 6 years.

Claim.—1st. In combination with two or more electro-magnetic devices connected in series, an armature adapted to be reciprocated by the attraction of said magnetic devices, and the circuit being always closed or unbroken, and the armature in its attracted movement acting to energize the two magnetic devices or sets of magnetic devices alternately, cutting out one magnetic device or set, by a short circuit, while energizing the other magnetic device or set, all as and for the purposes set forth. 2nd. In combination with a rod or other device to which reciprocating motion is to be given, two or more electro-magnetic devices connected in series, an armature attached to said rod or other device, and adapted to be reciprocated by the attraction of said magnetic devices, and the circuit being always closed or unbroken, the armature in its attracted movement acting to energize the two magnetic devices or sets alternately, by cutting out one magnetic device or set with a short circuit, while energizing the other magnetic device or set, all as and for the purposes set forth. 3rd. In combination with two or more electro-magnetic devices connected in series, an armature adapted to be reciprocated by the attraction of said magnetic devices, and the circuit being always closed or unbroken, a commutator adapted to be operated by the reciprocating movement of the armature to alternately cause the current to rise and fall from one magnetic device to the other, by cutting out one magnetic device or set of magnetic devices with a short circuit, while the other magnetic device or set is being energized, all as and for the purposes set forth. 4th. In combination with two or more electro-magnetic devices connected in series, the armature adapted to be reciprocated by the attraction of said devices, two or more pairs of stationary contacts situated apart from each other, a contact of one pair connected by a conducting medium to a contact of the other pair or pairs, and said contacts also connected respectively with a terminal of the two magnetic devices, the opposite terminal of said magnetic devices being connected with the main circuit wires, and the opposite contact of said pairs of contacts short circuited to the main circuit, whereby a continuous current is always maintained, and a conducting commutator or commutators connected in series, and by alternately connecting with the two contacts of each pair will alternately energize the two magnetic devices or sets, by cutting out the opposite magnetic device or set with a short circuit, all as and for the purposes set forth. 5th. In combination with two or more electro-magnetic devices connected in series, the armature adapted to be reciprocated by the attraction of said devices, two or more pairs of stationary brushes or contacts situated apart from each other, a contact of one pair connected by a conducting medium to a contact of the other pair or pairs, and said contacts also connected respectively with a terminal of the two magnetic devices, the opposite terminals of said magnetic devices being connected with the main circuit, a conducting commutator or commutators connected in series, of a length less than the distance between the pairs of contacts, and adapted to move back and forth between and come in contact with different sets of contacts, and means connected with the armature or rod for reciprocating said commutator or commutators, all as set forth. 6th. In combination, with the sets of fixed contacts, a reciprocating slide provided with a conducting commutator or commutators, and having lateral projections, and means for reciprocating said slide and commutator or commutators alternately in both directions, by said means striking and pushing alternately first one projection and then the other, all as and for the purposes set forth. 7th. In combination, with the two electro-magnetic devices, or sets of magnetic devices connected in series, an armature attached to a rod and adapted to be reciprocated by said devices, a flange or projection extending laterally from said rod or armature, a reciprocating slide provided with a conducting commutator or commutators, and having lateral projections to be acted upon alternately by the flange or projection extending from the rod or armature, contact pieces for making connection with said commutator or commutators, one contact of each set or pair being also connected with one terminal of each magnetic device, and the other contacts being connected by short circuit wires with the main circuit, all as set forth. 8th. In combination, with two electro-magnetic devices, or sets of magnetic devices connected in series, an armature attached to a rod and adapted to be reciprocated by said devices, a flange or projection extending laterally from said rod or armature, a conducting commutator having adjustable mechanism to be operated by said flange or projection, conductors for making contact with said commutator or commutators and connected respectively with the two magnetic devices, whereby the stroke of said rod or armature is shortened or lengthened as desired, all as and for the purposes set forth.

No. 40,511. Mixing Machine. (*Appareil pour mélanger les liquides et substances pulverisées.*)

Joseph Thomas Lowe Randle, Toronto, Ontario, Canada, 1st October, 1892; 6 years.

Claim.—1st. In a mixing machine, the frame composed of three or more arms, radial from its centre and having a longitudinal slot in each as a means by which the frame is secured in position, substantially as described. 2nd. In a mixing machine, the combination, of the frame composed of three or more arms radial from its centre and having a longitudinal slot in each as a means to secure the frame in position, and the journal bearings secured between two adjacent arms of the frame, substantially as shown and described. 3rd. In a mixing machine, the combination, of the frame composed of the radial arms having longitudinal slots therein as described, the journal bearings supported by two adjacent arms, and the shaft supported in said bearings and supporting a gear wheel on its inner end, substantially as shown and described. 4th. In a mixing machine, the combination, of the frame composed of the radial arms having longitudinal slots as described, the journal bearings supported by two adjacent arms of said frame, the shaft having a gear wheel on its inner end and supported in said journal bearings, and the gear wheel having an extended hub to form a bearing supported by the inner one of said journal bearings, substantially as shown and described. 5th. In a mixing machine, the combination, of the frame as specified, the journal bearings supported by two adjacent arms of said frame, the shaft supported in said bearings and having a gear wheel on its inner end, the gear wheel supported to revolve on its own extended hub and meshing with the gear wheel on the horizontal shaft carried by said bearings, and the vertical shaft passing through and revolved by the gear wheel having the extended hub, said vertical shaft having means as specified to support a mixing arm on its lower end and centred to vibrate on a centre pin, substantially as shown and set forth. 5th. In a mixing machine, the combination, of the frame as specified, the journal bearings supported by said frame, the shaft supported in said bearings, and having a gear wheel on its inner end, the gear wheel carried by the inner bearing and meshing with the gear on the shaft in said bearings, the vertical shaft adapted to revolve with the gear wheel encircling it and movable along it longitudinally, and the mixing fan on the lower portion of said vertical shaft and composed of a hub and reclining blades having perforations therein, substantially as shown and described.

No. 40,512. Packing Case. (*Boîte d'empaquetage.*)

Jessie A. Jones, Beeton, and John B. Magwin, Toronto, assignees of David A. Jones, Beeton, all in Ontario, Canada, 1st October, 1892; 6 years.

Claim.—As an improved article of manufacture, a box having a stiff frame, the sides of the box being formed by layers of veneer separated by layers of water proof material, the grain of the sheet of the veneer running in different directions, substantially as and for the purpose described.

No. 40,513. Antiseptic. (*Antiseptique.*)

Emma Farren, Paterson, New Jersey, U.S.A., 1st October, 1892; 6 years.

Claim.—The herein described combination of ingredients, consisting of rue, rosemary, mint, lavender, sage, wormwood, camphor, and cider vinegar, in the proportions and for the purposes specified.

No. 40,514. Work Holder and Safety Guard for Wood Cutting and Similar Machines. (*Porte-ouvrage et garde de sûreté pour machines à découper le bois.*)

John Charles Thom and Martin Campbell, both of Cincinnati, Ohio, U.S.A., 1st October, 1892; 6 years.

Claim.—1st. A work holder suitable for use in connection with machines of the kind described, consisting substantially of an upright frame secured to the table of the said machine, and having a laterally extending arm reaching out over the work and adapted to hold the same down with its free end, all as substantially shown and described. 2nd. A safety guard suitable for use in connection with machines of the kind described, consisting substantially of a block interposed between the operator's hands and the cutter head, covering and extending over a portion of the circular path of the revolving knives, all as substantially shown and described. 3rd. A safety guard suitable for use in connection with machines of the kind described, consisting substantially of a block interposed between the operator's hands and the cutter head, covering and extending over a portion of the circular path of the revolving knives, and also reaching down in front and somewhat below the upper edges of the latter, all as substantially shown and described. 4th. A work holder suitable for use in connection with machines of the kind described, consisting of an upright frame secured to the table of the said machine, an arm adjustably secured to this frame, extending laterally therefrom and reaching out over the work, adapted to hold the same down with its free end, all as substantially shown and described. 5th. A combined work holder and safety guard for use as described, consisting of an upright frame secured to the table of the machine, having an arm secured to it and extending laterally therefrom and reaching out over the work and adapted to hold the same down, and the safety guard secured to the free end of this arm and placed between the operator's hands and the knives, all as substantially shown and described. 6th. A work holder, suitable for use as described, consisting of an upright frame whereon it is supported, a slide adjustably secured to this frame, a screw passing through this slide and constituting the means whereby the same is vertically adjusted, an arm secured to this slide and reaching out over the work and adapted to hold the same down with its free end, all as substantially shown and described. 7th. A combined work holder and safety guard for use as described, consisting of an upright frame whereon the whole is supported, a slide adjustably secured to this frame, a screw passing through this slide and constituting the means whereby the same is vertically adjusted, an arm secured to this slide and reaching out over the work and adapted to hold the same down, and the safety guard attachment secured to the free end of this arm and placed between the operator's hands and the knives, all substantially shown and described. 8th. A work holder for use as described, consisting of an upright frame whereon it is supported, a slide adjustably secured to this frame, an arm secured to the slide and reaching out over the work and adapted to hold the same down with its free end, and means to adjust this arm horizontally on this slide, all as substantially shown and described. 9th. A combined work holder and safety guard for use as described, consisting of an upright frame whereon the whole is supported, a vertically adjustable slide secured to this frame, an arm secured to the slide and reaching out over the work and adapted to hold the same down, a safety guard attachment secured to the free end of this arm and placed between the operator's hands and the bits, and means whereby this safety attachment may be horizontally adjusted, all as substantially shown and described. 10th. A work holder for use as described, consisting of an upright frame whereon it is supported, a slide adjustably secured to this frame, an arm secured to the slide reaching out over the work and adapted to hold the same down with its free end, a nut 32 secured to this arm, and a screw 33 stationary with reference to the slide, by which means this arm is adjusted horizontally on the slide, all as substantially shown and described. 11th. A combined work holder and safety guard for use as described, consisting of an upright frame whereon the whole is supported, a vertically adjustable slide secured to this frame, an arm connected to the slide reaching out over the work and adapted to hold the same down, a safety guard attachment secured to the free end of this arm, and placed between the operator's hands and the revolving bits, a screw confined longitudinally on this slide, a nut 32 mediately connected to the safety attachment, by which means the same may be horizontally adjusted, all as substantially shown and described. 12th. A work holder for use as described, consisting of an upright frame whereon it is supported, a slide secured to the same, a screw passing through this slide and whereby the same is vertically adjusted, an arm secured to the slide and reaching out over the work and adapted to hold the same down with its free end, and means to adjust it horizontally on the slide, all as substantially shown and described. 13th. A combined work holder and safety guard, consisting of an upright frame whereon it is supported, a slide secured to the same, a screw passing through the slide serving to adjust it vertically, an arm, affixed to the slide reaching out over the work and adapted to hold down the same, a safety attachment secured to the free end of this arm and so located as to be between the operator's hands and the bits, and means whereby this safety guard attachment may be horizontally adjusted, all as substantially shown and described. 14th. A combined work holder and safety guard attachment for use as described, consisting of an upright frame whereon it is supported, said frame being provided with extensions 41, serving to deflect the chips and prevent their accumulation on the table, an arm secured to the frame and extending laterally from it, reaching out over the work and adapted to hold the same down, and the safety guard attachment secured to the free end of the arm and located between the operator's hands and the knives, all as substantially shown and described.

No. 40,515. Machine for Preparing Vegetable Fibres.
(*Machine pour préparer les fibres végétals.*)

Alexander Morison, Alpena, Michigan, U.S.A., 1st October, 1892; 6 years.

Claim.—1st. In a machine for cleaning flax or other vegetable fibre, the combination of the vertically acting jaws 9, 10, with a fixed jaw or surface, substantially as described. 2nd. In a machine for cleaning flax or other vegetable fibre, the combination of the vertically acting crushing jaws with the feed chains 2, 2 and 3, substantially as shown. 3rd. In a machine for cleaning flax or other vegetable fibre, the combination of the feed chain 3, with the carrier bar 6, and the pressure bar 5, and springs 7, 8, substantially as described. 4th. In a machine for cleaning flax or other vegetable fibre, the combination of knives 43, cone-frustum and supporting band 44, and guard casing 37, forming scutchlers, substantially as described. 5th. In a machine for cleaning flax or other vegetable fibre, the combination of chains 45, 46, shaft 35 and sprocket wheels 47, 48, 49, 50 and 51 and their hidden duplicates, with scutchlers 39, 40, 41, 42, operating substantially as represented and described. 6th. The combination of the ratchet wheel 24, screw 32, pitman 29, 30, arms 27, 28, clasps 25, 26, with their inclosed dogs, shaft 31, and excentric 33, substantially as described. 7th. In a machine for cleaning flax or other vegetable fibre, the scutchler blade figure 6 having a dull anterior edge 53, and concave surface 54, a posterior combing edge 55, substantially as shown. 8th. In a machine for cleaning flax or other vegetable fibre, the combination of the feed chains 2, 2, carrier chain 3, jaws, 9, 10, carrier bar 6, pressure bar 5, grooved wheel 20, sprocket wheel 23, ratchet wheel 24, clasps 25, 26, arms 27, 28, pitman 29, 30, shaft 31, screw 32, eccentric 33, shaft 35, chains 45, 46, and scutchlers 39, 40, 41, 42, substantially as and for the purposes represented and described.

No. 40,516. Governor for Gas Engines.
(*Gouverneur pour machines à gaz.*)

William Samuel Sharpneck, Chicago, Illinois, U.S.A., 1st October, 1892; 6 years.

Claim.—1st. A governor having two pistons, the first of which operates on the air between the two, and a spring governor rod operating on the second piston against the action of the first, substantially as described. 2nd. A governor having two pistons, an eccentric for operating one of them, a spring governor rod for operating the second piston in one direction, and a cam for operating the governor rod, substantially as described. 3rd. A governor having two pistons, an eccentric for operating one of them, a spring governor rod for operating the second piston in one direction, a valve operated by the governor rod, and a cam for operating the same, substantially as described. 4th. The combination, in a gas engine governor, of a cylinder F, a reciprocating piston E working therein, a cylinder G, a piston H set therein, a spring rod I connected with said piston H, a cam for giving said rod a longitudinal motion, and valve M connected with the governor rod, substantially as described. 5th. The combination, in a gas engine governor, of a cylinder F, a piston E working therein, an eccentric and connection for operating said piston E, a cylinder G connected with the cylinder F, a piston set therein and having rollers *h*, a spring rod I passing between said rollers, a valve M connected with said spring rod, and a cam C for operating the same, substantially as described.

No. 40,517. Car Coupler. (*Attelage de chars.*)

Mark M. Decker, New York, State of New York, U. S. A., 1st October, 1892; 6 years.

Claim.—1st. A car coupling, which consists of a swinging locking jaw pivoted in a bifurcated draw head provided with inclines whereby said swinging jaw is raised and turned into the locked position, a projecting shoulder behind which the locking jaw falls to

become locked, and an inclined lug set in the path of the locking jaw when lifted above the shoulder, in such a position that said lug crowds said locking jaw in front of said shoulder, so that in falling said locking jaw drops into its unlocked position relatively to the draw heads, substantially as shown and described. 2nd. In a car coupling, the combination, with the head and locking jaw of recessed inclines within the jaw, said jaw being adapted to be lifted vertically by its pin, an incline formed on one side of the head near the top thereof for crowding the jaw into the uncoupled position, and a locking device cast integral with the head, all substantially as and for the purpose described.

No. 40,518. Artificial Stone. (*Pierre artificielle.*)

George Maxwell Graham, Chicago, Illinois, U.S.A., 1st October, 1892; 6 years.

Claim.—A building or paving block adapted to be used singly or in groups, having its opposite faces *b*, *b*, square, the faces *c* of oblong hexagonal form extending between the two square faces, and the rectangular faces *d*, intermediate of the hexagonal faces *c*, substantially as described.

No. 40,519. Suspender. (*Bretelles.*)

Joseph L. Fredlips, Portersville, California, U.S.A., 1st October, 1892; 6 years.

Claim. 1st. The herein described clasp, the same consisting of the inverted U-shaped body, and a hinged leaf or member connected thereto and adapted to fold there against and provided at its inner side with spurs or needles adapted to pass through openings in the front wall of the bottle, substantially as specified. 2nd. The herein described improved clasp, the same consisting of the inverted U-shaped body, the front wall of which is provided with openings and the rear wall with cavities, and the leaf or member hinged to the front wall, and provided at its inner side with needles or spurs, adapted to pass through the front wall and terminate in the cavities of the rear wall, substantially as specified. 3rd. The herein described improved clasp, the same consisting of the inverted U-shaped body comprising front and rear walls, the former having openings, the swinging member hinged to the front wall and provided with needles for passing through the opening, and means for removably locking the member in a closed position against the front wall, substantially as specified. 4th. The herein described improved clasp, the same comprising a back wall, and a hinged front leaf connected to the clasp body, and having needles or spurs adapted to take into cavities formed in the back wall, substantially as specified. 5th. The herein described improved clasp, having the inverted U-shaped body forming the front and rear walls, each provided with a slot, a reinforcing or backing wall located in rear of the slot of the back wall, and provided with cavities, and the inverted L-shaped hinged member 18 pivoted as at 17 to the lower end of the front wall, and having the spurs 22 for engaging the cavities of the back wall, the upper angular end of the member having a perforation 20 adapted to spring over a locking lug 21 located upon the upper end of the clasp body, substantially as specified.

No. 40,520. Method of Making Cheese.

(*Méthode de faire du fromage.*)

Johan Dilter Fredericksen, Little Falls, New York, U. S. A., 1st October, 1892; 6 years.

Claim.—The herein described method of treating milk or skim milk, for incorporating the albumen in the curd, which consists in heating the milk or skim milk to a temperature at which the albumen is coagulated or thickened and prepared for incorporation with the curd, then cooling the milk to a temperature which admits of restoring to the sterilized milk the property of being curdled by rennet, then adding to it a starter or ferment to restore this property, and allowing the same to act upon or develop in the milk, and then curdling the milk by adding the rennet, substantially as set forth.

No. 40,521. Wire Mat. (*Paillasson en fil métallique.*)

James E. Emerson and Thomas Midgley, both of Beaver Falls, Pennsylvania, U. S. A., 1st October, 1892; 6 years.

Claim.—1st. A wire mat, composed of a plurality of bars formed of coiled wire helices, and intervening sections of continuous strands of wire crossing each other, and connected at each angle in the sections with the contiguous edges of the bar. 2nd. A wire mat, composed of bars formed by a plurality of intertwined wire helices in the same horizontal plane or planes, and intervening diagonally arranged continuous sections or strands of wire crossing each other and secured to the bars. 3rd. A wire mat, composed of bars of coiled wire helices, and intervening sections of strands of wire having eyes or loops formed thereon, with which the bars are intermined. 4th. A wire mat, having flexible bars forming the ends thereof, abutting the metallic body and secured thereto by clips extending around the bars. 5th. A wire mat, composed of bars and separating sections, in combination, with flexible bars abutting the metallic body and secured thereto by clips extending around the flexible bar and secured to the mat. 6th. A wire mat, composed of bars of coiled wire helices and separating sections, in combination, with flexible bars abutting the ends of the former bars, and secured thereto by metallic clips extending around the flexible bars, and surrounding the ends of said wire bars. 7th. A wire mat, having flexible bars at the end, in combination, with metallic clips provided with lateral extensions to engage a bar of the mat, and a tongue to surround the flexible bar. 8th. A wire mat, composed of bars of intertwined coiled wire helices separated and connected by intervening sections of strands of wire, and provided with a rubber wiper having roughened sides and upper scraping surface. 9th. A wire mat, provided with a rubber wiper having roughened or serrated sides.

No. 40,522. Skein for Axles. (*Fusée d'essieu.*)

Pierre Dansereau, Montreal, Quebec, Canada, 1st October, 1892; 6 years.

Claim. In an axle skein, the combination, of the nuts M, R, and the key S, with the washers X and Y, skein A, cover G, washer H, and journal C, substantially as described and for the purposes set forth.

No. 40,523. Machine for Repairing Broken Slats. (*Machine pour réparer les barres brisées des tabliers de moissonneuses.*)

Iram Zenas Merriam, Whitewater, Wisconsin, U.S.A., 1st October, 1892; 6 years.

Claim.—1st. The clasp for repairing the slats of conveyor aprons, consisting of a sheet metal plate having at the extreme opposite edges the fingers adapted to fold inward, past or between each other. 2nd. In combination, with an apron and a slat thereon, a metallic clasp embracing the slat and having at opposite edges teeth projecting through the apron and folded downward on its back, the teeth of one edge extending between those of the opposite edge, as described and shown.

No. 40,524. Arc Lamp. (*Lampe à arc.*)

William Edwin Irish, Cleveland, Ohio, U.S.A., 1st October, 1892; 6 years.

Claim.—1st. An arc lamp in which the principle of expansion and contraction of electric conductors of heat is applied by a construction, substantially as hereinbefore set forth. 2nd. In an arc lamp, a single expansible conductor capable under the passage of the current and acting with a spring to control two independent clutches, one of which tends to raise and support the carbon and the other to lower the carbon while partially supporting it against falling by gravity. 3rd. In an arc lamp, the combination, of a thermo expansive electric conductor, a longitudinally extensible and compressible spring, a rod *a*, forming a part of the frame of the lamp, a lever fulcrumed thereon and pivoted at different points to said conductor and spring, adjusting screws fastened to said rod and to said conductor and spring, a movable carbon or carbon holder, and a clutch for said carbon or carbon holder engaged with said lever. 4th. In combination, with the globe retaining ring, of a disc of mica or similar translucent material held in said ring. 5th. In an arc lamp, the combination, a movable electrode, a clutch thereon, springs partially resisting the motion of the clutch in a direction parallel to the electrode, and a thermo expansive electric conductor and spring engaged with and acting upon the said clutch. 5th. In an arc lamp, the combination, of a movable electrode, a clutch thereon, helical springs partially resisting the motion of the clutch in a direction parallel to the electrode, a thermo expansive electric conductor and spring engaged with and acting upon the said clutch, and parallel rods for guiding said springs.

No. 40,525. Stove. (*Poêle.*)

William Forbes, Plainwell, Michigan, U. S. A., 1st October, 1892; 6 years.

Claim.—1st. In a stove, the combination, with stove plates forming a compartment and a door therein, of a revolubly supported fire pot within, that has tubular open end grate bars which extend toward and through opposite walls of the stove compartment, and a device whereby the fire pot may be revolved, substantially as set forth. 2nd. In a heating stove, the combination, with a walled compartment composed of plates, a door therein at the front, and an air damper below the door, of a revolubly supported transversely located cylindrical fire pot having tubular grate bars, that extend through the sides of the walled compartment, and a device by which the cylindrical fire pot may be rotated, substantially as set forth. 3rd. In a heating stove, the combination, with a compartment composed of plates, a floor thereon, an air damper below the door, a hot air chamber above on the compartment, an ash pit below therein, and a removable ash drawer, of a revolubly supported transversely located cylindrical fire pot having hollow grate bars which are open at the ends, and extending through the sides of the stove compartment, and handle bars that are connected to the fire pot, substantially as set forth. 4th. In a heating stove, a revoluble fire pot comprised of cylinder heads that have hollow hubs that are seated on bracket frames attached to the sides of the stoves, cylindrically arranged spaced tubular grate bars that extend between the cylinder heads, and a grate frame which is adapted to rock on the hollow hubs within the fire pot, and close or open a fuel stocking hole formed between the grate bars, substantially as set forth.

No. 40,526. Car for Carrying Ships and other Weighty Bodies. (*Char pour transporter les vaisseaux, etc.*)

Walter Robert Kinipple, Westminster, England, 1st October, 1892; 6 years.

Claim. 1st. In cars or apparatus for carrying ships or other large and heavy bodies upon railways, a corrugated or partly corrugated structure mounted upon trollies and carrying bellows upon which a structure is mounted, adapted to support the ship or other body, so as to compensate for horizontal and vertical deviations in the railway, substantially as hereinbefore described. 2nd. In cars or apparatus for carrying ships or other large and heavy bodies upon railways, bellows which are arranged as hereinbefore described to support the structure carrying the ship or body, and compensate for changes of gradient, substantially as hereinbefore described. 3rd. In cars or apparatus for carrying ships or other large and heavy bodies upon railways, the combination of a corrugated or partly corrugated structure mounted on trollies, bellows mounted on same, a structure supported by such bellows, and adjusting tanks or reservoirs for obtaining variable head or pressure of fluid in the bellows, substantially as and for the purposes set forth. 4th. In car or apparatus for carrying ships or other large and heavy bodies upon railways, the combination, with the structure carried on trollies, of hemispherical vessels or troughs containing bags of fluid upon which bear corresponding plungers, as and for the purposes set forth. 5th. The combination, with the corrugated structure of a series of girders or channel shaped guides pivoted thereto, and forming guides for bearing blocks attached to the frame work of the trollies, as and for the purpose set forth.

No. 40,527. Tank for Photographic Uses.

(*Bain pour photographie.*)

Alfred R. Ward, Toronto, Ontario, Canada, 1st October, 1892; 6 years.

Claim.—1st. A combined fixing and washing tank, comprising a suitable vessel, a partition B, dividing said vessel into two divisions, one of said divisions adapted to contain a chemical solution and the other division adapted to contain water, means in each of said divisions for holding the photographic negatives in an upright position, a second partition within the divisions adapted to contain water, said second partition extending downwardly in said division from the top edge thereof to near the bottom to form a passage between itself and the outer wall, substantially as described. 2nd. A combined fixing and washing tank, comprising a suitable vessel, a partition dividing said vessel into two divisions, one of said divisions adapted to contain a chemical solution and the other division adapted to contain water, means in each of said divisions for holding the negatives in an upright position, a second partition located intermediate the first partition and the outer wall of the said division to form a passage between itself and the said outer wall, a second division located on the outer side of each of first mentioned divisions and arranged at a plane below the level of the top of the said first mentioned divisions, and means in said second divisions for holding the negative plates in a vertical position, substantially as described. 3rd. A combined fixing and washing tank, comprising a suitable vessel A, a partition B, dividing it into two divisions C and D, the division C, located on one side of the partition B, adapted to contain a chemical solution located on the other side of the said partition, and the division D, adapted to contain water, means in each of the divisions C and D, to hold the photographic negatives in an upright position, a second partition I, located within the division D, and in close proximity to the outer wall to form a passage between itself and the outer wall of the said division, divisions C^1 and D^1 located respectively on the outer side of each of the first mentioned divisions C and D, at a plane below the level of the top of the same, a partition I^1, located within the division D^1, and extending downwardly from the top of the same and in close proximity to its outer wall to form a passage between itself and the said outer wall, substantially as described.

No. 40,528. Insulated Electric Conductor.

(*Conducteur électrique isolé.*)

James B. Williams, Oakland, California, U.S.A., 1st October, 1892; 6 years.

Claim. 1st. The combination, with an electric conductor and its surrounding dielectric, of intermediate means secured to the surface of the conductor and consisting of a structure of fibrous material saturated with an insulating material, whereby non-communicating air spaces are formed between the conductor and dielectric. 2nd. The combination, with an electric conductor and its surrounding dielectric provided with an intermediate structure consisting of insulating material, whereby non-communicating air spaces are formed between the conductor and the dielectric, of a covering also composed of insulating material placed intermediate the said structure and the dielectric and adapted to support the latter. 3rd. The combination, with an electric conductor and its surrounding dielectric, of rings composed of more or less flexible material possessing insulating properties, secured at intervals on the conductor and having a common centre in its axis, and the outer surface of which are in contact with the interior surface of the dielectric, whereby isolated air spaces are formed between the conductor and the dielectric. 4th. The combination, with an electric conductor and its surrounding dielectric provided with a separating device having raised portions, whereby non-communicating air spaces are formed between the conductor and its dielectric, of means, such as filling of suitable material, whereby the raised portions of said separating device are reinforced on their under side and are prevented from being flattened by external pressure.

No. 40,529. Insulated Electric Conductor.

(*Conducteur électrique isolé.*)

James B. Williams, Oakland, California, U.S.A., 1st October, 1892; 6 years.

Claim. 1st. In an insulated electric conductor, the combination, with the conductor and its surrounding dielectric, of a centering device composed of fibrous material saturated with a suitable insulating material not so readily softened by the heat as the material of the dielectric. 2nd. In an insulated electric conductor, the combination, with the conductor provided with a dielectric wholly or partly composed of vulcanized material, of a centering device composed of fibrous material saturated with a suitable insulating material not injuriously affected by sulphur during the process of vulcanization. 3rd. The combination, with an electric conductor provided with a compound dielectric, the inner layer of which is composed of unvulcanized material and the outer layer of vulcanized material, of a centering device consisting of fibrous material also surrounding the conductor and imbedded in the dielectric and saturated with a suitable insulating material not so readily softened by heat as the material composing the dielectric and not injuriously affected by sulphur during the process of vulcanization. 4th. The combination, with an insulated electric conductor provided with a surrounding dielectric protected by one or more layers of suitable material, of a centering device consisting of a structure of fibrous material, for example, spirally wound cord or open braid, also surrounding the conductor and imbedded in the dielectric and saturated with a suitable insulating material not so readily softened by heat as the materials composing the dielectric and not injuriously affected by the sulphur. 5th. The combination, with an electric conductor provided with a surrounding dielectric and a centering device imbedded within the same suitable to its conditions of use, and a layer of fibrous material surrounding the dielectric and saturated with a suitable protecting insulating material.

No. 40,530. Process for the Treatment of Insulated Electric Conductors. (*Procédé pour le traitement des conducteurs électriques isolés.*)

James B. Williams, Oakland, California, U.S.A., 1st October, 1892; 6 years.

Claim.—1st. The method of treating an insulated electric conductor, consisting of a conductor surrounded by a dielectric with intermediate air spaces between them, which consists in, first, raising the said dielectric to a suitable temperature; second, passing warm dry air through the said air spaces; and, third, in maintaing the air under pressure in said intermediate air spaces, as set forth. 2nd. The method of treating an insulated electric conductor formed as described, which consists in, first, heating the conductor in a closed chamber until the materials of which its dielectric is composed becomes slightly adhesive; second, in passing warm dry air through the air spaces between the conductor and the dielectric; and, third, in maintaining the air under pressure within said air spaces, as set forth. 3rd. The method of vulcanizing the materials of the dielectric of an insulated electric conductor of the form described, said dielectric having been formed in position without vulcanization, which consists in subjecting it to the action of warm dry air under pressure contained in the intermediate spaces between the conductor and the dielectric, the temperature, degree of pressure and length of time required being suited to the particular materials employed in each instance.

No. 40,531. Machine for Boring Holes in Buttons.

(*Machine pour percer des trous dans les boutons.*)

Dilman Brubacher Shantz, Berlin, Ontario, Canada, 3rd October, 1892; 6 years.

Claim.—1st. In a machine for boring holes in buttons and similar articles, the combination, with the revolving drills, of an adjustable carriage provided with the chuck R, secured in the upper end of the lever Q, the plate U, provided with a hole *u*, the pivoted lever W, provided with a roller w^1, and the rod V, by which the levers W and Q, are adjustably connected together, and the cam L, driven by the worm gearing, as shown and for the purpose specified. 2nd. The combination, with the revolving drills, the adjustable carriage provided with the chuck R, secured in the upper end of the lever Q, the plate U, provided with a hole *u*, the pivoted lever W, provided with the roller w^1, the rod V, by which the levers W and Q, are adjustably connected together, and the cam M, driven by worm gearing as specified, of the spiral spring R, located in the upper portion of the carriage P, behind the lever Q, as and for the purpose specified. 3rd. The combination, with the revolving drills and the plate U, provided with a hole *u*, and the chuck R, adjustable in the car-

riage P, as specified, of the cam M, lever Y, provided at one end with the roller y, and the other end swinging on the fulcrum x, and the rod y^{11}, connecting the lever Y, with the front end of the carriage, as and for the purpose specified. 4th. The combination, with the revolving drills and plate U, provided with a hole u, and the chuck R, adjustable in the carriage P, as specified, of the cam M, levers Y, provided at one end with the roller y, and at the other end swinging on the fulcrum x, the rod y^{11}, connecting the lever Y, with the front end of the carriage and the spring T, connected at one end to the pin s, extending through the slot p^{11}, and at the other to the pin t, on the carriage P, as and for the purpose specified. 5th. The combination, with the revolving drills, the plate U, provided with a hole u, the chuck R, adjustable in the carriage P, as specified, the levers Y, provided at one end with with the roller y, and at the other end swinging on the fulcrum x, and the rod y^{11}, connecting the lever Y, with the front end of the carriage, of the cam M driven from the worm gearing, and for the purpose specified. 6th. The combination, with the four revolving drills D, and two revolving drills G, of the adjustable carriage P, and means whereby it may be adjustable laterally, as and for the purpose specified. 7th. The combination, with the four revolving drills D, and two revolving drills G, of the adjustable carriage P, chuck R, and plate U, with means for adjusting them laterally, as and for the purpose specified. 8th. The combination, with the four revolving drills D, and two revolving drills G, the adjustable carriage P, chuck R, and plate U, with means for adjusting them laterally, of the cam M driven from worm gearing, as shown and for the purpose specified. 9th. The combination, with the four revolving drills D, and two revolving drills G, and the adjustable carriage P, of the bell crank 4, connected by the jointed rod 3, to the lever 2, which derives a forward throw from the cam O, as and for the purpose specified. 10th. The combination, with the four revolving drills D, and two revolving drills G, the carriage P, adjustably connected to the lever Y, by the jointed rod y, and pivoted link y^1 and the cam M, designed to operate upon the lower end of the lever Y, of the bell crank 4, connected by the jointed rod 3, to the lever 2, which derives a forward throw from the cam O, as and for the purpose specified. 11th. The combination, with the four revolving drills D, and two revolving drills G, the carriage P, adjustably connected to the lever Y, by the jointed rod y, and pivot link y^1, and the cam M, designed to operate upon the roller at the lower end of the lever Y, of the bell crank 4, connected by the jointed rod 3, to the lever 3, which derives a forward throw from the cam M, and the spring s, abutting the base plate of the carriage at the opposite side to that in which the bell crank 4 abuts the plate, as and for the purpose specified. 12th. The combination, with the revolving drills and the worm gearing and means to groove and drill the face of the button of a hollow chuck, and revolving drills operating through the hollow chuck, as and for the purpose specified.

No. 40,532. Protector for Boots and Shoes.

(*Protecteur pour chaussures.*)

James Philip Martin, Montreal, Quebec, Canada, 3rd October, 1892; 6 years.

Claim.—1st. The combination of a wear resisting guard with the shank portion of the sole of a boot or shoe. 2nd. The combination of the metallic guard A, B, with the shank portion of the sole and the front portion of the heel of a boot or shoe, together with means for securing such guard in place.

No. 40,533. Folding Base for Supporting Stands.

(*Support à base cadre pliante.*)

Samuel E. Reutter, Worcester, Massachusetts, U.S.A., 3rd October, 1892; 6 years.

Claim.—1st. A folding base for the support of a stand or camp stool, consisting of three or more tines or feet, each tine being a flat piece of metal with square projection c upon each side, in combination with a socket having slots cut in the lower corner equal in number to the number of tines, and equal in width to the body of the tine, the tines being inserted in the slots from within, and supported by the projection c resting on the bottom and sides of the slots, said socket being adapted to receive a centre support or standard, the tines when extended being held as a support by the upper edge bearing against the upper edge of the slot, and the projection c bearing on the bottom, substantially as shown and described. 2nd. A folding base for the support of a single stem, consisting of the socket B, adapted to receive the lower end of the stem, said socket having the slot a cut therein, the tines c, having the shoulders c, c, thereon inserted in the slots a, the rubber follower D, adapted to be compressed between the end of the stem A and the tines c, all constructed as shown and working in the combination, substantially as shown and described.

No. 40,534. Tin Can. (*Boîte métallique.*)

Herbert Street Cowan, Toronto, Ontario, Canada, 3rd October, 1892; 6 years.

Claim.—1st. In a hermetically sealed tin can, the combination, of a can body having a plain upper edge, a cover having a flange corresponding to the upper edge of the body and a band or strip laid over the joint of the two edges, kept a little distance apart and secured at its edges with solder and overlapping at the ends, substantially a set forth. 2nd. In a hermetically sealed tin can, the combination, of a can body having a plain upper edge, a cover having a flange corresponding to the upper edge of the body, a band or strip covering the edges of the body and flange, of the cover held a little distance apart and secured with solder at its edges and having one of its ends overlapping the other and perforated with a hole and carrying a key, substantially as set forth. 3rd. The combination, of a can body having a plain upper edge, a cover having a rim corresponding to the edge of the can body and a band or strip adapted to pass around and cover the edges of the can and cover when held a little distance apart and overlapping at the ends, substantially as set forth.

No. 40,535. Medicinal Compound.

(*Composition médecinale.*)

Francis Maxwell Webb, London, England, 3rd October, 1892; 6 years.

Claim.—A composition of matter consisting of bay berry bark (myrica ceriferd), poplar bark (populus tremuloides), ginger root, cinnamon bark, cloves, cayenne, cinchona bark, golden seal root (hydrastis Canadensis), in the proportions and for the purpose set forth.

No. 40,536. Fuel. (*Combustible.*)

John A. Scott, Calgary, North-west Territories, Canada, 3rd October, 1892; 6 years.

Claim.—A composition of matter to be used as a fuel, prepared from clay, wood, straw, sand, coarse sawdust, esparto grass and coal dust, in the proportions and for the purposes specified.

No. 40,537. Horse-shoe. (*Fer à cheval.*)

Daniel Charles Dwyer, Richard Coleman Stewart, jun., and Wallace Arnnah Stewart, all of Wichita, Kansas, U.S.A., 3rd October, 1892; 6 years.

Claim.—1st. A horse-shoe provided with heel springs welded to the upper side thereof, and arranged extending over the heel portion in the manner described, in combination with the rubber coverings made to fit upon said springs, and provided with a portion extending forwardly therefrom, adapted to be secured into position on a foot by means of the shoe securing nails, substantially as and for the purpose set forth. 2nd. A horse-shoe provided with heel portions thereof rounded on their upper surface, with heel springs welded to the shoe body forward of said rounded portions, and arranged extending rearwardly over said heel portions, being made on a plane on the upper surface with the shoe body, and rounded on their surface facing said heel portions, in combination with the rubber covering or pad made to fit upon said springs, and provided with a portion extending forwardly therefrom adapted to be secured into position on a foot by means of the shoe securing nails, substantially as and for the purpose set forth.

No. 40,538. Metallic Pipe Coupler.

(*Joint métallique de tuyau.*)

Frederick William Wait, Côte St. Paul, Quebec, Canada, 3rd October, 1892; 6 years.

Claim.—The combination of the pipes a, a, with sleeves b and c, and double ended conical bush d, the whole substantially as described for the purposes set forth.

No. 40,539. Fruit Basket. (*Panier à fruit.*)

William Edward Field, Smithville, Ontario, Canada, 3rd October, 1892; 6 years.

Claim.—A fruit basket consisting of the combination of the body a, square handle B attached thereto, square protectors B^1, B^1, on each side of handle attached to the sides, and sheet metal corners c, c, attached to covers of handles and corners of protectors, substantially as and for the purpose specified.

No. 40,540. Belting. (*Courroie.*)

Robert Cowan, Cambridgeport, Massachusetts, U. S. A., 3rd October, 1892; 6 years.

Claim.—1st. Belting, stitched or quilted, with line of stitches, the threads of which on one side of the face extend longitudinally of the belt, and on the opposite side run across or transversely of the same, as set forth. 2nd. Belting, composed of a plurality of plies of material united by lines of stitches, the threads of which stitches on one side of face extend longitudinally of the belt, and on the opposite side run across or transversely of the same, as set forth.

No. 40,541. Method of Making Filaments for Electric Lighting. (*Méthode de fabrication de filaments pour éclairage electrique.*)

Detlef Christian Voss, Boston, Massachusetts, U. S. A., 3rd October, 1892; 6 years.

Claim.—1st. A carbonized aluminated filament for incandescent electric lighting, which is prepared by combining aluminum with a vegetable thread before carbonization, and then carbonizing the same, substantially as described. 2nd. The method of producing

filaments for incandescent electric lighting, the same consisting in impregnating and depositing on a vegetable thread aluminum in solution, substantially as described. 3rd. The method of producing filaments for incandescent electric lighting, the same consisting in impregnating and depositing on a vegetable thread aluminum in solution, then carbonizing said thread and finally submitting the carbonized thread, in vacuo, to the passage therethrough of an electric current of high tension, and to the vapours arising from aluminum in solution, substantially as described.

No. 40,542. Lawn Sprinkler.

(Machine à arroser le gazon.)

Daniel Cook Wilges, Los Angeles, California, U.S.A., 3rd October, 1892; 6 years.

Claim.—1st. A lawn sprinkler provided with a circular vortex chamber having a centrally arranged discharge orifice in its top, two induct passages, each arranged to communicate with a water supply and to discharge a stream of water into the vortex chamber and on opposite sides of the centre thereof in reverse directions, tangential to the periphery of the vortex chamber, and suitable means for attachment to the water supply. 2nd. A sprinkler provided with a circular vortex chamber and a centrally arranged discharge orifice in its top, a water supply chamber beneath such vortex chamber and arranged for attachment to the supply pipe, two induct passages leading from the supply chamber to the vortex chamber and arranged to discharge into such vortex chamber through the floor thereof in reverse directions upon opposite sides of such chamber tangential to its periphery. 3rd. A lawn sprinkler provided with a circular vortex chamber and a centrally arranged discharge orifice in its top, a water supply chamber beneath such vortex chamber and arranged for attachment to the supply pipe, two induct passages leading from the supply chamber to the vortex chamber and arranged to discharge into such vortex chamber in reverse directions and upon opposite sides of such chamber tangential to its periphery, and the jet passage arranged in line with the axis of the vortex chamber and leading from the supply chamber to the vortex chamber.

No. 40,543. Cultivator. (*Cultivateur.*)

Clarence B. Bennet, Lansing, Michigan, U.S.A., 3rd October, 1892; 6 years.

Claim.—The combination, with a cultivator having a central bar and two side bars hinged to it, of a toothed rack fast to the central bar, a saddle sliding on said bar, a spring lever hinged to said rack and linked to the said saddle, and a system of three links, one of which is hinged to said rack, one of which is hinged to said saddle, and one of which is hinged to the side bar of the cultivator, and all meeting at a common point, substantially as and for the purpose described.

No. 40,544. Musical Toy. (*Jouet à musique.*)

William Alfred Gay, Corry, Pennsylvania, U.S.A., 3rd October, 1892; 6 years.

Claim.—1st. In a musical toy, a series of vibratory rods cast in a metal base from which they project, and means for causing the rods to vibrate, substantially as and for the purposes described. 2nd. In a musical toy, the combination of a series of vibratory rods secured to a metal ring and projecting therefrom transversely, and means for striking said rods and causing the same to vibrate, substantially as and for the purposes described. 3rd. In a musical toy, the combination of a metal ring, vibrating rods projecting transversely, a central shaft, and a clapper hung on the shaft, substantially as and for the purposes described. 4th. In a musical toy, the combination of a rotary barrel, a ring or base fixed in the barrel and having transversely projecting vibratory rods, and means for striking and vibrating said rods, substantially as and for the purposes described. 5th. In a musical toy, the combination of a rotary barrel, a ring or base fixed in the barrel and having a series of vibratory rods projecting transversely therefrom, and a clapper suspended from a central shaft in the barrel, substantially as and for the purposes described. 6th. In a musical toy, the combination of a series of vibratory rods secured to a base from which they project transversely, a handle or support to which the base is fixed, a casing, and a striker set within the rods and adapted to strike the same when the toy is shaken or rotated, substantially as and for the purposes described.

No. 40,545. Machine for Advertising.

(Appareil pour annoncer.)

Edward Harmer, Ottawa, Ontario, Canada, 3rd October, 1892; 6 years.

Claim.—1st. An advertising device consisting of a moving web K, having the catches *k*, acted upon by the lip *t*, of the weight *l*, suspending ends M, wound upon the pulleys D, of the roller C, when rotated and in falling when released, moving the web a positive distance to display an advertisement before the aperture B, of the frame A, substantially as set forth. 2nd. In an advertising device, the roller C, having the mortise *a*, and tension *c*, the cords M, loose put legs H, and the weight *l*, and the web K, all combined and arranged, substantially as set forth. 3rd. In an advertising device, the web K, having catches *k*, weight *l*, and rollers J, L, with recesses *m*, *n*, and roller C, combined to form an operating mechanism.

No. 40,546. Tufting Device for Knitting Machines.

(Appareil à moutonner pour machines à tricoter.)

Joseph D. Partello, Rochester, and John F. Jackson, Detroit, Michigan, both in the U.S.A., 3rd October, 1892; 6 years.

Claim.—1st. The combination, with the needle cylinder, and cam cylinder, and the knitting needles of a knitting machine, of an upper needle cylinder and cam cylinder and upper needle cams in the upper cam cylinder, for imparting vertical movement to the upper needles, and a cam for imparting a swinging movement to the said upper needles, substantially as described. 2nd. The shaft H, held by the arm K, in combination, with the cylinder L, needles N, cam cylinder G, provided with cam plate R, having relieving portions r^1, spider J, column F, and cylinder G, of the knitting machine, substantially as described. 3rd. The combination, with the cylinder L, and needle N held thereby, of the cam cylinder G, and plate R, provided with relieving portion r^1, for forcing the said needles inward, substantially as described. 4th. The needles N, formed with the hook *b*, knife b^1, and projections b^2, b^3, substantially as and for the purposes set forth. 5th. The upper cylinders G, L, and upper needles N, and the lower needle and cam cylinders and knitting needles, in combination, with the presser foot X, and operating screw, substantially as and for the purposes set forth. 6th. The combination, with the upper cylinders G, L, and the upper needles N, of the springs *f* arranged to press against the needles, substantially as described. 7th. The combination, with the upper cylinders G, L, and needles N, of the springs *f* arranged to press against the needles, and the cam R, provided with relieving portion r^1, arranged to move the said needles inward, substantially as described. 8th. The ring V^1 slotted at V^3, and having the guide V, in combination with the gear or ring D, having stud W^1 projecting through the slot V^3, and provided with the guide W, substantially as described.

No. 40,547. Apparatus for Destroying Insects.

(Appareil pour détruire les insectes.)

Henry, Count of Puckler, Ober-Weistritz, Silesia, Germany, 3rd October, 1892; 6 years.

Claim. 1st. A device for destroying insects, consisting of a metallic net adapted to be isolated from the ground, and an electric battery for heating the same to a glowing condition, substantially as set forth. 2nd. A device for destroying insects, consisting of a frame, metallic wires crossing, but at a distance from each other, electric wires connected with the frame and with a battery and means for supporting the device in an isolated position above the ground, substantially as set forth.

No. 40,548. Step Ladder. (*Echelle de vitrier.*)

Gavin Struthers, Bailies Causeway, Hamilton, assignee of Andrew Barr, Bothwell, Lanark, both in Scotland, 3rd October, 1892; 6 years.

Claim.—1st. A convertible step-ladder consisting of two parts 1, 2 which are hinged together at their upper ends, the part 1 having recesses 9, 10 at its upper end whilst the part 2 has a rung 13 capable of movement in slots therein, the said rung being inserted in the recesses 9, 10 when the step-ladder is extended, substantially as hereinbefore described with reference to the drawings annexed. 2nd. The combination with the hinged parts 1, 2 of the step-ladder of the platform 19 which is hinged to the part 1 and has a recess on its under side which grips on one of the rungs of the part 2, substantially as hereinbefore set forth. 3rd. The combination with the extensible part of the convertible step-ladder, of a movable rung formed of an iron core 14 and an inclosing wood cylinder 13 substantialy as hereinbefore set forth.

No. 40,549. Process of and Apparatus for Degreasing Leather. (*Procédé et appareil pour dégraisser le cuir.*)

Frederick Nicholson Turney, Nottingham, County of Nottingham, England, 3rd October, 1892, 6 years.

Claim.—1st. The process of degreasing leather herein described which consists in suspending the leather within a closed tank, drenching it with a solvent, passing a current comprising heated air and a vapor of the solvent over the leather, condensing the vapor of the solvent out of the current of heated air and vapor, and passing air practically from the vapor, over the leather, substantially as described. 2nd. The process of degreasing leather herein described which consists in suspending the leather within a closed tank, drenching it with a solvent, passing a current comprising heated air and a vapor of the solvent over the leather, and recovering the solvent for re-use by condensing the vapor of the solvent out of the current of heated air and vapor, substantially as described. 3rd. In an apparatus for degreasing leather the combination with a storing tank for the solvent and a degreasing tank of means for suspending

the leather in said tank, a drenching tank having communication with the degreasing tank, a steam jacketed pan for vaporizing the solvent communicating with the degreasing tank a longitudinal pipe located beneath and communicating with degreasing tank condensing coils connected with said longitudinal pipe and with the solvent storing tank, a pump for conveying the solvent from the storing tank, to the drenching tank, and a pan connected with the vaporizing chamber and with the degreasing tank, substantially as described. 4th. In an apparatus for degreasing leather, a degreasing tank formed with flanged pipes *c*, and provided with orifices *d*, communicating with said flanged pipes and provided also with an oblong passage *j*, and having angle and tee bars 17, located therein, substantially as described. 5th. In an apparatus for degreasing leather, the combination, with a degreasing tank, angle and tee bars located witin said tank, of perforated trays for showering the solvent upon the leather, and of leather supporting frames provided with rollers running on said angle and tee bars, substantially as described.

No. 40,550. Pavement. (*Pavé.*)

John Armstrong Chanler, New York, State of New York, U.S.A., 3rd October, 1892; 6 years.

Claim.—1st. The roadway, constructed substantially as described, of flat iron rails laid with their top surfaces flush with the general surface of the roadway, said flat iron rails being of sufficient width and so located as to be adapted to wheels of common vehicles, and filled in between with macadam or similar composition, substantially as and for the purposes described. 2nd. The improved roadway, consisting of the flat iron rails A, laid with their top surface flush with the general surface of the roadway, the macadam or composition B, and stone filling C, all combined together, substantially as and for the purposes described. 3rd. In a roadway, the tracks or ways for the wheels of vehicles, which consist of flat iron rails laid with their top surfaces flush with the general surface of the pavement and broad enough to accommodate the wheels of vehicles throughout the ordinary deviations of the horses between said rails, substantially as and for the purposes described.

No. 40,551. Wheel. (*Roue.*)

James Stothers, Melbourne, Ontario, Canada, 3rd October, 1892; 6 years.

Claim.—1st. As a new article of manufacture, a wheel, the portion of the felly of which between the tire and the end of the spoke tenon is left solid or integral with the main body of the felly, substantially as shown and described and for the purpose specified. 2nd. As a new article of manufacture, a wheel, having a plate or packing P, of rubber or other suitable pliable material, interposed between the end of said spoke tenon and the adjacent face of the felly, substantially as shown and described and for the purpose specified. 3rd. A felly, the portion of which between the tire and the end of the spoke tenon is left solid or integral with the main body of the felly, in combination, with a plate or packing of rubber or other suitable pliable material, interposed between the end of the spoke tenon and the adjacent face of the felly, substantially as shown and described and for the purpose specified.

No. 40,552. Method of Making Illuminating Gas.

(*Méthode de faire du gaz d'éclairage.*)

Julius Wiesender, San Francisco, California, U.S.A., 3rd October, 1892; 6 years.

Claims.—1st. The process of improving and purifying illuminating gas, consisting in subjecting the same to the action of hot and cold water or other liquid successively, subtantially as set forth. 2nd. The process of improving and purifying illuminating gas, consisting first in passing the gas through hot water, secondly in passing the gas through cold water, and thirdly in passing the gas through a suitable purifier, substantially as set forth. 3rd. The process of improving and purifying illuminating gas, consisting first in passing the gas through hot water, then through cold water, and finally through a purifying compound consisting of iron-planings and sand, in about the proportions stated, substantially as specified.

No. 40,553. Grain Binder. (*Lieuse à grain.*)

Louis H. Grieser, Duluth, Minnesota, U.S.A., 3rd October, 1892; 6 years.

Claims.—1st. The method herein described of binding grain, which consists in compressing a gavel unequally at intervals, thereby segregating strands or portions thereof, then successively separating such segregated strands or portions, and twisting them into a band, and finally tucking the free end of said band under the strands first twisted, substantially as specified. 2nd. In a grain binder the combination with the revoluble wheel, having the segmental flanges on its outer face, with spaces between the ends thereof; of the gates pivoted to said wheel, the inwardly projecting curved lug, the upright arm having a roller, the oscillating arm to which said rod in secured and the packer connected with said oscillating rod, substantially as specified. 3rd. In a grain binder the combination of the wheel having segmental flanges on its outer face, the gates pivoted to said wheel, the inwardly extending curved lug formed with or secured to one of said flanges, the upright having a roller at its upper end, the oscillating bar or rod to which said arm is secured, the segment and pinion, the bar or rod to which said pinion is secured, and the two part packer, substantially as specified. 4th. In a grain binder, the combination with the wheel having segmental flanges on its outer face, the gates pivoted to said wheel, the inwardly extending curved lug formed with or secured to one of said flanges, the upright arm having a roller at its upper end, the oscillating bar or rod to which said arm is secured, the segment and pinion, the bar or rod to which said pinion is secured, and the two part pivoted packer having V-shaped longitudinal grooves on its inner surface, substantially as specified. 5th. In a grain binder, the combination with the two part packer having longitudinal V-shaped grooves, and means substantially as described for actuating the same, of the wheel having a bevelled pinion, and the hub having a cogged disc, of the pinion journalled in front face of said wheel and meshing with said disc, the shaft connected with said pinion and rotated thereby, the cage carried by said shaft and provided with a finger, and a revolving shaft having a series of curved twisting blades, substantially as set forth. 6th. In a grain binder, the combination with the two part packer, and the driving wheel provided with a rotating shaft, of the carried by said shaft, having the finger, the revolving shaft, the pinions connected with said shafts, the curved twisting blades, and the roller adapted to run on the periphery of the packer, substantially as described. 7th. In a grain binder, the combination with the cage having the finger and revolver twister, of the two part packer, having longitudinal V-shaped grooves on its inner surface, and a reciprocating tucker, substantially as described. 8th. In a grain binder, the combination with a cage having a finger and a revolving twister, of the two part packer having longitudinal V-shaped grooves on its inner surface, the reciprocating tucker, working in a race in an extension of the packer and having its end bevelled forming a jaw, and the jaw pivoted to said tucker, and connected with said pivoted jaw, substantially as described. 9th. In a grain binder, the combination with the cage having the finger and revolving twister, of the reciprocating tucker working in a race in an extension of the packer, and having its front end bevelled forming a jaw and with a groove in its upper side, the jaw pivoted in lugs on said tucker, and the arm connected with said jaw and working in the aforesaid groove, substantially as described. 10th. In a grain binder, the combination with a cage having the finger and revolving twister, of the two part packer, the reciprocating tucker working in a race in an extension of the packer, and having its front end bevelled forming a jaw and with a groove in its upper side, the jaw pivoted in lugs on said tucker, a bar or rod connected with said pivoted jaw and working in said groove, a pin or stud on the said rod, a plate having a slot through which said stud projects, a shaft journalled on the said extension of the packer, and a two armed plate adapted to be struck by the cage in its movement and actuate the tucker, substantially as described. 11th. In a grain binder, the combination, with the cage having the finger and revolving twister, of the two part packer, the reciprocating tucker working in a race in an extension of the packer and having its front end bevelled, forming a jaw and with a groove in its upper side, the jaw pivoted in lugs on said tucker, a rod connected with said pivoted jaw and working in said groove, a pin or stud on the said rod an arm having a slot through which said stud passes, and at its other end provided with notches, a shalf journalled in the said extension of the packer, a two armed plate secured to said shaft, a pivoted spring pawl adapted to engage with said notches, a spring rod connected at one end with said pawl and having its outer end formed into a hook, and engaging with a stud on the other section of the packer, substantially as described. 12th. In a grain binder, the combination, with the packer made in two sections, pivoted together and provided with a series of V-shaped grooves on its inner surface, of the adjustable segmental plates, connected with said sections and provided with recesses having bevelled sides, whereby the size of said groove may be varied, substantially as specified. 13th. In a grain binder, the combination, with the binder driving wheel having segmental flanges and pivoted gates, an inwardly projecting lug or finger, of the oscillating bar having an upright carrying a roller, the segment mounted on the other end of said shaft having a projecting pin, the curved arm having an extension and slot, in which said stud works, the pivoted curved arms connected with said arm and having longitudinally extending bars provided with inwardly projecting slats, substantially as described. 14th. In a grain binder, the combination, with the binder driving wheel having segmental flanges on its outer face, pivoted gates and an inwardly projecting lug or finger, of the oscillating shaft having an upwardly extending arm provided with a roller, a segment secured to the opposite end of said shaft, the pinion meshing with said segment, the rod connected with said pinion, the bell crank lever and shaft connected therewith, the pivoted lever, the shaft having a crank, the rods connecting said levers and cranks, and the inwardly extending fingers or slats secured to said shafts, substantially as described. 15th. In a grain binder, the combination, with the oscillating shaft having a segment at one end provided with a stud, the pinion meshing with said segment, a rod connected with said pinion, a bell crank lever and shaft connected therewith, the pivoted lever, the shaft having a crank, the rods connecting said lever and cranks, and the inwardly extending fingers or slats secured to said shafts, of the pivoted arms having longitudinal bars, with inwardly extending fingers or slats, the curved arm pivoted to said arms and having a slotted extension in which the pin or stud on the segment works, substantially as described.

No. 40,554. Bicycle. (*Bicycle.*)

Jesse Anthony and Arthur Everitt, both of Albuquergue, New Mexico, U.S.A., 3rd October, 1892; 6 years.

Claim.—1st. The combination with a drive wheel of a bicycle, of two sprocket wheels arranged to turn on the hub thereof, a crank or pedal shaft, a large sprocket wheel and a small sprocket wheel respectively secured to said shaft, sprocket chains connecting the sprocket wheels in pairs, and a clutch for fixing either of the sprocket wheels on the drive wheel shaft or hub with said drive wheel, substantially as specified. 2nd. The combination with the drive wheel of a bicycle, and the crank or pedal shaft thereof, connected by a gearing of different size, a clutch for disengaging one set of gearing from the drive wheel and engaging the other set with said wheel, said clutch being also adapted to disengage the drive wheel from the crank or pedal shaft, so that said shaft may remain idle while the drive wheel is turning, substantially as specified. 3rd. The combination with the frame of a bicycle, of a forked angle lever pivoted thereto, rods pivotally connecting the angle lever with a hand lever pivoted to the handle bar of the machine, a disc adapted to slide on the hub box of the drive wheel, bolts or rods carried by said disc, and speeding gear arranged on the hub of said wheel, substantially as specified. 4th. The combination with the drive wheel of a bicycle, of the disc adapted to slide thereon and carrying the rods or bolts, the speeding sprockets arranged loosely on the hub or sleeve of said wheel, and having holes to receive the bolts or rods, the pivoted angle levers having one end forked to embrace the sliding disc, a spring pressing against said lever, a hand lever carrying a catch and pivoted at one end to the handle bar, and rods and levers pivotally connecting the handle lever with the forked angle lever, whereby the clutch bolt or rod may be engaged and disengaged from one or both of the speeding sprockets on the drive, substantially as specified. 5th. In a bicycle, the combination with speeding mechanism, substantially as described, of the handle bar carrying the bevelled tooth or lug, the handle lever pivoted to the handle bar and carrying the yielding tooth catch, whereby the speeding mechanism may be changed from fast to slow, and the driving wheel allowed to run without moving the pedals, substantially as specified. 6th. The combination, with a bicycle, of mechanism for varying the speed thereof while in motion, said mechanism being also adapted to disengage the drive shaft or pedal shaft from the drive wheel while the latter is allowed to run, and comprising a slide clutch on the hub of the drive shaft, an angle lever for engaging said clutch, and pivoted to the frame of the machine, a hand lever pivoted to the handle bar, a spring for normally holding the clutch in one position, and a series of rods and levers for connecting the angle lever with the handle lever, substantially as specified. 7th. The combination, with a bicycle, of mechanism for varying the speed thereof while in motion, said mechanism being also adapted to allow the pedals and shaft to remain idle while the drive wheel is in motion, and consists of a clutch on the hub of the drive wheel, a spring pressed angle lever adapted to engage the clutch, a hand lever pivoted to the hand bar, a yielding catch secured to said lever and adapted to engage the hand bar at pre-determined points, and a series of rods and levers connecting the angle lever with the hand lever, substantially as specified.

No. 40,555. Cornice and Eave Trough Brake Machine. (*Machine pour donner la forme aux corniche et larmiers de toit.*)

John M. Brown and Nathan G. Boggs, both of Hamilton, Ontario, Canada, 3rd October, 1892; 6 years.

Claim.—1st. In a cornice brake machine, the combination of the swivel attachments D, connected by the longitudinal rod *d*, and provided with adjustable flanged bearings I, in connection with the vertical screws J, and hand wheels K, substantially as and for the purpose hereinbefore set forth. 2nd. The combination, in a cornice brake machine, of the swivel attachments D, rod *d*, bearings I, screws J, and the toothed circular segment L, substantially as and for the purpose hereinbefore set forth. 3rd. The combination, in a cornice brake machine, of the rigid bearings *n*, attached to the legs A of machine, the longitudinal shaft *s*, the pinion wheels *m* secured thereto, the circular segment L, and the swivels D, having rod *d*, and provided with bearings I, and screws J, substantially as and for the purpose hereinbefore set forth. 4th. The combination, in a cornice brake machine, of the fourth leaf E, having standards H, with longitudinal rods F through the same, and terminating in the two adjustable bearings I, in the attached swivels D, substantially as and for the purpose hereinbefore set forth. 5th. In a cornice brake machine, the swivels D, provided with rod *d*, bearings I, screws J, and segments L, in combination with the fourth leaf E, having standard H, with shaft F, the latch lock *e*, and the frame A, having bearings *n*, shaft *s*, the toothed wheels *m*, and the eccentric clamps *o*, attached to the front leaf B, substantially as and for the purpose hereinbefore set forth.

No. 40,556. Brake Beam and Shoe Head for Railway Cars. (*Sommiers de frein pour chars de chemin de fer.*)

Charles Thomas Schoen and Lewis Walter Newton, both of Allegheny, Pennsylvania, U. S. A., 3rd October, 1892, 6 years.

Claim.—1st. A brake-beam composed of an arched tensile member and an arched compression member connected at their end constructed of plate metal longitudinally corrugated and provided with a transverse strut, substantially as described. 2nd. A diamond-form brake-beam composed of a tensile bar and a compression bar made of metal plates longitudinally corrugated and having the general outline of an obtuse angle and united, substantially as set forth. 3rd. A pressed-steel brake-beam having a tensile bar and a compression bar constructed of plates corrugated longitudinally and made as obtuse angles, united at their ends and braced transversely, substantially as described. 4th. A brake-beam having a tensile bar and a compression bar combined with a strut having one end looped to receive one of the bars and provided with tongues to bind the bar and having its other end shaped to receive the other bar, subsequentially as described. 5th. A brake-beam containing a tensile bar and a compression bar, combined with a strut looped about one of the bars and having its other end shaped to receive the other bar, and a saddle interposed between this end and said bar, substantially as and for the purpose described. 6th. In a brake-beam, an obtuse-angled tensile bar and a similar compression bar united at their ends by looping the former over and upon the latter, and a strut embracing one of the bars and abuting against the other bar, substantially as described. 7th. A pressed-steel brake-shoe head having sides to form a socket to receive the brake-shoe, a tang or shank having in its end a bolt-hole and a countersink in the body of the head, also having a bolt-hole in alignment with the bolt-hole in the shank or tang, substantially as and for the purpose described.

No. 40,557. Pulp Dryer. (*Séchoir pour la pulpe.*)

Samuel S. Stevens, Hoosick, New York, U.S.A., 4th October, 1892; 6 years.

Claim.—1st. In a centrifugal pulp drier, the combination, with a frustro-conical, open ended, perforated shell, revoluble about a horizontal axis and provided with a roller engaging peripheral flange, of shell supporting friction rollers and means for communicating revoluble movements to the shell, a wet pulp supply pipe leading into the smaller end of the shell, a stripper rotary in movable bearings, by which it is adjustably supported within the shell, means for communicating rotary movements to the stripper, and means for communicating lateral movements to the stripper shaft bearings, substantially as described. 2nd. In a centrifugal pulp drier, the combination, with an open ended, perforated shell, revoluble about a horizontal axis and provided with a roller engaging peripheral flange, of shell supporting friction rollers and means for communicating rotary movements to such rollers, and through them to the shell, a wet supply pipe leading into one end of the shell, and means for stripping the pulp from the interior of the shell, substantially as described. 3rd. In a centrifugal pulp drier, the combination, with an open ended, perforated shell, revoluble about a horizontal axis, of shell supporting friction rollers, means for communicating revoluble movements to such shell, a wet pulp supply pipe leading into one end of the shell, a stripper located within the shell, and rotary in pendent oscillatory bearings, means for rotating the stripper, and means for communicating oscillatory movements to the stripper bearings, substantially as described. 4th. In a centrifugal pulp drier, the combination, with an open ended, perforated frustro-conical shell, revoluble about a central horizontal axis, of shell supporting friction rollers, means for communicating revoluble movements to the shell, a wet pulp supply pipe leading into the smaller end of the shell, a stripper located within the shell and rotary upon an axis parallel with a tapered side of the shell, and means for communicating rotary movements to such stripper, substantially as described.

No. 40,558. Box Machine. (*Machine à boîte.*)

Rollin L. Coons, Seelyville, Pennsylvania, U.S.A., 4th October, 1892; 6 years.

Claim.—1st. In combination, the bed A, the former about which the strips are to be folded, said former being raised above the bed to permit the passage of the strip between them, a feed slide, and folding mechanism, substantially as described. 2nd. In combination, the bed A, the former raised above the same to permit the passage of a strip between them, the holder for the strips having one of its walls held above the bed A, to permit the strip to pass therefrom, and a feed slide and folding mechanism, substantially as described. 3rd. In a box machine and in combination, with folding mechanism, a strip holder consisting of pairs of posts, means for adjusting said pairs and means for adjusting the posts of each pair, substantially as described. 4th. In a box machine and in combination, folding mechanism, a strip holder having adjustable posts, and steam supply pipes leading to the adjustable posts, whereby the strip may be subjected to steam at different points, substantially as described. 5th. In a box machine and in combination, folding mechanism, a strip feed slide G,

and means for moving it, consisting of the rack extension g, the gear wheel H, the pinion, and the segmental gears meshing alternatively with said pinion, substantially as described. 6th. In a box machine and in combination, with folding mechanism, a strip holder and a steam supply pipe leading thereto, substantially as described. 7th. In a box machine and in combination, folding mechanism, a strip feed slide, the segmental gears h, having connection to the feed slide for operating it, said gears being adjustable in relation to each other, substantially as described. 8th. In combination, in a box machine, a strip holder. a table, a former, folding means operating through the table, a feed slide to push the strips over the folding means, and a folding arm, substantially as described. 9th. In a machine for making boxes from wooden strips, the combination, of a folding form, pivoted folding wings, a folding arm, and a driving shaft, and connection between said driving shaft, folding wings and folding arm, substantially as described. 10th. In a machine for making boxes, the combination, of a laterally adjustable folding form, the pivoted folding wings, one of which is adjustable, the driving shaft and connection between said driving shaft and folding wings substantially as described. 11th. In combination, the table, the strip folding mechanism, the feed slide, and a guide t^4 for the strip to regulate its position, substantially as described. 12th. In combination, the table, the strip folding mechanism, the feed slide, a guide t^4 for the strip, a presser rod Y, and operating means to operate the same, to force the strip against the guide, substantially as described. 13th. In combination, the table, the strip feed slide and folding mechanism, a guide for the strip adjustable presser rod Y, and a yielding connection x^4 in the operating means, substantially as described. 14th. In combination, the table, the strip feed slide and folding mechanism, a guide t^4 for the strip, a discharge slide N, and means for operating the guide vertically through the table, substantially as described. 15th. In combination, the table, the strip feed slide and folding machanism, a vertically movable guide, the lever u connected thereto, the cam for depressing the guide, and the weight having the adjustable stop u^3, substantially as described. 16th. In combination, the table, the strip feed slide and folding mechanism, the discharge slide and means for operating the same consisting of the lever n^1, the arm n^3, n^5, connected thereto below and above the pivot, and the cam wheel X having a stud, substantially as described. 17th. In combination, the former adjustable laterally and the discharge slide adjustable therewith, substantially as described. 18th. In combination, the table. the strip feed slide and folding mechanism, means for feeding the bottoms to the strips, and a guide t^4, against which the strip bears, and which directs the bottom into place, substantially as described. 19th. In combination, the table, the strip holder, feed slide and folding mechanism, the bottom feeding means, the guide t^4, and the spring presser bars y^1 to direct and hold the bottoms, substantially as described. 20th. The combination of the holder for the box bottoms, a vertically moving arm for placing the box bottoms successively in position, a folding mechanism for folding the previously grooved strip around the bottom, substantially as described. 21st. The combination of a holder for the box bottoms, a vertically moving arm for placing the box bottoms successively in position, folding mechanism for folding the previously prepared grooved strip around the bottom, means for placing the folded box under the presser bar P, and the presser bar for uniting the free ends of the folded strips, and thus completing the box, substantially as described. 22nd. In combination, the table, the former, the folding wings K, K^1, and means for operating the folding wings, consisting of the cross head U with operating connections to the main shaft, substantially as described. 23rd. In combination, the former, the folding arm M and the wings, the presser bar P in rear of the former having connections to the main shaft, and the discharge slide n operating to move the folded box from the former to the presser bar, substantially as described. 24th. In combination, the table, the strip feed slide, the former and folding mechanism, a presser mechanism in rear of the former, and a discharge slide to move the box from the presser mechanism. 25th. In combination, the table, the strip feed slide, the former, and folding mechanism, a presser box consisting of the adjustable standards Q, Q^1, a presser bar P, and operating means therefor. 26th. In combination, the former and folding mechanism, a presser with operating means for pressing the box vertically and laterally. 27th. In combination, the table, the strip feed slide, the former and folding mechanism, a presser bar B operating vertically, and a second bar for pressing the box laterally, substantially as described. 28th. In combination, the table, the strip feed slide, the former and folding mechanism, a presser mechanism including the presser bars P and P^1, means for adjusting said bars laterally and vertically, substantially as described. 29th. In combination, the former and folding mechanism, the presser box, and presser mechanism, the spring O in the presser box and discharge slide, substantially as described. 30th. In a box machine, the adjustable former, the adjustable folding wings, and an adjustable arm, substantially as described. 31st. In combination, the former and folding mechanism, with feeding mechanism for the strips and bottoms, the ways W, having an opening W^1 at their forward ends, and means for adjusting the ways, substantially as described. 32nd. In combination, the former and folding mechanism, with feeding mechanism for the strips and bottoms, the ways W, and the vertically adjustable plates W^1 carrying said ways, substantially as described. 33rd. In a box machine, the combination of the box former, the folding wings, the upper folding arm, ways w forming a chute or holder for the box bottom blanks, and a sliding cross head as T for feeding the bottom blanks singly downward, substantially as described. 34th. In a machine for making boxes, the combination, with the former and with the folding wings and folding arm, of the ways W for the box bottom blanks, and the cross head T, having the needle arms t^1, t^1, and the spring t^6, substantially as described. 35th. In combination, the former, the strip feed slide, the folding wings, the upper folding arm, the cross head M^3 for operating the same, the feed arms for bottoms, the cross head T and the racks and pinion connection between the cross heads, substantially as described. 36th. A machine for making boxes by folding grooved wooden strips around bottom blanks, consisting essentially of the following elements, a holder for the strips, a pusher for placing the strips separately to be folded, mechanism for folding the grooved strips around the bottom, and pressing devices for uniting the free ends, all substantially as described. 37th. In combination, the former a pair of folding wings to form three sides of the box, and a folding arm to fold down the fourth side of the box, substantially as described.

No. 40,559. Journal Bearing. (*Coussinet de tourillon.*)

Francis Bowen Torrey, Bath, Maine, U. S. A., 4th October, 1892; 6 years.

Claim.—1st. A method of making anti-friction bearings, consisting in subjecting a composite material to pressure within a shell or casing between a former and the said shell or casing and in confining the said material after compression. 2nd. A bearing consisting of a shell or bushing having a lining built up of a composite material interposed between a flange at one end and a confining ring at the other. 3rd. A bearing consisting of a series of rings having a composition of lignum vitæ and plumbago interposed between them and under compression. 4th. A bearing consisting of a series of rings with a composite material interposed between them substantially as described. 5th. A bearing consisting of a series of rings, each ring provided with a series of open sided slots, and a composite material compressed within said slots, the slots alternating in position, substantially as described.

No 40,560. Bell Buoy. (*Bouée à cloche.*)

Jasper Gibson, 51 Lincoln's Inn Fields, London, England, 4th October, 1892; 6 years.

Claim.—1st. In a bell buoy, the combination of a fog bell C with apparatus for accumulating the power generated by the rising and falling of the float D, contained within a well d formed in the body of the buoy substantially as described and illustrated in the accompanying drawings. 2nd. A bell buoy constructed with a well for containing a float D water ways a leading to the said float and shutters J for automatically closing said water ways substantially as described and illustrated in the accompanying drawing.

No. 40,561. Bell Buoy. (*Bouée à cloche.*)

Jasper Gibson, 51 Lincoln's Inn Fields, London, England, 4th October, 1892; 6 years.

Claim.—1st. In a bell buoy such as described, the employment of a disc or wheel such as E, mounted so as to revolve on a central spindle D, and carrying clappers E^2, substantially as described. 2nd. In a bell buoy, the combination of the bell E^1, weighted revolving disc E, and clappers E^2, substantially as described, and illustrated in the accompanying drawing. 3rd. In a bell buoy the combination of the bell E^1, weighted revolving disc E, clappers E^2, and limiting ring e^1, substantially as and for the purpose herein described, and illustrated in the accompanying drawing. 4th. The complete bell buoy, constructed substantially as and for the purpose described and shown in the accompanying drawing.

No. 40,562. Gear for Vehicles. (*Train de voiture.*)

Thomas Randall Capwell and William Carl Fuller, both of Dunkirk, New York, U.S.A., 6th October, 1892; 6 years.

Claim.—1st. The combination, with the axles, wheels and hounds, and the reach connecting them, of a false reach consisting of sections pivotally connected together, one section being secured by the front king bolt and to the rear bar of the hounds, and the other section being provided with a slot in its rear end, through which the rear king bolt passes, and having its front end extended forward and engaging with said hound bar, a slide through which the rear reach section passes, and lateral braces connecting said slide to the axle adjacent to the wheels.

No. 40,563. Underground Conduit for Electrical Conductors. (*Conduit souterrain pour conducteur électrique.*)

James Fulton Cummings, Detroit, Michigan, U.S.A., 6th October, 1892; 6 years.

Claim.—1st. In an underground conduit for electrical conductors, the combination, of an inner casing and an outer casing concentrically arranged, of a spacing device between the two forming a continuous annular chamber from end to end, and a non-conducting insulating compound filled in said chamber, substantially as de-

scribed. 2nd. In an underground conduit for electrical conductors, the combination, of the inner casing and the outer casing concentrically arranged, of a flexible cord spirally arranged between the two, and a non-conducting insulating compound filled between the coils of the cord, substantially as described. 3rd. In an underground conduit for electrical conductors, the combination, of the conduit made in sections, substantially as described, of a coupling for the ends thereof, comprising an annular packing about the joint, a coupling ring made in two parts clamped upon the joint with a chamber within and an insulating material filled in said chamber, substantially as described. 4th. In an underground conduit for electrical conductors, made in sections, each section comprising an inner and outer casing and an annular non-conducting filling between, of an insulation between the sections, such as the ring P, substantially as described. 5th. In an underground conduit for electrical conductors, the combination, of the conductor made in sections, each section comprising an inner and an outer casing, and an annular non-conducting filling between, on an insulation between the sections, consisting of the ring P, having the flanges Q, of the coupling G, clamped upon the meeting ends of the sections, and the filling G, within said coupling ring, substantially as described. 6th. In an underground conduit for electrical conductors, a service box comprising a casing R, the detachable frame S^1, therein, the plate T, and contacts T^1, T^2, thereon, substantially as described.

No. 40,564. Process of Making Electrical Conduit Sections. (*Procédé pour la fabrication des sections de conduit électrique.*)

James Fulton Cummings, Detroit, Michigan, U.S.A., 6th October, 1892; 6 years,

Claim.—1st. The herein described process of manufacturing conduit sections of electrical conductors, consisting in concentrically arranging two tubes, with spacing blocks between forming spaces from end to end, and then in forcing a non-conducting compound into the annular space between, substantially as described. 2nd. The herein described process of manufacturing conduit sections for electrical conductors, consisting in spirally winding a casing with a non-conducting flexible cord, inserting the casing thus wound into a larger casing, of a diameter equal to that of the inner tube, and its winding and then in forcing into the space between a liquid non-conducting compound and allowing said compound to harden, substantially as described.

No. 40,565. Dumping Waggon. (*Tombereau.*)

Lewis Stewart Browning, Montreal, Quebec, Canada, 6th October, 1892; 6 years.

Claim.—1st. In a dumping cart, the combination, with the body, shafts and axles, of pedestals formed of upper and lower telescopic casings, and spiral springs contained therein, the said body and shafts being connected to the upper casing, the former pivotally and the lower casing to the axle, as shown and described. 2nd. In a dumping cart, the combination, with the body and axle, of spring pedestals interposed between the axle and the body, resting on the former and pivoted at their rear faces to the latter and having sockets formed in their front to receive the ends of the shafts, all as herein set forth. 3rd. In a dumping cart, the combination, with the body of the cart, and spring pedestals placed under the ends of the shafts, of a pivot spindle passing through pedestals, and ears projecting downward from body of cart, and a locking device securing body to shafts, all substantially as herein set forth. 4th. In a dumping cart, the combination, with spring pedestals interposed between the body and the axle, and the pivot pin carried in such pedestals, of levers K, mounted on such pivot pin with long arms connected with tail board of cart, and short arms slotted to receive pins projecting from pedestals, all as herein set forth. 5th. In a dumping cart, the combination, with the body, of the spring pedestals interposed between it and the axle, levers K, K, mounted on pivot pin H, and connected with tail board A of cart and pedestals, levers O, O pivoted to bottom of cart, and locking device holding down cart in front, all as and for the purposes described. 6th. In a dumping cart, pedestals interposed between the body of the cart and the axle which passes through and carries them, formed with inner and outer sliding shells holding springs, having on their upper ends, in front, sockets to receive ends of shafts, and in rear ears through which passes pivot pin, all as herein set forth. 7th. The combination, with the body A, pivoted to spring pedestals B, B, mounted on axles C, C, of the springs N, N, connected with said body and the pedestals. 8th. The combination, with the pivoted dumping body A, shafts F, and suitable bearing plates, of a curved expansion spring arranged to assist the return of said body to its normal position after dumping, as shown and described.

No. 40,566. Method of Making Dynamite.

(*Méthode de fabriquer la dynamite.*)

William Young Rochester, Ottawa, and John McArthur, Nepean, both of Ontario, Canada, 6th October, 1892; 6 years.

Claim.—1st. In a compound of gum camphor, carbonate of ammonia, alcohol or rectified spirits, water and whiting, substantially in the proportions for the purposes set forth.

No. 40,567. Hot Water Heater. (*Calorifère à eau.*)

Edward Gurney, Toronto, Ontario, Canada, 6th October, 1892; 6 years.

Claim.—1st. In a hot water heater, composed of a series of horizontal water sections, an ash pit separated from the furnace by a grate made of two plates similarly perforated and arranged so that one plate may be adjusted to close or partially close the perforations in the other grate, substantially as and for the purpose specified. 2nd. In a hot water heater, composed of a series of horizontal water sections, an ash pit separated from the furnace by a grate made of two plates similarly perforated and arranged so that one plate may be adjusted to close or partially close the perforations in the other plate, in combination, with a door having an air space formed in it between two plates, the outer plate being perforated near the bottom of the door and the inner plate near its top, the latter perforations being preferably covered with fine gauze, substantially as and for the purpose specified. 3rd. In a hot water heater, composed of a series of horizontal water sections, an ash pit separated from the furnace by a grate made of two plates similarly perforated and arranged so that one plate may be adjusted to close or partially close the perforations in the other plate, in combination, with a series of water sections having large openings J, formed in each section and arranged one above the other so as to form straight fire flues above the furnace, substantially as and for the purpose specified. 4th. In a hot water heater, composed of a series of horizontal water sections, an ash pit separated from the furnace by a grate made of two plates similarly perforated and arranged so that one plate may be adjusted to close or partially close the perforations in the other plate, in combination, with a series of water sections having large openings J, formed in each section and arranged one above the other so as to form straight fire flues above the furnace, and of a perforated door located between the furnace and the bottom of the lower section, substantially as and for the purpose specified. 5th. In a hot water heater, composed of a series of horizontal water sections connected together by vertical water channels outside of the said horizontal sections, a water section having a horizontal water way formed around its outer circumference and connecting the two outer vertical channels, a horizontal water way leading from the central vertical water channel and connected by two or more curved hollow arms to the circumferential water space, the curved arms forming the large openings or smoke flues, substantially as and for the purpose specified.

No. 40,568. Type Bar. (*Barre de caractères.*)

Roswell Heazeltine St. John, Cleveland, Ohio, U.S.A., 6th October, 1892; 6 years.

Claim. 1st. A type bar blank composed of a hard body and a yielding edge, substantially as described. 2nd. A type bar, consisting of separate pieces fasted together, one of said pieces constructed to have characters impressed thereon, substantially as described. 3rd. A type bar blank, having a body of hard material and a strip of soft material secured to the edge thereof, substantially as described. 4th. A type bar formed of different pieces of metal detachably fastened together, and characters on one edge of said bar, substantially as described. 5th. A type bar, consisting of a body part having a projection at its edge, and a strip of compressible material engaged and securely held by said projection, substantially as described. 6th. The method herein described of forming a type bar with characters upon the edge thereof to print a line of type, consisting in producing or forming characters on said bar by means of pressure, substantially as described. 7th. A type bar blank for printing a line of type, constructed with material in which the characters can be formed by pressure, substantially as described. 8th. In the art of printing, the method of producing a line of characters on a strip of metal, consisting in assembling a series of matrices and then bringing the matrices and the strip of metal together under pressure, substantially as described.

No. 40,569. Extension Ladder. (*Echelle à rallonge.*)

William J. Robertson and John Baptist Genin, both of St. Albans, Vermont, U.S.A., 6th October, 1892; 6 years.

Claim.—1st. In an extension-ladder, a ladder-section having rungs arranged in pairs connected to the section upon opposite sides thereof and an extensible ladder-section located between the rungs forming the pairs, in combination with a pivoted support consisting of a transverse horizontal connecting-bar, having at each end a U-shaped seat to sustain the rung of the extensible ladder-section at both its ends and on the same plane with the rungs of the respective pairs, substantially as and for the purpose described. 2nd. In an extension-ladder, a ladder-section having rungs arranged in pairs and connected thereto upon opposite sides and an extensible ladder, section located between the rungs forming the pairs, in combination with a pivoted wire support consisting of a transverse connecting-bar having a U-shaped seat at each end an operating-rod connected to the support and a rope and pulley for raising the extensible ladder-section, substantially as and for the purpose specified.

No. 40,570. Waggon Jack. (*Chèvre de carrosserie.*)

Charles John Shirreff, Brockville, Ontario, Canada, 6th October, 1892; 6 years.

Claim.—The combination with the base A, having a fixed post B, and the lift block C, having a guide clip G, at the head of said post, said lift block having a stem or leg A^1, fitting loosely in a mortise in said base A, of the fulcrum lever D, pivoted at one end to said base and the other end to a hand lever E, and said lever E, pivoted to the lift block C, whereby the fulcrum lever D, sustains the load lifted by the block C, when the pivot centres K, L, M, are in alignment, as set forth.

No. 40,571. Railway Rail Joint (*Joint de rail.*)

Urban H. Hane, Lakeland, Florida, U. S. A., 6th October, 1892; 6 years.

Claim.—In a rail joint, the combination, with the rails, of an outer angular fish plate provided with an integral bottom plate extending entirely across the lower faces of the rails and beyond the same, and forming a solid seat and having its outer edge bevelled, the inner fish plate provided on its lower face with a bevelled flange receiving the bevelled edge of the bottom plate and securely locking the parts, horizontal bars passing through the fish plates and the webs of the rails, spikes passing through the fish plates and securing the same to cross ties, those spikes adjacent to the nuts of said bolts preventing the nuts from turning, and vertical bolts passing through the inner fish plate and the bottom plate and securing the parts thereto, substantially as described.

No. 40,572. Lock. (*Serrure.*)

Franz Meinke, Corlin, Prussia, German Empire, 6th October, 1892; 6 years.

Claim.—1st. In a lock such as herein described, the combination of a key pin such as *h*, a bolt actuating boss such as B arranged concentrically therewith, and a key such as A provided with an internal pivoted bit such as *c* formed with a projection, adapted to engage with and rotate the boss B, and with or without projections adapted to engage with wards formed upon the key pin *h*, substantially as and for the purposes herein described, with reference to the drawing. 2nd. In a lock such as herein described, the device consisting of the spring 1, stop *o*, hole *m*, and pin *h*, operating substantially in the manner and for the purpose herein described, with reference to the drawing.

No. 40,573. Band Cutter and Feeder for Thrashing Machines. (*Coupe-hart et alimentateur pour machines à battre.*)

Charles F. Graham, Ludlow, Illinois, U.S.A., 6th October, 1892; 6 years.

Claim.—1st. In a feeder, the combination, with a trough, of two spreaders consisting of two transverse rods pivoted in the bottom of the trough, provided with teeth extending into the trough, an adjusting lever attached to the one spreader, a link for connecting the lever with the other spreader, and means for holding the adjusting lever in its position of adjustment, substantially as set forth. 2nd. In a feeder, the combination of the following parts, a series of band cutters mounted on a rotary shaft, provided with a sprocket wheel, vertically movable bearings for the shaft, a crank shaft for swinging the feed troughs, provided with a sprocket wheel, a chain connecting the two sprocket wheels, and an adjusting lever for raising and lowering the movable bearings of the band cutter shaft, the said lever being provided with a belt tightener, substantially as shown and described. 3rd. In a feeder, as a means for supporting the rear end of the trough or troughs, a main frame provided with serrated upper surfaces in combination with a trough supporting transverse frame having serrated lower surfaces at its outer ends to engage with the serrated surfaces of the main frame, and means for securing the said trough supporting frame to the main frame, substantially as shown and described. 4th. In a feeder, as a means for supporting the rear ends of the trough or troughs, a main frame provided with serrated upper surfaces, in combination with a transverse trough supporting frame provided with a slotted plate having lower serrated surfaces, and bolts for securing the two together, said bolts passing through the main frame and into the slots of the slotted plates, substantially as shown and described. 5th. In a feeder, a transverse frame for supporting the troughs, consisting of a horizontal rectangular frame provided with a serrated and slotted end plates, in combination with standards rising from the rectangular frame, and depending links pivoted in eyes in the standards, substantially as shown and described. 6th. In a feeder, two troughs arranged side by side provided with outer walls and inner walls bent over towards each other so as to meet in a longitudinal line, in combination with three standards rising from the supporting frame, the inner standards being arranged within the space between the inner bent over walls of the troughs, cross bars attached to the bottoms of the troughs, and links pivoted to the three standards and to the said cross bars, substantially as shown and described. 7th. In a feeder, a supporting frame consisting of the rear rectangular frame as B^1, the forward triangular frame b^5 connected together, and connecting rods as B^3, hinged to the rear frame and the outer triangular frames, substantially as shown and described. 8th. In a feeder, the combination, with the supporting frame, of clamps attached thereto, each clamp consisting of angle iron as *j*, a jaw as j^1, and means to force the two together and adapted to secure the feeder to the separator, substantially as shown and described. 9th. In a feeder, the combination, with the supporting frame, of a clamp secured thereto, said clamp consisting of an angle iron as *j*, provided with a jaw or clamping portion and a slotted tongue as j^3, in combination with a movable jaw as j^1, having a clamping screw threaded therein and adapted to engage with the slotted tongue j^3, substantially as set forth.

No. 40,574. Roof. (*Toiture.*)

James John McCarthy, Austin, Illinois, U. S. A., 6th October, 1892; 6 years.

Claim.—1st. In a roof, the combination with a plate 6, having upturned edges 7, of a channel bar 8 inverted over said plate 6 and secured thereupon, and plates 4, having their edges secured between said plate 6 and channel bar 8, substantially as described. 2nd. In a roof, the combination with a longitudinally extending channel bar 13, of a ridge pole 15, the lower portion of which is adapted to fit into said channel bar, and carlings having their ends secured between said ridge pole and channel bar substantially as described. 3rd. In a roof the combination with a longitudinally extending channel bar 13, and a T-shaped ridge pole 15, the lower portion of which is adapted to fit into said channel bar, of carlings, the ends of which are adapted to fit between the lateral portions of the ridge pole and the edges of the channel bar, and means for securing said ridge pole to said channel bar, substantially as described.

No. 40,575. Method of Separating Grain.
(*Méthode de séparer les grains.*)

James M. King, Rochester, Minnesota, U. S. A., 6th October, 1892; 6 years.

Claim.—1st. The process of separating oats from barley or wheat which consists of passing the grain through tubular screens in which it is held to a considerable depth, rotating said screens and thereby causing the grain next to the inner surface of the screen to be carried up to the top of the body of the grain in the screen and then to slide down over the inclined surface of the body of grain in the screen and to be brought endwise against the surface of the screen, substantially as described. 2nd. In a machine of the class described, the combination with a suitable hopper, provided with a series of inclined shelves, with a series of rotating tubular screens, provided with hollow journals projecting into said hopper between said shelves, substantially as described. 3rd. The combination with a hopper having the inclined shelves 5, arranged upon its opposite walls and alternating with each other, of the tubular screens having the hollow journal projecting into the said hopper, substantially as described. 4th. The combination with the hopper, of the tubular screens having the hollow journal projecting into said hopper and provided with serrated ends and with a packing around said journal and with a circular flange at its opposite end, whereby the grain is retained in the screen to the desired depth subtantially as described. 5th. The combination with the hopper of the tubular screens provided with hollow journals projecting into said hopper and having serrated ends for the purpose specified. 6th. The combination with a divided hopper adapted to be opened, of the tubular screens provided with the hopper 3 and the trunk 27, of the tubular screens provided with shafts 13, the yoke 15 secured to said shafts, the ring 12 upon said yoke, the disk 11 connected to said ring and with the hollow journals 9 secured to said disk and arranged with said journals projecting into said hopper and with the diischarge ends of the screens extending into said trunk, suostantially as described. 8th. The combination with the casing 2, of the hopper extending across the end of the casing and with a discharge trunk 27 at the other end of the casing, of a series of tubular screens provided with the hollow journals projecting into said hopper and with the opposite ends of the screens arranged to discharge into said trunk, substantially as described. 9th. The combination with the casing 2 provided with the oppositely inclined gather boards 41 arranged with open spaces between them, of the tubular screens arranged above each of said gather boards and provided with a hollow journal and a feed hopper common to all of said screens, substantially as described. 10th. The combination, with an endless belt, of pulleys for driving, idlers or carriers arranged for said belt to rest upon, screen shafts arranged above the same, and weighted pulleys arranged thereon bearing upon said belt and driven thereby, substantially as described and for the purpose specified. 11th. The combination, in a grain separating machine, of rotary screens and the shafts thereof provided with pulleys, with the walls of said machine, slotted blocks wherein the shafts are supported, pulleys 46, the belt 50, and carriers 36 arranged under said shaft-pulleys and adjustably arranged with respect to the same, substantially as described and for the purpose set forth.

No. 40,576. Compound for Artificial Stone.
(*Composition pour pierre artificielle.*)

Joseph E. Kessling and Charles Fuchs, both of New York, State of New York, U.S.A., 6th October, 1892; 6 years.

Claim.—1st. A composition of matter for the manufacture of artificial stone, which consists of a basic cement of oxide of mag-

nesium and neutral chloride of magnesium, asphaltum, and sand or analogous material. 2nd. The process of manufacturing artificial stone, which consists in first obtaining a basic cement of oxide and neutral chloride of magnesium, then adding sand and asphaltum, then drying the resultant stone, then subjecting such stone to a hot water bath to drive off the chloride.

No. 40,577. Machine for Plowing Land.

(Machine pour labourer.)

George Marshall Clark, Hoddam, Connecticut, U.S.A., 6th October, 1892; 18 years.

Claim. 1st. In a plowing machine, the combination, substantially as hereinbefore described, of a rotary plow share mounted upon an axis inclined to the line of draft for cutting into soil or sod and laterally lifting a mass of the same edgewise to a substantially vertical position, and a mold board located at the rear of and projecting laterally beyond the rear edge of the share for receiving, turning over, breaking up, and levelling the mass of lifted soil delivered thereto by the rotary plow share. 2nd. In a plowing machine, the combination, substantially as hereinbefore described, of a rotary plow share mounted on an axis inclined to the line of shaft and having a notched periphery affording a series of flat spade like blades for enabling the share to cut deeply into the soil, and a mold board projecting laterally beyond the rear edge of the share for receiving and turning over the masses of soil or sod lifted edgewise by the share. 3rd. In a plowing machine, the combination, substantially as hereinbefore described, of a rotary plow share and a vertically adjustable mold board located at the rear of the share and laterally projecting therefrom. 4th. In a plowing machine, the combination, substantially as hereinbefore described, of a rotary plow-share and a flexibly mounted mold board at the rear of said share and laterally projecting therefrom. 5th. In a plowing machine, the combination substantially as hereinbefore described, of three earth working elements co-operating as one plow, as follows: A colter which operates as a landside, and makes a straight line cut in the soil and restricts the path of the machine to the line of draft, a plowshare rotative on an axis inclined to the line of draft and having at its periphery earth working portions separated by spaces which enable the share to readily and deeply penetrate the soil, and a mold board at the rear of the share for receiving soil and sod lifted edgewise by the share and turning it over away therefrom and breaking it up and levelling the surface of the plowed soil. 6th. In a plowing machine, the combination substantially as hereinbefore described, of a gang of rotary plow shares, each having a mold board, and the whole arranged angular to the pole or line of draft, and a gang of landside discs at the other side of the pole or line of draft, for resisting the lateral thrust of the plow shares and mold boards. 7th. In a plowing machine, the combination substantially as hereinbefore described, of a gang of rotary plow shares, and mold boards, all angularly adjustable with relation to the pole or line of draft, and located wholly at one side thereof, and a gang of land side discs at the other side of the pole or line of draft. 8th. In a plowing machine, the combination substantially as hereinbefore described, of a gang of rotary plow shares, angular to the pole or line of draft, and at one side of said line, and a gang of landside discs at the opposite side of said line, and at right angles thereto. 9th. In a plowing machine, the combination substantially as hereinbefore described, of a gang of rotary plow shares, each having a mold board, said gang being at one side of the line of draft, and a gang of landside discs at the other side of said line, both of said gangs being angularly adjustable to said line of draft. 10th. The combination with the gang frames, and gang axles, of closed journal boxes, coupled to the gang frames by tubular hangers or standards, which are internally accessible by way of holes in the gang frames for the introduction of lubricants to the closed boxes, substantially as described. 11th. The combination substantially as herembefore described, of a rotary plow share, hinged mold board having its blade at the rear of and extending laterally from the rear edge of the share, and a lever connected with said mold board for vertically controlling its blade or working face. 12th. The combination substantially as hereinbefore described, of a gang of rotary plow shares, a corresponding number of connected hinged mold boards, and a lever coupled therewith for vertically varying the position of all of the mold boards. 13th. The combination substantially as hereinbefore described, of a rotary plow share, a hinged mold board, and a controlling lever coupled to the mold board by a link connection which upon a release of the lever automatically locks the mould board in its normal working position. 14th. The combination of a rotary plow share, a hinged mold boar, and a mold board controlling lever provided at its fulcrum with a variable bolt and slot connection, substantially as described, for enabling the adjustment of said lever in either rigidly confining the mold board in its working position, or permitting a limited upward and rearward movement of said board. 15th. The combination, with a rotary plow share, of a hinged or swinging mold board, held in its normal working position under yielding pressure, substantially as described. 16th. The combination, with a gang of rotary plow shares, of a gang of rotary bladed or toothed land side discs, and cleavers located between the land side discs, and in contact with their axle, substantially as described, for freeing the land sides from roots and weeds, and preventing them from being wound upon the axle. 17th. The combination, in a plowing machine, of a gang of rotary plow shares and a gang frame, appropriate land side devices and a land side frame, a pole to which the inner ends of both of said frames are flexibly connected, draft links or bars, also coupling said frames to the pole, and a lateral spring bar, centrally bearing on the pole, and pivoted at its ends to the two draft bars, substantially as described. 18th. The combination, in a disc gang frame, and with its axle, of wooden journal boxes, occupying the space between two adjacent discs, and hangers secured at their upper ends to the frame, and at the lower ends having box clamps provided with integral spurs for puncturing the wooden boxes, and securely locking the latter against undue endwise movement in the clamps, substantially as described.

No. 40,578. Compound Engine. (*Machine compound.*)

James Spencer Parmenter, Woodstock, Ontario, Canada, 6th October, 1892; 6 years.

Claim. 1st. In a compound engine, the combination, with the low pressure cylinder and piston, of two high pressure cylinders and pistons arranged to co-act with the low pressure cylinder and piston, the high pressure cylinders being each provided with an inlet port and live steam valves and two exhaust ports one of which is provided with a cut-off valve, the two ports being connected by a pipe to the pipe leading from the exhaust ports at each end of the low pressure cylinder, as and for the purpose specified. 2nd. In a compound engine, the combination, with the low pressure cylinder and piston, of two high pressure cylinders and pistons arranged to co-act with the low pressure cylinder and piston, the high pressure cylinders being each provided with an inlet port and live steam valves and two exhaust ports one of which is provided with a cut-off valve, the two ports being connected by a pipe to the pipe leading from the exhaust ports at each end of the low pressure cylinder and the pipes leading from the low pressure cylinder, themselves extending to the condensing chamber and being provided with cut-off valves which are operated, as and for the purpose specified.

No. 579. Sectional Water Heater.

(Calorifère à carneaux.)

David E. Howatt, Hyde Park, New York, U.S.A., 6th October, 1892; 6 years.

Claim. 1st. A water heater composed of sections containing continuous water spaces depressed in the centre to form, when the sections are placed adjacent to one another, heat flues opening at the top into a central smoke flue, these depressions of the sections being greatest at the bottom and decreasing toward the top to somewhat contract the flue openings at their entrance to the central smoke flue, as and for the purpose specified. 2nd. A sectional water heater in which each section consists of a continuous water space surrounding fire box and smoke flue openings, depressed in the centre over the fire box to form heat flues, as described, and increasing in width from the bottom of the water cell to the central horizontal smoke flue, for the purpose of facilitating a free, upward movement of the heated water, substantially as set forth. 3rd. A water heater composed of two outer and one or more inner sections constructed with continuous jointless water spaces which increase in width from the arch of the fire box to the central smoke flue for the purpose of contracting the heat flues and enlarging the water cells from the bottom upward, all the sections being united by outside manifold pipe connections and placed above an ash pit and grate, substantially as described. 4th. In a water heater, a smoke flue, connected by direct draft with the heat flues above the fire box and with the chimney, in combination with one or more parallel smoke flues connected by outside smoke bonnets, and a movable damper adapted to close the chimney end of the main flue for the purpose of forcing the heated gases through the supplementary flues, substantially as described. 5th. A water heater consisting of two outer and one or more inner sections having continuous water spaces alternating with heat flues, constructed as described, in combination with cross flues, only one of which is connected by direct draft with the heat flues over the fire box, outside smoke bonnets for uniting the cross flues, and a movable cover or damper for closing the chimney end of the main flue, as and for the purpose specified. 6th. A sectional water heater consisting of the sections B, C, D, united by outside manifold pipe connections, and having inside continuous water spaces surrounding fire box and smoke flue, the sections being depressed in the centre, as described, to form the heat flues *d*, the main cross flue E, into which the heat flues lead by direct draft, the supplementary flues R, R^1, the smoke bonnets F, F^1, covering the ends of the cross flues, one of them F being adapted to receive a smoke pipe at flange G, and a movable damper N, operated to close the chimney end of the flue E when it is desired to force the heated gases through flues R, R^1, all substantially as and for the purposes described.

No. 40,580. Boiler and Furnace.

(Chaudière et Fournaise.)

Rudolf Muller, Reiherstieg, Hamburg, Germany, 6th October, 1892; 6 years.

Claim. The combination with a boiler, of a preliminary heater consisting of a water jacket M, having an interior fuel receiving space G, in communication with the tube or equivalent space of the main boiler and closed below by a grate D, and above by a double hood Z with air inlets therein, the whole for operation, substantially as herein described.

No. 40,581. Footwear. (*Chaussure.*)

Carl August Riedig, Chemnitz, Saxony, German Empire, 6th October, 1892; 6 years.

Claim.—1st. The improvements in all kinds of boots, shoes, slippers and the like of whatever material they are made, characterized by a spring or other elastic material which is connected in a suitable manner with the heel or rear part of the inner sole for the purpose of taking up the weight of the human body. 2nd. The mode of carrying the invention, claimed above into practice for boots, shoes and slippers of all descriptions, characterized by the plate A, of metal or other suitable material which is placed in the rear part of the inner sole and connected with the plate D, formed of any suitable material, such as india rubber or leather, and with the spring E the latter being placed in an opening formed in the heel I.

No. 40,582. Furnace. (*Fournaise.*)

Wilhelm Kohler and Daniel Kegler, both of Mannheim, Baden, German Empire, 6th October, 1892; 6 years.

Claim. 1st. A method of enamelling cooking vessels in which the bottom has been burnt through, consisting in providing the vessel with a new bottom, which is enamelled in a stove so that the enamel of the new bottom combines with the enamel on the sides or walls of the vessel thus forming a continuous coating of enamel, substantially as described. 2nd. For carrying out the method of enamelling, an enamelling stove in which the heat produced by a mixture of gas and air combines with highly heated secondary air by the arrangement of annular channels *a* and *a*, and the cylinder C, so that the temperature produced is sufficient to melt the enamel, substantially as described. 3rd. In an enamelling stove, the arrangement of an asbestos disc S in the interior of the vessel to be enamelled, for the purpose of preventing radiation of heat from the bottom of the vessel, substantially as described. 4th. In an enamelling stove, the burner B^1, having two interior concentric cylinders B^2 and B^4, of which B^4 is widened at the top, and serves for the passage of the secondary air B^5 dividing the mixture of air and gas, and having a bent rim B^6 in order to thoroughly mix the mixture of air and gas and secondary air, substantially as described.

No. 40,583 Fish Plate for Rails.

(*Eclisse pour rails.*)

Otto Umlauf, Halle, T. S., Prussia, German Empire, 6th August, 1892; 6 years.

Claim.—A rail joint for Vignoles rails, wherein a fish plate H arranged to bear upon the joint sleepers is bolted to the outer sides of the abutting ends of the rails T, so as to bear closely against and support the same, and is formed with an upper projecting portion that is inclined transversely to correspond with the conicity of the wheels intended to pass over the joint, substantially as described.

No. 40,584. Process of and Apparatus for Coating and Cleaning Metals. (*Procédé et appareil pour couvrir et nettoyer les métaux.*)

Richard Heathfield, Darlaston, England, 6th October, 1892; 6 years.

Claim.—1st. The improvements in the process of coating or cleaning metals by treating them in the preparatory stage by electricity, substantially as and for the purposes herein set forth. 2nd. The improvements in the process of coating or cleaning metals by treating them in the preliminary stage as anodes E, in a bath in which are placed corresponding cathodes K, in combination with one or more supplemental carbon or other insoluble anodes, substantially as herein set forth. 3rd. In apparatus for cleaning metals by electricity, the combination of a tank holding solution and provided with vertical guides, conducting wires, from an electrical source insulated and supported along the sides of said tank, plates, forming cathodes, and the sheets or anodes to be cleaned, held in said guides, and connections between said conducting wires and the plates and sheets forming the cathodes and anodes. 4th. In improvements in apparatus for cleaning metal by electricity, the earthenware tank or shell A, having guides for supporting the plates, substantially as and for the purpose herein set forth and shown. 5th. In improvements in apparatus for electrically cleaning metals, the combination with a tank holding solution conduction wires, and the plates and sheets forming the cathodes and anodes of contact pieces for making contact with the plates, substantially as and for the purpose herein set forth and shown. 6th. In apparatus for electrically cleaning metals, the contact pieces as a^3, for making contact with the plates as set forth.

No. 40,585. Valve. (*Soupape.*)

Friedrich Wurfler, Wetzlar, Prussia, German Empire, 6th October, 1892; 6 years.

Claim.—The combination, of high and low pressure relief valves arranged and operating substantially as herein described, the low pressure valve having its seating in the high pressure valve.

No. 40,586. Accumulator for Electrical Light.

(*Accumulateur pour éclairage électrique.*)

Karl Kahabka, Kladno, Bohemia, 6th October, 1892; 6 years.

Claim.—An accumulator, having a number of lead cells K, insulated one from another and from the lead lined box A, in which they are placed, the said cells K, having within them lead plates *p*, provided with recesses for retaining the active material and being insulating one from another and from the walls of the cells K, which walls have formed in them recesses similar to those in the plates *p*, substantially as described.

No. 40,587. Electric Main. (*Grand câble électrique.*)

Sebastian Ziani de Ferranti, 120 Fellows Road, Hamstead, Middlesex, England, 6th October, 1892; 6 years.

Claim.—1st. In electric mains, made of comparatively short lengths, of a conductor or conductors inclosed within a metal tube and insulated from it by a thick layer of interposed insulating material, making the ends of each length to taper, one end convex and the other concave, so that when the ends are placed together the convex end of one length may enter and fit into the concave end of the next length, also the modifications of this contraction in which both tapering ends are made convex or both concave. 2nd. An electric main, composed of a comparatively rigid insulated conductor or conductors in short lengths coupled on to another with the insulation on each length made to taper at its ends so that at the joints the insulation in one length may overlap the insulation in the next length, substantially as described. 3rd. In electric mains, made up of short lengths each composed of a conductor or conductors inclosed within a metal tube and insulated from it by a thick layer of interposed insulating material, connecting the ends of the lengths by inserting the end of one into the other, or by inserting both into a sleeve and then securing them by forming corrugations or indentations around them where they pass one into the other. 4th. In electric mains, made up of short lengths of insulated tubular conductors connecting the ends of the tubular conductors by inserting the end of one length into the end of another or by inserting both into a sleeve and then securing them by forming corrugations or indentations around them where they pass one into the other. 5th. An electric main made up of comparatively short lengths each composed of a conductor or concentric conductors enclosed within a metal tube and insulated from it by interposed insulating material tapered at the ends alternately convex and concave, and the convex end of one entering the concave end of the next, and the outer tubes also made at their ends to fit one into another or into a sleeve and secured by corrugations formed around them where they enter one into the other. 6th. In electric mains made up of short lengths of two concentric tubular conductors insulated from one another by a thick layer of insulation and from an outer protecting tube by a layer of insulation surrounding the outer conductor, the joints between the several lengths being formed by forcing the end of one length (shaped for the purpose) into that of another, heating the joint so formed, enclosing the joint in a copper sleeve corrugated at its ends so as to secure a firm hold upon the outer tubular conductor of each length, winding around said copper sleeve a strip of insulating material, enclosing the whole with a paper tube *k*, cylindrical sleeve *h* and union pieces *i i* corrugated to secure a firm hold upon such sleeve *h* and the outer protecting tubes of each length, and finally forcing hot wax or bitumen into the space between the said paper tube *k* and the copper sleeve. 6*a*. In electric mains made up of short lengths of two concentric tubular conductors insulated from one another by a thick layer of insulation surrounding the outer conductor, the joints between the several lengths being formed by enlarging or diminishing one end of one of the outer conductors so that the end of another outer conductor may be forced into or over it and be then retained by forming corrugations around them where they enter one into the other as shown and described. 6*b*. In electric mains made up of short lengths of two concentric tubular conductors insulated from one another by a thick layer of insulation surrounding the outer conductor, the joints between the several lengths being formed by making the outer conductor of two tubes fitting one within the other and suitably secured together as by corrugating, the outer tube extending at one or both ends a distance beyond the inner tube and being reduced or enlarged in diameter so as to enter or overlap and corrugated upon the end of the inner tube of the next length of main as shown and described. 7th, In the manufacture of electric mains composed of comparatively rigid insulated conductors in short lengths coupled one to another, covering each length of conductor with several layers of paper, cloth, or other fabric by winding on to it sheets of paper, &c., of the same length as the rod or tube to be covered, or with narrower sheets side by side, similarly wound on at right angles to the rod or tube. 8th. In the manufacture of electric mains composed of comparatively rigid insulated conductors in short lengths coupled one to another, covering each length of conductor by rotating the conductor and causing it to wind on to itself a covering of paper or fabric whilst it is lying in a V trough or is similarly supported and pressed upon by a roller or otherwise. 9th. In the manufacture of electric mains composed of comparatively rigid insulated conductors in short lengths coupled one to another, covering each length of conductor with insulating material by simultaneously winding on to it spirally two or more narrow parallel strips set side by side, substantially as described. 10th. In the manufacture of electric mains composed of com-

paratively rigid insulated conductors in short lengths coupled one to another, covering each length of the conductor with insulating material by simultaneously winding on to it two or more layers of narrow strips of paper or fabric with the edges of the several strips in one layer breaking joint with or intermediate of the edges of the strips in the next layer. 11th. In the manufacture of electric mains composed of comparatively rigid insulated conductors in short lengths coupled one to another, covering each length of conductor with paper or fabric wound around it and with the edges of the fabric at the two ends of the insulating covering winding around the conductor in a slow spiral, so as to make the ends of the covering of a coned form, substantially as described. 12th. In the manufacture of electric mains consisting of comparatively rigid concentric tubular conductors in short lengths coupled one to another, first covering a length of the inner conductor with paper or fabric saturated with insulating material by rotating the conductor and causing it to wind the paper or fabric on to itself, then placing the coated conductor within a length of the outer tubular conductor and causing this outer tube to adhere tightly on to the insulating material which surrounds the inner conductor, and afterwards covering the outer conductor by rotating it and causing it to wind paper or fabric saturated with insulating material on to itself, substantially as described. 13th. In machinery for manufacturing electric mains, the combination of a trough for holding paraffine or like insulating material, a holder or support for the conductor within said trough and of a lesser height than the walls of same, means for rotating said conductor and holding it in place, and means for raising and lowering the surface level of the melted paraffine or like insulating material in said trough above and below the holder for the conductor, as set forth. 13*a*. In machinery for manufacturing electric mains, the combination of a main table or base with trough on its top side to hold paraffine or like insulating material, a projection standing up from the bottom of said trough, but of lesser height than the walls of same, and having a V-shaped recess formed along its top adapted to receive the conductor to be covered, a movable table for carrying sheets of insulating material, suitably supported adjacent to the trough, and means for reciprocating such table, a driving shaft and connections between it and said conductor for rotating this latter when being covered, standards rising from the bottom of the said trough, and a shaft carried by same, a roller resting on top of the conductor, and a vertically sliding bar with downwardly projecting forks for holding, raising and lowering said roller, and chain connections between said bar and shaft, whereby said bar can be raised and lowered, adjustable tension rollers bearing upon the material on said reciprocating table and carried by arms pivoted to said vertically sliding bar, movable weights or troughs means for raising and lowering same into the trough containing the paraffine, the whole as and for the purpose set forth. 14th. Covering comparatively rigid conductors by winding around them paper or fabric previously saturated with paraffine or like insulation. 15th. Covering comparatively rigid conductors by winding around them paper or fabric previously saturated with paraffine or like insulation, and causing the previously saturated paper or fabric to again pass through liquid insulation as it is being wound on to the conductor. 16th. In the manufacture of electric mains composed of short lengths connected end to end of insulated concentric tubular conductors, filling the inner conductor with oil or liquid insulating material under heavy pressure, and providing holes at intervals through this conductor to allow insulating liquid to pass into the space between the inner and outer conductors, and fill up any flaws in the insulating material by which this space is occupied. 17th. In the manufacture of electric mains composed of short lengths connected end to end of insulated concentric tubular conductors feeding insulating material to the joints from the inside through the inner conductor, substantially as described.

No. 40,588. Power Conduit for Railways and Tramways. (*Conduite pour chemins de fer et tramways.*)

Carl Thomas Blanch Brain, Liverpool, England, 6th October, 1892: 6 years.

Claim.—1st. A chambered slotted conduit for railways and tramways, having a covering device formed of a flat metallic bar or rail running in connected sections the entire length of the conduit, and having such a width and thickness as to firmly bridge over the slot and be flexible vertically, so that when raised it can bend vertically by its own weight and flexibility and so return to its seat. 2nd. A covering device for a chambered slotted conduit for railways and tramways, consisting of jointed sections forming a flat bar or rail D, connected or jointed so that allowance is made for a slight movement in working and for expansion or contraction, substantially as described. 3rd. In a railway or tramway of the kind described, the combination, with the slotted conduit and the vehicle connector passing into it, of a flat metallic bar or rail normally closing the slot and sufficiently flexible as to be capable of being raised from its seat by the advancing connector to a sufficient distance to permit of the latter passing along the conduit below the flat metallic bar or rail and adapted to return again to its seat entirely or mainly by its own weight in the rear of the connector while rigid laterally, substantially as described. 4th. In a railway or tramway of the kind described, the combination, with the slotted conduit, of a flat metallic bar or rail, flexible in a vertical direction, but rigid horizontally, and forming a cover strip for said opening, and mechanism for raising said metallic bar or rail from its seat as the connector advances along the conduit, substantially as and for the purpose described. 5th. In a railway or tramway of the kind described, the combination, with the slotted conduit, of a vertically flexible but horizontally rigid flat metallic bar or rail D, closing the slot, and having its upper surface approximately on a level with the road surface, and a pair of downwardly inclined supporting ledges b^1, one on each side of the slot, forming bearing surfaces for the correspondingly bevelled edges of the flat metallic bar or rail, substantially as described, whereby a rigid surface for roadway is secured over the conduit. 6th. In a chambered slotted conduit for railways and tramways, the combination, of the side walls B^1, laid upon the road pitching, the roof plates B^2, secured thereto and having bevelled ledges b^1, and cut-away parts b^3, and the flat metallic bar or rail D, supported upon said ledges and normally closing the opening between the same, substantially as described. 7th. In a chambered slotted conduit for railways and tramways, the combination of a flat metallic bar or rail covering the slot, supporting ledges therefor at each side of the slot, and a series of upright tapering projections on the ledges or flat metallic bar or rail lying transversely to the conduit, and adapted to engage with a series of corresponding recesses on the opposing face of the flat metallic bar or rail or ledges, whereby the flat metallic bar or rail is prevented from creeping during the passage of the connector, substantially as described. 8th. In a railway or tramway of the kind described, a chambered slotted conduit having its opening at or near the level of the roadway, and having the power conductor located directly below and as close as practicable to said opening, whereby the conduit may be constructed directly upon the road pitching, without cutting or disturbing the transverse tie bars or sleepers of the track, and whereby such tie bars or sleepers may be utilized for supporting the conductor, substantially as described. 9th. In a railway or tramway of the kind described, the combination with a power conduit branching at an acute angle as described, of flat metallic bars or rails closing the openings in said conduit and branches, as described, and a junction flat bar or rail pivoted at one end to the main flat bar or rail at or about the point of intersection of the branches, and adapted to be placed in alignment and connected at its opposite end with either of the branch flat bars or rails, substantially as described. 10th. In a railway or tramway of the kind described, the combination, with a power conduit, branching at an acute angle as described, of the flat metallic bars or rails D, D^1, D^2, the junction flat metallic bar or rail D^3, pivoted at one end to the end of the flat bar or rail D^2, at or about the point of intersection of the conduit and branches, and extending along the conduit opening to the ends of the converging flat bars or rails D, D^1, a tongue and groove device adapted to connect the end of the junction flat bar or rail D^3, to the adjacent end of the flat bar or rail D or D^1, as required, and a shifting device adapted to place the junction flat bar or rail in alignement with either the flat bar or rail D or D^1, substantially as described. 11th. The combination, with the flat metallic bars or rails D, D^1, D^2, of the junction flat metallic bar or rail D^3, pivoted to the flat bar or rail D^2, and adapted to be connected by a tongue and groove device to the flat bars or rails D, D^1, the frame G supporting the free end of said junction flat metallic bar or rail at its edges as described, a shifting device actuated by the advancing car and operating to draw over the flat metallic bar or rail into alignment with the flat bar or rail D^1, and a retracting device adapted to return the junction flat bar or rail, after the passage of the car, to its normal position in alignment with the flat bar or rail D, substantially as described. 12th. In a railway or tramway of the kind described, the combination, with the power conduit, branching at an acute angle as described, of the flat metallic bars or rails D, D^1, D^2, the swivelling junction flat metallic bar or rail D^3, the reciprocating supporting frame G located transversely in the conduit junction flat bar or rail, the rail fence J adapted to be pushed aside by the wheel of an advancing vehicle and to be held over as described, mechanism transmitting the movement of the fence to the frame as described, and a retracting spring J^6 adapted to return the various parts to their normal positions after the passage of the vehicle, substantially as described. 13th. The combination, with the flat metallic bars or rails D D^1 D^2, of the swivelling junction flat metallic bar or rail D^3, the supporting frame G located and operated as described, and the loose plate X filling in the gap formed at the junction of the conduit openings and adapted to be moved aside by the movement of the junction flat bar or rail, substantially as described. 14th. In a railway or tramway of the kind described, the combination, with two intersecting power conduits, of the interrupted flexible flat metallic bars or rails D D^1, closing the conduit openings as described, and a short flat metallic bar or rail section D^4 swivelling about a vertical axis at the point of intersection of the flat bars or rails, and adapted to be placed in alignment, and connected at its ends with the two portions of either of said flat bars or rails, substantially as described. 15th. In a railway or tramway of the kind described, the combination, with two intersecting power conduits, of the interrupted flat metallic bars or rails D D^1, the flat metallic bar or rail section D^4 having tongues at such end adapted to fit into grooves in the adjacent ends of the flat bars or rails D D^1, the frame L^1 swivelling about a vertical axis at the point of intersection of the conduits, the divided plate L carried by said frame and supporting the flat bar or rail sec-

tion at its edges as described, and mechanism for oscillating the frame about its axis as required, substantially as described. 16th. In a railway or tramway of the kind described, the combination, with two intersecting power conduits, of the interrupted flat metallic bars or rails D, D^1 grooved at their converging ends, the tongued flat metallic bar or rail section D^4, the swivelling frame D^3, the divided circular plate L, supporting the flat bar or rail section, and having peripheral tongues forming continuations of the tongues of the flat bar or rail section, the closure plates L^4, having grooves, forming continuations of those in the flat bars or rails D, D^1, and mechanism for oscillating said frame as required, substantially as described. 17th. The combination of the chambered slotted conduit B, flat metallic bar or rail D, bearing roller E^1 on underside of the bar or rail, and upper bearing rollers E^2, substantially as described. 18th. In a railway or tramway of the kind described, the combination, with a chambered slotted conduit, of the flat metallic bar or rail D, the connector E mounted on the vehicle and passing below the bar or rail, and the stems F also mounted on the vehicle in front and rear of the connector and hav-rollers bering upon the upper side of the bar or rail, substantially as described. 19th. In a railway or tramway of the kind described, the combination, with the conduit, and the conductor therein, of the vehicle connector E, the saddle piece Q^1 on the lower end of the connector, and extending along the conduit above the conductor, the conductor contacts Q flexibly mounted at the ends of the saddle piece, and means for connecting the contacts with the vehicle working circuit, substantially as described. 10th. In combination with the power conduit, the conductor therein, and flexible flat metallic bar or rail covering the conduit opening as described, the connector E, saddle piece Q^1, contacts Q, contact supporting springs q^3, and roller q^1 projecting through the saddle piece, and bearing against the under surface of the flat bar or rail, substantially as described. 21st. In a railway or tramway of the kind described, the combination, with the power conduit B, having its iron work jointed throughout as described, of a contact device, moving with the vehicle and working against the conduit iron work or flat metallic bar or rail, and also connected to the vehicle motor circuit, substantially as and for the purpose described.

No. 40,589. Safety Net for Street Cars.

(Filet de sûreté pour chars de rues.)

Louis E. Dubois, Toronto, Ontario, Canada, 6th October, 1892; 6 years.

Claim.—1st. A net carried on a frame detachably connected to a crank bar journalled on the end of a car and operated by a hand lever pivoted on the end of a car and arranged so that by a single stroke of the lever the net may be thrown down in front of the car, substantially as and for the purpose specified. 2nd. A net carried on a frame detachably connected to a crank bar journalled on the end of a cord or chain connecting the crank bar to the brake rod, and a cord or chain connecting the hand lever to the lever by which the motor is stopped, in combination with a hand lever pivoted on the end of a car and arranged so that by a single stroke of the lever the net may be thrown down in front of the car, substantially as and for the purpose specified. 3rd. A car having a light frame projecting from its bottom on both sides and both ends and carrying a light strong net, in combination with a net carried on a frame detachably connected to a crank bar journaled on the end of a car and operated by a hand lever pivoted on the end of a car and arranged so that by a single stroke of the lever the net may be thrown down in front of the car, substantially as and for the purpose specified.

No. 40,590. Machine for Sharpening Saws.

(Machine à affuter les scies.)

Benjamin Franklin Sheets, Muskegon, Michigan, U.S.A., 6th October, 1892; 6 years.

Claim.—1st. In a saw sharpening machine, the combination, with the main frame, of suitable arms or links for regulating the cut and depth of the saw teeth, having adjustable screw devices and means for operating the same, substantially as described. 2nd. In a saw sharpening machine, the combination, with the main frame, of the lower arm or link fulcrumed at one end to the main frame and at the other end to a connecting rod, said arm being provided with a longitudinal groove in which one end of a screw nut works, and also with a jaw or yoke carrying the screw rod having attached to it a handle for operating the same, and a connection between the screw nut and the grinding wheel, substantially as described. 3rd. In a saw sharpening machine, the combination, with the main frame and the connecting rods, of the lower arm or link K, supported on the main frame by the bolt k and provided with the longitudinal slot K^1 carrying a thimble l^2, the screw nut l^1 running through the yoke L and thimble and secured at one end by means of a suitable nut, the yoke m and collars M^1, the screw rod M secured in said yoke and operating the screw nut l^1, and the handle for operating said rod M, all substantially as described. 4th. In a saw sharpening machine, the combination, with the main frame and the connecting rods, of the upper curved arm or link having a longitudinal slot therein, said arm being secured movably in position by means of the yoke O and its surrounding sleeve, and the screw nut working in the longitudinal slot, substantially as described. 5th. In a saw sharpening machine, the combination, with the main frame and the connecting rods, of the upper curved arms N, having a longitudinal slot N^1 therein, the threaded nut Q partly surrounded by a suitable thimble working in said slot, collars P and o^2 and sleeve o^3, the yoke O and collars n^1, and the screw rod n, said screw rod passing through the collars n^1 and nut Q, and operated by means of a handwheel n^2, substantially as described. 6th. In combination, with the levers h and h^1 and arm N for operating the finger lever, the finger frame R, provided with a suitable finger and the screw rod for operating the same, said lever h^1 being provided with perforations h^2 therein, substantially as described. 7th. The finger frame R, provided with a slot r^1, the finger S having screw threaded boxes s and s^1, the screw rod T working in said boxes, the bolt t for keeping the finger in proper position, and the hand wheel for operating said screw rod, substantially as described. 8th. The combination of the finger frame R pivoted to the lever h^1 by means of the bolt r, the finger S having the screw boxes s and s^1, the double jaw or yoke R, provided with collars R^2 for supporting the screw rod, the screw rod T working in boxes s and s^1, the hand wheel for operating said screw rod, and the bolt t for keeping the finger slide in position, substantially as described. 9th. In a saw sharpening machine, the combination, with the emery or grinding wheel and a finger carried by a finger lever, of the pivoted arm or link having an adjustable nut which is connected by a connecting rod with the finger lever, the pivoted arm or link having an adjustable nut which is connected by a connecting rod with the grinding frame, and suitable connecting rods which connect the free ends of the said arms or links, with means for moving the same, substantially as described.

No. 40,591. Cable Railway. (*Chemin de fer à cable.*)

Samuel D. Root and Gordon Cloyd Vineyard, both of Anaconda, Montana, U.S.A., 6th October, 1892; 6 years.

Claim.—1st. A cable railway comprising a main down grade cable, a series of supplemental down grade cable sections inclined in a reverse direction to the main cable, lifting mechanism connecting the lower end of one section of the supplemental cables with the upper end of the next succeeding supplemental cable section and means for operating such lifting mechanism, substantially as shown and described. 2nd. A cable railway, comprising a main stationary down grade cable, a series of supplemental down grade cable sections each inclined in a reverse direction to the main cable, lifting mechanism connecting the lower end of one reverse cable section with the upper end of the next succeeding reverse cable section, and connections between such lifting mechanism and the main cable, whereby when the main cable is sagged at such connection points it will operate to lift the said mechanism, substantially as and for the purposes described. 3rd. In a cable railway, the combination, with the supporting frames and the main stationary down grade cable, of a series of down grade cables, disposed above and to one side of the main cable, said sections being inclined in a reverse direction to the main cable and adapted to receive the empty cars, and means operated by the passage of the loaded cars on the main cable for elevating the empty cars from one reverse cable section to the next succeeding section, whereby such car will be carried up the grade, substantially in the manner and for the purpose described. 4th. The combination, with the supporting frames, the main and the reverse down grade cables, arranged relatively to each other as shown, and held stationary on the supporting frame, of the lifting mechanism consisting of a swing arm hinged to the upper end of one reverse section, and formed with a seat portion normally in engagement with the lower end of the preceding section, the rock shaft N, having oppositely projecting lever arms n, n^1, connected respectively with the main cable and the swinging arm, all arranged substantially as shown and for the purposes described. 5th. In a cable railway of the kind described, the combination, with the supporting frame timber B^1, and the cable A, of the shoe G, having side guides, and a longitudinal slot, and means for drawing the cable into the slot, and securing it to the shoe and the shoe to the timber B^1, substantially as shown and described. 6th. In a cable railway of the kind described, the combination, with the supporting frames and the cables, of a cable holding shoe having side guides, a longitudinal slot adapted to receive the depressed portion of the cable, and a central curved guide member forming a track rail, and the nutted hook bolt for holding the cable down into the slot of the shoe, and the shoe to the frame, substantially as and for the purpose described. 7th. In a cable railway of the kind described, the combination, with the supporting frame, the cable and a curved cable holding shoe, having side guides projecting vertically forming cam projections, of a car having two carrier wheels independently journalled, mechanism for locking such wheels normally in a fixed alignment and unlocking device mounted on the car adapted to engage the cams on the curved shoe, and operated thereby to unlock the said locking mechanism whereby the wheels will be capable of independent adjustment as they engage the curved shoe, substantially as and for the purpose described. 8th. In a cable railway, of the kind described, the combination, with the supporting frame and the cable formed of two sections, of a cable holding shoe having oppositely and downwardly slotted portions to receive the opposite ends of the cables, and the clamp nuts J secured to the outer projected ends of such cables, substantially as and for the purposes described. 9th. The combination, with the cable sections D, the swinging arm having a seat member at its lower end and hinged at its upper end to one of the sections D, of a cable

holding shoe secured to the lower end of the preceeding cable section, said shoe formed with a socket portion to receive the seat portion of the swinging arm, substantially as shown and described. 10th. The combination of the supporting frame, the cable section D, the cable shoe L slotted diagonally downward and rearward, said slot adapted to secure the upper end of the cable section D, the clamp J^1 for holding such section to the shoe L, the lifting arm M hinged in the rear end of such shoe, and the section Z disposed between the hinged end of the shoe and the cable receiving end thereof, substantially as and for the purpose described.

No. 40,592. Method of Making Articles from Artificial Ivory. (*Méthode de faire des articles d'ivoire artificiel.*)

Alexandre de Pont and Silvius de Pont, both of Lancaster, County of Lancaster, England, 6th October, 1892; 6 years.

Claim.—1st. The improvement in the art of manufacturing solid balls, or other articles of artificial ivory, or ivory substitute in variegated colours which consists in moulding together different coloured sections of the composition, each of one colour throughout, and then compressing or solidifying such sections into a solid homogeneous block. 2nd. In the art of manufacturing solid balls to represent, or as a substitute for ivory in variegated colours, the process which consists in dyeing the crude powdered or pulpy material in a variety of colours filling the different coloured materials separately into moulds in sections, and then compressing and solidifying the coloured sections into a homogeneous article. 3rd. A solid ball or other article of artificial ivory, or ivory substitute in variegated colours comprised of sections of the material, each section of one colour throughout, but differing in colour to the adjacent ones, compressed or solidified together, substantially as described. 4th. A mould for use in the art of manufacturing variegated composition balls, which consists of a tubular casing B, divided internally into a number of chambers or sections *b*, by the plates D, substantially as described. 5th. A mould for use in the art of manufacturing solid articles of ivory, substitutes or artificial ivory in variegated colours, which consists of the mould A, the casing B, provided with holes *b*, and divided internally into chambers by the thin plates D, and tube E, and the small hoppers or shoots C, placed outside the casing B, substantially as described. 6th. In a mould for use in the art of manufacturing solid articles of artificial ivory or ivory substitutes, the combination, with the mould A, of the casing B, provided with holes *b*, and divided internally into chambers into which the material is placed, the hopper C, by which the material is filled into the casing, the cap or cover F, provided with holes *f*, and the plungers G, by which the material is pressed down into the mould A, whilst the casing B is removed.

No. 40,593. Concentrator for Gold. (*Concentrateur.*)

William H. Hill, Atlanta, Georgia, U.S.A., 6th October, 1892; 6 years.

Claim.—In a device of the class described, a frame and a cradle suspended therein carrying a spherical bearing box on its end, a crank and shaft revolubly mounted in said frame, and a perforated ball having end play upon the wrist pin of the said crank and seated and freely rotatable within the said spherical bearing box for the purpose of imparting to the said cradle the requisite compound motion, for the purpose specified.

No. 40,594. Apparatus for Securing Corks in Bottles.

(*Méthode d'assujétir les bouchons de bouteilles.*)

Karl Kirschner, Radlic, Bohemia, 6th October, 1892; 6 years.

Claim.—A tool for lead stamping or sealing bottle corks provided with punching surfaces *i*, which impress marks on the ends of the connecting lead wire, a gauge plate *e* on one side, against which one end of the lead wire abuts, and a knife *f* on the opposite side, which cuts off a suitable length of the lead wire which is used to form the lead stamp or seal by being passed through the eyes at the ends of the locking wire and pressed, substantially as herein shown and described.

No. 40,595. Mitten. (*Mitaine.*)

Ferdinand J. Kahn, Sioux City, Iowa, U.S.A., 6th October, 1892; 6 years.

Claim.—1st. A mitten having an elongated opening C located on the body of the mitten, extending from the point of the index finger along the side thereof to a point near the wrist, provided with springs D, D, to the ends of which are attached by hinged joints e^1, e^1, thin plates M, M^1, hinged at *e*, and at their outer ends connected by hinged joints with side pieces E, E, at e^2, e^2, by means of which springs and side pieces aperture C may be opened and free use of the entire hand procured, and the aperture again closed, all as set forth. 2nd. A mitten with the thumb portion enlarged where it joins the body of mitten, so as to permit the thumb to be freely removed, having an elongated opening on the side of the mitten, extending from the point of the index finger along the side thereof to a point near the wrist, said opening being provided with end springs and side pieces, by means of which the aperture may be opened and closed, substantially as set forth.

No. 40,596. Pump. (*Pompe.*)

Stephen G. Mills, Wichita, Kansas, U.S.A., 6th October, 1892; 6 years.

Claim.—1st. The combination, with the cylinder and check valve, of a spring plate secured at one side or edge and having its other edge or side free, to which free side the said valve is attached, an adjustable stop for limiting the upward movement of the plate, and means for elevating the latter, as shown and described. 2nd. The combination, with the lever pivoted to the stock and provided with notches, of the rod having its upper end suitably constructed to adapt it for engagement and adjustment in said notches, and the spring plate and check valve located at the bottom of the cylinder, as shown and described.

No. 40,597. Saw Guide. (*Garde-scie.*)

Aldus Augustus Mowry, Gravenhurst, Ontario, 6th October, 1892; 6 years.

Claim. 1st. A movable head A, carrying the guides D and F, in combination with the cam M, adapted to move the said head A, substantially as and for the purpose specified. 2nd. A movable head A, carrying the adjustable guides D and F, and mounted to admit of both longitudinal and side motions, in combination with the cam M, adapted to impart a side motion to the said head A, and operated by the arm O, connected to the lever P, substantially as and for the purpose specified.

No. 40,598. Combined Folding Bed, Billiard Table Rack and Settee. (*Lit pliant, table de billard et porte-manteau combinés.*)

Robert Newton Barger, Hopedale, Illinois, U.S.A., 6th October, 1892; 6 years.

Claim. 1st. A combination article of furniture comprising in its organization a main frame or supports intersected by longitudinal strips constructed to hold billiard balls or cues, and formed with notches *b*, *b*, therein, the bed pivoted to and folding within or between said supports, a table having pendant portions embracing the outer sides of said supports, and movably connected thereto by the same pivot which holds the bed, and the settee hinged to the under side of the bed and constructed with the central rest and the two end rests, each of the said end rests being provided with hinged arms, which may be turned upwardly or downwardly, substantially as shown and described and for the purpose set forth. 2nd. A combination article of furniture comprising the main frame having the notches or recesses therein, the bed folding within the main frame, and the settee hinged or pivoted to the under side of the bed, the said settee being constituted of the central rest and the two end rests, each of the latter being provided with hinged arms which fold downwardly and fit within the notches of the main frame, substantially as described. 3rd. A combination article of furniture comprising the main frame, the table, the bed, and the settee, the latter having the hinged arms for resting upon the floor when either the table or bed is lowered into position for use, substantially as described.

No. 40,599. Mould for Shaping Leather,

(*Moule pour former le cuire.*)

Wilhelm Krone, Walbeck, Prussia, 6th October, 1892; 6 years.

Claim. 1st. A machine for shaping or moulding leather, constructed arranged and operated substantially as hereinbefore described, and as illustrated by the accompanying drawings. 2nd. In a machine for shaping or moulding leather, the combination, with a suitable shaped screw slide, of an adjustable clamp between the jaws of which the leather is forced by the downward motion of the slide, substantially as hereinbefore described, and as illustrated by the accompanying drawings. 3rd. In a machine for shaping or moulding leather, a tension regulating device consisting of a screw and two chains terminated by clamps or jaws constructed and arranged, substantially as and for the purpose hereinbefore described, and as illustrated by the accompanying drawings.

No. 40,600. Boiler. (*Chaudière.*)

Max Seipp, Berlin, Prussia, German Empire, 6th October, 1892; 6 years.

Claim. 1st. The improved steam generator, constructed and operative, substantially as described, with reference to the accompanying drawings. 2nd. In a steam generator wherein the heating surface or a large portion thereof is arranged on the water tubes system, placing the heating tubes on either side of a combustion chamber extending approximately their entire length, substantially as herein described, the said tube deriving heat by radiation instead of by intimate contact with the incandescent gases. 3rd. In a steam generator, the combination, with the combustion chamber A, and the groups of water tubes D, D^1 arranged on either side thereof, of the feed water heating tubes the walls of the combustion chamber, and through which the heated gases ultimately pass bathing the said heating tubes, substantially as and for the purpose set forth.

No. 40,601. Apparatus for drawing off or dispensing aerated liquids. (*Appareil pour tirer les eaux gazeuses des réservoirs.*)

Robert Augustus Panchaud, of London, and William George Temple, of Malden Road, England, 7th October, 1892; 6 years.

Claim.—1st. Apparatus for drawing off or dispensing aerated liquids having a main reservoir, an intermediate vessel in communication therewith provided with suitable outlet, the closure of which is effected by the pressure in the aerated liquid in said reservoir. 2nd. In apparatus for drawing off or dispensing aerated liquids means consisting of valve and piston mechanism whereby the pressure in the aerated liquid is utilized to effect the closure of the outlet from an intermediate vessel into which the liquid is admitted from the reservoir before being delivered for consumption and whereby when the communication between the reservoir and the intermediate vessel is closed and after a portion of the confined gas is allowed to escape and the pressure in the said vessel has thereby become reduced the outlet from the said vessel automatically opens to discharge its contents substantially as hereinbefore described. 3rd. In an apparatus of the kind hereinbefore mentioned for drawing off or dispensing aerated liquids, the combination with means for opening and closing communication between the main reservoir and the intermediate vessel of a tube or cylinder in the intermediate vessel, having a sliding piston which is caused by the pressure in the aerated liquid to act on a plug or stopper so as to close the outlet from the intermediate vessel substantially as hereinbefore described. 4th. In apparatus of the kind herainbefore mentioned, the combination with means for opening and closing communication between the main reservoir and the intermediate vessel and for the opening and closing communication between the interior of the intermediate vessel and the exterior or outer air, of a tube or cylinder in the intermediate vessel fitted with a hollow sliding piston and tubular piston rod, a stem extending through the piston and tubular rod and carrying at its upper end a valve for closing and opening the passage through the piston rod and at its lower end a plug or stopper for closing and opening the outlet from the intermediate vessel substantially as hereinbefore described. 5th. In apparatus of the kind hereinbefore mentioned, the combination with the intermediate vessel C of the valve E with its passage *b* and *k*, valve seat D with its passages *a c i* and i^2, the tube or cylinder F, piston *d* with its tubular rod G and openings *m* and the stem *e* with its valve *f* and plug *g*, the whole being arranged substantially as hereinbefore described and illustrated by the accompanying drawings. 6th. The construction arrangement and combination of parts constituting the improved apparatus for drawing off or dispensing aerated liquids substantially as hereinbefore described and illustrated by the accompanying drawings.

No. 40,602. Sewing Machine. (*Machine à coudre.*)

The Self-Threading Sewing Machine Company, New York, assignee of Albert Legg and Charles W. Weston, both of Milton, State of New York, U.S.A., 7th October, 1892; 6 years.

Claim.—1st. A sewing machine needle having a recess for engaging the thread, which consists of a notch in the front of said needle and running up towards the butt of the same, the point of the spur of said notch being on all sides within the normal surface of the needle, substantially as described. 2nd. A sewing machine needle having a recess for engaging the thread, which consists of a notch in the front of said needle and running up towards the butt of the same, the point of the spur of said notch being on all sides within the normal surface of the needle, and the lower surface of said notch being inclined downwards all the way from the long groove side to the short groove side of said needle, substantially as and for the purposes described. 3rd. In a sewing machine needle, the device for engaging the thread, which consists of a notch in the front of said needle and running up towards the butt of the same, the point of the spur of said notch being on all sides within the normal surface of the needle, and the lower surface of said notch being inclined downwards all the way from the long groove side of said needle and also outwards and downwards from the back of said notch, substantially as and for the purposes described. 4th. In a sewing machine needle, the device for engaging the thread, which consists of a notch in the front of said needle and running up towards the butt of the same, the point of the spur of said notch being on all sides within the normal surface of the needle and on the long groove side of the longitudinal centre line thereof, and the lower surface of said notch being inclined downwards from the long groove side to the short groove side of said needle, substantially as and for the purposes described. 5th. In a sewing machine needle having a recess for engaging the thread, the device for strengthening said needle, which consists of providing a line of greater amount of stock along the back of said needle and behind said recess, substantially as described. 6th. In a sewing machine, the combination of (1) a needle having a recess or open eye for engaging the thread, (2) means of operating said needle, (3) means of feeding thread to the same, which consists of a guide and finger, movable from in front of the path of said needle towards and to opposite sides of said path, whereby the thread is carried and distended partially around the needle as it descends, (4) means of operating said guide and finger, and (5) complemental stitch forming mechanism, substantially as described. 7th. In a sewing machine, the combination, of (1) a needle having a recess or open eye for engaging the thread, (2) means of operating said needle, (3) means of feeding thread to the same, which consists of a guide and finger, movable simultaneously in straight divergent lines from in front of the path of said needle towards and to opposite sides of said path, whereby the thread is carried and distended partially around the needle as it descends, (4) means of operating said guide and finger, and (5) complemental stitch forming mechanism, substantially as described. 8th. In a sewing machine, the combination of, (1) a needle having a recess or open eye for engaging the thread, (2) means of operating said needle, (3) means of feeding thread to the same, which consists of a guide finger and movable simultaneously in straight divergent lines from in front of the path of said needle towards and to opposite sides of said path, said guide being adapted to remain in its advanced position during a part of the time of each stitch, whereby the thread is carried and distended partially around the needle as it descends and fed to the long groove thereof, (4) means of operating said guide and finger, and (5) complemental stitch forming mechanism, substantially as described. 9th. In a sewing machine having a needle with a recess or open eye for engaging the thread, the device for operating the thread feeding mechanism of said needle, which consists of the combination of, (1) cam shaped arms journalled as the presser bar, and (2) means of swinging said arms axis as the needle bar reciprocates, substantially as described. 10th. In a sewing machine having a needle with a recess for engaging the thread, the device for operating the thread feeding mechanism of said needle, which consists of the combination of, (1) lugs on the presser bar, (2) cam shaped arms journalled in said lugs, and (3) means for swinging said arms on said axis as the needle bar reciprocates, substantially as described. 11th. In a sewing machine having a needle with a recess or open eye for engaging the thread, the device for operating the thread feeding mechanism of said needle, which consists of the combination of, (1) lugs on the presser bar, (2) cam shaped arms journalled in said lugs, (3) pins on the needle bar adapted to swing said arms in one direction on said axis, as said needle bar reciprocates, and springs adapted to swing said arms in opposition to said pins, substantially as described. 12th. In a sewing machine having a needle with a recess or open eye for engaging the thread, the device for operating the thread feeding mechanism of said needle, which consists of the combination of, (1) lugs on the presser bar, (2) cam shaped arms journalled in said lugs, and (3) pins on the needle bar adapted to swing said arms on said axes as said needle bar reciprocates, substantially as described. 13th. In a sewing machine, the combination of, (1) a needle having a recess or open eye, and (2) means of reciprocating the same, with (3) means of threading said needle upon each downward stroke thereof, consisting of a guide at one side of the path of said needle, and a thread carrier moving in an angular path across the path of said needle, and means of operating the same, and (4) complemental stitch forming mechanism, substantially as and for the purposes described. 14th. In a sewing machine, the combination of, (1) a needle with a recess or open eye for engaging the thread, (2) means of operating said needle, (3) means of feeding thread to the same, which consists of a guide on the presser bar at one side of the path of said needle, and a finger journalled on the presser bar and movable partially around said needle path, whereby the thread is carried and distended partially around the needle as it descends, (4) means of operating said finger, and (5) complemental stitch forming mechanism, substantially as described. 15th. In a sewing machine having a needle with a recess or open eye for engaging the thread, the device for operating the thread feeding mechanism which consists of the combination of, (1) an arm journalled on the presser bar, (2) a cam shaped slot in the path of said arm and adapted to direct said arm out of the path of its motion upon said axis, means of swinging said arm upon said axis and in said slot as the needle bar reciprocates, substantially as described. 16th. In a sewing machine having a needle with a recess or open eye for engaging the thread, the device for operating the thread feeding mechanism which consists of, (1) a lever fulcrumed on the presser bar and bearing a finger pivoted on one arm thereof, (2) means of swinging said lever upon the axis of its fulcrum as the needle bar reciprocates, and (3) a cam shaped slot in the path of said finger bearing arm of said lever, and adapted to direct said finger out of the path of its motion upon the axis of the fulcrum of said lever, substantially as described.

No. 40,603. Travelling Carrier.

(*Appareil pour élever et transporter*)

Wellington Charles Wilcox, Robert Carroll and John B. Vick, all of Toronto, Ontario, Canada, 7th October, 1892; 6 years.

Claim.—A suitably supported endless rope, connected to and supporting a travelling carriage in combination with a hoisting rope, connected to the said carriage and operated by suitable driving mechanism, substantially as and for the purpose specified.

No. 40,604. Tubular Lantern. (*Lanterne tubulaire.*)

The Dominion Tubular Lamp Company, Syracuse, New York, U.S.A., assignee of James Hamilton Ferns, Montreal, Quebec, Canada, 7th October, 1892; 6 years.

Claim.—1st. The combination, with the tubular lantern frame, of a globe plate which is removable toward and from the burner, and provided with a screw threaded rim or flange, and a globe provided at its lower end with a screw threaded portion, substantially as set forth. 2nd. The combination, with the tubular lantern frame, of a

globe plate which is hinged to the lantern frame, and provided with an upwardly projecting screw threaded rim or flange, and a globe provided at its lower end with a screw threaded portion, by which the globe is secured to the threaded rim of the plate, substantially as set forth.

No. 40,605. Apparatus for Making Soap.

(Appareil pour fabriquer du savon.)

Sarah J. Bartlett, assignee of Milton Josiah Palmer, both of Toledo, Ohio, U. S. A., 7th October, 1892; 6 years.

Claim. 1st. In an apparatus for the saponification of fatty substances, the combination, with an outer cylinder and an inner concentric cylinder, of a main pipe in communication with the interior of the inner cylinder and provided with a steam jacket, a receptacle for alkali and a receptacle for fatty matter in communication with the main pipe below the steam jacket, a steam supply pipe in communication with the annular space between the cylinders and with the steam jacket, and a supplemental receptacle in communication with the main pipe above the steam jacket, said pipe being provided with a valve above and a valve below the steam jacket, for the purposes set forth. 2nd. In an apparatus for the saponification of fatty substances, a steam jacketed cylinder, a pipe communicating with the interior cylinder and the material to be introduced therein, in combination with a revoluble dasher or stirrer, and a concentric agitator geared to revolve in a direction opposite to that of the reel, as and for the purpose set forth. 3rd. The herein described agitating mechanism, comprising a dasher formed with V-shaped floats or buckets longitudinally thereof, a rectangular frame journalled within the dasher, in combination with gearing connected therewith to revolve the dasher and frame in opposite directions, as and for the purpose set forth. 4th. In combination, with a steam jacketed cylinder, a dasher journalled within the cylinder and an agitator geared to revolve in an opposite direction to the revolution of the dasher, and with an increased velocity by means of gearing upon shafts in parallel relation with the axis of the cylinder, and intermeshing with the gearing on the agitator shaft, as and for the purpose set forth.

No. 40,606. Open Fire Place Heater.

(Calorifère de cheminée.)

George R. Scates and Elbert S. Rogers, both of Knoxville, Tennessee, U. S. A., 7th October, 1892; 6 years.

Claim. 1st. In a heater of the class described, a fire box having opposite studs 15 combined with the U shaped frame having curved terminals and curved slats moving on the studs the grate secured to the ends of the terminals and a stop for the grate, substantially as specified. 2nd. In a heater of the class described, a fire box having opposite studs 15 combined with the U shaped frame having curved terminals and curved slots moving on the studs, the grate secured to the ends of the terminals, and a series of deflecting angular ribs or tubes secured to the inner wall of the fire box, the lower ends of said tubes forming stops for the inner end of the grate, substantially as specified. 3rd. In a heater of the class described, the combination with the fire box, the hot air box located in rear thereof, the smoke pipe leading from the upper end of the fire box and communicating with the upper end of the hot air box, cold air inlets for the hot air box, transverse pipes through the hot air box, vertical pipes leading from the cold air inlets to the transverse pipes, pipes between the fire box and hot air box, and a movable deflecting plate pivotally supported below the pipes between the fire and hot air boxes, substantially as specified. 4th. In a heater of the class described, the combination with the fire box, the hot air box, pipes between the same, air pipes located in the hot air box, and smoke pipes leading from the box, of opposite curved ways secured to the inner walls of the fire box, a shaft having its ends resting in the ways, a deflecting plate connected to the shaft, and arms pivoted concentric to the ways and to the shaft, substantially as specified. 5th. The combination with the fire box, having the smoke pipe, the damper located in the lower end of the smoke pipe of the hot air box mounted on the hollow base, having air inlets, a pipe connecting the upper end of the hot air box with the smoke pipe and pipes leading from the hollow base to the front and upper end of the air box, substantially as set forth. 6th. The combination with fire box, having the smoke pipe, the damper located in the lower end of the smoke pipe, of the hot air box mounted on the hollow base having air inlets, a pipe connecting the upper end of the hot air box with the smoke pipe, transverse pipes extending through and through the upper end of the hot air box, and pipes leading from the hollow base to the transverse pipes, substantially as specified. 7th. In a heater of the class described, the combination with the fire box having the smoke pipe, the hot air box provided with a hollow base, air pipes leading from the base to the upper end of and discharging from the hot air box, and adjustable pipe sections leading from the backs of the fire and hot air boxes and from the smoke pipe and telescopically connecting with each other, substantially as specified. 8th. The chimney having the chimney opening 5, internal flues having register boxes 7, the smoke pipe 4, and the floor 6, having the opening 7, and the cold air pipe 8, communicating with the opening, combined with the facing frame 13, having the perforations 14, and the opening, the hot air box 9 located in the chimney opening in rear af the opening in the facing frame, and communicating with the pipe 4 by the elbow 10, the damper 11 located in the elbow, the perforations located in the back of the fire box below the grate, the hot air box 23, the pipes 31 connecting the same with the fire box, the pipe 22 connecting the upper end of the hot air box with the elbow, the hollow base having the opening 25, the transverse pipes 27 located in the hot air box, and the vertical pipes 29 connecting the hollow base with the transverse pipes 27, the latter having their ends opened, substantially as specified.

No. 40,607. Oven and Tray.

(Four de boulangerie et plateau.)

The Adair Syndicate, London, England, assignee of John Adair, Waterford, Ireland, 7th October, 1892; 6 years.

Claim. 1st. A baker's and confectioner's oven, which is divided into decks by pipes or flues which form the floors of the said decks, said pipes or flues being arranged at intervals to provide for the free circulation of hot air between the same, for the purpose specified. 2nd. A baker's and confectioner's oven, constructed with tubular floors for each deck through which the gases for heating the oven circulate, in combination, with dampers for giving to each floor of the chamber the power of taking in the hot gases at the front or back of the oven, substantially as and for the purpose specified. 3rd. In a baker's and confectioner's oven, the combination, with the tubular floors F, of hollow cross girders G, with which the tubular floors connect said cross girders, having soot doors to admit of cleaning the tubes F, substantially as described. 4th. In a baker's and confectioner's oven, the combination, with the tubular floors F, of hollow cross girders G, with which the tubular floors connect said cross girders, having soot doors to admit of cleaning the tubes F, tubes H, connecting the hollow girders G, said tubes H, having sand joints at both ends thereof and dampers in said tubes, substantially as described. 5th. In a baker's and confectioner's oven, a tray constructed of tubular framework mounted to slide on stretched rods fixed at one end to the oven and at the other end to a support outside the oven, substantially as described. 6th. In a baker's and confectioner's oven, the combination, with the furnace, of a non-conducting door placed in front of and at some distance from the ordinary furnace front, substantially as described and for the purpose specified. 7th. In a baker's and confectioner's decker oven, having a tubular floor for each deck, an iron grating resting on the tubular floor, in combination, with tiles on same as a method of arranging floors for bakers' peels to work on, substantially as described. 8th. In a baker's and confectioner's oven, having a tubular floor for each deck, placing the main furnace dampers at the front of the oven, substantially as described for the purpose specified.

No. 40,608. Ventilator. (*Ventilateur.*)

William McFarlane, Toronto, and James Wright, Stratford, both of Ontario, Canada, 7th October, 1892; 6 years.

Claim.—1st. An improved ventilator, consisting of the inner casing A, and the outer casing B, having openings *b*, to the sides of which are hinged the wings or doors C, as and for the purpose specified. 2nd. As an improved ventilator, the inner casing A, and the outer casing B, the upper part of which is tapered, while the lower part is cylindrical, and has opening *b*, to the sides of which are hinged the wings or doors C, as and for the purpose specified. 3rd. The combination, with the inner casing A, and outer casing B, having opening *b*, provided with hinged doors C, of the cap D, having a cone shaped lower portion the apex of which is supported over the centre of the cylindrical casing or pipe A, as and for the purpose specified. 4th. The combination, with the inner casing A, and the outer casing B, having openings *b*, at the sides of which are hinged the doors or wings C, of the base plate E slanting from the centre to the outside edge, having holes *f* leading through the outer ring to the outside of the casing B, as and for the purpose specified. 5th. The combination, with the inner casing A, and the outer casing B, having openings *b*, at the sides of which are hinged the doors or wings C, of the damper *g*, located in the pipe or flue G, as and for the purpose specified.

No. 40,609. Flask for Making Seamless Sash Weights. (*Chassis pour le moulage des poids de croisée.*)

Addison Stevens Hodges, Chelsea, Massachusetts, U. S. A., 7th October, 1892; 6 years.

Claim. 1st. The non divided flask *a*, *a*, having stays a^1, a^{11}, and the detachable mould boards *b*, having recessed pattern supports b^1, b^{11}, b^{11} secured to it, combined with the patters *d*, *d*, the adjustable supports d^5, d^5, the bottom board *c*, and the bar *g*, with its points g^1, g^1, and means for forming the perforated eye, substantially as and for the purpose set forth. 2nd. The non divided flask *a*, *a*, having stays a^1, a^{11}, and the detachable mould *b*, having the recessed pattern supports b^1, b^{11}, b^{11}, and the bottom board *c*, combined with the patterns *d*, *d*, *e*, the adjustable pattern supports b^5, and points g^1, and the detachable bars *f*, F adapted to rest in grooves on the flask, and having the regulating screws f^1, F, substantially as and for the purpose set forth. 3rd. The non divided flask *a*, *a*, having the stay a^1, a^{11}, in combination with the detachable end boards A, A, the bottom board *c*, and substantially as described, for forming the perforated head of the sash weight, as and for the pur-

pose set forth. 4th. The device for making the mould for the perforated sash weight heads as described, consisting of the tube n, the removable pattern I^1, and plug K, all arranged and combined to operate in a manner, substantially as specified. 5th. The device for making the moulds for the perforated sash weight heads consisting of the tube n, the removable pattern I^1, and plug K^1 combined with the detachable letter or figure pattern I^4, substantially as and for the purpose set forth. 6th. The device for making the mould for the perforated sash weight heads consisting of the tube n, the removable pattern I^1 having a tapering recess in its upper end, and core print I^3, combined with the detachable plug K^1, and detachable letter or figure pattern I^4, substantially as and for the purpose set forth.

No. 40,610. Joint for Spectacle Frames, etc.

(Joint pour cadres de lunettes, etc.)

Benjamin I. Price, Denver, Colorado, U.S.A., 7th October, 1892; 6 years.

Claim.—1st. In a joint for spectacle frames, the bar 1 composed of sections 3 and 4, the shape of the contact surface of these sections being indicated by the zigzag or broken line 5, the bar thus formed being provided with the cylindrical bearing 10 and an opening for a pin as described, the temple 7 provided with a concavo-convex extremity 8, having a slot 9 and the pin 12, provided with threads 13, these elements being arranged and connected substantially as described. 2nd. A bar divided on a tortuous line 5 into two sections 3 and 4, and terminating at one extremity in the cylindrical bearing 10, the two sections being united by a suitable locking pin, substantially as described. 3rd. In a joint, the combination of a solid bar 1, provided with a cylindrical part 10, a concavo-convex part 8, provided with a slot 9 and adapted to fit nicely upon cylindrical part 10, and locking pin 12, the bar 1 being provided with an opening for the reception of said pin, substantially as described. 4th. In a joint for spectacle frames, the bar 1 composed of sections 3 and 4, the shape of the contact surface of these sections being indicated by a zigzag or broken line, the bar thus formed being provided with a cylindrical bearing 10 and an opening for a locking pin as described, the temple 7, provided with a concavo-convex extremity having a slot 9, and a suitable locking pin, all arranged and connected substantially as described. 5th. A bar divided on a zigzag or broken line 5 into two sections, 3 and 4, and terminating at one extremity in the cylindrical joint bearing 10, the two sections being united by a suitable locking pin, substantially as described. 6th. In a joint for spectacle frames, the bar 1 composed of sections 3 and 4, the shape of the contact of these sections being indicated by the tortuous line 5, the bar thus formed being provided with a cylindrical bearing 10, the temple 7 being provided with a concavo-convex extremity having a slot 9, sections 3 and 4 being united by a suitable locking pin, substantially as described.

No. 40,611. Support for Whip Sockets.

(Support pour arrielles de fouet.)

Alexander E. Tulloch, Leadville, Colorado, U.S.A., 7th October, 1892; 6 years.

Claim.—1st. A whip socket support, consisting of a stem having a flange integral therewith and projecting laterally therefrom and provided with diverging limbs adapted to be secured to a vehicle seat. 2nd. A whip socket support, consisting of a stem having a laterally extending flange integral therewith at its upper end, said flange being bent downward at a point between the stem and its inner end and provided at its inner end with diverging limbs adapted to be secured to a vehicle seat. 3rd. The combination, with a vehicle seat, of a support consisting of a stem adapted to receive a whip socket, and having a laterally extending flange integral therewith at its upper end, said flange being bent downwardly at a point between the stem and its inner end, and provided at its inner end with diverging limbs adapted for attachment to the vehicle seat.

No. 40,612. Cistern. (*Citerne.*)

Caleb Smith Johnson, Beaufort, South Carolina, U.S.A., 7th October, 1892; 6 years.

Claim.—1st. In a cistern, an overflow pipe having a conical inlet and provided with a lower convex face, substantially as set forth. 3rd. The combination, with a cistern tapering downwardly and inwardly from its upper to its lower end, of an overflow pipe having a conical deflector on its lower end overhanging the bottom of the cistern and of nearly as great diameter, a narrow space being formed between the lower edge of the deflector and contracted lower end of the cistern, whereby the sediment will be drawn from the entire bottom of the cistern, substantially as set forth. 3rd. The combination, with the cistern, having a contracted lower end and a concave bottom, of an outlet pipe having a conical deflector and a convex lower face, a narrow space being formed between the lower marginal edge of the deflector and the lower end of the cylinder, and between said convex and concave surfaces, substantially as set forth. 4th. As an improved article of manufacture, a cistern provided with a cover, a supply pipe projected through the cover, an overflow pipe projected through one side of the cistern, a conical deflector secured to the overflow pipe near its lower end and a block attached to the lower extremity of said overflow pipe having a bore registering with the bore of the tube, substantially as and for the purpose specified. 5th. The combination, with a cistern, of a supply pipe projected through the upper portion of the same, an overflow pipe projected through the side and downward near the bottom of the cistern, the said overflow pipe being provided with a detachable cap at its outer end, a conical deflector secured to the said overflow pipe at or near its lower end, and a block attached to the lower extremity of the overflow pipe provided with a vertical bore registering with the bore of the pipe, all combined for operation, substantially as and for the purpose specified.

No. 40,613. Water Heater. (*Calorifère à eau.*)

Lucius Lewellyn Culver, St. Louis, Missouri, U.S.A., 8th October, 1892; 6 years.

Claim.—1st. In a water heater, the combination of the superposed water sections, having the slotted lugs 17, and the keys 16 fitting in said slots, substantially as and for the purpose set forth, 2nd. In a water heater, the combination of independent water sections arranged around and forming the wall of the fire box and diametric sections being connected together in pairs, independent series of water sections connected with said pairs of fire box sections respectively, and commingling boxes connecting a number of said series of sections together, substantially as and for the purpose set forth. 3rd. In a water heater, etc., the combination of the lower sections, a supply pipe communicating with the lower section, a top box, two or more intermediate and independent series of flat sections connected with said top box, and each having a number of flat tubes, substantially as and for the purpose set forth. 4th. In a water heater, etc., the combination of the independent lower sections, supply pipes communicating with the lower section, top commingling boxes and intermediate sections, each consisting of flat diamond shaped tubes arranged with spaces between them, said intermediate heating sections being superposed and arranged in independent series, and communicating with the top boxes, substantially as and for the purpose set forth. 5th. In a water heater, etc., the combination of the lower sections provided with supply pipes, top boxes with which the hot water pipes communicate, and intermediate sections consisting of a number of flat tubes, arranged with spaces between them, slotted lugs on said sections, and keys fitting in said lugs, substantially as set forth. 6th. In a water heater, etc., the combination of independent water sections forming the lining of the fire box, pipes connecting the diametrically opposite sections together, and water sections arranged in independent series over and communicating with each pair of the fire box sections, substantially as and for the purpose set forth. 7th. In a water heater, etc., the combination of independent water sections forming the lining of the fire box, pipes connecting the opposite sections together, water sections arranged in independent series over and communicating with each pair of the fire box sections, the top commingling boxes connecting the fire box sections, and the top commingling boxes, all substantially as and for the purpose set forth.

No. 40,614. Electric Motor. (*Moteur électrique.*)

Ernest M. Gardner Hewett, Boston, Massachusetts, U. S. A., 8th October, 1892; 6 years.

Claim.—1st. An electric motor, comprising a series of circularly arranged electro magnets, an armature composed of bars of soft iron or other suitable substance similarly arranged, the relative numbers of the electro magnets and the armatures being odd and even, one with respect to the other, a commutator composed of as many segments as there are electro magnets, times the number of armatures, a commutator brush, and suitable connections, substantially as described. 2nd. The combination with circularly arranged electro magnets and circularly arranged piedes or bars forming armatures, of the segmental commutator, a suitable brush, and requisite connections for operation, substantially as set forth. 3rd. The combination with the stationery electro magnets and a stationary segmental commutator, each electro magnet connected with one segment of the commutator, forming a group of segments corresponding with the number of electro magnets and each of these segments connecting with a corresponding segment in the next group, of the commutator, of revolving pieces or bars of soft iron or other suitable substance, forming armatures for the electro magnets, the numbers of the armatures and electro magnets being relatively odd and even, or even and odd, and the number of groups of segments of the commutator corresponding with the number of armatures, and a revolving brush, substantially as described 4th The combition with the electro magnets and a segmental commutator, of connections leading from a source of supply of electricity, to each electro magnet, and from each electro magnet directly to a respective segment of the commutator, each segment of the commutator directly connected with an electro magnet being connected with a segment not directly connected with an electoo magnet, and a suitable commutator brush, substantially as set forth. 5th. The combination of the electro magnets, the armatures composed of bars of soft iron, or the like, the segmental commutator, and the brush, the commutator being provided with the rings for connecting certain segments, substantially as and for the purposes described.

No. 40,615. Coin Actuated Vending Machine.

(Appareil de vente actionné par une pièce de monnaie.)

Robert Moran, Seattle, Washington, U.S.A., 8th October, 1892; 6 years.

Claim. 1st. In a coin actuated vending machine, the combination of upper and lower horizontally disposed revoluble screws, between which the articles to be vended are supported and by which said articles are held in an upright position, and a mechanism depending for its operation upon the deposit of a coin in the machine for revolving said screws, whereby the articles are advanced to their discharge, substantially as herein described. 2nd. In a coin actuated vending machine, the combination of two or more revoluble screws supporting between them the articles to be vended, said articles fitting their edges between the threads of said screws, and a power device depending for its operation on the deposit of a coin in the machine for revolving said screws, whereby the articles are advanced to their discharge, substantially as herein described. 3rd. In a coin actuated vending machine, the combination of separated screws, between the threads of which the articles to be vended are fitted, connections between said screws, whereby they operate in unison, a power device applied to one of said screws, and a controlling mechanism operated by the deposit of a coin in the machine for starting and stopping the power device, substantially as herein described. 4th. In a coin actuated vending machine, the combination of revoluble screws, between the threads of which the articles to be vended are fitted and supported at opposite sides, a follower plate fitted to said screws for supporting said articles and accompanying them in their advance, a power device to revolve said screws, and a controlling mechanism operated by the deposit of a coin in the machine for starting and stopping the power device, substantially as herein described. 5th. In a coin actuated vending machine, the combination of the revoluble screws, between the threads of which the articles to be vended are fitted and supported at opposite sides, and the parallel rests L, L, beside said screws for supporting the lower edges of the articles, substantially as herein described. 6th. In a coin actuated vending machine, the combination of the separated lower screws, between the threads of which the articles to be vended are fitted, the upper screw connections by which said screws are revolved in unison, and the follower plate behind and supporting the articles to be vended and having its lower edge fitted between the threads of the lower screws and its upper edge fitted to the threads of the upper screw, substantially as herein described. 7th. In a coin actuated vending machine, the combination of the lower screws, between the threads of which the articles to be vended are fitted, the upper screw, connections for revolving said screws in unison, the follower plate fitted to said screws above and below and supporting the articles to be vended, a power device applied to one of said screws, and a controlling mechanism operated by the deposit of a coin for starting and stopping the power device, substantially as herein described. 8th. In a coin actuated vending machine, the combination of a feed screw, between the threads of which the articles to be vended are fitted, a power device applied to the rear end of said screw for rotating it, a stop on the shaft of the feed screw and rotatable with said shaft, a pivoted trip lever having a shoulder engaged by said stop, whereby the movement of the screw is arrested, and a coin chute adapted to discharge upon the outer end of the lever to release the shoulder thereof from engagement with the stop, substantially as herein described. 9th. In a coin actuated vending machine, the combination of a feed screw, between the threads of which the articles to be vended are fitted, a shaft upon which a screw is carried, a hub at the inner end of the shaft, a winding drum also on said shaft, a cord leading from aid drum and having a weight upon its outer end, whereby the shaft is rotated, a stop J secured to and rotating with the shaft, a pivoted trip lever having a shoulder in the path of the rotatable stop for arresting the movement of the latter and of the shaft, and a coin chute adapted to direct a coin upon the outer end of the lever to operate it and release the stop, substantially as herein described. 10th. In a coin actuated vending machine, the combination of the coin chute having an entrance slot, means for automatically closing said slot when the machine is exhausted, consisting of the oscillatory plug in said chute behind the entrance slot and having a slot made through it, a catch arm projecting from the side of the plug, a spring engaging the plug to hold the slot out of line with the entrance slot, whereby the latter is closed, a pivoted lever engaging and tripping said catch arm, and the follower plate within the machine having a side arm for operating the lever, substantially as herein described. 11th. In a coin actuated vending machine, the combination, of the feed screw, into the threads of which the articles to be vended are placed, means for operating the screw, the discharge slot contiguous to the discharge end of the screw having the receptacle behind it, and the downwardly swinging plate or shutter over the top of said receptacle, substantially as herein described. 12th. In a coin actuated vending machine, the combination, of the feed screw and its operative mechanism, the discharge slot having the receptacle behind it, the automatically swinging shutter or plate above said receptacle and contiguous to the discharge end of the screw, and the flange with its guard lip for protecting said shutter or plate, substantially as herein described. 13th. In a coin actuated vending machine, the combination, of the upper and lower horizontally disposed revoluble screws, and means for operating the same, and a follower plate having spring plates at its opposite ends fitted between the threads of the screws, whereby the plate is moved forward, substantially as herein described. 14th. In a coin actuated vending machine, the feed screws thereof, in combination, with sprocket pulleys having the hubs C, with which the inner ends of the screws are removably connected, the brackets Q, in which the inner ends of the wheel hubs are fitted, and the pointed bearing pins mounted in said brackets and passing through the sprocket wheel hubs into the ends of the screws, substantially as herein described. 15th. In a coin actuated vending machine, the feed screws having a removable connection at their inner ends, in combination, with the removable brackets R, at their outer ends, said brackets having the pointed bearings and slotted feet, and the set screws over which said feet are fitted, substantially as herein described. 16th. In a coin actuated vending machine, the combination of the feed screw, the revolving spring stop connected therewith, the trip lever having the catch shoulder with which the stop engages, and the buffer or cushion behind the stop to take up the jar or contact, substantially as herein described.

No. 40,616. Gas Engine. (*Machine à gaz.*)

Charles White and Arthur Raphael Middleton, both of Baltimore, Maryland, U.S.A., 8th October, 1892; 6 years.

Claim. 1st. In a gas engine, a cylinder, having a main exhaust, a piston therein, a supplemental valved exhaust passage from the explosion chamber, and means for opening the supplemental valve to discharge the exploded contents under action of the piston, substantially as described. 2nd. In a gas engine, a cylinder having a main exhaust, a piston therein, a supplemental valved exhaust passage from the explosion chamber, and automatic means for opening said supplemental valve to discharge the exploded mixture, substantially as described. 3rd. In a gas engine, a cylinder, a piston therein having a passage through its head to the exhaust, a valve controlling said passage, and means for operating the valve, substantially as described. 4th. In a gas engine, a cylinder, a piston having a passage through the same leading to the exhaust, a valve controlling said passage, and automatic means for opening said valve, substantially as described. 5th. In a gas engine, a cylinder, a piston having a valved passage through the same, a spring for operating said valve in one direction, and positive means for operating it in the other direction, substantially as described. 6th. In a gas engine, a cylinder, a piston having a valved passage, and means for moving the valve operated by the oscillation of the piston rod, substantially as described. 7th. In a gas engine, a cylinder, a piston having a valved passage, a spring for keeping the valve in one position, and means for operating the valve positively on every alternate reciprocation of the piston, substantially as described. 8th. In a gas engine, a cylinder, a piston having a valved passage, and a star wheel operated by the movement of the piston rod to alternately present its projections and spaces in the path of the valve stem, substantially as described. 9th. In a gas engine, a cylinder, a piston having a valved opening leading to the exhaust, a piston rod, a star wheel, a ratchet wheel in connection therewith, and a pawl, these parts being carried by the piston and rod, the pawl engaging the ratchet to move the same under the oscillation of the piston rod, substantially as described. 10th. In a gas engine, a cylinder, a piston having a valved opening, a piston rod, a star wheel carried on an extension of the rod, a ratchet wheel connected therewith, and a pawl carried by the piston for engaging the ratchet and moving the same with the star wheel under the oscillation of the piston, the said valve having a stem in the path of the movement of the star wheel, substantially as described. 11th. In a gas engine, a cylinder, a piston, an igniting opening, a spring ring for closing said opening, said ring being connected to a slide and means for operating the slide, substantially as described. 12th. In combination with a gas engine, the igniter, provided with a passage extending through the cylinder to the explosion chamber, a ring closing this opening, a slide tube carrying the spring ring, a spring for keeping the slide normally forward, and means for moving the slide positively in the opposite direction, substantially as described. 13th. In combination with a gas engine having an igniting opening to the explosion chamber, a spring ring for covering said opening, a sliding tube carrying said ring, a block having its stem projecting through the cylinder head, and a stud or projection on the piston for operating said stem to uncover the igniting opening, substantially as described. 14th. In combination with a gas engine, an igniting opening, a slide valve covering the same, said valve and the operating parts connected therewith being located in a recess in the end of the cylinder head, an oil cup in connection with said recess having a valve, and a valve located in a recess in the inner face of the cylinder head, substantially as described. 15th. In a gas engine, a cylinder, a piston, a gas supply pipe, a valve therein, and controlling means therefor operated by a cam on the crank shaft, a weighted governor lever, a laterally movable disc adapted to be acted upon by the cam on the crank shaft under ordinary conditions, and a laterally movable block operated by the governor to deflect the laterally movable disc and thus miss an explosion, substantially as described. 16th. In a gas engine, a cylinder, a piston therein, a gas pipe and valve, a rod for operating said valve, a part slide with yielding means between, a cam on the crank shaft, and a shifting disc carried by one of the slides with means for shifting the same, substantially as described. 17th. In a gas engine, a cylinder, a piston, a gas pipe and valve, a cam on the crank shaft, an operating connection between said shaft and valves,

a shifting disc forming part of said connection and means for shifting the same under the action of a governor weight, substantially as described. 18th. In combination, with a gas engine, a gas pipe and valve, a rod having an arm adapted to engage with said valve, a slide connected to said rod, a second slide with an interposed spring between the two slides, a shifting disc on the end of the slide c^1, a cam on the shaft, a sliding block and a governor lever for moving said block laterally to shift the disc, said block having an inclined end, substantially as described. 19th. In combination, with a valve in the explosion chamber of a gas engine, and with means for opening said valve during every alternate reciprocation of the piston, a gas pipe and valve and means for controlling the inlet of the gas consisting of an operating rod, a slide connected thereto, a recessed disc carried by the slide and having a ratchet wheel on one end, the recesses being of different depth alternating in position, a second slide with a spring interposed between the two, a pin for engaging the recesses of the disc, a pawl carried by the second slide and engaging the ratchet of the first, and means for controlling the second slide, substantially as described. 20th. In combination, with the alternately operated valve in the explosion chamber of the cylinder, means for controlling the valve in the gas pipe, consisting of an operating rod, a slide connected therewith carrying a recessed disc and ratchet wheel, a second slide with a spring interposed between the two, said slide having a pin and pawl, a laterally movable disc on the end of the slide q^1, a cam a^1 for operating said disc, a shifting block for moving the disc laterally, and a second cam a^2 for operating the disc in its shifted position, substantially as described. 21st. In a gas engine, an igniting opening, a valve therefor, a recess in the cylinder head to receive the parts of the igniter, an oil cup and a valved passage between the oil cup and the recess, substantially as described. 22nd. In a gas engine, an igniting opening, a valve therefor, carried by a sliding tube, an oil cup, a tube as x for directing oil to the sliding tube, said sliding tube having an opening or openings through its walls, substantially as described. 23rd. In a gas engine, an igniting opening, a valve therefor carried by a sliding tube, an oil cup, a passage extending through the cylinder head, a valve v therein, said passage opening into a recess in the cylinder head above the line of the sliding tube, substantially as described.

No. 40,617. Log Turner. (*Tourne billot.*)

Theodore S. Wilkins, Milwaukee, Wisconsin, U.S.A., 8th October, 1892 ; 6 years.

Claim. 1st. In combination with the toothed bar, a cylinder n, provided with a piston connected with the lower end of the bar, a cylinder G, having a piston that is connected with the upper end of the bar, and means for controlling the admission of a fluid under pressure to the cylinders. 2nd. In combination with the toothed bar F, an upright cylinder K, a piston working within the same and having its rod connected with the bar, a horizontal cylinder G, and a piston working therein and having its rod connected with the upper end of the bar. 3rd. In a log-turner, the combination with the reciprocating bar of a guide for the upper end of the same, and means for moving the guide positively backward and forward, away from and toward the log carriage, all substantially as shown. 4th. In a log-turner, the combination with the reciprocating bar pivoted at its lower end, of a laterally moving guide for the bar applied to the upper end of the latter, and means for moving the guide and bar positively backward and forward, away from and toward the log carriage, all substantially as shown. 5th. In a log-turner the combination with the reciprocating bar pivoted at its lower end and actuated by a fluid under pressure of a guide for the bar, also actuated by a fluid under pressure. 6th. In a log turner, the combination, with the reciprocating bar, of a cylinder G in the line with and in rear of the upper end of the bar, and a piston rod H, working within the cylinder and connected with the bar. 7th. In a log turner, the combination, with the grooved or recessed bar F and means for reciprocating the same longitudinally, of guide block or frame J, provided with rollers f, f, to enter the grooved sides of the bar, and means for actuating the guide block. 8th. In a log turner, the combination with the grooved or recessed bar F, and means for imparting a longitudinal movement thereto, of a guide block I, provided with rollers f, f, to enter the grooves in the bar, and with a roller g, to bear against the rear face thereof, and means for operating the guide block. 9th. In a log turner the combination with the grooved bar F, and means for reciprocating the same, of a guide block J, provided with lateral flanges e, e, and rollers f, f, grooved guides J, J, adapted to receive the guide block, and means for reciprocating the guide block.

No. 40,618. Car Trucks for Electric Motors.

(Chassis pour moteurs électriques.)

George Martin Brill, Philadelphia, Pennsylvania, U. S. A., 10th October, 1892 ; 6 years.

Claim.—1st. The combination, in a wheeled vehicle having side beams carried by the axle boxes, of a motor pivotally supported at one end on the axle of the vehicle and the free end supported from the side beams, the point of the support of the free end of the motor being above its free end, substantially as described. 2nd. The combination, in a wheeled vehicle having side beams carried by the axle boxes, of a motor pivotally supported at one end on the axle of the vehicle and the other end supported from the side beams, the point of union of the side beams and side support being below the normal horizontal axis of the motor, substantially as described. 3rd. The combination, in a wheeled vehicle having side beams carried by its axle boxes, of a motor pivotally supported at one end on the axle and the free end detachably and spring supported from the side beams, the point of union of the said beams and said detachable support being below the normal horizontal axis of the motor, substantially as described. 4th. The combination in a wheeled vehicle having side beams carried by the axle boxes, of a motor pivotally supported at one end on the axle of the vehicle, the free end detachably and spring supported from the side beams, the point of support of the free end of the motor being above its free end, substantially as described. 5th. The combination, in a wheeled vehicle having side beams supported on the axle boxes, of a motor pivotally supported upon the axle of the vehicle at one end, and means for supporting the free end of the motor located above such free end and mounted on said side beams, substantially as described. 6th. The combination, in a wheeled vehicle having side beams, of a motor pivotally supported upon the axle at one end, and devices for spring supporting the free end of the motor, secured to the side beams and disposed above the free end of the motor, substantially as described. 7th. In a wheeled vehicle having side beams secured to its axle boxes, a transverse channel beam secured to the side beams, upwardly extending pillars secured to the channel beams, a horizontally disposed bar supported by the pillars, and a jaw bolt carrying springs depending from the said bar, in combination with a motor pivotally suspended upon the axle of the vehicle at one end and its free end engaging said springs, substantially as described. 8th. The combination, in a wheeled vehicle having side beams hung from its axle boxes, of a motor pivotally suspended at one end upon the axle of the vehicle and detachably secured at the free end to said side beams, the parts being so arranged that the motor can be rotated downward on its pivotal support clear of the truck framing, substantially as described. 9th. The combination, in a device for detachably supporting the free end of a motor, of side beams on the axle boxes of a truck, a transverse beam connecting the side beams, an upwardly extending support on the transverse beam, and a bolt adapted to carry springs, and locking devices for the same depending from said upwardly extending support, substantially as described. 10th. The combination, with a motor provided with a lug Q, pivotally supported on a truck, said truck having side beams C, and the hanger bar G, carried by a pillar E, said pillar being supported on the side beams, of the jaw-bolt H, pivotally supported from the hanger bar, and springs detachably secured on the jaw-bolt and in contact with the lug Q of the motor, substantially as described. 11th. The combination, with a motor provided with a lug Q, pivotally supported on a truck, said truck having side beams C, and the hanger bar G, carried by a pillar E, said pillar being supported on the side beams, of the jaw-bolt H, pivotally supported from the hanger bar, springs L, L^1, spring plates J, J^1, and means for releasing the free end of the motor carried by the jaw-bolt, substantially as described.

No. 40,619. Circular Knitting Machine.

(Machine à tricot circulaire.)

The Byfield Manufacturing Company, assignee of John Bradley, all of Chelmsford, Massachusetts, U.S.A., 10th October, 1892 ; 6 years.

Claim. 1st. A stitch wheel for knitting machines provided with blades having nibs to engage the yarn, the edges of the blades being inclined inward and downward from the nibs, as set forth. 2nd. The combination with the needles, yarn guides and means for operating the latter, of a stitch wheel, a plate above the outer or upper face or end of the said wheel, and a pivoted block adapted to bear by its own gravity upon said plate, as set forth. 3rd. The combination with the needle, yarn guides and means for operating the latter, of a stitch wheel, a plate above the outer or upper face or end of the said wheel, and a pivoted block adapted to bear by its own gravity upon said plate, and a dividing wheel provided on its upper end with a cutting disc p^1, as set forth. 4th. The combination with the needle cylinder provided with a cam, the needles and a plurality of yarn guides, of a rotary pattern disc provided with ratchet teeth, ratchet wheel u, and cam plate s secured thereto, ratchet wheel r, spring actuated dog y, provided with pin a^1, stationary cam finger b, lever m, provided with arms o and d^1, and dog or pawl c^1, as set forth. 5th The combination with the needles, stitch wheel and reciprocating yarn guides, of the dividing wheel and the sharp edged disc p^1, thereon, as set forth. 6th. The combination with the needle cylinder provided with a cam, the needle, and a plurality of pivoted yarn guides, of the pattern disc provided with pins or projections to engage the heels of the yarn guides and actuate the same, and mechanism substantially as herein shown and described for actuating the pattern disc from the cam on the needle cylinder, all as set forth.

No. 40,620. Waste End Conveyor for Carding Machines. (*Tuyau de décharge pour machine à carder.*)

Benjamin James Craggy, Gustavus Augustus Olzendam and Edwin Otis Wilson, all of Manchester, New Hampshire, U.S.A., 10th October, 1892; 6 years.

Claim. 1st. A waste conveyor for carding machines consisting of receiving pipes extending one end or part of the machine, a blast fan with which the receiving pipes communicate, and a delivery pipe extending from the blast fan to the feed box or other receptacle or point. 2nd. In a carding machine, the combination with the feed box and condensing rolls, of pipes or tubes extending from the point of delivery of the extreme side threads of roving, a blast fan with which said pipes communicate, and a delivery pipe extending from the blast fan to the feed box or other receptacle or point, as set forth.

No. 40,621. Boiler Furnace. (*Foyer de chaudière.*)

Earl Andrews Wheeler, Sharon, Pennsylvania, U.S.A., 10th October, 1892; 6 years.

Claim.—1st. In a boiler furnace, a heating space, a pedestal or support arranged therein, a boiler mounted thereon, and a burner or grate on each side of said pedestal. 2nd. In a boiler furnace, a heating space, a hollow pedestal or support arranged therein, a boiler mounted thereon, and a burner or grate on each side of said pedestal, substantially as described. 3rd. In a boiler furnace, a heating space, a hollow pedestal or support, a boiler mounted thereon, a burner or grate on each side of the pedestal, passages from the interior of the pedestal to a point above the grate or burner, substantially as described. 4th. In a boiler or furnace, a series of pedestals, a series of boilers mounted thereon, vertical tubes connecting said boilers with the upper set of boilers, connections from said upper set to a steam drum, burners or grates upon each side of the pedestals, and air flues leading from the hollow interior of the pedestals to a point above the grates or burners, substantially as described.

No. 40,622. Car Truck for Electric Motors.

(*Chassis pour moteurs électriques.*)

George Martin Brill, Philadelphia, Pennsylvania, U.S.A., 10th October, 1892; 6 years.

Claim.—1st. In a swiveling truck for electrically propelled cars, the combination, with the frame of the truck, of the driving wheels larger in diameter than the truck wheels, and an electric motor, one end of which is spring supported from the frame of the truck, and connections between the armature of the motor and the driving wheels, substantially as described. 2nd. In a swiveling truck for electrically propelled cars, the combination, with the frame of the truck, of the driving wheels larger in diameter than the truck wheels, a motor connected to the driving wheels, and a king bolt supported by the frame work to the rear of a line drawn semi-distant from the truck axles, substantially as described. 3rd. In a swiveling truck for electrically propelled cars, the combination, of the frame work of the truck, the rear trailing wheels supported in boxes in the truck, forward driving wheels also supported in boxes in the truck, the driving wheels being of larger diameter than the trailing wheels, a motor connected to the driving wheels, and a king bolt mounted on the frame of the truck at the rear of a line drawn semi-distant from the truck axles, substantially as described. 4th. In a swiveling truck for electrically propelled cars, the combination, of the truck frame, the enlarged driving wheels, and the king bolt located out of centre and to the rear of the centre of the truck, the king bolt being spring supported, substantially as described. 5th. In a car truck, the combination, of a truck frame A, having upper and lower members B and C, axle boxes G, in said frame, a pair of truck wheels R, mounted on an axle set in axle boxes at one end of the frame, a pair of driving wheels S, larger in diameter than the truck wheels, mounted on an axle set in the axle boxes at the opposite end of the frame, a spring supported centre or king bolt N, located forward of or to the rear of a line drawn semi-distant between the centres of the axles, the said king bolt being located between said line and the centre of the truck wheel axle, substantially as described. 6th. The combination, in a truck, said truck having a frame, wheels, axles, and axle boxes in the frame, of a motor sleeved to an axle at one end of the frame, and a king bolt located between the actual centre of the truck and the centre of the wheel opposite that upon which the motor is sleeved, substantially as described. 7th. In an electrically propelled car truck, the combination, of a truck frame having driving wheels, axle boxes and an axle located at one end of the frame, truck wheels smaller in diameter than the driving wheels, axle boxes and an axle located at the opposite end of the frame, a king bolt located between the actual centre of the truck and the centre of the axle of the smaller wheels, and a motor sleeved at one end upon the axle of the driving wheels, its free end being spring supported from the truck frame, the said motor and means for supporting the free end of the motor being located between the driving axle and the king bolt, substantially as described. 8th. In an electrically propelled car truck, the combination, of a truck frame having upper and lower members rigidly secured together, driving wheels, axle boxes and an axle located at one end of said frame, truck wheels smaller in diameter than the driving wheels, with axle boxes and an axle located at the other end of the frame, a spring supported king bolt located between the actual centre of the truck and secured to said frame, and a motor secured to said frame between the axle of the driving wheels and the king bolt, substantially as described. 9th. In an electrically propelled car truck, the combination, of a truck frame having upper and lower members rigidly secured together, wheels, axle boxes and axles in the frame, a spring supported king bolt located between the actual centre of the truck and the centre of the axle of one of the wheels, a motor sleeved at one end upon the axle of one of the wheels, a transversely disposed beam secured to the lower members of the truck frame, an upwardly disposed rod carrying springs for supporting the free end of the motor secured to said beam, said motor and the said means for spring supporting its free end being located between the actual centre of one of the wheels and the said king bolt, substantially as described.

No. 40,623. Motor Truck for Cars.

(*Chassis de moteur pour chars.*)

George Martin Brill, Philadelphia, Pennsylvania, U. S. A., 10th October, 1892; 6 years.

Claim. 1st. The combination of a car body, pivotally supported on a truck, the truck having longitudinally extending wheel pieces united by a transversely extending beam and having free and open ends, axle boxes secured to said wheel pieces between their ends and the bolster, wheels and axles set in axle boxes, and a motor secured to one of the axles within the free and open space, one end of which is sleeved to one of the axles, the nose or free end of which is extended outwardly away from the centre of the truck and is movably supported from the car body, substantially as described. 2nd. The wheel pieces 1 and 2, comprising the beam 5, re-enforcing plates 6 and 7 secured thereto, and a transversely disposed beam uniting the said wheel pieces, said beam comprising the beam 33, supported in channel beam 34, said beam thus forming the bolster of the truck, and straps 27, 28 extending around the wheel pieces and over the ends of the bolster, said straps being secured to the bolster by bolts 29, 30, substantially as described. 3rd. The wheel pieces 1 and 2, comprising a beam 5, re-enforcing plates 6 and 7 secured thereto, and a transversely disposed beam uniting the wheel pieces, comprising the beam 33, supported in the channel beam 34, said beam thus forming the bolster of the truck, and straps 27, 28 extending around the wheel pieces and over the ends of the bolster, said straps being secured to the bolster by straps 29, 30, and angle pieces 32 for securing the bolster to the wheel pieces, substantially as described. 4th. The wheel pieces 1 and 2, comprising a beam 5, re-enforcing plates 6 and 7 secured thereto, a lower chord 3, secured to the wheel pieces at their ends, and running gear and springs secured between the wheel pieces and said lower chord, a transversely disposed beam uniting the said wheel pieces, comprising the beam 33, supported in the channel beam 34, said beam thus forming the bolster of the truck, and the straps 27, 28 extending around the wheel pieces and over the ends of the bolster, said straps being secured to the bolster by bolts 29, 30, substantially as described. 5th. A motor supported at one end upon a truck, and extending outwardly from the centre thereof and means for supporting the fore end of the motor, said means being indpendent of the truck or its framing, substantially as described. 6th. In a pivotal car truck, the combination of a motor sleeved on the truck or its frame at one end, and a car body provided with supports for the free end of the motor, which supports permit the motor to move with the truck and radiate in relation to the car body, substantially as described. 7th. A motor sleeved on the axle of a truck or a part of its framing, an upwardly extending support secured to the free end or ends of the motor, a car body pivotally secured to the said truck, and devices secured to the car body, comprising an upwardly extending support for hanging the motor, and permitting the said support to move laterally of the car body, substantially as described. 8th. A truck, a car body pivotally secured to said truck, a rail secured to said car body and disposed within the arc of a circle struck from the pivotal centre of the truck, a motor sleeved to the axle of the truck, and devices for supporting the free end of the motor secured to its free end, and movably supported upon said way or rail, substantially as described. 9th. In a motor truck, a motor sleeved to one of the axles of the truck, a car body pivotally supported upon said truck, said pivotal support being located between the actual centre of the truck and the centre of the axle upon which the motor is sleeved, the said motor extending outwardly away from the centre of the truck, devices for movably supporting the free end of the motor secured to the car body and car and truck, and end rub plates located on the truck and car body, which are adapted to balance the end of the truck opposite to that upon which the motor is sleeved, substantially as described. 10th. A car having longitudinally extending wheel pieces, a bolster rigidly affixed to the said wheel pieces, a free and open space between the wheel pieces and bolster and the end of the truck, running gear secured to the said wheel pieces within the bolster and ends of the truck, a motor sleeved to one of the axles within the said free space, its free end extending away from the centre of the truck, a car body pivotally supported upon said bolster, and means for movably supporting the free end of the motor secured to the car body, substantially as described. 11th. In a car truck, longitudinally extending wheel pieces, running gear secured to the wheel pieces, a bolster rigidly affixed to the wheel pieces and connecting them, a motor supported upon the

running gear of the truck, the nose or free end of which extends away from the centre of the truck, a car body pivotally supported upon said bolster, said bolster and pivotal centre being located between the wheel pieces and the running gear, side bearings on the wheel pieces, corresponding bearings on the car body, said bearings being adapted to take the weight of the car and transfer it to the springs instead of the bolster, and means for supporting the free end of the motor movably secured to the car body, substantially as described. 12th. In a car truck, a car body and a truck pivotably secured to each other, a motor sleeved to one of the axles and secured outwardly from the centre of the truck, said motor having a lug or extension 46, a truck or way 42, secured to the car body, said way being disposed upon the arc of a circle struck from the pivotal centre of the car body and the truck, and a trolly for movably supporting the motor from the car body, comprising the spindle 49, which is secured in the projection 46 of the motor, a longitudinally extending trolly plate 50, wheels 51, 52, secured to said plate above the rail 42, and a wheel 53, secured upon said plate and in contact with the lower shrface of said rail, the plate 50 and spindle 49 being integral, substantially as described. 13th. A motor propelled vehicle having a truck of the class herein described, pivotally secured thereto, the ends of the car overlapping the ends of the truck, a motor supported upon the truck and exteding out from the ends of the same, and a movable support for the free ends of the motor secured to the car body at a point past the end of the truck, substantially as described.

No. 40,624. Mechanical Movement.

(Mouvement Mecanique.)

John Morgan Morris, Hamilton, Ontario, Canada, 10th October, 1892; 6 years.

Claims.—1st. The combination of the frame or fork H, shaft A, wheel G, with projection *h*, loose pulleys B, B, on the shaft A, springs F, F, attached to frame or fork H, and to shaft A, ratchet wheels C, C, on the shaft A, with their operating pawls D, D, and springs E, E, belts J, J, attached from the pulleys B, B, to foot pedals, all constructed substantially as described. 2nd. The combination of the side runners R, R, steering runner N, steering rod O, with its hand lever P, the foot levers K, K, hollow standard M, bevel gear pinions *b*, *b*, on the spindles *c*, *c*, intermediate bevel gear pinion *c*, on the standard M, belts J, J, attaching foot pedals to pulley belts J, J, and levers K, K, constructed substantially as described. 3rd. The combination of the fork H, reach bar I, vertical rods S, S, runners R, R, spring U, cross bar T, and seat Q, substantially as specified.

No. 40,625. Arc Lamp. (*Lampe à arc.*)

The Columbia Electric Company, assignee of Ralph Hamilton Beach, all of St. Paul, Minnesota, U.S.A., 10th October, 1892; 6 years.

Claim.—1st. In an arc lamp, the combination of angularly arranged carbon holders movable one from the other, automatically advanced carbons, stops limiting the forward movement of the carbons direct, and sheet wire coils in the lamp circuit, their common core connected to the movable carbon holder and adapted to move the same, and an arc repelling magnet arranged between the holder and adjacent to the arc, substantially as and for the purposes set forth. 2nd. In an automatic feed arc lamp, the combination of a fixed carbon holder, a pivoted carbon holder at an angle therewith, detaining fingers engaging the carbon tips, an arc repelling magnet adjustable between the holders, an adjustable spring holding the carbons normally in contact, differentially magnet coils in the lamp circuit, and their common core linked to the pivoted holder, substantially as set forth. 3rd. In an arc lamp, the combination of the carbon holders 12 and 13, their detaining fingers, the carbons 15 and 16, their followers, the adjustable magnet 28 between the holders, the direct and shunt coils 25 and 26, their common core 19 linked to the holder 13, and the adjustable spring 22, substantially as described. 4th. In an arc lamp, the combination of gravity fed angularly arranged carbons, stops limiting their lengthwise movement, a magnet controlling the position of the arc between the carbons, means for holding the carbons normally in contact, mechanism for varying the distance between the carbons, and a differential magnet in the lamp circuit actuating said mechanism, substantially as and for the purposes set forth. 5th. In an arc lamp, the combination of angularly arranged, automatically fed carbons, detaining fingers limiting their advance movement, a permanent magnet lying in the plane of the carbons, with one pole adjacent to the arc to control the position of the arc, a spring holding the carbons normally in contact with each other, means for adjusting the tension of said spring, and mechanism actuated by the lamp current for automatically varying the distance between the carbons, substantially as and for the purposes set forth. 6th. The combinations of angularly arranged automatically advanced carbons movable one from the other, detaining fingers bearing upon each carbon point on the side opposite the other carbon, and limiting its advance movement, devices actuated by the current for automatically regulating the distance between the carbon points and a magnet arranged adjacent to the arc and repelling it toward the tips of the carbons, substantially as described. 7th. In an arc lamp, the combination of carbons arranged at an angle with and movable to and from each other, a spring tending to hold said carbons in contact, means for adjusting the tensions of said spring, a permanent magnet arranged between the carbons with one of its poles directed toward the arc, and a differential magnet mechanism actuated by the current and serving to separate said carbons to form an arc, substantially as and for the purposes set forth. 8th. In an arc lamp, the combination of carbons arranged at an angle with and movable to and from each other, a spring tending to hold said carbons in contact, means for adjusting the tension of said spring, a permanent magnet arranged between the carbons with one of its poles directed toward the arc, a differential magnet mechanism actuated by the current and serving to separate said carbons to form an arc, and short circuiting mechanism adapted to be operated by either of the carbon followers to cut out the lamp, substantially as and for the purposes set forth. 9th. In an arc lamp, the combination of carbons arranged at an angle with and movable to and from each other, a spring tending to hold said carbon in contact, means for adjusting the tension of said spring, a permanent magnet arranged between the carbons with one of its poles directed toward the arc, a differential magnet mechanism actuated by the current and serving to separate said carbons to form an arc, and a contact within each holder, but insulated therefrom in electrical connection with the opposite holder adapted to be struck by the carbon follower as it descends the holder, whereby the current is short circuited, substantially as and for the purposes set forth.

No. 40,626. Revolving Book Case.

(Bibliothèque tournante.)

Ida M. Haley, assignee of Fred. H. Haley, both of Manitowoc, Wisconsin, and Charles E. Darrow, Kirkville, Missouri, all in the U. S. A., assignee of the said Ida M. Haley, 10th October, 1892; 6 years.

Claim. 1st. In a revolving case in combination a fixed base and a revolving base, the one having a short spindle and the other a socket or seat for the end of such a spindle; the one base being provided with a track in a circle about the axis of the spindle on that side of such base which is remote from the other base, and the other base being provided with bearings for anti-friction rollers and rollers journaled therein adapted to roll on said track, substantially as set forth. 2nd. In a revolving case, in combination a fixed base and a revolving base, the one having a short spindle and the other a socket or seat for the end of that spindle, the one being provided with a track in a circle about the axis of the spindle, at that side of such base which is remote from the other base, and the other base being provided with hangers or stirrups which extend outside the periphery of the base which has such track, and rollers journaled in such hangers or stirrups and adapted to roll in contact with the track, substantially as set forth. 3rd. In a revolving case, in combination a fixed base and a revolving base, the one having a short spindle and the other a socket or seat for the end of that spindle, the one being provided with a track in a circle about the axis of the spindle on that side of such base which is remote from the other base, and the other base being provided with hangers or stirrups which extend through or across the plane of such track, and are vertically adjustable with respect to the base to which they pertain. 4th. In a revolving case, in combination substantially as set forth, a fixed base having a central upwardly open socket and a revolving base having a downwardly projecting spindle stepped in such socket, one of said bases having a track in a circle about the axis of the spindle and socket, on that side of such base which is remote from the other base and socket, and the other base having hangers or stirrups which extend through or across the plane of such track and rollers journaled in such hangers or stirrups, and adapted to roll in contact with the track. 5th. In combination substantially as set forth, the fixed base having a central socket A^2 and the peripheral downwardly facing track *a*, the revolving base having the spindle stepped in said socket, and the hangers D depending rigidly from the revolving base outside the periphery of the fixed base and underhanging the same, and the rollers journalled in such hangers under the said track and adapted to roll in contact with the same.

No. 40,627. Revolving Book Case.

(Bibliothèque tournante.)

Ida M. Haley, Maintowoc, Wisconsin, assignee of Fred. H. Haley, of the same place, and Charles E. Darrow, Kirkville, Missouri, all in the U.S.A., assignee of the said Ida M. Haley, 10th October, 1892; 6 years.

Claim.—1st. The fixed base and the rotary base having each an annular track, said tracks facing each other, combined with the spider located between the bases and adapted to revolve independently of them about the axis of the annular tracks, and anti-friction rollers located between the bases in said tracks in position to propel said radial arms respectively as they roll in the tracks, substantially as set forth. 2nd. The fixed base and the rotary base having each an annular track, said tracks facing each other, combined with the spider located between the bases and adapted to revolve independently of them about the axis of the annular tracks, and having radial arms which protrude between said tracks, and anti-friction rollers journalled on the respective arms of a spider, whereby they respectively propel said arms and rotate the spider as they roll in their tracks, substantially as set forth. 3rd. The fixed base and the

rotary base having each an annular track, said tracks facing each other, combined with the spider located between the bases and adapted to revolve independently of them about the axis of the annular tracks, and having radial arms which protrude between said tracks, and anti-friction rollers located between the bases in said tracks in position to propel said radial arms respectively as they roll in the tracks, said tracks having V-shaped grooves and rollers having V-shaped beads fitting said grooves, substantially as set forth. 4th. The fixed base and the rotary base connected together at their centres and adapted to rotate relatively about their common axis, annular tracks on said bases respectively, said tracks being made of suitable non-resonant material, as rawhide, paper or soft metal, and provided respectively with annular grooves between the bases and adapted to revolve independently of them about their common axis, and having arms which protrude between said tracks, and rollers located between the tracks and having peripheral beads which fit the grooves in the tracks, substantially as set forth. 5th. The fixed base and the rotary base having each an annular track, said tracks facing each other, and the spider located between the bases, one of said three parts having a hub which passes loosely through the other two, and a bolt extending axially through such hub, and a nut or washer thereon which retains the loosely journalled parts on the hub, combined with the anti-friction rollers located in the tracks between the bases, substantially as set forth. 6th. The fixed base and the rotary base having each an annular track, said tracks facing each other, one of the bases having a central hub, and the other a central opening, and the spider loosely journalled on the hub, and the bolt and nut and washer thereon, by which the bases are retained together, combined with anti-friction rollers located between the bases in the tracks, substantially as set forth. 7th. The fixed base and the rotary base having annular tracks provided respectively with grooves which face each other, and the spider located between the bases, one of said three parts having the hub which passes loosely through the other two, and a bolt extending axially through such hub, and a nut or washer thereon which retains the loosely journalled parts on the hub, combined with anti-friction rollers located on the tracks between the bases, and having beads which engage the grooves in said tracks respectively, substantially as set forth. 8th. In a rotary book case, the upright partitions four in number, each abutting at one vertical edge against the side of one adjacent upright at a short distance from the inner vertical edge of the latter, and in turn having the other adjacent upright in like manner abutting against its corresponding side, said side surfaces respectively being routed parallel to said inner edges to receive the abutting edges, combined with top and bottom slabs routed to receive the ends of the uprights, whereby said slabs lock the uprights into engagement with each other successively, substantially as set forth. 9th. In a rotary book-case the upright partitions, four in number, each abutting at one vertical edge against the side of one adjacent upright at a short distance from the inner vertical edge of the latter, and in turn having the other adjacent upright in like manner abutting against its corresponding side, said side surfaces respectively being routed parallel to said inner edges to receive the abutting edges, and having also the horizontal routs m^1 and the shelves lodged in said routs respectively, combined with vertical ties which cover the outer edges of the uprights and retain the shelves in their respective routs, whereby the shelves so retained retain the uprights in engagement with each other substantially as set forth. 10th. In a rotary book-case the upright partitions, four in number, each abutting at one vertical edge against the side of one adjacent upright at a short distance from the inner vertical edge of the latter, and in turn having the other adjacent upright in like manner abutting against its corresponding side, said side surfaces respectively being routed parallel to said inner edges to receive the abutting edges, combined with top and bottom slabs routed to receive the ends of the uprights whereby said slabs lock the uprights into engagement with each other successively and the vertical outside ties O O secured to the top and bottom slabs, substantially as set forth.

No. 40,628. Process of Extracting Nickel from Ores.

(*Procédé pour extraire le nickel des minerais.*)

Thomas Macfarlane, Ottawa, Ontario, Canada, 11th October, 1892; 6 years.

Claim.—1st. The process of extracting nickel from ores consisting in calcining or roasting the raw ore or mixtures or raw ore and roasted ore with a chloride, and bringing the nickel into solution. 2nd. The process of extracting nickel from ores consisting in calcining or roasting the ore with sodium chloride, dissolving out the resulting nickel salt, and recovering the nickel from the solution. 3rd. The process of extracting nickel from ores consisting in calcining or roasting the ore with a chloride until sulphur fumes cease to be given off and chlorine fumes appear, and until no protoxide of iron remains, then dissolving out the resulting nickel salts and recovering the nickel from the solution. 4th. The process of extracting nickel from ores consisting in calcining or roasting the ore with a chloride, dissolving out the resulting chloride of nickel by leaching with hot water. 5th. The process of extracting nickel from ores consisting in calcining or roasting the ore with a chloride, dissolving out the resulting nickel salts, adding an alkali to the solution to precipitate the nickel as an oxide, and reducing the oxide to metallic nickel. 6th. The process of extracting nickel from ores consisting in calcining or roasting the ore with a chloride, dissolving out the resulting nickel salts, adding a weak alkali to the solution to precipitate the peroxide of iron contained therein and subsequently recovering the nickel from the decanted solution. 7th. The process of extracting nickel from ores consisting in calcining or roasting the ore with a chloride, dissolving out the resulting nickel salts, adding sodium sulphide to the solution to precipitate the copper therefrom, and subsequently recovering the nickel from the decanted solution. 8th. The process of extracting nickel from ores consisting in calcining or roasting the ore with a chloride, dissolving out the resulting nickel salts, adding a weak alkali to the solution to precipitate out the peroxide of iron, then precipitating out the copper, then adding a strong alkali to precipitate oxide of nickel, and reducing this oxide to metallic nickel. 9th. The process of extracting nickel from ores rich in sulphur, consisting in first roasting the ore to expel the excess of sulphur, then mixing raw ore and a chloride with the ore, calcining it, dissolving out the nickel salt, and recovering the nickel from the solution. 10th. The process of extracting nickel from ores rich in sulphur, consisting in first roasting the ore to expel the excess of sulphur, then mixing sodium chloride with the ore, then calcining the mixture until sulphur fumes cease to be given off and chlorine fumes appear, and until protoxide of iron is eliminated, then leaching the resulting ore first with hot water to dissolve out the chloride of nickel, adding a weak alkali to the solution to precipitate peroxide of iron, adding sodium sulphide to precipitate copper, adding a strong alkali to precipitate oxide of nickel, and finally reducing this oxide to metallic nickel.

No. 40,629. Method of Treating Hops for Brewing Purposes. (*Méthode de traiter le houblon à l'usage des brasseries.*)

The Brewing Improvement Company, Maywood, New Jersey, assignee of Charles Hermann Frings and Bertha Olga Frings, both of New York, State of New York, all in the U.S.A., 11th October, 1892; 6 years.

Claim.—1st. The herein described method of preparing hops for brewing, which consists in subjecting the hops to the action of dry heat until heated beyond drying or at least parched, substantially as and for the purpose specified. 2nd. The within described method of hopping beer, which consists in adding to the wort in the manner or form specified, hops subjected to the action of a dry heat until heated beyond drying or at least parched.

No. 40,630. Rubber Tyre and Metal Rim.

(*Bandage de caoutchouc et rebord métallique.*)

The Pneumatic Tyre and Booth's Cycle Agency, Dublin, Ireland, assignee of Charles Kingston Welch, London, England, 11th October, 1892; 6 years.

Claim.—1st. A rubber or elastic tyre, having the form of a saddle or arch in section, in combination with two wires inserted through the sides of the same, for securing it to the metal rims or felloes, substantially as herein described. 2nd. The application of a rubber or elastic tyre to a metal rim or felloe, in such a manner that the wires or cores inserted within the said rubber for securing the same are outside the rim or felloe, substantially as herein described. 3rd. A rubber or elastic tyre having the form of a saddle or arch in section fitted with two wires or cores, so arranged that the same may be easily attached or detached by a wrench from outside the rim, felloe or tyre, substantially as herein described. 4th. A rubber or elastic tyre having the form of a saddle or arch in section lined with canvas, in combination, with two wires or sufficiently in elastic cores for securing the same to the rims or tyres, substantially as herein described. 5th. The application of endless wires or cores to each side of a rubber or elastic tyre, having a saddle or arched form in section, in combination with a canvas insertion or insertions, for supporting the same, substantially as herein described. 6th. The method of securing the elastic tyres, in combination with the forms of rims, substantially as herein described. 7th. Grooving or embossing a rubber or elastic tyre, for the purpose of reducing vibration or for lightening the same, in combination with the wires or cores for securing to the rim felloe or tyre, substantially as described. 8th. The application of my improved rubber or elastic tyres to an ordinary rubber and rim, substantially as herein described. 9th. A rubber or elastic tyre, having the form of a saddle or arch in section, provided with endless wires or cores fitted or vulcanized within each side, for the purpose of securing the same to the rims, in combination with an inflatable inner tyre or tube, substantially as described and shown. 10th. A rubber or elastic tyre, having the form of a saddle or arch in section, lined with canvas and provided with endless wires or cores for covering, projecting and securing an inflatable inner tube or tyre, substantially as herein described. 11th. Forming the inner surface or groove of a metal rim, with shoulders in combination with the construction of tyre, substantially as described and shown. 12th. Making the endless wires or cores for securing the covering or protecting tyre of smaller circumference than the edges of the rim or felloe, in combination with an inner inflatable tyre whereby the wires or cores are placed and held in position by the pressure of air, substantially as described. 13th. The method of placing the securing wires or cores with the tyres on the metal rim, namely: by holding the two wires or cores together, and placing them round the bottom of the concave groove until the remainder can be forced over the edge, in combination with an inner inflatable

tyre, whereby the outer covering or protecting tyre is held or forced into its place on the rim, substantially as herein described. 14th. The method of attaching or detaching the rubber or elastic tyres on or from the rims, substantially as herein described and shown. 15th. The method of moulding or vulcanizing rubber or elastic tyres, substantially as described, whereby the outer surfaces are rendered more indestructible. 16th. A rubber or elastic tyre of a saddle or arch form in section, but having a connecting web or band of rubber at the bottom or base, in combination with two wires or cores for securing the same to the rim, substantially as herein described. 17th. An inflatable rubber or elastic tyre secured to a concave grooved rim by two endless wires or cores one on each side of the tyre, in combination with a flexible band so constructed that the pressure on the inside when the tyre is inflated causes the said band to press tightly in the groove whereby it is firmly secured laterally, substantially as herein described.

No. 40,631. Seeding Machine. (*Semoir.*)

The Peter Hamilton Manufacturing Company, assignee of Andrew Johnston, all of Peterboro', Ontario, Canada, 11th October, 1892; 6 years.

Claim. 1st. In a cultivator, the combination with the drag bars securely held to a stationary rod in front of the machine, of the lock and hoe pivoted and supported on the rear end of the drag bars and having a forwardly projecting tongue extending out from the front of the lock as and for the purpose specified. 2nd. The combination with the drag bars G, secured to the brackets F, on the stationary rod E, the locks H, and hoes or teeth P, secured thereto, the lock H, having a forwardly projecting tongue e^1, which is connected by the rod a, to the swinging bracket b, on the rod c, supported on the arms d, and f, which are pivoted on the tube C, and are braced by the rod g, as and for the purpose specified. 3rd. In combination the drag bars G, secured to the brackets F, on the stationary rod E, the locks H, and hoes or teeth P, secured thereto, the lock H, having a forwardly projecting tongue e^1, which is connected by the rod a, to the swinging bracket b, on the rod c, supported on the arms d, and f, which are pivoted on the tube C, and are braced by the rod, the arm f, having a rearwardly extending piece f^1, to which is connected a lever which is designed to operate in connection with the quadrant S, as and for the purpose specified. 4th. The combination with the lock H, pivoted at the rear end of the drag bar G, at e, of the toggle jointed bar J, J^1, provided with a tail J^2, forming part of the portion J, and a roller J, the spindle of which moves longitudinally in the slots j, the rears J, into which the roller J, normally fits the arc L, on which the roller J is designed to roll, and the rod M, extending through the hole n, in the lug i^3, pivoted at the other end between the jaws N, on the pivoted rear portion and the spiral spring O, on the rod M, arranged as and for the purpose specified. 5th. The combination with the lock H, pivoted at the rear end of the drag bar G, at e, of the toggle jointed bar J, J^1, provided with a tail J^2, forming part of portion J, and a roller J, the spindle of which moves longitudinally in the slots j, the recess J, into which the roller J normally fits, the arc L, on which the roller J is designed to roll, and the rod M, extending through the hole n, in the lug i^3, pivoted at the other end between the jaws N, on the pivoted rear portion, the special spring O, on the the rod and the lugs k^1, formed on the rear portion of drawhead K, and extending beneath the rear end of the side bars h, as and for the purpose specified. 6th. The combination with the rear portion or drawhead K, of the lock having the recess K^1, formed at the back of the slot q^2, and a spring catch Q, having a thumb piece q^2, located at the top of the recess k, and the bolt q, located at the bottom and the recess K^1, of the hoe P, having a forwardly projecting portion p, having the lug p^3, formed at its upper end and a recess p^4, located immediately behind it so that the catch may engage with the rear end of the lug p^3, and the recess p^2, formed at the bottom and the forwardly projecting portion p, designed to fit over the bolt q^1, as and for the purpose specified. 7th. The combination with the rear portion or drawhead K, of the lock having a recess K^1, formed at the back of the slot q^2, and a spring catch Q, having a thumb piece q^1, located at the top of the recess k, and the bolt q, located at the bottom or the recess K^1, and the shoulder formed at the front portion of the recess k, in proximity to the catch Q, of the tooth P, extending through the slot q^1, and having a forwardly projecting lug p^3, which rests on the shoulder p^4, and is held in position by the catch Q^1, as specified.

No. 40,632. Seeding Machine. (*Semoir.*)

Walter Coulthard and Charles Wellington Scott, assignees of William C. White, all of Oshawa, Ontario, Canada, 11th October, 1892; 6 years.

Claim.—1st. In seeding machines, seed drills, broad cast seeders, harrows, cultivators, and other analogous machines in which use is made of cultivating points, teeth, shoes or hoes, or other similar appliances with the accompanying drag bars therefor pivotally attached simply or in sections, or in gangs to the front part of the machine the making use of the draft to produce any greater or less pressure as desired of and by the points, teeth, shoes, or hoes on and in the soil by connecting the motive power directly therewith by an attachment situate below the pivotal line of attachment of the drag bars, and capable of being raised or lowered so as to decrease or increase the pressure at the will of the operator, all substantially as described. 2nd. In such machines as aforesaid the perpendicular standard "I" with attachment for the whipped trees capable of being raised or lowered thereon in combination with the horizontal draw bar or evener "K," the drag chains or rods M and the points, teeth, shoes or hoes, and the drag bars therefor pivotally attached as aforesaid, substantially as and for the purposes set forth. 3rd. In such machines as aforesaid in which pressure wheels are used, the projection U in rear of the grain tube, the strap R, having holes perpendicularly aligned the bolt S, T, in combination with the traction bars of the pressure wheel, substantially as and for the purposes described.

No. 40,633. Feeding Machine for Carding Engines.

(*Appareil d'alimentation pour machines à carder.*)

Luther Andrew Peckham and Charles Fletcher, both of Providence, Rhode Island, U. S. A., 11th October, 1892; 6 years.

Claim. 1st. The combination, as set forth with a lifting apron, of a two part back hinged at the base thereof, capable of moving toward and away from the apron, and forming the back of the stock receptacle, and a lever, substantially as described, for rocking said back toward the apron. 2nd. In an apparatus for feeding fibrous material, the combination with the stock receptacle, and the lifting apron, of a two part back, the inner portion being pivoted on the side brackets forming part of the outer portion, the whole forming the back of the stock receptacle, substantially as herein set forth. 3rd. In an apparatus for feeding fibrous material, the combination with the main shaft, the lifting apron and its drive shaft, of the gears 32, 33, 34, connecting rod 68, sector gear 70, gear 71, rack 50, pawl 51, cam 52 and ratchet gear 48, whereby the apron may be run with an intermittent motion, substantially as and for the purpose herein described. 4th. In an apparatus for feeding fibrous material, the combination with the lifting apron and its driving shaft, of a ratchet gear secured to the said drive shaft, a rack carrying a pawl which engages with the teeth of the said ratchet gear, mechanism for actuating the rack, and a cam, substantially as herein shown, for lifting the pawl above the line of the ratchet gear teeth, as and for the purpose herein shown. 5th. In an apparatus for feeding fibrous material, the combination with the stock receptacle and the lifting apron, of a scale consisting of a rotating receiver divided by partitions into receptacles supported by two balanced levers, and suitable gearing whereby the scale receptacle may be partially revolved, substantially as herein shown and described. 6th. In an apparatus for feeding fibrous material, the combination with the stock receptacle, of the two part back, the reciprocating evener, the intermittent motion lifting apron, the vibrating stripper, the scale receptacle supported on the pivoted balanced levers, the rod 90, spring 105, lever 86, and strap 87, the shipper bar, the latch for locking the upper end of the shipper bar, the latch releasing device consisting of the finger and pin and the cam, and mechanism substantially as herein shown, for revolving the scale receptacle and for lifting the clutch bar. 7th. In an apparatus for feeding fibrous material, a back, consisting of the inner portion 16, the side brackets 17, 17, the outer portion 18, the shaft 131, the gears 132, the gears 133, the weight rod 134, and the weight 135, substantially as herein shown. 8th. In an apparatus for feeding fibrous material, the combination, as herein set forth, of the end pieces 74, the division plates 75, the shaft 77 with the levers 78 and 83, the link 79, the support bar 98, the gears 100, 101 and 102, and the pins 106, the wiper fingers 125 and wiper bar 124, constructed to partially rotate the scale receptacle, as described. 9th. The combination in an apparatus for feeding fibrous material of the driving pulley 140, clutch 97, the bell crank 96, clutch bar 95, latch 94, balanced lever 86 carrying the sliding rod 90 provided with the finger 91 and pin 93, the cam 92, whereby the latch 94 is caused to release the clutch bar 95 upon the free end of the balanced lever 86, being lifted by the scale mechanism, substantially as and for the purpose herein described. 10th. The combination in an apparatus for feeding fibrous material, of the stock receptacle, the intermittent motion lifting apron 11, the evener 21 provided with the adjustable comb 23, rods 43, desks 42, shaft 41, bevel gears 40 and 39, shaft 38, bevel gears 37 and 36, shaft 35, gears 34, 33 and 32, and shaft 31, whereby reciprocating motion is conveyed to the evener 21, substantially as herein shown and described. 11th. The combination in an apparatus for feeding fibrous material, of the two part back supported on the shaft 131, the lifting apron 11, the rollers 14, 15, clearer 46, evener 21, provided with the comb 23, mechanism, substantially as herein shown, for conveying reciprocating motion to the evener, the vibrating stripper 58, mounted on shaft 60, and provided with the comb 59, and brush 62, sector gear 61, gear 71, sector 70, connecting rod 68, and gears 34, 33 and 32, whereby the striper is caused to vibrate across the path of the lifting apron, substantially as and for the purpose herein shown and described, 10th. The combination, in an apparatus for feeding fibrous material, with the stock receptacle, the intermittent motion lifting apron, the reciprocating evener, the vibrating stripper, the scale receptacle and balance mechanism, the delivery apron, the presser board and the presser roll, of the gear 128, gear 130 for driving the delivery apron, gear 120, the shaft 117, the gear 118 for driving the gear 119, and with it the presser roll, the cam 116, link 115, and arm 113, for moving the presser board 112 outward, by means of the link 115,

arm 113, substantially as herein shown and described. 13th. The combination with the stock receptacle, the lifting apron, the reciprocating evener, the vibrating stripper, the scale receptacle and balance mechanism provided with the support bar 98, the clutch bar 95, the cam finger 123, of the gear 129, the gear 128, and gear 120, carrying the pins 121 and 122, for lifting the scale receptacle to its normal position through the support bar 98, and the clutch bar through the cam finger 123, substantially as herein described. 14th. The combination with the stock receptacle, the lifting apron, the reciprocating evener, the vibrating stripper, the scale receptacle and balance mechanism provided with the gears 100, 101 and 102, of the gear 128, gear 120, shaft 117, and the wiper bar 124, whereby the scale receptacle is revolved through the gears 102, 101 and 100, substantially as herein shown and described. 15th In an apparatus for feeding fibrous material, the combination of the stock receptacle and a lifting apron composed of a webbing 149, slats 146, pins 148, and slats 147, as described.

No. 40,634. Shifting Seat for Vehicles.

(*Siege volant pour voitures.*)

John Belmer Armstrong and Robert Parker, both of Guelph, Ontario, Canada, and Charles W. Vernon, Flint, Michigan, U.S.A., 11th October, 1892; 6 years.

Claim. 1st. In a vehicle, the combination of two sliding seats arranged in different horizontal planes, and intermediate pivoted levers which connect the same so that they move in unison to and from each other, substantially as and for the purposes specified. 2nd. In a vehicle, the combination of two sliding seats, arranged in different horizontal planes one above the other, a lever pivoted on the vehicle body and having a slot and pin connection with one of the seats, and a lever pivotally connected with the other seat and with the lever which is pivoted on the body of the vehicle, substantially as and for the purposes specified. 3rd. In a vehicle, the combination of a shifting seat, a pivoted tail board, and an intermediate telescoping pivoted brace, substantially as and for the purposes specified. 4th. In a vehicle, the combination of two shifting seats intermediate pivoted lever connections, a pivoted tail board a telescoping brace pivotally connected with the tail board and one of the shifting seats, and a spring snap attachment for securing tail board to body when closed, substantially as and for the purposes specified. 5th. A tail board brace for shifting seat vehicles, consisting of a tube having a pivot eye at one end and a rod which slides in said tube and has a pivot eye at its outer end, substantially as and for the purposes specified.

No. 40,635. Toilet Soap. (*Savon de toilette.*)

Sarah Elizabeth Ireland, Toronto, Ontario, Canada, 11th October, 1892; 6 years.

Claim. A soap compounded of best yellow soap paste, orris root, slippery elm, flour of gum, benzoin, strained storax and olive oil, in or about the proportions specified, substantially as set forth.

No. 40,636. Machine for Ironing Shirts.

(*Machine pour repasser les chemises.*)

Clarence O. White, Minneapolis, Minnesota, U.S.A., 11th October, 1892; 6 years.

Claim. 1st. In an ironing machine, the combination of a vertically movable continuously rotating ironing roll and a reciprocating table connected by suitable gearing with said roll and driven in both directions therefrom, and arranged to be moved in one direction as the roll is depressed and to be reversed and moved in the other direction whenever the roll is raised. 2nd. The combination, in an ironing machine, of a vertically movable, continuously rotating ironing roll, a reciprocating table adapted to be moved back and forth beneath said roll; and direct and reverse driving mechanisms arranged between said roll and said table and operated by said roll, and adapted to move said table in one direction when the roll is depressed and to reverse it and move it in the opposite direction whenever the roll is raised. 3rd. The combination, in an ironing machine, with a suitable frame, of a shaft mounted on said frame and provided with a pinion, of track frame pivotally supported upon said shaft, and a reciprocating table mounted on said track frame and provided with a rack bar engaging said pinion, substantially as described. 4th. The combination, in an ironing machine, with the reciprocating table, of the shaft 3, provided with the pinion 7, and with the driving pulley 5, the vertically movable ironing roll 29, provided with the driving pulley 30 and with the friction roll 34, and the friction roll 37, whereby when said ironing roll is depressed the table is moved in one direction and when the pressure upon said roll is relieved the table is moved in the opposite direction, substantially as described. 5th. The combination, in an ironing machine, with the reciprocating table, of the vertically movable roll, the lever for raising and depressing said roll, the treadle connected with said lever, the shaft for reciprocating said table and the brake connected with the roll operating said lever and arranged to engage the pulley on said shaft, substantially as described. 6th. The combination, in an ironing machine, with the reciprocating table, of the vertically movable roll and a direct and a reverse driving gearing between said roll and said governed by said roll, whereby as said roll is depressed said table will be advanced and when the pressure is relieved upon said roll said table will be moved in the opposite direction, substantially as described. 7th. The combination, in an ironing machine, with the reciprocating table provided with the lug 50, of the vertically swinging arms 28, the ironing roll, mounted in said arms, the friction roll 37 supported on one of said arms, the lever 40 connected with the said arm and adapted to move the same, and the bell crank lever 49 engaging said lever 40 and adapted to be operated by the lug on said table substantially as described. 8th. The combination, in an ironing machine, of a driving shaft, mounted in stationary bearings and provided with a pinion and with a wheel, a track frame pivotally supported on said shaft, a reciprocating table mounted on said track frame, and provided with a rack bar engaging said pinion, a vertically movable ironing roll, and a wheel on the shaft of said ironing roll adapted to engage said driving wheel when the roll is depressed and to disengage said wheel when the roll is raised, substantially as described. 9th. The combination, in an ironing machine, of a reciprocating table, a driving shaft for moving said table, provided with a driving wheel, a vertically movable ironing roll, a wheel on the shaft of said roll adapted to engage said driving wheel as the roll is depressed and to move the table in one direction, a reverse driving mechanism between said roll and said driving wheel adapted to be thrown into operation as the roll is raised, substantially as described. 10th. The combination, in an ironing machine, of a reciprocating table, a driving shaft for moving said table, provided with a driving wheel, and ironing roll mounted in swinging arms, a wheel 34 on the shaft of the roll, adapted to engage said driving wheel as the roll is depressed, a driving wheel 30 on the roll shaft, and a wheel mounted on one of the arms that support the ironing roll, and adapted as the roll is raised to engage the driving wheel 30 on the roll shaft and the driving wheel on the driving shaft of the table.

No. 40,637. Piano Forte Action. (*Action de piano.*)

James Harper Phelps, Sharon, Wisconsin, U. S. A., 11th October, 1892; 6 years.

Claim. 1st. The combination, with a piano forte key, and the damper of another key not harmonizing therewith, of devices set in operation by the striking of said key and adapted to close said damper, substantially as set forth. 2nd. The combination, with a piano forte key, and the damper of an adjacent key not harmonizing therewith, of devices set in operation by the striking of said key, and adapted to close said damper, substantially as set forth. 3rd. The combination, with a piano forte key, and the dampers of the adjacent keys, one at either side, of devices set in operation by the striking of said key, and adapted to close all said dampers, substantially as set forth. 4th. The combination, with a piano forte action, of devices set in operation by the striking of a key, and adapted to close the dampers of other and discordant keys, substantially as set forth. 5th. The piano forte action, the keys and dampers whereof are combined with means for holding the dampers open, and means set in operation by striking the keys for releasing the dampers, substantially as set forth. 6th. The combination, with the series of keys and dampers of a piano forte action, of a series of devices for holding the dampers open, and a series of devices set in operation by the striking of the keys, and serving to release the holding devices, substantially as set forth. 7th. In a piano forte action, a key adapted when struck to open its own damper, in combination with means for closing the dampers of one or more discordant keys, substantially as set forth. 8th. The combination, with the keys and dampers of a piano forte action, of levers J, damper bar extensions O, and arms H attached to the strikers, substantially as set forth. 9th. The combination, with the keys and dampers of a piano forte action, of a series of pivoted levers J, a series of damper bar extensions O, in contact with the rear ends of said levers, and a series of arms H borne by the strikers and engaging the other ends of said levers, substantially as set forth. 10th. The combination, with the series of levers J for holding the dampers open, of the rod P for depressing all the levers and releasing the damper, substantially as set forth. 11th. The lever J, having the offset end *m*, in combination with the damper bar engaging with said end and the spring *k*, substantially as set forth. 12th. The lever J, having the offset *m*, and bevel *n*, in combination with the damper bar and spring *k*, substantially as set forth. 13th. The combination, with the pivoted lever J, of arms H, having recesses h^1, and actuating supports for said arms, substantially as set forth. 14th. The combination, with the stickers, of arms H borne thereon and constructed and arranged as shown, substantially as set forth. 15th. The combination, with levers J, of the stickers and arms H, constructed and arranged as shown and borne upon the stickers, substantially as set forth.

No. 40,638. Methods of Melting Metals by Electricity. (*Mode de fondre le metal par l'électricité.*)

Thomas Leopold Wilson, Brooklyn, New York, U. S. A., 12th October, 1892; 6 years.

Claim. 1st. The herein described process of reducing metals or ores, which consists in heating them to fusion by means of an electric arc between an electrode above and the metal or ore beneath and injecting a reducing gas into the crater formed in the molten mass by the arc in such manner that the gas is introduced between the point of liberation of oxygen, or other corrosive agent and the

exposed incandescent surface of the electrode, whereby the latter is protected from corrosion. 2nd. The herein described process of reducing metals or ores, which consists in heating them to fusion by means of an electric arc between an electrode above and the metal or ore beneath and injecting a reducing gas downwardly into the arc through the said electrode, whereby the gas is delivered uniformly around the incandescent tip thereof and ascends in a protecting stream around all sides of the electrode. 3rd. The herein described process of reducing metals or ores, which consists in subjecting them to the heat of an electric arc passing between a positive electrode beneath the metal or ore, and a negative electrode above it and introducing a reducing gas into the arc through said negative electrode, whereby the gas is caused to pass across the current of gases projected toward the negative electrode from the positive both beneath and thereby protects the electrode from corrosion. 4th. The improved electric furnace for the reduction of refractory ores, consisting of a crucible in connection with a circuit conductor for conducting an electric current to its contents, a tubular electrode projecting downwardly into said crucible, and a source of reducing gas connected to the electrode and discharging gas through the latter into the crucible to envelop and protect the incandescent tip of the electrode, substantially in the manner set forth. 5th. In the electric furnace of the character herein described, a tubular electrode through which to admit a stream of reducing gas into the furnace, consisting of plates of carbon relatively arranged to form an inclosed central space within them, and fastened together by pegs or rods of carbon, substantially in the manner and for the purposes set forth.

No. 40,639. Hose Coupler. (*Joint de boyau.*)

Frederic Willets Wright, Great Neck, New York, U. S. A., 12th October, 1892; 6 years.

Claim. 1st. In a hose coupling the combination with the two lengths of hose and a perpendicular seat applied to the end of each, of means for forcing the seats together, consisting of coupling sections applied to the respective lengths of hose movable independently of the seats engaging each other and adapted by a relative angular movement about a transverse axis at their intersection to draw toward each other and engaging the seats to communicate their approaching movement thereto. 2nd. In a hose coupling the combination with the two lengths of hose and a perpendicular seat applied to the end of each of means for forcing the seats together consisting of a coupling section, applied to the respective lengths of hose movable independently of the seats embracing the hose at their outer ends and engaging each other at their inner ends in such manner as to draw toward each other when inclined by the dropping of the hose and engaging the seats to communicate their approaching movement thereto. 3rd. In a hose coupling the combination with the two lengths of hose and a perpendicular seat applied to the end of each of means for forcing the seats together consisting of coupling sections applied to the respective lengths of hose movable independently of the seats embracing the hose at their outer ends and provided with reciprocally engaging wedging faces adjacent to their inner ends adapted by a relative angular movement of the sections about a transverse axis at their intersection to draw them toward each other. 4th. In a hose coupling the combination with the two lengths of hose and a perpendicular seat applied to the aid of each of means for forcing the seats together, consisting of coupling sections applied to the respective lengths of hose consisting essentially of levers adapted to interengage movable angularly about the transverse fulcrum axis at their intersection, constructed at their outer ends or long arms to embrace the hose, and at their inner ends or short arms to engage each other in such manner as to draw together when inclined by the dropping of the hose and connected to the seats of communication reciprocally approaching thrust thereto. 5th. In a hose coupling the combination with the two lengths of hose and a perpendicular seat applied to the end of each of means for forcing the seats together, distributing rings applied around the respective hose ends arranged behind its seats, and between it and the forcing device, and engaging by rocking connections on relatively perpendicular diametrical axis whereby the pressure of the forcing devices is communicated to the seats equally at all parts thereof, thereby compensating for irregularities of fitting and wear. 6th. The combination with a hose length, a perpendicular seat fixed to its end and a coupling section applied to the hose and moveable independently of its seat, of a distributing ring interposed between the section and seat having rocking or oscillatory connections with them on diametrical axis axis arranged perpendicularly to one another. 7th. In the hose coupling the combination with the two lengths of hose and a perpendicular seat applied to the end of each of means for forcing the seats together consisting of coupling sections applied to the respective lengths of hose connected to but movable independently of the seats and consisting essentially of levers constructed at their outer ends or long arms to embrace the hose at their inner ends or short arms to engage each other by means of provisions adapted to be connected or disconnected when the sections are in alignment and to interengage and draw the sections together by the angular movement of the sections about a transverse fulcrum axis at their intersection where the sections are locked or wedged together while the hose is dropped into the pendant position and are automatically by the pulling of the hose taut to bring the sections into alignment. 8th. The combination of hose lengths A, A, perpendicular seats B, B, fixed to their respective ends and coupling sections C, C, formed with rocking or oscillatory pivotal connections *j*, *j*, for communicating their pressure to the seats constructed at their outer ends to embrace the hose adapted to intersect at their inner ends and formed with reciprocally engaging wedging or eccentric faces adapted on their being moved regularly by the dropping of the hose to draw the coupling sections together and thereby press together the seats. 9th. The combination of hose lengths A, A, seats B, B, fixed to their respective ends distributing rings D, D, adapted to rock against the seats and coupling sections C, C, constructed to rock against the rings and adapted to engage each other and be drawn together by a relatively angular movement. 10th. The combination of hose lengths A, A, seats B, B, applied perpendicularly to the ends thereof, and coupling sections C, C, movable independently of the seats and formed with reciprocally interengaging arms E, F, having projections *p*, *q*, formed with eccentric bearing faces adapted to wedge together by the movement of the sections from the position of alignment to a relatively angular position. 11th. The combination of hose lengths A, A, seats B, B, applied perpendicularly to the ends thereof and coupling sections C, C, movable independently of the seats and formed to intersect one another with an axial pin I, on one part and a notch M in the other adapted to engage at their intersection and constitute a fulcrum connection the axis of which is parallel with the seating faces for guiding the sections in their relative angular movement and the sections adapted to engage each other in such manner as to draw together by their angular movement from the position of alignment to the drapped position of the hoser 12th. The combination of hose lengths A, A, seats B, B, distributing rings D, D, and coupling sections C. C, adapted to interengage to draw together the sections and seats constructed with relatively abutting stops for limiting the rearward movement of the sections relatively to the seats to prevent the displacement of the parts. 13th. The combination of hose lengths A, A, seats B, B, distributing rings D, D, and coupling sections C, C, the latter constructed to interengage and draw together and the seats, rings and sections formed with relatively abutting stops adapted to limit their relative rotative or twisting movement and thereby prevent the oscillatory displacement of the parts. 14th. The combination of hose lengths A, A, seats B, B, distributing rings D, D, and coupling sections C, C, the latter formed with intersecting arms carrying pins entering in front of flanges serve as stops for limiting the rearward movement of the coupling sections relatively to the seats. 15th. The combination of hose lengths A, A, seats B, B, distributing rings D, D, formed with radial notches *d*, fastening bands *a*, *a*, engaging said notches and coupling sections C, C, constructed to interengage and draw together and formed with rocking projections J, J, engaging notches or spaces between shoulders on the equalizing rings whereby the rotative displacement of the rings and sections is prevented. 16th. The combination of hose lengths A, A, seats B, B, and coupling sections C, C, each of the latter formed on one side with the projecting arm E, having a notch M, and a locking projection *q*, and on the other side with an arm F, carrying a pin I, and formed with a locking projection *p*.

No. 40,640. Bottling Apparatus.

(*Appareil pour mettre en bouteilles.*)

Amalia Margaretta Donally, New York, State of New York, U.S.A., 12th October, 1892; 6 years.

Claim. 1st. In a bottling apparatus, the combination, with a filling tube adapted to enter a cask or like receptacle to be filled, of a vent tube also adapted to enter the cask, and a cap or stopper adapted to embrace both tubes snugly, and to cover the open mouth of the receptacle to be filled, substantially as described. 2nd. In a bottling apparatus, the combination, with a filling tube and a vent tube, of a bung perforated to receive the filling tube and perforated for connection with the vent tube, and a cap or stopper adapted to embrace both tubes snugly and to cover the mouth of the receptacle to be filled, substantially as described. 3rd. In a bottling apparatus, the combination, with a series of flexible filling tubes adapted to enter a cask or receptacle independent of the apparatus, means for lowering and raising the free ends of said tubes into and out of a series of bottles to be filled, means for compressing all of said tubes simultaneously, and means for releasing any one of said tubes from compression independently of the rest, substantially as described. 4th. In a bottling apparatus, the combination, with an anvil block and flexible tubes passed over the same, of pressure or valve blocks located above the flexible tubes, said blocks being movable independently, actuating mechanism, substantially as described, for moving all of said blocks simultaneously to compress the tubes, and independent connections between each of said blocks and said mechanism, whereby each of said blocks may be released from said mechanism, substantially as described. 5th. In a bottling apparatus, the combination, with the anvil and flexible tubes passed over the same, of pressure or valve blocks located above the anvil block, levers connected with said valve blocks, and a rack bar receiving said levers, substantially as described. 6th. In a bottling apparatus, the combination, with an anvil block and flexible tubes passed over the same, of pressure or valve block located above the flxible tubes, spring pressed levers fulcrumed in the pressure or valve blocks, a rack bar receiving said levers, and an actuating mechanism, substantially as described. 7th. In a bot-

tling apparatus, the combination, with a counterbalanced sliding frame, an anvil block secured in the frame, and flexible tubes pressed over the anvil block, of pressure or valve blocks pivoted over the flexible tubes and anvil block, spring pressed levers fulcrumed in the pressure or valve blocks, a rack bar engaging said levers, a shifting lever connected with the rack bar, and a hoisting mechanism connected with the frame, substantially as described. 8th. In a bottling apparatus, the combination, with a sliding frame, an anvil block secured in the frame, apertured guide blocks attached to the frame, and flexible tubes pressed over the anvil block through the guide blocks, of pressure or valve blocks located above the anvil block and the flexible tubes, a shifting mechanism connected with the pressure or valve blocks, brackets held to slide in the guide blocks, elastic funnels loosely surrounding the tubes and carried by the brackets, and spring pressed stoppers attached to the tubes above the funnel, substantially as described. 9th. In a bottling apparatus, the combination, with a moveable frame, lifting mechanism connected therewith, an anvil block located in the said frame, flexible tubes passed over the anvil block, pressure or valve blocks pivoted above the flexible tubes and anvil block, and a shifting mechanism connected with the pressure or valve blocks, of guide blocks attached to the frame constructed in two sections, a body section and a cap section, the body section being provided with apertures and a recess, the recess being adapted to receive the flexible tubes, brackets held to slide in the apertures in the guide blocks, a cap funnel carried by the bracket, and stoppers located upon the tubes above the funnels, substantially as described. 10th. In a bottling apparatus, the combination, with a flexible filling tube, of a flexible vent tube connected therewith, the filling tube and vent tube both having connection with a cask or like receptacle, and a compression mechanism arranged to act upon both the filling tube and its vent tube to close them, substantially as described. 11th. In a bottling apparatus, the combination, with a movable frame of a flexible filling tube carried by the frame, a flexible vent tube also carried by the frame, and mechanism carried by the frame for simultaneously compressing the filling and vent tubes, substantially as described. 12th. In a bottling apparatus, the combination, with a bracket and a guide cap carried by the bracket of a gliing tube adapted to enter a bottle and loosely located in the cap, a vent tude secured to one side of the filling tube, and a sleeve or stopper mounted upon the tube and adapted for engagement with the upper end of the cap, substantially as described. 13th. In a bottling apparatus, the combination, with a cap having a flaring lower end and a filling tube loosely passed into the cap and adapted to extend below the same, of a stopper located above the cap closing the space between the upper portion of the cap and the filling tube when said stopper is in engagement with the cap and existing pressure thereon, substantially as described, whereby the cap acts as a stopper for the vessel to be filled, substantially as described. 14th. In a bottling apparatus, the combination, with a movable bracket and a guide cap carried by the bracket and having an elastic or flexible inner face, of a filling tube loosely passed through the cap, a vent tube secured to one side of the filling tube and extending above the cap, and a spring pressed sleeve or stopper mounted upon the filling tube and adapted to be forced in engagement with the upper end of the guide cap, substantially as described. 15th. In a bottling apparatus, the combination, with a filling tube and a movable tube carrier, of an apertured cap adapted to fit over the mouth of a bottle, said cap being carried by and having a sliding connection with the tube carrier, substantially as described. 16th. In a bottling apparatus, the combination, with a filling tube and a sliding tube carrier, of an apertured cap adapted to fit over the mouth of a bottle and having a sliding connection with the carrier and a spring pressed stopper on the carrier above the cap, substantially as described. 17th. In a bottling apparatus, the combination, with a sliding frame and a flexible filling tube carried by the frame, of an apertured cap adapted to fit over the mouth of a bottle and having a sliding connection with the frame, a spring pressed stopper carried by the frame above the cap, and means for compressing the filling tube to cut off the supply of liquid, substantially as described. 18th. In a bottling apparatus, the combination, with a sliding frame, of a flexible filling tube carried by the frame, a flexible vent tube also carried by the frame, an apertured cap having a sliding connection with the frame, a spring pressed stopper on the frame above the cap, and means for compressing both the filling and vent tubes, substantially as described. 19th. In a bottling apparatus, the combination, with a series of tubes adapted to enter a series of bottles to be filled, a movable tube carrier for the lowering and raising said tubes into and out of said bottles, and means for closing the lower ends of said tubes as said ends are withdrawn from the bottles, substantially as described. 20th. In a bottling apparatus, the combination, with a series of flexible tubes adapted to enter a series of bottles to be filled, a movable tube carrier for lowering and raising said tubes into and out of said bottles, a clamp, and means for actuating said clamp to compress the lower ends of the tubes as they are withdrawn from the bottles, substantially as described. 21st. In a bottling apparatus, the combination, with a flexible filling tube adapted to enter a bottle and a movable tube carrier, of a rod or bar fixed to the frame of the apparatus, and a compressor pivoted upon said carrier and having a lip to compress the tube and an extended arm, adapted to engage said rod and be turned thereby to compress the tube as the latter is drawn from the bottle, substantially as described.

No. 40,641. Atomizer. (*Pulvérisateur.*)

Harlem M. Dunlap, Battle Creek, Michigan, U.S.A., 12th October, 1892; 6 years.

Claim. 1st. In an atomizer, the combination with a bottle, of a head secured in the top thereof, the head having ports opening from the bottle through its sides and adapted to connect with an air supply bulb, a reservoir of air or other gas, and an inhaler mask, and a spraying tube secured in the supply port and extending downward into the bottle, substantially as described. 2nd. In an atomizer, the two part spraying tube having a side opening in the lower member, and a hollow coupling connecting the two members, said coupling having a side opening to register with the side opening in the tube, substantially as described.

No. 40,642. Water Heater. (*Calorifère à eau.*)

Edwin Rund, Pittsburg, Pennsylvania, U. S. A., 12th October, 1892; 6 years.

Claim.—1st. The combination of a boiler, a gas burner arranged below the boiler, a perforated disc arranged over the burner, a valve for controlling the flow of gas to the burner, and mechanism operated by changes of temperature, of the water within the boiler for shifting said disc and valve, substantially as set forth. 2nd. The combination of a boiler, a gas burner arranged below the boiler, a valve for controlling the flow of gas to the burner, an expansion rod extending into the boiler, and connected at its outer end to said valve, and a pipe surrounding the expansion rod and connected with the supply pipe, substantially as set forth. 3rd. The combination of a boiler, a gas burner arranged below the boiler, a valve for controlling the flow of gas to the burner, a tubular expansion rod arranged within the boiler, and having its upper end attached to the head of the boiler, a rod 29, having a smaller coefficient of expansion than the tubular rod and arranged within the same, the lower end of the inclosed rod being attached to the free end of the tubular rod, and a lever connected to the valve stem and engaging the projecting end of the rod 29, substantially as set forth.

No. 40,643. Water Meter. (*Compteur à eau.*)

Louis Hallock Nash, South Norwalk, Connecticut, U. S. A., 12th October, 1892; 6 years.

Claim. 1st. The combination, with a water meter, of a corrugated interior fixed abutment, a corrugated inclosing cylinder wall forming an unobstructed space between the fixed corrugations, and suitable inlet and discharge ports, substantially as described, for the purpose specified. 2nd. The combination, with a water meter, of a hollow piston having interior and exterior recess forming corrugations, a fixed interior corrugated abutment wholly inclosed by said piston, and inlet and outlet ports for each receiving and discharging recess for the case and for the piston. 3rd. The combination, in a water meter, of the case forming the measuring chamber, an interior fixed abutment, and a piston having a free movement between them in every direction within the measuring spaces of the case and of the abutment, substantially as described, for the purpose specified. 4th. The combination, in a water meter, of the case forming the measuring chamber, having wall corrugations, an interior fixed abutment having wall corrugations, and a piston having exterior and interior wall corrugations, and a free movement in every direction between said parts to make intermittent contact with the abutment projection and perpetual contact with the case projections. 5th. The combination, in a water meter, of a corrugated piston, having a free revolving non-rotating motion with a corrugated inclosing case and a corrugated interior fixed abutment, the corrugations of the piston being brought successively into contact with the case recesses, and with the abutment recesses moved therein, and the contact maintained without and within the piston, during the inflow and discharge of the water into and from each corrugation. 6th. The combination, in a water meter, of a case having wall corrugations, a fixed interior abutment having wall corrugations, and inlet and discharge ports for each corrugation, and a corrugated piston having a free revolving non-rotating motion to operate the said ports. 7th. The combination, in a water meter, of a case having wall corrugations, a fixed interior abutment having wall corrugations, and a piston having exterior and interior corrugations forming co-operating bearing projections inclosing and bounding measuring spaces, and inlet and outlet ports located on each side of the bearing projections of the abutment and of the case controlled by said piston. 8th. The combination, in a water meter, of a chamber forming case having one or more radial bearing points, an interior fixed abutment, and a hollow piston having a free revolving non-rotating movement dividing the chamber into measuring spaces, with inlet and outlet ports opening into the measuring spaces both inside and outside of the piston and controlled by its movements. 9th. The combination, in a water meter, of a corrugated cylinder wall, a corrugated interior fixed abutment, and a corrugated piston having a free revolving non-rotating movement dividing the chamber into measuring spaces, with inlet ports e^1, &c., and outlet ports f^1, &c., opening into said spaces exterior to said piston, the outlet ports g^1, &c., opening interior to the piston, and the recess ports h^1, &c., making communication from one side to the other of the piston. 10th. A water meter case having interior wall projections forming measuring spaces, an interior fixed abutment having exterior wall

projections forming measuring spaces, and ports communicating with the said measuring spaces, in combination with a hollow piston having exterior and interior projections operating with a revolving non-rotating movement between the said case ports to control the flow into and from ports for each said space. 11th. The combination, with a water meter, of a register connecting device consisting of a gyrating arm, and a differential gear consisting of the gears *m* and *n*, having an unequal number of teeth, connecting the said arm with the register mechanism. 12th. The combination, in a water meter, of a register connecting device consisting of a gyrating arm connecting the meter moving parts and the register mechanism with a joint forming diaphragm, and a clamping nut having grip edges f^1, for the diaphragm, substantially described, for the purpose specified. 13th. In a register connecting device for a water meter, the combination, with a gyrating arm a joint forming diaphragm, of a joint forming clamp consisting of a clamping nut having a concave or grooved face, and a corresponding concave or grooved shoulder on the connecting device forming grip edges for holding the diaphragm. 14th. The combination, with a water meter, having its chamber forming case made relatively strong, of an inclosing head therefor made relatively weak, whereby to form a yielding part against undue interior pressure. 15th. The cover or inclosing head of a water meter case having a groove or surface recess to reduce the thickness of the inclosing head over the measuring chamber, substantially as described, and for the purpose stated. 16th. The combination, in a water meter, of a case having wall bearing projections terminating in wide points, and an interior fixed abutment leaving narrow bearing points with a hollow piston having wide external bearing points and an interior conformation, as described, and for the purpose specified. 17th. The combination, in a water meter of a corrugated cylinder wall, a corrugated interior abutment, and a corrugated piston having a free revolving non-rotating movement dividing the chamber into measuring spaces with inports c^1, &c., and outlet ports f^1, &c , opening into said spaces exterior to said piston the outlet ports g^1, &c., opening exterior to the piston, the channel ports h^1, &c., and the communicating inlet and outlet passages D and E, substantially as described for the purpose specified. 18th. The combination, in a water meter, of a case provided with a fixed interior abutment having exterior recesses and arms or projections, and suitable inlet and outlet ports, with a hollow revolving non-rotating piston, having inwardly projecting arms which enter and sweep through said recesses to control said ports. 19th. The meter case having a fixed interior abutment having two or more wall recesses and inlet and outlet ports, within said recesses, in combination with a hollow revolving non-rotating piston having arms or projections which enter and sweep within said recesses to control said ports, as set forth. 20th. In a water meter, the hollow revolving non-rotating piston having interior wall arms or projections, and interior wall recesses formed by said arms, in combination with a case having inlet and outlet ports, and a fixed interior abutment B, having an exterior wall conformation corresponding with the interior conformation of the piston, substantially as described. 21st. The combination, with the fixed abutment having measuring chambers provided with inlet and outlet ports, of the circular hollow piston surrounding the abutment and arranged to move freely between the fixed heads of said measuring chambers, and having inwardly projecting arms adapted to enter and sweep through said abutment chambers, substantially as described. 22nd. The combination, with the circular hollow piston arranged to move freely between the fixed heads of the measuring chambers and having a plurality of inwardly projecting arms, of the stationary abutment having a corresponding number of measuring chambers through which said piston arms sweep, and provided with inlet and outlet ports which are controlled by the movements of said piston, substantially as described. 23rd. The combination, with the circular hollow piston arranged to operate freely between the fixed heads of the measuring chambers and having a plurality of inwardly projecting arms, of the stationary abutment having a corresponding number of measuring chambers, through which said piston arms have sweeping movements, and provided with inlet and outlet ports which are controlled by the movements of the piston, the said piston arms being held in contact with the walls of said chambers and caused to sweep through them by the pressure of the water upon the inner surface of the piston, substantially as described. 24th. The combination, in a water meter, of a case provided with a fixed abutment having a plurality of measuring chambers having inlet and outlet ports, with a shell surrounding the abutment arranged to operate freely between fixed heads of the measuring chambers and having a number of inwardly projecting arms corresponding to the measuring chambers, which are caused to enter and sweep through said chambers by the pressure of the water upon the inner surface of said shell, and means, substantially such as described, whereby the movements of said piston are communicated to the registering mechanism. 25th. The combination, with the circular hollow piston arranged to operate freely between the fixed heads of the measuring chambers, and having a plurality of inwardly projecting arms, of the fixed abutment having a corresponding number of measuring chambers, through which said piston arms sweep, each chamber being provided with an inlet and outlet port, which are formed in the bottom chamber head and are controlled by the movement of said piston, substantially as herein set forth. 26th. The combination of a water meter case having a fixed central abutment formed with outwardly projecting bearing arms and intermediate recess spaces, with an annular or hollow piston having inward wall projections or arms coacting with the abutment arms to divide the recesses into enlarging or contracting measuring spaces, an upper head making joint contact with the upper end of the fixed abutment, and suitable inlet and discharge ports for the measuring spaces, substantially as described. 27th. The combination with the fixed abutment having measuring chambers provided with inlet and outlet ports, of the circular hollow piston surrounding the abutment arranged to move freely between fixed heads of said measuring chambers, and having inwardly projecting arms adapted to enter and sweep through said abutment chambers, an inclosing case forming a chamber above said piston, and register connecting mechanism arranged within said chamber connected with said moving piston, substantially as herein set forth. 28th. The combination in a water meter, of a case provided with a fixed interior abutment having exterior recesses and arms or projections, and suitable inlet and outlet ports, with a hollow revolving non-rotating piston having inwardly projecting arms, which enter and sweep through said recesses to control said ports, and fixed end plates, between which said piston freely moves, 29th. The combination, in a water meter, with a circular hollow piston arranged to move freely between fixed heads of the measuring chambers, and having a plurality of inwardly projecting arms, of a fixed abutment block having a corresponding number of measuring chambers, through which said piston arms sweep, each chamber being provided with an inlet and outlet port which are formed in a chamber head. 30th. The combination, in a water meter, of a case provided with a fixed interior abutment having exterior recesses and arms or projections, and suitable inlet and outlet ports, with a hollow revolving non-rotating piston having inwardly projecting arms which enter and sweep through said recesses. 31st. The combination, in a water meter, of a case provided with a fixed central abutment having exterior recesses and arms or projections, and suitable inlet and outlet ports with a hollow piston having inwardly projecting arms which enter and sweep through said recesses to control said ports. 32nd. The combination, in a water meter, of a case provided with a fixed central abutment having exterior recesses and arms or projections, and suitable inlet and outlet ports, with a hollow piston having inwardly projecting arms which enter and sweep through said recesses to control said ports, and fixed end plates between which said piston moves. 33rd. The combination, in a water meter, of a fixed central abutment having measuring spaces and suitable inlet and outlet ports, the circular hollow piston surrounding said abutment, and having inwardly projecting arms, the inclosing case, and a registering mechanism and suitable connections between the register and the moving piston.

No. 40,644. Electric Switch. (*Commutateur électrique.*)

Charles G. Perkins, Hartford, Connecticut, U.S.A., 12th October, 1892; 6 years.

Claim.—1st. In an electrical switch a rotably mounted spindle a contact plug or roller loosely mounted thereon and a ring or collar fixed thereto in combination with an intermediate loose tripping block the said block and collar being provided with one or more pins or their equivalent whereby the tripping block engages with both the collar and the roller as and for the purpose set forth. 2nd. In an electrical switch a rotably mounted spindle a contact plug or roller loosely mounted thereon and a ring or collar fixed thereto a loose angular tripping block the said block and the roller being provided with one or more engaging pins or their equivalent in combination with a spring which is adapted to ply upon the sides of the block as and for the purpose set forth. 3rd. In an electrical switch contact devices and a cover therefor, a central operating shaft projecting through the cover, a detachable handle for the shaft and a spring connection between the handle and the shaft as and for the purpose set forth. 4th. In an electric switch contact making and breaking devices and a cover therefor, a central opening, a split shaft and a pin traversing it and a handle adapted to slide on over the shaft the said handle being notched to fit over the said pin as described. 5th. In an electrical switch an insulating plug or holder carrying one or more contact plates loosely attached to the outside thereof and one or more springs which press the contact plates away from the plug or holder in combination with one or more contact pieces co-operating with the spring pressed plate or plates as set forth. 6th. In an electric switch an operating shaft, a contact plug loosely mounted thereon an angular block also loosely mounted on the shaft the plug having an angular opening larger than but co-operating with the said block and a pin in the said shaft located in a slot in the angular block all in combination with one or more springs pressing against the side of the block as set forth. 7th. The combination with switch devices mounted on a suitable base of cover for the said switch devices, a shaft projection through the said cover, a handle on the said shaft the said cover being provided with words or characters for indicating reversed positions of the switch devices and also being provided with a notch which engages with a projection on the base for keeping the cover in the right position for making the correct indications as set forth. 8th. In an electric switch the combination with a rotary contact plug, a spring pressed contact plate carried thereby and a pair of contact posts co-operating with the said plate, the said plate being centrally flattened or indented as set forth. 9th. In an electric switch a rotary contact plug and a spring pressed contact plate mounted on the periphery thereof in combination with lips projecting from the said plate toward the

center of the plug and grooves within which the said lips an adapted to slide as set forth. 10th. In an electrical switch an operating shaft, a loosely mounted contact plug carried thereby and an angular block capable of being moved by the said shaft the said angular block being pressed upon by one or more springs and having a roller or rollers in its operating end or ends for relieving the friction as set forth. 11th In an electrical switch a contact plug loosely mounted on a shaft and an angular block on the same shaft, a spring or springs pressing upon the said angular block and a roller or rollers in the bearing end or ends of the said block as set forth. 12th. An electric switch, substantially such as described.

No. 40,645. Safety Pin. (*Epingle de sûreté.*)

Clarence E. Noyes, Chester, Vermont, U. S. A., 12th October, 1892; 6 years.

Claim.—The safety pin A, having the catch a at one end the coil spring a^3 at the other end, the straight back a^2 connecting them, and the pin a^1 with the upwardly concave angle a^4, in combination with a hollow cap C, surrounding the coil spring, whereby said pin may work within the cap, as set forth.

No. 40,646. Method of Recovering Refractory Substances from Solutions. (*Méthode d'obtenir des substances réfractaires des solutions.*)

Henry Blackman, New York, State of New York, U. S. A., 12th October, 1892; 6 years.

Claim.—1st. The process consisting of superheating the substance to be treated and subsequently discharging it into a furnace in contact with the fuel to support combustion. 2nd. The process consisting in uniting the substance to be treated with the fuel, superheating them, and injecting them in a blast into a furnace. 3rd. The process consisting in atomizing the substance to be treated by gaseous or vaporous blast, subsequently superheating them, and finally injecting them into a furnace. 4th, The process consisting in uniting the substance to be treated with the fuel and air, superheating them, and then injecting them into a furnace. 5th. The process consisting in atomizing the substance to be treated by means of a gaseous or vaporous blast, subsequently superheating the mixture, and finally injecting it by means of a second blast into a furnace.

No. 40,647. Furnace for Preparing Alkaline Solutions. (*Fournaise pour la preparation de solutions alkalines.*)

Henry Blackman, New York, State of New York, U.S.A., 12th October, 1892; 6 years.

Claim.—1st. The combination, with a furnace, of an injector entering said furnace, a pipe leading from a source of fuel and entering said injector, a pipe leading from a source of liquid to be treated and entering said injector, whereby the combined blast of liquid and fuel is injected into the furnace and a supplemental injector entering the furnace, with a fuel pipe leading thereto, whereby a jet of flame is injected into the furnace in position to ignite the blast from the main injector. 2nd. The combination, with the furnace, of a closed concentrating vessel or vacuum pan arranged to be heated by the furnace, air exhausting mechanism for producing a partial vacuum in said concentrator, an outlet pipe leading from said concentrator, an injector entering the furnace and communicating with said pipe, and a pipe leading from a source of gaseous or vapourous fluid under pressure and entering said injector. 3rd. The combination, with a furnace, of a concentrating vessel, and agitator in said vessel, the outlet pipe from said vessel, and an injector entering the furnace and communicating with said outlet pipe. 4th. The combination with a furnace, of a concentrating vessel of circular cross section, a relative shaft mounted concentrically in said vessel, and a scraping or agitating blade mounted on said shaft within said vessel, an outlet pipe from said vessel, and an injector entering the furnace and with which said outlet pipe communicates. 5th. The combination, with the concentrating vessel, of a steam pump for forcing the liquid under treatment into said vessel, a float in said vessel, a valve in the steam pipe leading to said pump, and mechanical connection interposed between said valve and float, whereby the rise and fall of the float closes or opens said valve. 6th. The combination, with furnace, a concentrating vessel, an outlet pipe therefrom, and an injector communicating with said pipe and entering the furnace, of an automatic float valve for governing the outflow from the vessel through said outlet pipe.

No. 40,648. Cutter for Sausage Meat. (*Hache-viande.*)

Joseph Milton Briggs, Eau Claire, Wisconsin, U. S. A., 12th October, 1892; 6 years.

Claim.—1st. The combination, with the rotary block or table, and the rocking cutter thereon adapted to be rocked across it, a movable piece at one side of the block upon which the cutter rocks at one end of its motion, and suitable gearing operated by such piece connected with the rotary block so as to turn the same, substantially as and for the purpose described. 2nd. The combination, with the rotary block or table, and the rocking cutter thereon, movable pieces at opposite sides of the block engaged by the cutter as it rocks off of the block at such sides at the ends of its motion, and suitable gearing for turning the block connected with such pieces, and with the rotary block so as to turn the latter, substantially as and for the purpose specified. 3rd. The combination, with the rotary block or table, and the rocking cutter thereon, the hinged steps at opposite sides of the block upon which the cutter rocks at opposite ends of its travel, pawl and ratchet devices connected with the hinged steps and connecting gearing between such devices and the rotary block or table, substantially as and for the purpose shown. 4th. The combination, with the rotary table or block, and a movable step at one side thereof, a pawl carrying lever connected with a step so as to operate thereby, a ratchet wheel, a pinion connected therewith so as to be turned by it, and gear teeth carried by the block meshing with such pinion, and the rocking cutter on the block, substantially as and for the purpose set forth. 5th. In combination, with the rotary block and the rocking cuter thereon, the hinged steps at opposite sides of the block in the track of the cutter, the weighted lever connected with the respective steps and carrying one or more pawls, a ratchet wheel for each lever, and a pinion connected with each ratchet wheel, and gear teeth on the block meshing with these pinions, substantially as and for the purpose described. 6th. In combination, with the rotary block, the means for rotating the same, consisting of a pivoted step, a weighted lever, a connecting rod made adjustable in length, connecting the step, one or more pawls on the lever, a ratchet wheel, a pinion connected therewith so as to be rotated by it, and gear teeth on the block, substantially as and for the purpose specified. 7th. In combination, with the rotary block, the means for rotating the same with a step by step motion, which consists in a hinged step, a weighted lever, the rod connecting the step and lever, made in two parts with one part screwed into the other, one or more pawls on the lever, a ratchet wheel and pinion connected together, and gear teeth on the block, substantially as and for the purpose shown. 8th. In a sausage meat cutter, in combination with the rotary block, the rollers supporting the same so as to leave it free to rotate on a vertical axis, and separate and independent means for adjusting the height of each of the rollers, substantially as and for the purpose set forth. 9th. In a sausage meat cutter, in combination with the rotary block, the roller for supporting the same and allowing it to rotate, having bearings made vertically adjustable, the hinged steps at opposite sides of the blocks, the weighted levers, the connecting rods connecting the levers with the respective steps made adjustable in length, one or more pawls on each lever, a ratchet wheel for each lever, a pinion connected with the ratchet wheel so as to rotate therewith, and gear teeth on the block meshing with the pinions, substantially as and for the purpose set forth. 10th. The combination, with the rotary block of a sausage cutting machine adjustably supported, one or more feed devices for rotating the block each supported upon a plate or bar, screws for supporting such bar and nuts on each of such screws above and below the bar, substantially as and for the purpose shown.

No. 40,649. Burner for Hydrogen.

(*Foyer à hydrogène.*)

William Wilson, Milwaukee, Wisconsin, U.S.A., 12th October, 1892; 6 years.

Claim.—1st. In combination with the chamber A and its filling, a central oil supply pipe B, burners leading from the chamber A, and a combustion chamber consisting of the annular plates O, P, having perforated side walls and openings in the bottom plate to the interior of the combustion chamber, said openings being in line with the burners leading from the chamber A, substantially as described. 2nd. In combination with the chamber A and its filling, a central oil pipe B, burners leading from the chamber A, a combustion chamber consisting of the annular plates O, P, having perforated side walls, tubular openings in the bottom plate in line with the tips of the burner, and tubular openings through both upper and lower plates for the passage of air, substantially as described. 3rd. In combination with the chamber A and its filling, the central oil supply pipe B, burners leading from the chamber A, a combustion chamber consisting of the annular plates O, P, connected by perforated side walls, tubes extending through the chamber formed by the plates, tubes q extending through the lower plate covering the tips of the burners, and a flange a^1 formed on the under face of the upper plate, substantially as described.

No. 40,650. Draw Gear for Railway Cars.

(*Barre d'engrenage pour chars de chemin de fer.*)

Alvin W. Van Dorston, Washington, District of Columbia, U.S.A., 12th October, 1892; 6 years.

Claim.—1st. A cushioned draw gear for railway cars, comprising a draw bar and draw rod, spring followers arranged upon the draw rod and interposed between the rear end of the draw rod and the draw bar, brackets which receive and support the followers, and cushioned pistons in said brackets, against which said followers abut, substantially as described. 2nd. A cushioned draw gear for railway cars, comprising a draw bar and draw rod, spring followers arranged upon the draw rod, and interposed between its rear end and the draw bar, and movable with the movement of the draw rod, cushioned brackets provided with pistons against which the said followers abut, and guide plates for supporting the said followers, substantially as described. 3rd. The cushioned draw gear for railway cars, comprising a draw rod, brackets secured to the car tim-

bers and provided with cushioned pistons, guide ways connecting the said brackets, followers arranged upon the draw rod and within the said guide ways and next to the cushioned pistons, and a spring interposed between the said followers and normally separating them, substantially as described. 4th. The cushioned draw gear for railway cars, comprising a draw bar and draw rod, a sleeve attached to the rear end of the draw rod, and an evener bar pivoted in the sleeve and loosely arranged in the timbers, spring followers arranged upon the draw rod and interposed between the draw bar and the said sleeve, and movable with the movement of the draw rod, and brackets, and cushioned pistons in said brackets to receive said followers, substantially as described. 5th. The cushioned draw gear for railway cars, comprising a draw bar and draw rod, a sleeve attached to the rear end of the draw rod, and a cushioned evener bar loosely pivoted in the sleeve and loosely connected to the timbers, spring followers arranged upon the draw rod and interposed between the draw bar and the said sleeve and movable with the movement of the draw rod, and supports for said followers, substantially as described. 6th. A cushioned draw gear for railway cars, comprising at each end of the car a draw bar and draw rod, a sleeve attached to the rear end of the draw rod, and an evener bar pivoted in the sleeve and loosely connected to the timbers, spring followers arranged upon the draw rod and interposed between the draw bar and the said sleeve and movable with the movement of the draw rod, and supports for said followers, combined with rods connecting the evener bars, substantially as described. 7th. A cushioned draw gear for railway cars, comprising at each end of the car a draw bar and draw rod, a sleeve attached to the rear end of the draw rod, and an evener pivoted in the sleeve and loosely arranged in the timbers, spring followers arranged upon the draw rod and interposed between the draw bar and the said sleeve, and movable with the movement of the draw rod, and supports for said followers, combined with rods connecting the evener bars, and with a double-piston and cushioned cylinder therefor, and an evener bar connecting the said double-headed piston with the said connecting bars, substantially as described. 8th. A cushioned draw gear for railway cars, comprising a draw bar and draw rod at each end of the car, and usual or approved mechanisms for taking up the strain and thrust, and evener bars connected to said mechanisms, combined with a double headed piston and cylinder therefor interposed between the said evener bars and connected to their connections, substantially as described. 9th. A bumper having a casing, secured to the timbers by means of a bolt whose head is countersunk in its base, combined with a movable head arranged within the casing and secured therein by means of a transverse bolt and a slot in the head, and a rubber cushion interposed between the said movable head and the base of the casing, substantially as described.

No. 40,651. Feeding Mechanism for Carding Machines. (*Appareil d'alimentation pour machines à carder.*)

Luther Andrew Peckham and Charles Fletcher, both of Providence, Rhode Island, U. S. A., 12th October, 1892; 6 years.

Claim. 1st. The combination, as hereinbefore set forth, with a travelling lifting apron of a card feeder, of an equalizer mounted across the path of the apron upon the lifting side thereof and near thereto, and provided with a toothed or serrated edge, a vibrating evener provided with teeth and sweeping over the said edge of the equalizer, substantially as and for the purpose herein described. 2nd. The combination, as hereinbefore set forth, with a travelling lifting apron of a card feeder of an adjustable stationary equalizer mounted near the apron and having means for adjusting it relatively thereto in order to properly equalize stock of different staple as the same is raised by the apron, substantially as and for the purpose herein described. 3rd. The combination, as hereinbefore set forth, with a travelling lifting apron of a card feeder and an equalizer mounted near the apron upon the lifting side thereof for equalizing the lifted stock, of a vibrating evener sweeping over the back of the equalizer and a portion of the apron contiguous to the same and acting to even the lifted stock as it is introduced to the equalizer, substantially as and for the purpose herein described. 4th. The combination, as hereinbefore set forth, with a travelling lifting apron of a cord-feeder, of a guard mounted across the apron near the upper end thereof and upon the delivery side of the apron to prevent the stock from whipping out from the apron, substantially as and for the purpose herein described. 5th. The combination, as hereinbefore set forth, with a travelling lifting apron of a card feeder and a guard mounted across the path of the apron upon the delivery side thereof, of a vibrating toothed stripper sweeping over the outside of the guard and over the adjacent portion of the apron to strip the stock therefrom, substantially as and for the purpose herein described. 6th. The combination, as hereinbefore set forth, with a travelling lifting apron of a card feeder, of a pivoted equalizer mounted near the apron upon the lifting side thereof, a vibrating evener mounted behind the equalizer, a shaft and means for adjusting said shaft horizontally, and the evener sweeping over the back of the equalizer and part of the apron, and a link intermediate the equalizer and the shaft of the evener, substantially as described. 7th. The combination, as hereinbefore set forth, with the intermittent motion lifting apron and its drive shaft having the ratchet wheel and cog wheel provided with the feed pawl mounted on said drive shaft, and the operating frame and its rack gearing for imparting to the apron an intermittent motion, of the scale discharging lever, the pivoted rocker lever, the link intermediate the scale discharging lever and the rocker lever, and the weighted tilting lever intermediate said devices and the intermittent motion mechanism, whereby the apron may be run with an intermittent motion and then be checked at a predetermined time by the scale operating devices, substantially as and for the purpose herein described. 8th. The combination, as hereinbefore set forth, with the lifting apron and its drive shaft, and the loose cog wheel and the fast ratchet wheel mounted upon the shaft, and the reciprocating means for oscillating the cog wheel, a feed pawl located on the cog wheel and engaging and actuating the ratchet to feed the same forward, a stationary retaining pawl for holding the ratchet, of the scale devices provided with an arm and connections intermediate the said arm and pawl for disengaging the feed pawl from the ratchet to stop the motion of the apron, substantially as and for the purpose herein described. 9th. The combination, as hereinbefore set forth, with the lifting apron and its drive shaft, a loose cog wheel and a fast ratchet mounted upon the shaft and reciprocating means for oscillating the cog wheel, a feed pawl mounted upon the cog wheel and engaging and feeding one way the ratchet, a stationary retaining pawl engaging and holding the ratchet in the position the feed pawl may advance it to, of the pivoted scale discharging lever and a pivoted rocker lever provided with a stud and a link intermediate the scale discharging lever and the rocker lever, a tilting lever provided with a latch lip for latching the said stud and having an arm for disengaging the pawl from the ratchet to stop the apron when the scale discharging lever is tilted by the scale, substantially as and for the purpose herein desnribed. 10th. The combination, as hereinbefore set forth, with the main shaft and the travelling lifting apron and the actuating means therefor, the vibrating stripper provided with a shaft and a gear wheel, of the reciprocating frame provided with a track and having teeth thereon for engaging the goar wheel a shaft receiving its motion from the main shaft and provided with a crank disc, a connecting rod intermediate the crank disc and the frame, for effecting the vibration of the stripper, substantially as and for the purpose herein described. 11th. The combination, as hereinbefore set forth, with the main shaft receiving its motion therefrom and provided with a wheel, the travelling lifting apron and the actuating means therefor, the vibrating evener located upon the lifting side of the apron and provided with a shaft upon which it vibrates and a rod connected with the evener and eccentrically pivoted to the wheel on the said second shaft for vibrating the evener, the vibrating stripper mounted on a rocking shaft to the discharge side of the apron and means intermediate the main shaft and the rocking shaft for rocking the same to vibrate the stripper, whereby the stripper and the evener may be vibrated simultaneously in opposite ways, substantially as and for the purpose herein described. 12th. The combination, as hereinbefore set forth, with the lifting apron and the main shaft and means for driving the apron from the shaft, and the scale operating devices, of a clutch upon the main shaft for connecting and disconnecting the power and the weighted tilting lever, the short link for operating the same and connected with the scale operating devices, and the rod connecting the tilting lever and the clutch, to stop and start the main shaft, substantially as and for the purpose herein descsibed. 13th. The combination, as hereinbefore set forth, with the main shaft and the travelling lifting apron and the actuating means therefor, and a clutch on the main shaft to stop and start the same, of the pivoted scale discharing lever, the L-shaped rock lever provided with a latch stud, and the pivoted lever acting therewith, the link connected between said latter lever and the scale discharging lever, the tilting lever engaged by said latch stud, a rod and a connected crank for operating the said clutch, and said rod pivoted to the tilting lever, substantially as and for the purpose herein described. 14th. The combination, as hereinbefore set forth, with the apron and the intermittent motion therefor, substantially as described, provided with a feed pawl, of the scale discharging tilting lever provided with the disengaging arm for the pawl, the L-shaped rock lever provided with a latch stud engaging the tilting lever, the pivoted lever for the rock lever, and the links intermediate the said pivoted lever, and the scale discharging lever, the short link provided with a lug for returning the tilting lever into normal position, the vibrating lever and the link intermediate thereof, and the short link, substantially as and for the purpose herein described. 15th. The combination with the travelling lifting apron 11, of the pivoted equalizer 14, and the shaft 19, provided with means for horizontal adjustment, the rod 23 intermediate the said equalizer and shaft, substantially as and for the purpose herein described. 16th. The combination with the lifting apron 11, and the drive shaft 13, therefor, of the ratchet wheel 39 fast on the shaft 13, and the cog wheel 37 loose on said shaft and provided with the feed pawl 38, and the retaining pawl 40, the reciprocating rack 42 provided with the teeth 47 and with teeth 43, meshing with the cog wheel 37, the vibrating stripper 33, having the shaft 35, provided with the sector gear 36, meshing with the said teeth 47, the connecting rod 45, connected to the said rack 42, and the rotary crank disc 46 for driving the said rod, substantially as described. 17th. The combination as hereinbefore set forth with the main shaft, the lifting apron and its driving rack, a connecting rod connected with the rack and with a crank pin projecting from a gear, the gear and the gear on the end of the main shaft, a disc geared with the rack, and a pawl and ratchet constructed to impart intermittent motion to the lifting apron, substan-

tially as and for the purpose herein described. 18th. The combination as hereinbefore set forth, with the lifting apron and its drive shaft, of a ratchet wheel secured to the driving shaft, a stop pawl, a disc geared with a reciprocating toothed rack, said disc carrying a pawl, the rack, a rod connecting the rack with a crank pin, the gear provided with the crank pin, the gear intermeshing with said gear, and the main shaft constructed to impart motion to the apron irrespective of the stop motion of the apron effected by the weighing attachments, substantially as herein described.

No. 40,652. Air Brake. (*Frein atmosphérique.*)

The Lansberg Brake Company, assignee of Frank Lansberg, all of St. Louis, Missouri, U.S.A., 12th October, 1892; 6 years.

Claim.—1st. In an air brake, the combination of a train pipe, a valve, a chamber in which said valve works, a passage forming a communication between said chamber and the brake cylinder pipe, and a projection closing said passages when the brakes are off, and when a service stop is being made on said valve, said projection having an opening adapted to register with an opening leading to said passage when an emergency stop is to be made, substantially as set forth. 2nd. In an air brake, the combination of a train pipe, a valve chamber, a valve located in said chamber, a passage forming a communication between the chamber and the brake cylinder, a perforated projection on said valve, and a spring actuated block placed between the projection and the wall of said chamber, substantially as and for the purpose set forth. 3rd. In an air brake, the combination of a train pipe communicating with a valve chamber, a a passage leading to the brake cylinder and communicating with said valve chamber, a valve located in said chamber, a projection depending from the valve and having an opening or passage, and a block located between the projection and the wall of the valve chamber and having a passage corresponding to the passage of said projection, substantially as and for the purpose set forth. 4th. In an air brake, the combination of a slide valve for a service top, a piston valve controlling said slide valve, a chamber in which said piston valve is located, a passage forming a communication between said chamber and the brake cylinder, and a projection on said piston valve adapted to close said passage, said projection having an opening or passage which forms a communication between said chamber and said passages when the air in the tram pipe is to be reduced more than is necessary for a service stop, substantially as and for the purpose set forth.

No. 40,653. Steam Pump. (*Pompe à vapeur.*)

The Lansberg Brake Company, Assignee of Frank Lansberg, all of St. Louis, Missouri, U.S.A., 12th October, 1892; 6 years.

Claim.—1st. The combination of the main steam cylinder, an auxiliary cylinder, a valve in said auxiliary cylinder, a rock shaft provided with a crank arm, a longitudinally movable rod connecting the arm to the auxiliary valve, and tappet arms secured to said valve and said shaft, respectively, a steam chest, and a valve located in the chest, substantially as and for the purpose set forth. 2nd. The combination of the steam-cylinder provided with a chest having a valve, pistons secured to the valves and of different areas, an auxiliary cylinder communicating with the steam chest, and provided with a valve having a tappet arm, and a rock shaft provided with a tappet-arm, substantially as and for the purpose specified. 3rd. The combination of the steam cylinder having a chest, a valve located in the chest, and having pistons of different diameters, an auxiliary cylinder provided with a valve, the tappet arm secured to the stem of the valve, a rock shaft located at the other end of the steam cylinder, a tappet arm on the shaft, and a rod connecting said shaft with the valve of the auxiliary cylinder, substantially as and for the purpose set forth.

No. 40,654. Governor for Steam Engines.

(*Gouverneur pour machines à vapeur.*)

William O. Webber, Erie, Pennsylvania, U.S.A., 12th October, 1892; 6 years.

Claim.—1st. In a steam engine governor, the combination, with an eccentrically placed valve moving crank pin, of a crank arm carrying said pin, which is moved by the action of the governor weights and is journalled eccentric to the shaft and so far to one side of the centre line A^x, B^x, which cuts the line *l*, *l*, at right angles that when said crank arm is moved by the inward movement of the governor weights the said pin will move away from said line *l*, *l*, on the opposite side thereof from the centre of motion of said crank arm and thereby increase the lead of the valve. 2nd. In a steam engine governor, the combination, with the centrifugally acting weight arms and the centripetally acting springs connected with said weight arms, of a rock arm journalled eccentric to the main shaft and to one side of the centre line A^x, B^x, which is at right angles to the lead line *l*, *l*, and connected to the weight arms by suitable links, a crank arm on said rock shaft, and a crank pin on said crank arm for connecting with the valve rod and which is eccentric to the main shaft. 3rd. In a steam engine governor, the combination, with an eccentrically placed valve moving crank pin, of a crank arm carrying said pin, a rock shaft carrying said crank arm, which is journalled eccentric to the main shaft and at one side of a centre line A^x, B^x, which cuts the lead line *l*, *l*, at right angles, a cross arm on said rock shaft, weight arms, springs resisting the outward movement of said weight arms, and links connecting said weight arms with the opposite ends of said cross arm. 4th. In a steam engine governor, the combination, with an eccentrically placed valve moving crank pin and a crank arm carrying said pin, of a rock shaft carrying said crank arm, which is journalled eccentric to the shaft and so far to one side of a centre line A^x, B^x, which cuts the lead line *l*, *l*, at right angles that the crank pin will move outwardly away from the lead line as it moves away from the line A^x, B^x, and thereby increases the lead of the valve, and weight arms connected with said rock shaft so as to rock the same when said weight arms are moved inwardly or outwardly. 5th. In a steam engine governor, the combination, with the links H, H, and springs C, C, and the pivoted pins *c* and *h*, of weight arms having a slot *b* to receive the eye ends of said links and springs, and a slot b^2 at right angles to the slot *b*, to receive the pivot pins *c*, *h*. 6th. In a steam governor, the combination, with the weights B^1, of removable and changeable cap weights b^1, which are secured upon the weights B^1. 7th. In a steam engine governor, the combination, with a weight arm B, and weight B^1 cast in one piece, of a cap weight b^1 detachably secured to said weight.

No. 40,655. Apparatus for Obtaining Copper.

(*Appareil pour obtenir du cuivre.*)

The Val D'Aosta Syndicate, assignee of John Charles Howell, London, England, 14th October, 1892; 6 years.

Claim.—1st. The herein described arrangement of the parchment or parchmentized paper which forms the porous diaphragms separating the two electrolytes in an electrolytical apparatus and means for securing the same, consisting of a single length of material supported upon or wound around two series of uprights fixed in the tank and secured to the ends of the tanks, substantially as set forth. 2nd. In an electrolytical apparatus the combination with the two series of uprights and the single length of material constituting the diaphragms supported upon or wound around the same, of the pipes located in the common spaces *g* and *h*, as described, and having openings opposite the compartments, substantially as and for the purpose set forth. 3rd. In an electrolytical apparatus the combination with the uprights formed with grooves, as described, adapted to receive the edges of strips of porous material, each of which strips constitutes a compartment for an electrode, of lengths of india rubber tube, introduced into the said grooves after the edges of the porous material have been placed therein then inflated, substantially as and for the purpose set forth. 4th. In an electrolytical apparatus the arrangement of horizontal tubes having tubes depending therefrom into the various compartments containing the electrolytes for the purpose of circulating the liquids, substantially as hereinbefore described. 5th. In an electrolytical apparatus fixing the sheets of material constituting the diaphragms by means of strips or wedges, substantially as hereinbefore described. 6th. In an electrolytical apparatus the arrangement of the sheets of material constituting the diaphragms between perforated sheets of metal or other suitable material, inflated elastic tubes being employed for securing the edges of the said diaphragms and the protecting plates, substantially as set forth.

No. 40,656. Fog Signal. (*Signal de brume.*)

Walter R. Close, Bangor, Maine, U.S.A., 14th of October, 1892; 6 years.

Claim.—A fog signal consisting of the combination of a clock work mechanism; a shaft operated by said mechanism and carrying a cam wheel; a striker consisting of a hollow metallic cylinder having a closed and loaded point and a closed butt carrying within it a metallic ball of such diameter as to travel freely therein; said cylinder being mounted horizontally near the middle of its length upon a bent lever pivoted to the signal frame and adapted to be tripped and operated by a cam wheel carried upon a shaft operated by clock-work mechanism, and a gong or bell so placed as to receive the blow of said striker.

No. 40,657. Oil Burner. (*Bruleur d'huile.*)

William Abram Myers, Bolivar, New York, U.S.A., 14th October, 1892; 6 years.

Claim.—The combination, with the outer air supply pipe, the perforated reducing head, the coupling head and extension, and the perforated diaphram within the coupling head, of the central oil pipe, the intermediate steam pipe, and the perforated head secured to the steam pipe and to the oil pipe, and the steam, and oil inlets at right angles to each other, the said head being provided with perforations extending both at an angle to the horizontal and in opposite directions to each other, substantially as specified.

No. 40,658. Picker for Looms. (*Chasse-navette de métier.*)

Louis Tewelés and Thomas Arthur Robinson, both of Patterson, New Jersey, U.S.A., 14th October, 1892; 6 years.

Claim.—1st. The combination of a frame having an elevated raceway, and adapted to be secured to the raceway of a loom parallel therewith, shuttle boxes arranged on each of the raceways, shuttles operated from said boxes, a vertical arm having enlargements at its ends and connected to the picker stick by a flexible strip, said arm resting on the raceway of the loom and extending up through the upper raceways, a pad on one end of the said arm, a horizontal arm

secured to the other end of the same, a cross head at the end of said horizontal arm, and a pad secured to the end of the horizontal arm and around the cross head. 2nd. A picker for looms, consisting of a vertical arm, having an extension at its lower end adapted to ride on the lower raceway, a flexible loop adapted to connect said vertical arm with the picker stick, and a horizontal arm connected to the upper end of said vertical arm, and extending along the upper raceway.

No. 40,659. Car Heater. (*Calorifère de chars.*)

Cyrus S. Dean, Fort Erie, Ontario, Canada, 14th October, 1892; 6 years.

Claim.—1st. A heater comprising a casing having the front portion comparatively deeper than the rear portion, and having said rear portion wide and shallow and constructed to have a register connected therewith, a smoke conductor located in the shallow rear portion of the casing, and composed of a series of pipes connected at their ends by smoke boxes, and a fire pot removably inserted in the front portion of the casing and adapted to automatically connect with the inner smoke box of the said smoke conductor, substantially as described. 2nd. The herein described heater, composed of a casing having a wide and shallow supplemental hot air chamber projected from its rear, a smoke conductor located in the said hot air chamber and composed of a series of pipes which are connected at their ends by smoke boxes, a fire pot removably inserted through the front end of the casing and suspended therein by lateral projections on the fire pot, engaging with ribs on the sides of the casing, and adapted to connect automatically with a smoke box of the said smoke conductor, and a door to close the open end of the casing, and provided with a stop to hold the door of the fire pot closed and prevent the latter from shaking about, substantially as described. 3rd. In a car heater, the combination, with the casing having ribs *a*, on its opposite sides and having its front ends open, of a fire pot adapted to be thrust through the open end of the casing, and having lateral projections which engage with the ribs *a*, and support the pot and prevent lateral movement of the same, and having a bail and provided with a door in its front side and a door to close the open end of the casing, and having an adjustable stop to engage with the fire pot door in its front side, and a door to close the open end of the casing, and having an adjustable stop to engage with the fire pot door and hold it shut and prevent longitudinal movement of the said fire pot within the casing, substantially as described. 4th. The herein shown and described car heater, consisting of a casing having its front portion deeper than the rear portion, and having the said rear portion wide and shallow, and constructed to have a register connected therewith, a smoke conductor located in the shallow rear portion of the casing, composed of a series of pipes which are connected at their ends by smoke boxes, a fire pot having a bail and provided with lateral projections and adapted to be thrust through the open end of the casing and be supported therein by the lateral projections engaging with ribs on the sides of the casing, and a door to close the open end of the casing, and provided with an adjustable stop to hold the fire pot door closed and prevent the said fire pot from longitudinal movement in the case, substantially as described.

No. 40,660. Car Coupler. (*Attelage de chars.*)

William Lanman De Grace, Port Mulgrave, Nova Scotia, Canada, 14th October, 1892; 6 years.

Claim. 1st. In a car coupling, the draw head having a chamber connected by a small neck with a flaring mouth, a hook pivoted at the rear of the chamber and adapted to engage a link in the said chamber, substantially as set forth. 2nd. In a car coupling, the combination with the draw head A, having a chamber to receive the link, of the hook G journalled in a vertical slot in the said draw head, the break or point of said hook having an inwardly sloping surface g^2, the lug H, rocking shaft I, having arm i^1, handles J and the rod K, substantially as set forth. 3rd. In a car coupling, the combination with the hook G, and link L, of the shoulders C, in the throat *b*, substantially as set forth.

No. 40,661. Phone Holder. (*Porte récepteur téléphonique.*)

Jehiel T. Moore, Minneapolis, Minnesota, U. S. A., 14th October, 1892; 6 years.

Claim.—1st. In a device of the class described, the combination, with a telephone or other sound transmitting instrument, and a receiving phone, of an adjustable arm pivotally supported at one end and carrying at its other end a clasp adapted to hold a receiving phone, for the purpose specified. 2nd. In a device of the class described, the combination, with a telephone or other sound transmitting instrument, and a receiving phone, of an adjustable arm pivotally supported at one end and carrying at its other end a clasp adapted to hold a receiving phone, and a flexible connection between said arm and the telephone switch, for the purpose specified. 3rd. The combination, with a sound transmitting instrument and receiver, of the plate 2, the adjustable arm 6 carrying at its outer end a receiver holder, and means for securing said arm in any desired position, and a connection between said arm and the telephone switch, substantially as described. 4th. The combination, with a sound transmitting instrument and receiver, of the plate 2, clamp rods 4, adapted to secure said plate to the instrument, the arms 6 pivotally connected to the plate 2, and adapted to be adjusted in different positions upon the segmental portion of said plate, and carrying at its outer end a clasp receiver holder, and a connection between said arm and the telephone switch, substantially as described, and for the purpose specified.

No. 40,662. Valve. (*Soupape.*)

Sir William Thomson, Glasgow, Scotland, 14th October, 1892; 6 years.

Claim.—1st. In a stop cock, the combination, with a housing, a can working in said housing, provided with slots which form a shoulder, and a valve provided with gudgeons working in said slots, substantially as set forth. 2nd. In a stop cock, the combination, with a housing, a can provided with slots and a horizontal shoulder, a valve provided with gudgeons and working in said slots, and the rivet shaped piece of metal resting on the valve and provided with a shank, a spiral spring surrounding said shank for pressing the valve upon its seat, substantially as set forth. 3rd. In a stop cock, the combination, with the housing having inlet and outlet ports, and a valve seat arranged above the inlet port, whereby the flow is prevented, said housing provided with an internally threaded neck, a cylindrical plug screwing into said neck, and having a cup or cavity formed in its lower end, a valve arranged in said cup above the inlet port, and having a pin and slot connection with the plug, and the spring *c* arranged in said cup above said valve, to hold the valve firmly upon its seat and prevent the flow, while at the same time the plug will turn the valve around, substantially as set forth. 4th. The combination, with the housing, having inlet and outlet ports and the valve seat, of the valve stem having a cup or cavity at its lower end, a valve arranged in said cup and having slot and pin connection with said stem, and the pressure spring arranged in said cup and having the central boss c^1, bearing upon said valve, substantially as set forth. 5th. In a stop cock, the combination, with the housing, a hollow cup secured within said housing and having a projection at one end and a valve connected to the other by feather and slot connection, and a spring bearing between said cup and valve, of a valve stem having a socket in which said projection is seated, and a conical swell on said stem adapted to come in contact with said housing when the valve is open, substantially as and for the purposes set forth. 6th. In a stop cock, the combination, of the housing, a can working in said housing, a valve working in said can and a metal key, as and for the purposes set forth. 7th. In a stop cock, the combination, with a housing, a can working in said housing, a valve working in said can, a rivet shaped piece of metal having its shank surrounded by a spiral spring resting on said valve, and a metal key, all substantially as and for the purpose set forth. 8th. In a stop cock, the combination, with a housing, a can working in said housing, a valve working in said can and a shaft projecting from said can, a float having working connection with said shaft, and a reservoir in which said parts are located, substantially as and for the purpose set forth. 9th. In a stop cock, the combination, with the housing, a can working in said housing, a valve working in said can, a shaft connected to said can, suitable cog wheels on said shaft, adapted to be operated by a rack mounted upon a float and working in a reservoir, substantially as set forth. 10th. In a stop cock, the combination, with a housing, a can working in said housing, a valve working in said can, a shaft attached to said can, a wheel on said shaft, a float having working connection with said shaft through the wheel and consisting of the vessel beneath the cock and having the emptying siphon, all substantially as set forth.

No. 40,663. Foot-Power Fan. (*Eventail mu par le pied*)

William Alfred Hart, Toronto, Ontario, Canada, 14th October, 1892; 6 years.

Claim.—1st. A foot power fan consisting of a fan fastened in the end of a spindle supported in journals in a vertical standard a spring fastened at one end to the spindle and at the other end to the spindle and at the other end to a portion of the standard and a cord having one end wound on a spindle and the other end passing down around a roller to a treadle K, which is operated as and for the purpose specified. 2nd. A foot power fan consisting of a fan fastened in the end of a spindle supported in journals in a vertical standard, a spring fastened at one end to the spindle, and at the other end to a portion of the standard, and a cord having one end wound on a spindle and the other end passing down around a roller to a treadle K, which is connected by a spring L, to the standard A, as and for the purpose specified. 3rd. The combination with the fan G, fastened at the end of the spindle F, which is journalled in the sleeve C, and driven as specified, of the vertical standard A, having slots D, and an adjusting screw I, extending through the slot D, and sleeve C, as and for the purpose specified. 4th. The combination with the fan G, fastened at one end of the spindle F, which is journalled in the sleeves C, and driven as specified, of the sleeve N, provided with an adjustable clamp M, as and for the purpose specified.

No. 40,664. Driving Device for Bicycles.

(*Moteur pour bicycles.*)

Edwin Bradshaw, Toronto, Ontario, Canada, 14th October, 1892; 6 years.

Claim.—1st. A bicycle provided with a foot treadle for propelling the rear wheel, and a crank gear attached to the steering handle so that the hands steering are used for supplementing the foot driving power; substantially as and for the purpose specified. 2nd. A bicycle provided with a foot treadle for propelling the rear wheel, in combination with a sprocket wheel carried on a spindle and journalled in the steering post, and of a sprocket chain arranged to connect the said sprocket wheel with a sprocket wheel fixed to the spindle of the front wheel, substantially as and for the purpose specified.

No. 40,665. Wire Plaiting Machine.

(*Machine à tresser le fil de fer.*)

Othniel Preston, Hornellsville, New York, U. S. A., 14th October, 1892; 6 years.

Claim. 1st. The combination, with a reel carriage provided with vertical arms or brackets, of a shaft having its bearings in the upper end of said arms, a wire reel mounted upon said shaft, and a guide and bracket pivoted upon the ends of said shaft and straddling the reel and provided with a guide eye or slot, the upper ends of the arms of the reel carriage being provided with recesses forming shoulders to limit the vertical play of the tension bracket, substantially as described. 2nd. The combination, with the bed plate provided with the guide channel, as described, of the reel-carriages provided with vertical brackets supporting the reel shaft and having at their upper ends recesses or stops to limit the motion of the take up yoke and the take up yoke pivoted to the top of the reel carriages and straddling the same and provided with a guide eye, substantially as described. 3rd. The combination, with the bed plate provided with the guide channel, as described, of the reel carriages provided with vertical brackets supporting the reel shaft and reel and having at their upper end recesses or stops to limit the motion of the take up yoke, the take up yoke provided with a guide eye and pivoted to the top of and straddling the reel carriage, and the automatic friction brake consisting of the spring surrounded bolt seated in a recess in the brackets of the reel carriage and adapted to bear against the flange of the reel, substantially as specified. 4th. In a wire braiding machine, the combination, with the reel carriages, the reels mounted therein, the take up yokes, and the automatic friction brakes, of the bed plate provided with guide channels, the intermeshing gearing by which motion is imparted to the reels, the intermediate bracket and guide eye, the receiving drum and the gearing by which it is caused to revolve with a speed corresponding to the delivery from the reels, the whole arranged to give a yielding delivery to and produce an automatically regulated draft upon the strands during the operation of braiding to compensate for the spring of the wire, substantially as specified.

No. 40,666. Evaporating Apparatus.

(*Appareil évaporateur.*)

Theogene E. Richard, Lake Charles, Lousiana, U.S.A., 14th October, 1892; 6 years.

Claim.—In an evaporator, the combination with a portable elongated furnace, of a semi-circular evaporating pan removably fitting within the top of said furnace along the entire length thereof and having a gutter extending along one side and end thereof, a series of partitions arranged within said pan to form separate and independent compartments decreasing in size from the fire box of the furnace to the opposite end, and a strengthening and supporting band encircling the upper edge of the furnace and the evaporating pan resting thereon, substantially as set forth.

No. 40,667. Tyre for Vehicles.

(*Bandage pour voitures.*)

Henry Rohrer, Hagerstown, Maryland, U.S.A., 14th October, 1892; 6 years.

Claim.—The combination with the felly and grooved tire of the plate interposed between said tire and felly, said plate constructed with horizontal portions c, d^1, providing a groove d and flange c, bent at right angles to the horizontal portion and formed of uniform thickness throughout said groove, in connection with the periphery of the felly, providing a space around the entire wheel all substantially as described.

No. 40,668. Seed Planter. (*Semoir.*)

Ebenezer R. Knight, St. Johns, Newfoundland, 14th October, 1892; 6 years.

Claim.—1st. In a broadcast sewer, the combination, with a wheel supported frame and a seed box carried by the frame and having a bottom inclined in direction of its centre and provided at its centre with a chute, of a valve located above the chute, a lever connected with the valve, a seed delivery drum or cylinder held to revolve beneath the chute of the seed box and provided with peripheral grooves or pockets, and a driving mechanism between one of the supporting wheels of the frame and the seed distributing drum, as and for the purpose set forth. 2nd. In a broad cast sower, the combination, with the wheel supported crib-like frame, a seed box carried by the frame and having its bottom inclined downward in direction of the centre, and a trough formed transversely at the central portion of the bottom, of a valve pivotally located above the trough, the pivot being at one side of the centre of the end portions of the valve a lever carried by the body and connected with the valve, a locking device adapted for engagement with the lever, a shaft located below the trough of the seed box and actuated from one of the frame supporting wheels, and a seed delivery drum mounted upon the shaft to turn therewith, the said drum being detachable from the shaft and provided with a series of longitudinal peripheral pockets, as and for the purpose specified. 3rd. In a broad cast sower, the combination, with a wheel supported body or frame, a seed box carried by the body or frame and having its bottom inclined from its ends downward to the centre, a trough formed at the central portion of the bottom of the seed box, a pivoted valve located above the trough, a lever carried by the seed box and connected with the valve, and partitions located longitudinally upon the bottom of the seed box, the said partitions being adapted to prevent excessive movement of the seed in the direction of the sides of the box, of a shaft journaled in the frame below the trough and actuated from one of the frames supporting wheels, a seed delivery drum carried by the shaft and removable therefrom, said seed drum being provided with a series of longitudinal pockets in its peripherial surface, and a spout located beneath the drum and having a link connection with the frame of the implement, as and for the purpose specified.

No. 40,669. Horse Collar. (*Collier de cheval.*)

Carl A. R. Ahl, Dresden, and Otto Forbrich, Chemnitz, both in the German Empire, 14th October, 1892; 6 years.

Claim.—1st. A horse collar carried by a saddle adjustable in relation to the collar proper, for the purpose of preventing friction between the collar and the neck of the horse, substantially as described. 2nd. In a collar, such as described, the combination with side pieces of a screwed spindle for rendering the width of the collar adjustable substantially as described and illustrated in the accompanying drawings. 3rd. In a collar, such as described, the arrangement enabling the height or length of the collar to be adjusted, for which purpose the saddle is supported by bars or rods adjustable within the side pieces of the collar, substantially as described and illustrated in the accompanying drawings. 4th. In a horse collar the combination with two side pieces such as A and link such as a connecting their lower ends together and by which the width of the lower part of the collar may be adjusted of a screwed spindle such as C for enabling the width of the upper part of the collar to be adjusted substantially as described. 5th. In a horse collar the combination with two side pieces joined at their lower ends by an adjustable link of two bars or rods telescoping within the side pieces and a screwed spindle joining the upper ends of the two bars substantially as described and illustrated in the accompanying drawings. 6th. In a horse collar the combination with two side pieces connected at their lower ends by an adjustable link and having two bars or rods telescoping within them the bars being connected at their upper ends by a screwed spindle of a saddle jointed to the spindle substantially as described and illustrated in the accompanying drawings. 7. In a horse collar the combination with two side pieces A of link a lugs a^1 and pins or bolts a^2 adjustable bars B, screws b nuts b^1 screwed spindle C, saddle D and joint d, substantially as described and illustrated in the accompanying drawings.

No. 40,670. Electric Batteries. (*Pile électrique.*)

Jean Vernhet, 95 Boulevard Beaumarchais, Paris, France, 14th October, 1892; 6 years,

Claim.—1st. A battery cell consisting of a heated vessel containing a body or compound such as, for instance, the alloy of lead and silver, or litharge adapted to absorb the oxygen of the air under the action of the heat, so as to generate an oxygenated metallic compound and a body, such as carbon for reducing said compound as set forth.

No. 40,671. Nut Lock. (*Arrête-écrou.*)

Julius Evinof, Australia Hotel, Sydney, New South Wales, Australia, 14th October, 1892; 6 years.

Claim. The herein described means for locking nuts on bolts, consisting of a taper screw threaded plug or pin screwed into a correspondingly threaded axial hole in a split bolt, the whole being constructed and arranged substantially as and for the purposes herein described and explained, and as illustrated in the accompanying drawings.

No. 40,672. Street Broom. (*Balai pour rues.*)

John Jones and Alexander Gillies, both of Toronto, Ontario, Canada, 14th October, 1892; 6 years.

Claim.—1st. A street broom, consisting of a series of steel strips bunched together and arranged in rows around a cylindrical frame, some of the strips being edgewise and other strips flatwise, substantially as and for the purpose specified. 2nd. A street broom, con-

sisting of a series of steel strips bunched together and arranged in rows around a cylindrical frame, some of the strips being edgewise and other strips flatwise, in combination with blocks D placed between the strips, substantially as and for the purpose specified. 3rd. The steel strip C, bent as described, and inserted through the frame A, in combination with the backing E, substantially as described.

No. 40,673. Horse Collar. (*Collier de cheval.*)

John MacGregor, Ridgetown, Ontario, Canada, 14th October, 1892; 6 years.

Claim. The herein described horse collar, being a combination of harness leather lined with felt, supported by a frame of flat spring steel secured at the bottom with a hook and eye, substantially as and for the purpose hereinbefore set forth.

No. 40,674. Alphabet of Sounds. (*Alphabet des sons.*)

Thomas Anderson, Watertown, Massachusetts, U.S.A., 14th October, 1892; 6 years.

Claim. 1st. In a systemic alphabet of sounds, the combination of one or more dots and dashes placed together or separately with respect to a predetermined line of a letter or letters substantially as and for the purposes specified. 2nd. In a syntemic alphabet, a series of dots and dashes so placed with respect to a given predetermined line as to give a universal sound to the same character in any and all languages, substantially as and for the purposes specified.

No. 40,675. Apparatus for Bottling Malt Liquors.

(*Appareil pour mettre les boissons d'orge brassée en bouteilles.*)

John Herman Kersenbrock, Columbus, Nebraska, U.S.A., 14th October, 1892; 6 years.

Claim 1st. The herein described apparatus for conducting beer or other fermented malt liquors from a keg, under air pressure, and discharging it into bottles, comprising a heater, cooler, bottling apparatus and piping or tubing connecting them with each other, and with the keg, all arranged and operating substantially as shown and described. 2nd. A keg into which air under pressure is adapted to enter, having an outlet faucet at its lower end, in combination with means for ascertaining the quantity of liquor therein, the same comprising a double faucet at the top of the keg, a valve in the upper nozzle of the double faucet to permit escape of gases, tubing connected with the lower nozzle of the double faucet, and provided with a gauge, and valved communication between the tubing and the bottom of the keg, substantially as set forth. 3rd. A keg into which air under pressure is adagted to enter, having an outlet faucet at its lower end, in combination with means for ascertaining the quantity of liquor therein, the same comprising a double faucet at the top of the keg, a valve in the upper nozzle of the double faucet to permit the escape of gases, tubing connected with the lower nozzle of the double faucet, a glass tube constituting a gauge connected with the lower end of the tubing, a faucet at the bottom of the keg provided with a valve to permit the escape of air through its nozzle and connected with the the lower end of the glass tube, and a valve between the keg and nozzle of the last named faucet, substantially as set forth. 4th. In a beer apparatus, the combination of a vat, a single inlet pipe, and a single outlet pipe located respectively at opposite ends and projecting into the vat, funnel shaped or flared portions at the inner ends of the pipes, a series of circulating pipes located wholly within the vat, heads at the ends of the pipes secured to the funnel shaped or flared portions and provided with openings receiving the ends of the pipes, set screws for securing the heads to the pipes, and means located between the ends of the vat for supporting the heads directly from the bottom of the vat, substantially as set forth. 5th. In a beer apparatus, the combination of a vat, inlet and outlet pipes at the ends of the vat, respectively provided with funnel shaped or flared portions at their inner ends, a series of circulating pipes located within the vat, heads at the ends of said series of pipes having openings to receive the ends of the latter, and flanges projecting from the heads and surrounding the openings over which said funnel shaped or flared portions fit, substantially as set forth. 6th. The combination of a vat, a series of parallel circulating pipes contained therein and arranged in a horizontal plane, outlet and inlet pipes communicating with the ends of the circulating pipes at each end and projecting through the ends of the vat, and a series of parallel steam pipes situated below and parallel with the circulating pipes and provided with perforations, whereby the circulating pipes will be uniformly heated throughout, substantially as set forth. 7th. The combination, in an apparatus for bottling beer or other liquors, of a horizontal cylinder or reservoir, a receiving pipe entering said cylinder, a strainer located within the cylinder and over the end of the pipe, removable caps over the end of the cylinder, an auxiliary cylinder or small reservoir having its axis parallel with and located below the large cylinder, a pipe communicating the two and by which the auxiliary cylinder is suspended, rotary heads upon the opposite ends of the auxiliary cylinder, pivots passing through the ends of the auxiliary cylinder and on which the hands rotate, radiating siphons in said head, the auxiliary cylinder, the heads and the siphon being provided with fluid passages adapted to be intermittently closed and opened by the rotation of the rotary heads, and the bottle support located below the auxiliary cylinder, for the purpose substantially as set forth. 8th. In an apparatus for bottling beer or other liquors, the combination of a horizontal cylinder or reservoir, a receiving pipe entering the cylinder, an auxiliary cylinder or smaller reservoir located below the main cylinder, a pipe connecting the two cylinders, revolving heads upon the opposite ends of the auxiliary cylinder, siphons radiating from said heads, the opposite ends of the auxiliary cylinder being provided with outlet passages adapted to intermittently register with the outlet passages in the rotary heads, and a bottle support adjustable toward and away from said siphon, as and for the purposes set forth. 9th. In an apparatus for bottling beer or other liquors, a horizontal cylinder or reservoir, in combination with an auxiliary cylinder or reservoir suspended below the main cylinder and communicating therewith, and a series of radiating rotary discharge siphons at each end of the auxiliary cylinder, substantially as and for the purpose set forth. 10th. In a beer bottling or filling apparatus wherein beer under pressure is bottled, the combination with the main reservoir, of a main outlet pipe, an independent pipe leading directly from the reservoir, said outlet pipe being provided with a self regulating or automatic valve to prevent foaming and letting the excess of liquors off when there is an over pressure, and supplemental reservoirs into which said pipes discharge, substantially as described. 11th. In a beer bottling or filling apparatus, a main reservoir having two outlet pipes, one of which is of larger internal diameter than the other and constitutes a relief pipe, said pipe being provided with a self regulating or automatic valve, and supplemental reservoirs at the ends of the pipes, substantially as and for the purpose set forth.

No. 40,676. Car Coupler. (*Attelage de chars.*)

Richard S. Robertson, Castle Gate, Utah, U. S. A., 14th October, 1892; 6 years.

Claim.—The combination with the draw-head recessed as described, of the casting F, pivoted within the recess to the rear of the coupling-pin having lugs extending laterally therefrom near its upper end, the shaft I, journalled in bearings above and to the rear of the drawhead, pivoted link connections as described, between the shaft and pin, the castings I^1, having upon one of its sides the stub-shaft I^2, and the lever K, sleeved at a point near one of its ends upon the stub-shaft, the short arm of the lever being curved, as described, and adapted to be thrown into engagement with an opening in the casting J, substantially as specified.

No. 40,677. Device for Heating and Lighting.

(*Appareil pour chauffer et éclairer.*)

Lewis Thomas Wilcox, Jackson, Michigan, U. S. A., 14th October, 1892; 6 years.

Claim.—1st. A portable stand, consisting of an apertured top and means for supporting the same, a suitable air tube having its interior connected with the aperture in the top and extending to near the floor and open to the atmosphere at the bottom, substantially as described. 2nd. The combination, with the apertured stand top, of an air tube secured thereto and communicating therewith, with inner portions projecting within said aperture and forming a seat for a cover, substantially as described. 3rd. The combination of the wick tube, sleeve R^1, wick M, and the clamping spring T^1, substantially as described. 4th. The combination of the wick tube, sleeve R^1, having a flange S^1, and the clamping spring T^1, substantially as described. 5th. The combination, with the wick tube, of the circumferential corrugations forming spaces M^{11} between the sides of said wick tube and the wick, substantially as described. 6th. A wick tube, consisting of top sections constructed of copper, or similar high heat conducting material, and bottom sections constructed of zinc, or similar low heat conducting material, substantially as described. 7th. A wick tube, consisting of top sections constructed of high heat conducting material, suitably joined to the bottom sections of said wick tube, with a band of asbestos, or similar non-heat conducting material, interposed between the parts at the joint, substantially as described. 8th. A wick tube, consisting of top sections constructed of high heat conducting material, suitably joined to the bottom sections, with the seam or joint swaged outwardly from the wick, substantially as described. 9th. The combination, with the lamp, of a pan secured to the base of said lamp, said pan being provided with a depression directly under the wick tube, to arrest the falling cinder and oil, and with apertures to admit the air to the flame, substantially as described. 10th. The combination of a lamp having an annular wick tube and air passages on either side thereof, with the pan *h* provided with an annular depression directly under said wick tube, and with apertures to admit air to the lamp, substantially as described. 11th. The lamp having an oil tank provided with an inner annular wall forming an opening vertically through the same, a wick tube having air passages outside of and about said wick tube, which air passages are separated from each other by a partition tube at the top of which is provided a chimney support and chimney, the inner air passage discharging air on the outer side of the wick tube within the chimney, and the outer air passage discharging air on the outside of the chimney, substantially as described. 12th. The combination of the oil tank, annular wick tube, air passages on both the outer and inner sides of said wick tube, and a chimney above forming a combustion chamber, with a globe surrounding said

chimney and forming the air passage P^1 which communicates with the air passage P, substantially as described. 13th. The combination, in a device of the class described, of a chimney surrounding the flame and forming a combustion chamber, and a globe surrounding said chimney, and connected at the bottom with a substantially vertical air passage or passages whereby increased draught is obtained between the chimney and the globe, substantially as described. 14th. In a device of the class described, a lamp consisting of the oil tank, annular wick tube, air passages on both the outer and inner sides of said wick tube, a chimney above forming a combustion chamber, a globe surrounding said chimney and connected at the bottom with a substantially vertical air passage or passages through said lamp, in combination with supporting stand provided with an air passage communicating with the lamp and extending to near the floor of the apartment, substantially as described. 15th. The combination with a supporting stand constructed with an air passage extending from near the floor of the apartment to and connected with an aperture in the top of said stand, of a transparent chimney, and enclosed gas or oil burner supported upon said stand, and constructed and arranged in such a manner that the air may freely circulate through the parts, substantially as described.

No. 40,678. Wire Hook for Lacing Purposes.

(Agrafe de lacet.)

Harry Beecher Baker, Dighton, Massachusetts, U.S.A., 14th October, 1892; 6 years.

Claim.—1st. As an improved article of manufacture, a lacing hook for boots and shoes consisting of a loop forming a head having a depending neck arranged in a vertical plane and extending into horizontally disposed laterally projecting loops *d*, forming base rests with their ends projecting downward and adapted to be upset against the under side of the material to which the device is connected, the said projecting loops forming the base rests being extended outwardly at a greater distance than the width of the head, and the said head being slightly deflected respectively below the horizontal and inward from an outer vertical plane in order to provide a secure fastening or retention of the lace engaging the same, substantially as described.

No. 40,679. Sprinkler for Potato Vines.

(Arrosoir pour patates.)

Edward McEvoy and Richard A. Freeman, both of Bowesville, Ontario, Canada, 14th October, 1892; 6 years

Claim. 1st. The combination, with a cart, of a tank or barrel E, blower H, and wiper M, operating said blower, said tank and blower having discharge tubes G, K, respectively, converging in pairs at the points of discharge, whereby a poisonous solution contained in the tank or barrel is sprayed or distributed from a tube G, by discharge of air from a tube K, as set forth. 2nd. The combination, with a cart and a tank E, thereon, having discharge tubes G, of a blower or bellows H, having discharge tubes K, said tank and blower tubes converging in pairs at the discharge ends and attached to levers L, for adjustment of the discharge to suit the rows of plants, as set forth. 3rd. The combination, with a wheeled vehicle or cart having a tank mounted thereon, and distributing tubes G, from said tank, of a wiper M, mounted on the cart axle and rotating therewith, a blower or bellows H, carried by said cart and operated by the wiper, a stirrer N, within the tank operated by the wiper, pipes or flexible tubes from said blower converging with the tubes from the tank at the points of discharge, and levers L, attached to the termination of said tubes, as set forth.

No. 40,680. Machine for Making Rubber Stamps.

(Machine pour faire les étampes en caoutchouc.)

Josiah Clark Barton, Brooklyn, New York, U.S.A., 14th October, 1892; 6 years.

Claim.—1st. The combination, of a base A, standard B, having shoulders, a removable chase *c*, removable cope D, removable follower E, connected levers F, and cams K, substantially as and for the purpose herein set forth. 2nd. The combination, of a base A, standard B, having shoulders, a reversible cope D, removable chase *c*, removable follower E, and levers F, provided with cams K, the whole constructed and arranged for joint use and operation, substantially as and for the purpose herein set forth. 3rd. The combination, of the base A, the standard constructed with shoulders *a*, *b*, at different distances from the base A, the removable chase *c*, removable and reversible cope D, follower E, connected levers F, and cams K, all substantially as and for the purpose herein set forth. 4th. The combination, of a base A, standards B, having shoulders *a*, springs G, removable chase *c*, removable cope D, removable follower E, connected levers F, and cams K, substantially as and for the purpose herein set forth. 5th. The combination, of a base A, standards B, having shoulders *a*, springs G, removable cope D, removable chase *c*, and removable follower interchangeable with said cope upon said base and standards, and having levers F, provided with cams K, the whole constructed and arranged for joint use and operation, substantially as and for the purpose herein set forth. 6th. The combination, of the base A, springs G, the standards constructed with shoulders *a*, *b*, at different distances from the base A, the removable chase *c*, removable and reversible cope B, follower E, connected levers F, and cams K, all substantially as and for the purpose herein set forth. 7th. The combination, of a base A, standards B, having shoulders *a*, reversible cope D, having opening *f*, removable chase *c*, having stud stop I^1, and removable follower E, having levers F, provided with cams K, the whole constructed and arranged for joint use and operation, substantially as and for the purpose herein set forth.

No. 40,681. Metallic Packing. (*Garniture métallique.*)

William Henry Bodfish, Everett, Massachusetts, U.S.A., 14th October, 1892; 6 years.

Claim.—1st. The combination in a metallic packing, of an externally tapered compressible metal sleeve formed internally to fit a piston rod, a collar of rigid construction having an internally tapered surface fitting the exterior of the sleeve, and a ring or gasket having an annular rib formed to bear against the larger end of the sleeve, said parts being formed for insertion in the cavity of a stuffing box, as set forth. 2nd. A metallic packing composed of an externally tapered compressible metal sleeve made in separable longitudinal sections having tongued and grooved joints, the larger ends of said sections being provided with grooves, a ring adapted to bear against the inner end of the cavity of the stuffing box and provided with an annular rib adapted to enter the grooves in the sleeve sections, and a collar of rigid construction internally tapered to fit the exterior of the sleeve and arranged to bear against the gland of the stuffing box, as set forth. 3rd. The collar composed of two separable sections, collectively forming an internally tapered ring adapted to surround an externally tapered sleeve, and a binding or locking section formed to unite said sections and cover the joints thereof, said locking section being fitted in recesses formed for it in the other sections, the whole forming a rigid or unyielding divisible collar presenting a cylindrical exterior, combined with an externally tapered sleeve formed to fit the interior of the collar, said sleeve being composed of separable sections, as set forth. 4th. The sleeve compressing collar composed of the semi-circular section 5, externally reduced at its ends to form shoulders 7, 7, and flanges 8, 8, the reduced portions having slots 10, 10, the semi-circular section 6 externally reduced from end to end and having a flange 9 constituting a continuation of the flanges 8, 8, and the segmental section 4 formed to fit the reduced portions of the sections 5, 6, and provided with tongues 12, 12, formed to engage the slots 10, 10, the ends of said segmental section being separated by a space wider than the diameter of the piston rod, as set forth.

No. 40,682. Clamp for Shirt Boards.

(Serre pour planche à repasser les chemises.)

Richard Schofield, Andrew Francis Robb and John Penman, all of Paris, Ontario, Canada, 15th October, 1892; 6 years.

Claim.—1st. A clamping device connected to the bottom of a shirt board and designed to hold the tail of the shirt against the surface of the board, substantially as and for the purpose specified. 2nd. A clamping device hinged to the bottom of a shirt board, in combination with a spring designed to act on the clamping device and hold it against the surface of the board, substantially as and for the purpose specified. 3rd. A bail D, hinged in the brackets C and E, secured to the bottom of the shirt board and actuated by a spring F, in combination with a roughened surface formed on the face of the shirt board or bail D, substantially as and for the purpose specified.

No. 40,683. Sewing Machine. (*Machine à coudre.*)

Thomas Gaquin and Myron Ames Nichols, both of Haverhill, Massachusetts, U.S.A., 15th October, 1892; 6 years.

Claim.—1st. The tension mechanism comprising a standard on the machine arm and a lever pivoted thereto and adapted to intermittently clamp the thread against said standard, the free end of said lever projecting into the path of the needle bar, substantially as described. A tension mechanism for sewing machines comprising a standard provided with adjustable tension discs, and a thread groove combined with a lever pivoted to the standard and projecting into the path of the needle bar, said lever being fitted to clamp the thread in said groove when said bar is depressed, substantially as set forth. 3rd. A tension mechanism comprising the grooved standard 35, and gravity lever 41 pivoted thereto, substantially as described. 4th. The tension mechanism R, comprising the grooved standard 35, provided with the adjustable tension discs 36, and clamping lever 41, projecting into the path of the needle bar, substantially as described. 5th. The pivoted feed foot 50, mounted in the spindle 52, in combination with a cam on the main shaft for raising said spindle, a spring for depressing it, and a cam mechanism actuated by said shaft for imparting a diagonal movement thereto, substantially as described. 6th. A feed mechanism for sewing machines, comprising a pivoted feed foot mounted on a spindle elevated by a cam on the main shaft, links to permit lateral movement of the spindle, and sliding carriages for imparting said movements, said carriages being respectively and conjointly driven by a cam wheel, and rocking shaft actuated by the main shaft, substantially as described. 7th. The feed mechanism comprising the spindle and pivoted foot, the sliding carriages arranged to move at an angle to each other, the link connecting the spindle and cam plate, the spring for depressing said spindle and mechanism, substantially as described, for conjointly actuating said carriages, whereby diagonal

movement may be imparted to the feed. 8th. The frame, driving shaft, rocking shaft and actuating mechanism in combination with a pivoted feed foot mounted on a spindle arranged to move laterally, a cam on the driving shaft for elevating said spindle, a spring for depressing it, and two feed carriages arranged to move at an angle to each other, and actuated respectively by a cam wheel geared to the driving shaft, and a lever on said rocking shaft, substantially as and for the purpose set forth. 9th. The carriages 54 and 56, arranged to slide at right angles to each other, the spindle and pivoted feed foot, in combination with actuating mechanism for said carriages and mechanism, substantially as described, for elevating and depressing said spindle. 10th. The frame, driving shaft, rocking shaft and connecting mechanism in combination with the cam wheel K, and the feed mechanism T, actuated by said wheel and rocking shaft substantially as described. 11th. The driving shaft provided with the cam 71, in combination with the pivoted feed foot and spindle 52, provided with the link 65, the slotted plate 67, provided with the roll 70, and link 66, and a spring for depressing the spindle substantially as described. 13th. The feed mechanism T, comprising the carriages 54 and 56, arranged to slide at right angles to each other, the sleeve 57, the spindle 52, bearing the pivoted foot 50, and link 65, and the slotted plate 67, bearing the cam roll 70 and link 66, all being arranged to operate substantially as described. 13th. The combination of the main shaft provided with the cam 21, the lever 25, and the presser bar P, arranged to operate substantially as described. 14th. The combination of the main shaft provided with the cam 34, the lever 32 and the take up 28, arranged to operate substantially as described. 15th. The main shaft provided with the cam 21, having the crank 22, in combination with the needle bar provided with cam block 23 the pressure bar and the lever 25, substantially as described. 16th. The tension mechanism R provided with the lever 41 in combination with the needle bar M and actuating mechanism therefor. 17th. The cam wheel K provided with the tracks 75 *m* and geared to the main driving shaft, said tracks actuating mechanism for driving the cloth feed. 18th. The spindle 52 provided with the pivoted feed foot and the link 65, in combination with the cam plate 67, provided with the link 66, substantially as and for the purpose set for. 19th. In a feed mechanism for variable stitch sewing machines a feed foot mounted on a vertically sliding spindle provided with links whereby lateral movement may be imparted. 20th. The combination of two carriages fitted to slide at right angles to each other with a feed foot spindle passing through said carriages, substantially as described. 21st. The combination of the carriages 54 and 56 with the spindle 52 and plate 67 provided with links 65 and 66, substantially as set forth. 22nd. The cam wheel rocking shaft, main shaft and connecting mechanism in combination with the feed mechanism T actuated thereby, substantially as set forth. 23rd. The lever *t* and connected therewith by the adjusting screw 99, the lever 16 pivoted to said lever *t* and connected therewith by the spring 15, substantially as and for the purpose set forth. 24th. The combination of the pivoted feed foot, the driving shaft, the rocking shaft, mechanism connecting said rocking shaft and foot for imparting horizontal movements thereto and a tension mechanism on the rocking shaft engaged by a cam on the driving shaft for determining said movements, substantially as described. 25th. The driving shaft, rocking shaft and main cam wheel in combination with the lever *t* provided with the adjusting screw and roll the lever 16 pivoted thereto the connecting spring 15, the connecting rod 17 and bell crank *p* actuated by the main cam, and the cam W on the driving shaft, all being arranged to operate substantially as described.

No. 40,684. Machine for Mixing Dough.

(Machine pour mêler la pâte.)

The Adair Syndicate, London, England, assignee of John Adair, Waterford, Ireland, 15th October, 1892; 6 years.

Claim.—1st. In a machine for mixing or working dough a revoluble dough box having a curved periphery and rounded corners, substantially as and for the purposes described. 2nd. In a machine for mixing or working dough, the combination, with a revoluble dough box having a curved periphery and rounded corners of a scraper loosely pivoted in the axis of rotation of the said dough box, and a balance weight adjustably secured to the said scraper, substantially as and for the purpose specified. 3rd. In a machine for mixing or working dough, the combination, with a revoluble dough box, having a curved periphery and rounded corners, of a scraper loosely pivoted in the axis of rotation of the said dough box, a balance weight adjustably secured to the said scraper and means for locking the scraper to the dough box, substantially as described. 4th. The combination, with the dough box of the sponge blender, consisting of an open frame having wires strung across the same, and furnished with pivots by which it can be suspended, substantially as described. 5th. The combination, with the dough box, of bearing sockets, the sponge blender comprising an open frame having pivots by which it can be suspended from said sockets in the dough box wires strung across the said frame and means for tightening the wires, substantially as described. 6th. In a dough mixing or working machine, the combination of a revoluble dough box, having a curved periphery and rounded corners, a sponge-blender comprising an open frame having wires strung across the same, and a loosely pivoted balanced scraper suspended in the dough box, substantially as described. 7th. The combination, with the dough box and the door thereof, of means for fastening said door, said means comprising circular inclines g^x, with which the crank arms g are adapted to engage, substantially as described.

No. 40,685. Machine for Making Cigarettes.

(Machine à faire les cigarettes.)

B. Goldstein & Co., assignees of Edward Eugene Parsons, Montreal, Quebec, Canada, 15th October, 1892; 6 years.

Claim.—1st. In a cigarette making machine, the combination of a flexible band adapted to receive the filling and the wrapper and to be turned back upon itself in rolling form feed mechanism, and means for rolling said band. 2nd. In a cigarette making machine, the combination of a loose band to receive the filling and the wrapper a reciprocating roller acting upon said band to turn it back upon itself in rolling form, feed mechanism and means for actuating said roller. 3rd. In the feeding mechanism of cigarette making machines, the combination with a main feeding belt or supply of two picker cylinders located at the forward end of said feeding belt and rotated in coincident directions as set forth. 4th. In the feeding mechanism of cigarette making machines, the combination with a main feeding or supply belt, of two picker cylinders, arranged at the forward end of said main feeding belt and in such relation to each other and to the belt that by coincident rotation the feed will be first between the belt and one cylinder and then between both cylinders as set forth. 5th. In a cigarette making machine, the combination of a loose band to receive the filling and the wrapper, a table or support for such band having an opening or recess therein, a plunger adapted to depress a portion of such band into said opening or recess, a reciprocating roller acting upon said band, feed mechanism and means for actuating said plunger and roller. 6th In a cigarette making machine, the combination of a lose band to receive the filling and the wrapper, a table or support for such band having an opening or recess therein, a plunger adapted to depress a portion of such band into said opening or recess, a roller having an intermittent reciprocating motion, acting upon said band, an intermittent feed for the tobacco filling and actuating mechanism for said roller and feed.

No. 40,686. Feed Operating Gear for Seeding Machines. (*Alimentation actionné par des roues d'engrenage pour semoirs.*)

The Peter Hamilton Manufacturing Company, assignee of Andrew Johnston, all of Peterboro', Ontario, Canada, 15th October, 1892; 6 years.

Claim.—The combination with the lifting frame, of the collars G, and H, having co-acting projections with inclined ends located as specified, the collar G, being connected by the rod K, to the trunnion L, on the side bar M, and the collar H, being held stationary, the sprocket wheel A, having teeth *a*, and the collar C, having corresponding teeth *c*, the collar A, being connected by the spocket chain *n*, to the sprocket wheel O, on the feed rod *o*, as and for the purpose specified.

No. 40,687. Root Cutter. (*Coupe racine.*)

David Maxwell & Sons, assignees of David Maxwell, all of St. Marys, Ontario, Canada, 15th October, 1892; 6 years.

Claim. 1st. In a combined root pulper and slicer a wheel provided with a series of knives each of which is provided with slicing and pulping edges, the knives being supported over elongated openings made in the working surface of the wheel and the slicing and pulping edges being contiguous and slightly above the side edges of the opening as and for the purpose specified. 2nd. The wheel A, having a series of knives B, broad V shaped in cross section each of which is provided with a slicing edge *b*, and a toothed pulping edge b^1, and is supported over opening D, by the end bridges E, to which the knife is secured by the bolts *f*, as and for the purpose specified. 3rd. The wheel A, having a series of knives B, broad V shaped in cross section each of which is provided with a slicing edge *b*, and a toothed pulping edge b^1, supported over opening D, by the end bridges E, to which the knife is secured by the bolts *f*, and is provided with a stiffening back F, as and for the purpose specified. 4th. The combination with the wheel A, having a series of knives broad V shaped in cross section each of which is provided with slicing and pulping edges *b*, and b^1, supported on bridges E, over the openings D, of the hopper G, and grated sides I and J, as and for the purpose specified. 5th. The combination with the wheel A, having a series of knives broad V shaped in cross section each of which is provided with slicing and pulping edges *b*, and b^1, supported on bridges E, over the openings D, of the hopper G, grated sides I, and J, and of the guiding plate H, arranged as and for the purpose specified. 6th. The combination with the wheel A, having a series of knives broad V shaped in cross section, each of which is provided with slicing and pulping edges *b*, and b^1, supported on bridges E, over the openings D, of the hopper G, grated sides I, and J, and of the guiding plate H, cut away at *h*, as and for the purpose specified. 7th. The combination with the wheel A, having a series of knives broad V shaped in cross section with slicing and pulping edges *b*, and b^1, supported on bridges E, over the openings D, of the central web or arms A, secured on the shaft A^1, and having an outer end of the arms extending behind the portion C, of the wheel as and for the purpose specified.

No. 40,688. Actuating Device for Railway Signals. (*Appareil actionné pour signaux de chemins de fer.*)

The Fontaine Safety Signal Company, assignee of Eugene Fontaine, all of Detroit, Michigan, U.S.A., 15th October, 1892; 6 years.

Claim.—1st. An actuating device for a railway signal, consisting of a lever having one end in position to be struck by a passing train, and elastically connected with its fulcrum, substantially as and for the purposes set forth. 2nd. An actuating device for a railway signal, consisting of a lever having one end in position to be moved by a passing train and having a shifting fulcrum, substantially as and for the purposes set forth. 3rd. An actuating device for a railway signal, consisting of a lever having one end normally in position to be struck by a passing train, a main fulcrum on which said lever vibrates, and a yielding fulcrum indirectly connected with the main fulcrum, substantially as and for the purposes set forth. 4th. In a device for actuating a railway signal, a pivoted lever, and a lever having one end normally in position to be struck by a passing train, and secured to said pivoted lever by an elastic connection, substantially as and for the purposes set forth. 5th. The combination of a pivoted lever F^1, a dash pot K, and a lever F, having one end in position to be moved by a passing train, and secured to lever F^1, by a spring connection *c*, *d*, and an interposed cushion *a*, substantially as and for the purpose set forth. 6th. In a device for actuating a railway signal, a lever having an elastic connection with its fulcrum and with the signal mechanism, substantially as and for the purposes set forth. 7th. In a device for actuating a railway signal, a double lever, one part of which is pivoted on a fulcrum and connected with a dash pot or its equivalent, the other part being elastically connected therewith and extending into position to be struck by a passing train, and a connection from one of said levers to the signal mechanism, substantially as and for the purposes set forth.

No. 40,689. Oil for Painting. (*Huile pour peinturer.*)

Joel Clarkson Decker, Laboratory, Pennsylvania, U.S.A., 15th October, 1892; 6 years.

Claim.—A paint vehicle or oil for painters' use, composed of crude petroleum, yellow beeswax, pulverized resin, sulphate of zinc, acetate of lead, litharge and linseed oil, in substantially the proportions herein set forth.

No. 40,690. Wheel for Vehicles. (*Roues pour voitures.*)

Marcus William Lowinsky, Westminster, England, 15th October, 1892; 6 years.

Claim.—1st. A wooden wheel wherein the spokes are made in pairs or sets, each of which is provided with a single tenon, substantially as hereinbefore described and for the purposes specified. 2nd. A wooden wheel wherein the spokes are made in pairs, each of which is provided with a single tenon, each spoke being formed in one piece, with one half of the corresponding tenon, substantially as and for the purposes above specified. 3rd. A wheel spoke formed with one half of a tenon, substantially as and for the purpose above specified.

No. 40,691. Method of and Apparatus for Producing Motive Power. (*Méthode et appareil pour produire la force motrice*)

Albert Krank, Taipale, Finland, 15th October, 1892; 6 years.

Claim.—1st. The method of utilizing air or other gas as a motive power, consisting in first compressing such air or gas and at the same time abstracting the heat produced during such compression and then heating the cool compressed air before using it in the engine to be driven, substantially as described. 2nd. In an apparatus for utilizing heated compressed air as a motive power, the combination of an air compressing cylinder provided with a series of wedge-shaped grooves and ribs arranged alternately and upon the opposite sides of the said cylinder, with a piston provided with a series of wedge-shaped grooves and ribs arranged alternately and upon opposite sides of the piston to engage respectively with the ribs and grooves of the cylinder, substantially as described. 3rd. In an apparatus for utilizing heated compressed air as a motive power, the combination of a pump *e*, a furnace *k*, a coil or heater *j* located in the said furnace, a pipe *i*, through which the cool compressed air is delivered from the pump *e* to the coil or heater *j*, the cylinder of the engine, a pipe *l* conducting the heated gases from the heater *j* to the said cylinder of the engine, substantially as described. 4th. In an apparatus for utilizing heated compressed air as a motive power, the combination of the boiler of the engine, the engine cylinder, a pipe connection between the boiler of the engine and the engine cylinder, an air compresser, a communication between the pipe connecting the boiler with the cylinder and the air compresser, whereby the air, as it is delivered from the air compresser, mingles with the steam and absorbs its latent heat, substantially as described. 5th. In an apparatus for utilizing heated compressed air as a motive power, a cooler comprising a casing, a series of internal tubes within said casing, between which the air to be cooled is passed, and through which the water for cooling the tube flows, in combination with the air compresser and a means for shutting off the communication between the cooler and air compresser, and means for establishing a communication between the air compresser and the atmosphere, substantially as described.

No. 40,692. Apparatus for Automatically Lighting and Extinguishing Gas Lamps. (*Appareil pour allumer et éteindre le gaz automatiquement.*)

Percival Everitt, London, England, 15th October, 1892; 6 years.

Claim.—1st. Apparatus for automatically lighting and extinguishing gas lamps, comprising a clock movement and adjustable cams operated thereby, and adapted to control the movement of a cock or valve. 2nd. In apparatus for automatically lighting and extinguishing gas lamps, the combination of a clock movement, cams mounted upon or driven by the hour arbour of the said clock movement, and made adjustable relatively thereto and to each other, and a lever acted upon by the said cams and by a weight or spring and arranged to operate a cock or valve, substantially as and for the purpose specified.

No. 40,693. Air Brake. (*Frein atmosphérique.*)

The Lansberg Brake Company, assignee of Frank Lansberg, all of St. Louis, Missouri, U.S.A., 15th October, 1892; 6 years.

Claim.—1st. In an automatic air brake, the combination, with the main pipe, the engineer's brake valve, and the train pipe, of a valve and connection 5, located between the train pipe, and the pipe leading from the main pipe of the engineer's brake valve, substantially as set forth. 2nd. In an air brake, the combination, with the air receiver pipe, train pipe, valve for controlling the passage of air between said pipes, and an exhaust, of a pipe 5 forming a communication directly between the receiver pipe and the train pipe, said pipe 5 being provided with an independent valve, substantially as and for the purpose set forth. 3rd. In an air brake, the combination, with the air receiver pipe, train pipe, exhaust pipe, and a valve located at the junction of said pipes, of a pipe forming a communication between the said air and train pipes beneath their junction and provided with an independent valve, substantially as and for the purposes set forth. 4th. In an air brake, the combination, with the air receiver pipe, train pipe, exhaust pipe, a valve located at the junction of said pipes, and a pressure valve in said air receiver pipe, of a pipe 5 forming a communication between the air receiver pipe and train pipe, and an independent valve in said pipe 5, substantially as and for the purposes set forth.

No. 40,694. Wheel Protector for Vehicle Axles. (*Garde poussière, etc., pour essieux de voiture.*)

K. H. Diekmann, Ummeln, Prussia, 15th October, 1892; 6 years.

Claim.—A wheel protector for carriage axles, distinguished by a hinged closure ring R made in two parts, surrounding the outer bearing of the wheel axis, held in place by a groove N, and secured or held to the axle by a cap K, wherein a screw P enters a depression V in the ring, and the screw cap at the same time through partial surrounding of the wheel box B effects a corresponding closure of the same, all as set forth.

No. 40,695. Muff Bed. (*Garniture de manchon.*)

Edward Goldman and Isidore Lowenthal, both of Baltimore, Maryland, U.S.A., 15th October, 1892; 6 years.

Claim.—1st. A muff bed, consisting of three concentric tubes, the outer and inner ones composed of soft homogeneous fleecy material, the intermediate tube consisting of loosely massed flexible filaments of greater rigidity than the fleecy material composing the surrounding tubes, as and for the purpose intended, substantially as described. 2nd. A muff bed, having between two concentric cushion tubes an intermediate spring tube composed of flexible filaments of greater rigidity than the surrounding cushion tubes, each tube of equal length, said inner tube adapted to expand and restore the several tubes to their normal dimensions and conformation when released from compression in any direction, substantially as described.

No. 40,696. Wheel Guard for Vehicles. (*Guarde de roues de voitures.*)

Henry F. Ganon and Charles A. Felt, both of Chicago, Illinois, U.S.A., 15th October, 1892; 6 years.

Claim.—1st. A revolving wheel guard for vehicles, consisting of a cylindrical roller having a circumferential flange at one end and a similar flange at or near its other end, as set forth. 2nd. In a wheel guard for vehicles, the combination, with the screw plate A, having depending lugs one of which is removable, of the roller B, journalled in said lugs and having circumferential flanges, and a rubber facing surrounding said roller between said flanges, as set forth. 3rd. In a wheel guard for vehicles, the combination, with the screw plate A, having depending lugs one of which is removably secured thereon, of the roller B, journalled in said lugs and having circumferential flanges, one of which is adjustable longitudinally thereon, and a rubber tubing surrounding and secured on said roller between said flanges, as set forth. 4th. In a wheel guard for vehicles, the combination, with the screw plate having lugs *a* and *b*, the former of which is removably secured thereto, of a roller journalled in said lugs, and provided at one end with a circumferential flange, an adjustable nut and a section of tubing, said flange and nut having annular depressions in their adjacent surfaces, and said roller between said nut and flange being made tapering, as set forth. 5th.

The combination, in a wheel guard for vehicles, with the screw plates having lugs *a* and *b*, the former of which is removably secured thereto, of a roller journalled in said lugs and having circumferential flange, an adjustable nut, a section of tubing on said roller between said nut and flange, and a spring H, as described, secured to the underside of said screw plate and bearing upon said tube, as set forth. 6th. The combination, in a wheel guard for vehicles, with the screw plate having lugs *a* and *b*, the former of which is removable, of a roller journalled in said lugs and having a circumferential flange, an adjustable nut, a section of tubing, a spring H, having a tongue *n*, as described, said screw plate being provided with transverse guide lugs which have their contiguous walls undercut, and provided with a recess *m*, between said lugs, as set forth. 7th. The combination, in a wheel guard for vehicles, with the screw plate having lugs *a* and *b*, the former of which is removably secured thereto, and provided at about its centre of length on its underside with transverse guide lugs, the inner adjacent walls of which are undercut, of a roller having its journal in the blind bearing of lug *a* rounded, having a shoulder *x*, having a flange *f*, and being slightly tapering between said shoulder and flange, and having a screw threaded portion between said rounded end and nut *f*, a section of tubing, a gage screw E, and lock nut E, for preventing longitudinal displacement of the roller, as set forth.

No. 40,697. Machine for Holding Reels.

(*Porte dévidoir.*)

Samuel Henry Boone and Edwood Burtt, both of the Parish of Douglas, New Brunswick, Canada, 15th October, 1892; 6 years.

Claim.—The combination of the cylinder A, with the divisions *b*, *b*, and *c*, *c*, with the supporting shelf *d*, *d*, substantially as and for the purpose hereinbefore set forth.

No. 40,698. Mop Wringer. (*Essoreuse de torchon.*)

William Graham and William F. Ashbaugh, both of Hamilton, Ontario, Canada, 15th October, 1892; 6 years.

Claim.—1st. In a mop wringer, the combination with the frame B attached to pail, of two levers *a*, *a*, pivoted to said frame and carrying a roller F at their upper ends, two levers *b*, *b*, pivoted to the bottom ends of the lever *a*, *a*, and carrying at their upper ends a roller G, and a spring treadle I attached to the upper ends of the levers *a*, *a*, and provided with a foot pad J for operating the rollers, all constructed, substantially as and for the purpose specified. 2nd. In a mop wringer, the combination with the frame B, and levers *a*, *a*, and *b*, *b*, of the coiled springs H, H, substantially as set forth. 3rd. In a mop wringer, in combination with the frame B, of the guards *c*, *c*, provided with the friction rollers *f*, *f*, substantially as specified. 4th. In a mop wringer, the combination of the treadle I, notched foot pad J, and guide rod *d*, substantially as and for the purpose specified. 5th. In a mop wringer, the combination of the rollers F, G, levers *a*, *a*, *b*, *b*, guides *c*, *c*, with friction rollers *f*, *f*, frame B, springs H, H, treadle I, foot pad J, guide rod *d*, fastening plate D, bolt E, thumb screw C, base K, all constructed, substantially as and for the purpose specified.

No. 40,699. Digger. (*Appareil pour creuser.*)

William Gibbs and George J. Smith, both of Canton, Ohio, U.S.A., 15th October, 1892; 6 years.

Claim.—1st. The combination of the handle A, the pivoted yoke B, the locking bracket E, provided with the ledge or shoulder *c*, the flange or web *d*, the lever D, the connecting rod F, and the scoop or blade H, substantially as and for the purpose specified. 2nd The combination of the handle A, the pivoted yoke B, the locking bracket E, provided with the ledge or shoulder *c*, the flange or web *b*, the lever D, and the scoop or blade H, substantially as and for the purpose specified. 3rd. The combination of the handle A, provided with the strengthening steel A^1, the pivotted yoke B, the locking bracket E, provided with the ledge or shoulder *c*, the flange or web *d*, the lever D, the connecting rod F, and the scoop or blade H substantially as and for the purpose specified, 4th. In a tool, the handle such as A, provided with a strengthening rib or bar fixed to the handle, substantially as and for the purpose specified.

No. 40,700. Furnace. (*Fournaise.*)

Evan William Jones, Portland, Oregon, U. S. A., 15th October, 1892; 6 years.

Claim.—1st. A furnace provided with a fuel opening below the line of the fire, a supporting bottom for the fuel within the fire chamber, sloping upward and backward from the supply opening and having flaring sides, which with the bottom and the furnace wall form a chamber or magazine for the fresh or green fuel directly under the means for supplying air for promoting combustion, and a forcing means entering through the wall of the furnace, whereby the fuel may be forced up into the fire through the opening at the lower end of the sloping bottom of the magazine, said sloping bottom forming a support for the fuel independent of the position of the feeding mechanism, substantially as described. 2nd. A furnace the fuel, and provided with air supply passages at the top, and an opening at the bottom of the incline; and a ram for forcing the fuel through the opening, said fuel being forced up into the fire by inclined or curved bottom forming at all times a firm support for provided with a downwardly contracted chamber having a solid sliding it up the inclined bottom of the fuel magazine between the solid flaring sides thereof, substantially as described. 3rd. A furnace provided with a fuel chamber directly under means for supplying air for promoting combustion, said chamber having upwardly and outwardly inclined closed sides, a concave or inclined bottom, means for forcing the fuel up into the fire, means for forcing air under pressure directly over the fuel magazine, side grates near the top of faid fuel magazine, ash pits below said grates on each side of the fuel magazine and air pipes located near the top of the magazine under the mass of burning coal for the purpose of supplying air under pressure under said coals and over the green fuel in the magazine, substantially as described. 4th. A furnace with a fuel chamber having an upwardly expanding cross section, and located below the line on which the air is forced into the fuel, slice bars for breaking loose clinkers and loosening up the fire, and means for operating said bars by power, substantially as described. 5th. A furnace provided with a concave or inclined bottom and flaring sides, which form a fuel chamber or magazine, and with a ram for forcing the fuel into the furnace, and slice bars to break up the clinkers and loosen up the fire, connected to and operated by said ram, substantially as described. 6th. A furnace with a fuel chamber or magazine and provided with perforated pipes connected with a pipe of an air supplying apparatus, whereby air is forced under pressure directly over said fuel chamber and under and through the burning coal, and with a device for forcing the fresh coal up into the fire, substantially as described. 7th. The furnace provided with the air pipe or tuyers, and with the water circulation pipes to protect the same from action of the fire, and with removable caps for admitting access into the air pipe, substantially as described. 8th. The furnace provided with a chamber or magazine, side grate bars, slice bars, and mechanical devices for operating said bars, whereby clinkers can be broken up near the air supply pipes, substantially as described. 9th. A furnace provided with an upwardly expanding chamber closed at bottom and sides, and having connection with an air supplying apparatus at or near its top, whereby the fresh or green fuel is confined while air is being forced first over the top of the fresh fuel below the mass of burning fuel, and through the burning fuel, in combination with a device for forcing fresh fuel up into the burning fuel, substantially as described. 10th. A furnace provided with a ram for forcing in the fuel, and devices, comprising a valve mechanism, for operating said ram with a variable stroke, so that more or less fuel can be forced in at each stroke, this combination being such that the operation may be by power or hand, substantially as described. 11th. The combination, with the forcing ram, of the slotted projection H^4, lever H^5 fulcrumed at H^6 and having one of its ends bifurcated, rod H^7, arm H^{10}, adjustable tappets H^{12} and H^{13}, and valve H^{14}, substantially as and for the purpose described. 12th. The combination, with the forcing ram, of the slotted projection H^4, lever H^5 fulcrumed at H^6 and having one of its ends bifurcated, the rod H^7, arm H^{10}, adjustable tappets H^{12}, H^{13}, valve H^{14}, shaft Q, cam Q^1, shaft Q^2, arm Q^3, rod Q^4, hook Q^5, wrist pin Q^6, arms Q^7 and H^{10}, valve stem Q^8, arm Q^9, vertical rod Q^{10} and roller Q^{11}, substantially as and for the purpose described.

No. 40,701. Process of Recovering Glycerine from Spent Soap Lye. (*Procédé pour obtenir de la glycerine des lessives de savon.*)

James S. Kirk & Company, assignees of Ebenezer Kennard Mitting, all of Chicago, Illinois, U.S.A., 15th October, 1892; 6 years.

Claim. 1st. In the recovery of glycerine and salt from spent soap lye, the improvement which consists in adding an excess of acid thereto in the presence of cellulose or its equivalent fibrous, flocculent, or cellular substance, whereby to precipitate and collect the fatty and resinous impurities, and then filtering to remove the precipitated impurities, substantially as described. 2nd. In the recovery of glycerine and salt from spent soap lye, the improvement which consists in adding an excess of acid thereto in the presence of cellulose or its equivalent fibrous, flocculent, or cellular substance, and then filtering to remove the precipitated impurities, next neutralizing with an alkali and concentrating, substantially as described. 3rd. In the recovery of glycerine and salt from spent soap lye, the improvement which consists in first neutralizing the lye with acid and concentrating it until it is saturated or nearly saturated with salts, and then treating it with cellulose or its equivalent fibrous, flocculent, or cellular substance and an excess of acid and filtering to remove the precipitated impurities, substantially as described. 4th. In the recovery of glycerine and salt from spent soap lye, the improvement which consists in first neutralizing the lye with acid and concentrating it until it is saturated or nearly saturated with salts, and then treating it with cellulose or its equivalent fibrous, flocculent, or cellular substance and an excess of acid and filtering to remove the precipitated impurities, neutralizing with an alkali and concentrating, substantially as described.

No. 40,702. Process of Recovering Glycerine from Spent Soap Lye. (*Procédé pour obtenir de la glycerine des lessives de savon.*)

James S. Kirk & Company, assignees of Ebenezer Kennard Mitting, all of Chicago, Illinois, U.S.A., 15th October, 1892; 6 years.

Claim. 1st. In the recovery of glycerine and salt from spent soap lye, the improvement which consists in adding thereto some solution

of cellulose, cutose, or equivalent organic substance, and an excess of acid, thereby to precipitate and collect the fatty and resinous impurities and removing the precipitated impurities from the clear liquor, substantially as described. 2nd. In the recovery of glycerine and salt from spent soap lye, the improvement which consists in adding thereto some solution of cellulose, cutose, or equivalent organic substance, and an excess of acid, then removing the precipitated impurities from the clear liquor, next adding an alkali thereto, and concentrating, substantially as described. 3rd. In the recovery of glycerine and salt from spent soap lye, the improvement which consists in first neutralizing the lye with acid and concentrating it until it is saturated or nearly saturated with salts, and then adding some solution of cellulose, cutose, or equivalent organic substance, and an excess of acid, and removing the precipitated impurities from the clear liquor, substantially as described. 4th. In the recovery of glycerine and salt from spent soap lye, the improvement which consists in first neutralizing the lye with acid and concentrating it until it is saturated or nearly saturated with salts, and then adding some solution of cellulose, cutose, or equivalent organic substance, and an excess of acid, and removing the precipitated impurities, and then adding an alkali and concentrating, substantially as described.

No. 40,703. Apparatus for Concentrating Spent Soap Lye to Recover Salt and Glycerine. (*Procédé pour concentrer des lessives de savon pour en obtenir du sel et de la glycerine.*)

James S. Kirk & Company, Chicago, Illinois, U.S.A., assignee of Albert Domeier and Otto Christian Hagemann, both of London, England, 15th October, 1892; 6 years.

Claim.—1st. An apparatus for concentrating spent soap lye or the glycerine liquor prepared therefrom, having a chamber to contain a portion of the liquor to be concentrated, and means for heating the same, said chamber having walls converging toward its lower end, a discharge opening in said end, and a closed chamber located below the first and communicating therewith by a valve controlled passage, substantially as described. 2nd. An apparatus for concentrating spent soap lye or the glycerine liquor prepared therefrom, having a chamber to contain a portion of the liquor to be concentrated, and means for heating the same, and a closed chamber located below the first and communicating therewith by a valve controlled passage located out of the direct influence of the heat, and a mechanical stirrer mounted within the said second chamber, substantially as described 3rd. An apparatus for concentrating spent soap lye or the glycerine liquor prepared therefrom, having a chamber to contain a portion of the liquor to be concentrated, and means for heating the same, said chamber having walls converging towards its lower end and terminating in an extension forming a pocket, and a second vessel communicating therewith by a valve controlled passage, substantially as described. 4th. An apparatus for concentrating spent soap lye or the glycerine liquor prepared therefrom, having a chamber to contain a portion of the liquor to be concentrated, and means for heating the same, said chamber having a mechanical mixer mounted within, and pipes for the removal of steam and introduction of fresh liquor, and a second chamber communicating therewith by a valve controlled passage out of the direct influence of the heat, substantially as described. 5th. An apparatus for concentrating spent soap lye or the glycerine liquor prepared therefrom, having a chamber to contain a portion of the liquor to be concentrated, and means for heating the same, and a second chamber communicating therewith by a valve controlled passage located out of the direct influence of the heat, and fitted with induction and eduction pipes for the purpose of washing the precipitated salts and introducing fresh liquor, substantially as described.

No. 40,704. Method of Purifying Glycerine.

(*Méthode de purifier la glycerine.*)

James S. Kirk & Company, Chicago, Illinois, U.S.A., assignee of Otto Christian Hagemann, London, England, 15th October, 1892; 6 years.

Claim.—1st. The method of purifying glycerine which consists in conducting the vapour thereof laden with impurities through a passage having a curved wall externally cooled, and upon which the vapours are caused to impinge, whereby partial condensation and the arrest of the impurities are effected, substantially as described. 2nd. The method of purifying glycerine vapour on its passage from the still to the condenser, which consists in causing the said vapour to pass through spirals, volutes, or other continuously curved channels, which are cooled to produce partial condensation within them, whereby the non-volatile impurities in the glycerine vapour are brought into contact with moistened surfaces and are retained, substantially as described.

No. 40,705. Method of Purifying the Salt Recovered from Spent Soap Lye. (*Méthode de purifier le sel tirer des lessives de savon.*)

James S. Kirk & Company, Chicago, Illinois, U.S.A., assignees of Albert Domeier and Otto Christian Hagemann, both of London, England, 15th October, 1892; 6 years.

Claim.—1st. In an apparatus for washing and purifying the salt recovered from spent soap lye, the combination of a cylinder to contain said salt, a series of tanks to contain an aqueous solution of salt and communicating with said cylinder, an exhaust chamber or vessel connected to said cylinder, and a pump connected with said exhaust chamber, substantially as and for the purpose described. 2nd. In an apparatus for washing and purifying the salt recovered from spent soap lye, the combination of a cylinder to contain the salt under treatment, having mechanical mixers mounted therein, a series of tanks communicating by suitable pipes and valves with said cylinder, an exhaust chamber connected with the salt cylinder, and a pump connected with said chamber whereby liquids contained in the cylinder may be drawn off and the salt dried, substantially as described. 3rd. In an apparatus for washing and purifying the salt recovered from spent soap lye, the combination of a cylinder to contain the salt undergoing treatment, said cylinder having a perforate bottom, a series of tanks communicating with the cylinder, an exhaust chamber connected with the cylinder, and an air pump connected with said exhaust chamber, substantially as described, and for the purpose set forth. 4th. In an apparatus for washing and purifying salt recovered from spent soap lye, the combination of a cylinder to contain said salt, a series of tanks to contain an aqueous solution of salt and communicating with said cylinder, an exhaust chamber or vessels connected to said cylinder, a pump connected with said exhaust chamber, and a pipe to conduct the liquor from said exhaust chamber, to a storage tank or other suitable receptacle, substantially as described.

No. 40,706. Apparatus for Obtaining Salt and Crude Glycerine from Spent Soap Lye. (*Appareil pour obtenir du sel et de la glycerine crue des lessives de savon.*)

James S. Kirk & Company, Chicago, Illinois, U. S. A., assignees of Albert Domeier and Otto Christian Hagemann, London, England, 15th October, 1892; 6 years.

Claim.—1st. In an apparatus for the recovery of salt from spent lye, the combination of an open vessel to contain the lye, and a heating means exterior to said vessel and adapted to heat the same, and an inner and smaller deposit vessel having an imperforate peripheral wall and bottom located within the first to receive and retain the salt or other solid deposit, substantially as described. 2nd. In an apparatus for the recovery of salt from spent lye, comprising in combination an outer vessel to contain the lye, and means for applying heat thereto, and an inner vessel smaller than and supported within the first for the reception of the salt and other deposit, said outer vessel being provided with a pocket, substantially as and for the purpose set forth. 3rd. In an apparatus for the recovery of salt from spent soap lye, the combination, with an outer vessel to contain the lye and means for heating the same, of an inner vessel wherein to collect the salt or other deposit, said inner vessel having a central pipe, substantially as described.

No. 40,707. Method of Obtaining Salt and Crude Glycerine from Spent Soap Lye. (*Appareil pour obtenir du sel et de la glycerine crue des lessives de savon.*)

James S. Kirk & Company, Chicago, Illinois, U.S.A., assignee of Albert Domeier and Otto Christian Hagemann, both of London, England, 15th October, 1892; 6 years.

Claim.—The herein described process of purifying salt recovered from spent soap lye, during concentration or the manufacture of crude glycerine therefrom, which consists in subjecting a convenient quantity of the salt to a series of washings with separate charges of a saturated aqueous solution of salt, said charges containing decreasing quantities of glycerine in solution, the first of said charges being drawn off with its dissolved glycerine, and a fresh charge of a saturated solution of salt free of glycerine added to the series in lieu thereof for each quantity of salt treated, said fresh charge being used for final treatment, whereby each quantity of salt is subjected to repeated washings, and the separate charges of the solution are utilized repeatedly.

No. 40,708. Method of Making Glycerine from Spent Soap Lye. (*Méthode de faire de la glycerine des lessives de savon.*)

James S. Kirk & Company, Chicago, Illinois, U.S.A., assignees of Albert Domeier and Otto Christian Hagemann, London, England, 15th October, 1892; 6 years.

Claim.—1st. In the recovery of glycerine from spent soap lye, the herein described process of concentrating or boiling the soap lye or glycerine liquor, which consists in maintaining one portion of the liquor under operation in a state of ebullition and the other portion quiescent, the two portions being connected or separable at will and the crystals or mineral matters liberated from solution in the boiling portion passing by gravity into the quiescent portion, substantially as specified. 2nd. In the recovery of glycerine from spent soap lye, the herein described process of concentrating or boiling the soap lye or glycerine liquor, which consists in maintaining one portion of the liquor under operation in a state of ebullition and the other quiescent, the two portions being connected or separable at will, and the crystals or mineral matters liberated from solution in the boiling portion passing by gravity into quiescent portion, and removing said mineral

matters from the quiescent portion without interrupting the process in the boiling portion, substantially as specified. 3rd. In the recovery of glycerine from spent lye, the herein described process of concentrating or boiling the soap lye or glycerine liquor, which consists in maintaining one portion of the liquor under operation in a state of ebullition and the other portion quiescent, the two portions being connected or separable at will, and the crystals or mineral matters liberated from solution in the boiling portion passing at once into the quiescent portion, separating the two said portions and washing said crystals or mineral matters and then removing them without interrupting the process in the boiling portion, substantially as specified. 4th. In the recovery of glycerine from spent soap lye, the herein described process of concentrating or boiling the soap lye or glycerine liquor, which consists in maintaining one portion of the liquor under operation in a state of ebullition and the other portion quiescent, the two portions being connected or separable at will, and the crystals or mineral matters liberated from solution in the boiling portion, passing at once into the quiescent portion, and removing said mineral matters and feeding in fresh liquor to form a new quiescent portion without interrupting the process in the boiling portion, substantially as specified. 5th. In the recovery of glycerine from spent soap lye, the herein described process of concentrating or boiling the soap lye or glycerine liquor, which consists in maintaining one portion of the liquor under operation in a state of ebullition and the other portion quiescent, the two portions being connected or separable at will, and the crystals or mineral matters liberated from solution in the boiling portion passing at once into the quiescent portion, separating the said portions and washing said crystals or mineral matters and then removing them and feeding in fresh liquor without interrupting the process in the boiling portion, substantially as specified.

No. 40,709. Car Roof. (*Toiture de chars.*)

John C. Wands, St. Louis, Missouri, U.S.A., 15th October, 1892; 6 years.

Claim.—1st. In a car roof, the combination, of the sheets having joints at their adjacent edges, and the binding wires or rods extending through the plates of the car body and over the joints of the sheets, substantially as set forth. 2nd. In a car roof, the combination, of the sheets joined at their adjacent edges, moldings covering the lower ends of the sheets, and rods secured at their lower ends to the car body and passing around said moldings and over said sheets, substantially as set forth. 3rd. In a car roof, the combination, of the sheets joined at their adjacent edges, and rods fitting over the sheets at their joints, the lower ends of said rods being passed through the frieze boards, the siding of the car and the plates 5, and serving to hold the parts together, substantially as set forth. 4th. In a car roof, the combination, of the sheets having overlapping corrugated edges, a ridge pole and rods secured to the body of the car and to the ridge pole, and fitting in the corrugations of the overlapping edges of the sheets, whereby the sheets and the ridge pole are held in place by said rods, as specified. 5th. In a car roof, the combination, of the sheets having corrugated overlapping edges, a ridge pole and rods extending through the plates, siding and frieze boards of the car body and being extended along the joints of said sheets to said ridge pole to which they are secured, substantially as and for the purpose set forth. 6th. In a car roof, the combination, of the sheets having corrugated overlapping edges, a ridge pole, moldings and rods extending through the plates, siding and frieze boards or the car body and around said moldings and fitting in the joints of the sheets and secured to said ridge pole, substantially as and for the purpose set forth. 7th. In a car roof, the combination, of the sheets having corrugated overlapping edges, forming grooves 14, a ridge pole and rods passing through the plates, siding and frieze boards of the car body and extended along the joints of the sheets and secured to said ridge pole by being wrapped therearound and by staples 16, substantially as and for the purpose set forth.

No. 40,710. Device for Propelling Cars. (*Appareil à propulser les chars.*)

De Witt Clinton Bouton, Ithaca, New York, U.S.A., 15th October, 1892; 6 years.

Claim.—1st. The combination with a vehicle, of trackways having their ends secured thereto, and a loop handle having its arms detachably connected to the trackways, and adapted to traverse them when the handle is thrown. 2nd. The combination with a vehicle of trackways, having their ends secured thereto, and a reversible handle having its arms connected to the trackways, and adapted to traverse them while being reversed. 3rd. The combination with a vehicle, of trackways, each bent to form seats adjacent to the ends, and having the ends secured to the vehicle, of a reversible handle having upon the end of each arm a connection containing a curved saddle and recess for the trackway, and means for detachably connecting the handle ends to the trackways. 4th. The combination with the handle and its arms, of a connection secured to each arm, and having on its outer face a spur, a curved and concaved groove below the spur, a curved rib below the groove, inwardly projecting lips, a spring wire having one end secured to the handle and its free end adapted to pass through the slot between said lips, and fit under said lip or lips, and retain said connection upon the trackway, secured to the vehicle runner. 5th. The combination with a vehicle, of a trackway having its ends secured thereto, and a handle for its arms detachably connected to the trackway and adapted to traverse them.

No. 40,711. Fastener for Stove Pipes.

(*Attache de tuyau de poêle.*)

Martin W. Bloomburg, Pontiac, Michigan, U.S.A., 15th October, 1892; 6 years.

Claim.—1st. In combination with a stove pipe, a strip of metal attached thereto by bending each end to clasp the same, a second strip of metal extending along the former and having an angular projection adapted to engage the chimney, and means for adjustably securing the two strips of metal together, substantially as and for the purpose described. 2nd. In combination with a stove pipe, a strip of metal longitudinally secured thereto, a secondary strip of metal extending along the first and held in contact thereby by means of a strap, said secondary piece having an angular projection, means for clamping the two together or releasing the same, said secondary strip being adapted to be engaged upon the inner side of a chimney, substantially as and for the purpose described. 3rd. The combination of the stove pipe A, the strip B, secured thereto, the strip C, the clasp D, and means for bringing the two strips into gripping contact, substantially as described.

No. 40,712. Oven. (*Fourneau.*)

Otto Schulze, Berlin, Prussia, German Empire, 15th October, 1892; 6 years.

Claim.—1st. A semi-portable oven constructed and arranged substantially as and for the purposes hereinbefore described and as illustrated by the accompanying drawing. 2nd. A semi-portable oven adapted to be used with existing kitchen ranges, and consisting of an inner chamber and an outer casing with the space between divided vertically and communicating with the fire or flue through a short connecting tube also divided vertically to form an inlet and an outlet, constructed and arranged substantially as hereinbefore described and as illustrated by the accompanying drawing.

No. 40,713. Mortising Machine. (*Machine à mortaiser.*)

Louis August Belmont and Alfred Cornelius Cload, both of New Orleans, Louisiana, U.S.A., 15th October, 1892; 6 years.

Claim.—1st. In a mortising machine, the combination, with a reciprocating chisel having a longitudinal channel or recess, of a snapper bar having its point lying in the lower end of the slot or channel, and capable of a limited vibration therein, and means for automatically forcing said point inward in said channel to compact the chips therein, substantially as described. 2nd. An attachment for mortising machines, consisting of a recessed chisel, a plunger attachment having one end pivotally attached to a rigid support on the machine, a cross head lying in the recess in the chisel to which the lower end of the plunger attachment is pivotally connected, a clearer carried by said cross head, and a spring actuated snapper bar, having a cam plate adapted to engage a cam pin on the downward stroke of the chisel, substantially as described. 3rd. In a mortising machine, the combination, with a cutter or chisel having a longitudinal recess or channel, of a snapper bar, pivotally mounted upon said chisel and having its point lying in the lower end of the recess therein, means for automatically vibrating said snapper bar to pack the detached chip or core, and a clearer traversing the slot or channel as the chisel is withdrawn from the mortise, substantially as described. 4th. In a mortising machine, the combination, with the chisel mandrel and with a box within which said mandrel moves, of a cutter or chisel mounted in the mandrel and having a longitudinal channel open upon the front edge and extending nearly to the back of the cutter, a cross head lying in said channel between the side pieces of the chisel, a plunger attachment hinged to a ring mounted on the box and having parallel arms between which lies the chisel, said arms engaged by pins on the cross head, a snapper bar pivoted on a bracket projecting from the front of the cutter or chisel, the lower end of said snapper bar lying in the channel of the chisel, a cam pin supported by an arm rigid on a bracket dropped from the ring and lying in the path of a cam plate on the descending snapper bar and a clearer attached to a cross head, substantially as described. 5th. The combination, with a chisel having a channel or recess, of a snapper bar for pressing the chips in the channel or recess, substantially as described.

No. 40,714. Lamp Burner. (*Bec de lampe.*)

Edward McDowell, Spartanburg, South Carolina, U.S.A., 15th October, 1892; 6 years.

Claim. 1st. The herein described wick raiser, consisting of a vertical tube, an inner tube sliding vertically in the said vertical tube and longer than the same, the lower end of the inner tube being flared and one side thereof provided with a vertical row of holes, a stop at the lower end thereof, and a series of vertical slots on opposite side of said inner tube, and a shaft having a toothed wheel at its inner end and projecting into the outer tube of the lamp body, said shaft having a milled wheel at its outer end, all arranged and combined, substantially as described.

No. 40,715. Casing for Steam Generators.

(Chemise pour générateurs de vapeur.)

Thomas F. Morrin, Jersey City, New Jersey, U.S.A., 15th October, 1892; 6 years.

Claim. 1st. A casing for housing a steam boiler or generator, made up of detachable and removable sections of sheet metal, and each of said sections having a refractory lining independent of the lining of the other sections, whereby any one of the sections may be removed for inspection or repair without disturbing the others. 2nd. A casing for housing a steam boiler or generator msde up of flanged sections of sheet metal secured detachable together, and each of said sections provided with a lining of tiles secured each independently to the inner face of the flanged metal section, substantially as and for the purpose set forth. 3rd. An upright casing for housing a steam boiler or generator lined with tiles or blocks of refractory material each of said tiles being secured removably to the inner face of the upright wall of the casing independently of the other tiles, whereby any one tile may be removed and replaced without disturbing the remainder of the lining. 4th. An upright cylindrical casing for housing a steam boiler or generator, composed of drums of metal placed one upon the other and detachably secured together, each drum being composed of segments or sections detachably secured together and lined on their inner faces with tiles of refractory material secured removably and independently to metal sections of the casing, substantially as set forth.

No. 40,716. Heater for Street Cars.

(Réchauffeur pour chars de rue.)

James Allingham, Minneapolis, Minnesota, U.S.A., 15th October, 1892; 6 years.

Claim.—1st. The combination, in a heater of the upright cylinder portion with the dome thereof, the smoke pipe extending therefrom, the slidable sleeve arranged therein, the inverted bell or cone suspended therefrom by straps 20, the rod 16 extending through said sleeve, the sides of said pipe provided with two inclined slots having notches 18, wherein the ends of said rod 16 are retained, the slanting walls of the deflector arranged beneath said dome, and a plate 11, suspended beneath the central opening of said deflector, substantially as described. 2nd. The combination, in a heater of the cylinder portion of the stove with the fire pot arranged within the same, a chamber being formed between them, a grate and a grate ring therefor, the stove door casting having lugs 31 to support the rear part of said ring, said cylindrical part provided with the openings 37, through which the air enters said air duct, the air inlet, and the openings 41 arranged in the upper stove door frame, substantially as described. 3rd. The combination, in a heater, with the upper stove door frame and the lower door frame, of that portion of the sheet metal casing extending about and between the two frames, said lower door frame provided with the flanges 29 and 75 on said frame, the slide 76, arranged to close a slot provided in said frame, and adapted to admit the grate bar 78, the grate, and grate ring 25, having its forward sides supported by the flange 29, substantially as described. 4th. The combination, in a heater, of the cylindrical part with the flaring base 4, having the perforations 5, the enclosed ash pit, the air duct casting having the top 34, and the flanges 32 and 35, the lugs projecting from said air duct casting to support the grate ring, the walls of said casting and the lower part of the stove forming a vertical air duct or trunk, from which the air is admitted into the stove through an opening provided in the head thereof, and a horizontally and externally arranged air inlet having flaring ends, substantially as described. 5th. The combination, in a stove, of the upper ring thereof and a cylindrical casing with the containing box, provided with the crown piece consisting in the vertical guard part and the horizontal parts adapted to be secured upon the block and to rest upon said ring to hold the stove in position, respectively, substantially as and for the purpose specified. 6th. The combination, in a stove, of the door with the door frame whereon the same is secured, the lug upon said door and parallel with the vertical side of the door frame and a pivoted latch arranged transversely with respect to said door, and having a kicking arm arranged to strike the inner side or end of the door when the latch is lifted, substantially as described. 7th. The combination of the door and door frame thereof, with the casting 63, pivoted by a pin 62 to said frame, and having a hooked arm to engage a lug upon the door, a stop arm 66, and a kicking arm 67, all substantially as described and for the purpose set forth. 8th. The combination, in a heater, of the upright stove casing, and the dome of the same with the smoke pipe extending from the same, a sleeve slidingly arranged in said smoke pipe, a rod extending through both sides of said sleeve and pipe, and retained in oppositely located inclined slots therein, and a part of plate hung from beneath said sleeve and adapted to be raised thereby to the outlet through said smoke pipe or lowered to open the same, substantially as described and for the purpose specified.

No. 40,717. Folding Rocking Chair. *(Fauteuil à bascule.)*

John Thornbeck, Malvern, Ontario, Canada, 15th October, 1892; 6 years.

Claim.—1st. A head piece A, provided with end brackets C, each bracket having a socket formed in it, and the slots or passage ways *b*, and *d*, in combination with pins F, projecting from the sides of the back of the chair, substantially as and for the purpose specified. 2nd. A head piece A, provided with end brackets C, each bracket having a socket formed in it and the slots or passage ways *b*, and *d*, in combination with pins F, projecting from the sides of the back of the chair, and with the hook G, provided with the head *e*, and *f*, arranged to engage with the pin *h*, substantially as and for the purpose specified. 3rd. A head piece A, provided with end brackets C, each bracket having a socket formed in it and the slots or passage ways *b*, and *d*, in combination with the spring catch H, having a slot K, to engage with the pins, substantially as and for the purpose specified. 4th. A joint between the rings J, and rocker I, formed by a perforated sleeve K, in combination with an arm P, with a sleeve, of a bracket M, adjustably connected to the side of the back L, substantially as and for the purpose specified. 5th. Rockers I, provided with lignum vitae rollers S, in combination with the bracket R, provided with projections T, substantially as and for the purpose specified.

No. 40,718. Machine for Crimping Veneer.

(Machine pour plisser le bois de placage.)

William Jones Turreff, Toronto, Ontario, Canada, 15th October, 1892; 6 years.

Claim—1st. A series of pipes arranged in a horizontal row and heated by steam, in combination with a series of pipes or rods suspended above the coil and arranged to be formed between the pipes forming the said coil; substantially as and for the purpose specified. 2nd. The coil B, arranged as described in a frame A, in combination with a series of pipes C, each pipe flexibly connected to the foot D, operated by a horizontal bar F, substantially as and for the purpose specified. 3rd. The coil B, arranged as described in a frame A, each pipe forming a coil having an end piece I, extending over it in combination with a series of pipes C, each pipe flexibly connected to a foot D, operated by a horizontal bar F, substantially as and for the purpose specified.

No. 40,719. Cowl for Chimnies.

(Chapeau pour cheminées.)

Theodor Frazer, Busum, Prussia, German Empire, 15th October, 1892; 6 years.

Claim. The cover C, provided with two projections *d*, *d*, in combination with two recesses *e*, *g*, made in the casing *a*, substantially as and for the purpose specified.

No. 40,720. Apparatus for Transmitting Power.

(Appareil de transmission de la force.)

Theodor Krieg, Brunswick, Duchy of Brunswick, German Empire 15th October, 1892; 6 years.

Claim.—A power increasing gear or mechanism, having a heavy wheel A set in motion by the pin gearing *i*, i^1, and whose shaft or axis *w* is unsupported, and can be displaced in a horizontal direction by means of the slide S, so that its distance between its vertical plane and that of the shaft *d* can be increased or decreased, whereby the contact point C^{11} between the wheel A and the transmission wheel D, can be displaced, whereby in consequence of the weight of the wheel A, and of the friction developed thereby upon the wheel D driving power is gained, substantially as described.

No. 40,721. Furnace. *(Fournaise.)*

Evan William Jones, Portland, Oregon, U. S. A., 15th October, 1892; 6 years.

Claim. 1st. A furnace provided with an ash pit, a draft regulating damper, a fuel supply opening above the ash pit and beneath the fire, a fire bed or supporting bottom for the fire in rear of the supply opening and sloping upward and backward from the base of the said supply opening, said bed being formed of grate bars and a front fire brick lined dead plate, the latter constructed to support the grate bars at their front ends, and forming the front portion of said supporting bottom, and a fuel forcing device applied outside the furnace and in coincidence with the supply opening, and adapted for forcing the fuel directly into the fire chamber through said opening, this combination being such that the sloping bottom forms a support for the fuel independently of the position of the feeding mechanism, and the dead plate of the bottom is at the front of the grate and supports the front of the grate bars, substantially as described. 2nd. A furnace provided with an ash pit having a draft passage, a fuel supply opening above the ash pit and beneath the fire, a fire bed or supporting bottom for the fire in rear of the supply opening in the wall of the furnace and sloping upward and backward from the base of the said supply opening, the said bottom being formed of grate bars, and a front fire brick lined dead plate constructed with a rear supporting ledge for the front ends of the grate bars to rest upon, and side dead plates, and a fuel hopper, and a fuel forcing device applied outside the furnace and in coincidence with the supply opening, and said forcing device being adapted for forcing the fuel into the fire chamber through said opening, this combination being such that the bottom of the hopper is formed by the fuel forcing device, and the sloping bottom forms a support within the fire chamber for the fuel independently of the position of the feeding mechanism, and the dead plates are in front and at the sides of the grate bars, substantially as described.

No. 40,722. Sash Holder. (*Arrête-croisée.*)

Samuel Collins, Philadelphia, Pennsylvania, U.S.A., 15th October, 1892; 6 years.

Claim.—The combination with the strip *d* having slots *f*, *f*¹, and flanged cups E inserted in the cylindrical passages formed in said strip of the angular lipped strip D connected by its lips to the strip D, and the springs F applied upon swayed teats of the strip D and in the cups, substantially as described.

No. 40,723. Machine for Printing Oil Cloth.

(*Machine à imprimer les toiles cirées.*)

George F. Eisenhardt, Philadelphia, Pennsylvania, U. S. A., 15th October, 1892; 6 years.

Claim.—1st. The combination with the cross head and printing blocks of carriers connected with said blocks and supported to slide upon the cross head and retaining devices for connecting the carriers detachably with the cross head, substantially as set forth. 2nd. The combination with the cross head, of carriers adapted to be connected with the printing blocks provided with guides for determining accurately the position of the carriers upon the cross head and means for securing the carriers detachably to the cross head, substantially as set forth. 3rd. The combination with the cross head, of carriers each in the form of a plate having guiding ribs 10, and clamps for connecting a plate detachably with a cross head, substantially as set forth. 4th. The combination of a cross head consisting of parallel I beams having the lower faces and outer edges accurately planed and a series of carriers each consisting of a plate having guiding ribs 10, fitted accurately to the said outer edges and provided with clamps 12, substantially as set forth. 5th. The combination in the printing block frame, of a cross head for supporting the printing blocks, vertical end pieces for sliding in the guides of the main frame and joints connecting the cross head and the end pieces, substantially as set forth. 6th. The combination of the cross head, end pieces and horizontal joints, substantially as set forth. 7th. The combination of the cross head, end pieces and vertical joints, substantially as set forth. 8th. The combination in a printing block frame, of vertical end pieces adapted to guides on the frame of the machine and a cross head detachably connected to the end pieces, substantially as described. 9th. The combination of the cross head and end pieces to which the cross head is detachably connected and trunnions projecting from the cross head, substantially as and for the purpose set forth. 10th. The combination with the end pieces, of a cross head consisting of parallel I beams and intermediate webs provided with projections forming joints with the end pieces, substantially as described. 11th. The combination with cross head, of end pieces each in two sections adjustably connected, substantially as set forth. 12th. The combination of the cross head and end pieces each consisting of two sections 3, 4, means for adjusting one section in respect to the other and a roller bearing supported by the lower section, substantially as described. 13th. The combination of cross head, end pieces consisting of sections 3, 4, the adjusting screw 17, and roller bearings 6, substantially as set forth. 14th. The adjustable section 3, of the cross head provide with a roller bearing 6, and lug 20, for engaging the latch 21, the combination with the cross head sections 4, and adjusting devices, substantially as described. 15th. The combination with the inking trough and inking roller, of a doctor, adjustable bearings for the doctor, and clamps for securing the doctor in position upon said bearings, substantially as set forth. 16th. The combination of a carrier provided with bearings for the doctor, and a trough having bearings for the carrier, substantially as described. 17th. The combination of the trough and seat for the doctor, of adjusting screws constituting bearings for the heel of the doctor, substantially as described.

No. 40,724. Pneumatic Tire for Velocipedes.

(*Bandage pneumatique pour vélocipèdes.*

Edward Henry Seddon, Manchester, England, 15th October, 1892; 6 years.

Claim.—1st. The combination with the rim B of a wheel, of a detachable cover A, an outer air tube C, and an inner air tube D, each of said tubes having a separate inlet tube *c* and *d* and valve attached thereto, substantially as and for the purpose hereinbefore set forth. 2nd. The combination with the rim B, of a wheel, of a cover A, a wire *g*, inserted through a loop in one edge of said cover and the lugs of a bridge piece *f*, attached to the same, a coupling device for the ends of said wire, and outer air tube C, with inlet tube *c* and valve attached thereto, and an inner air tube D with inlet tube *d* and valve attached thereto, substantially as and for the purpose hereinbefore set forth. 3rd. The combination with the rim of a wheel for velocipedes of a cover A, a wire core *g*, passing along the edge of said cover and fitted with an attachment device for the ends thereof, a stiffener or bridge at the place of attachment, an outer air tube C, with an inlet tube *c*, and valve attachd thereto, an inner air tube D, with an inlet tube *d*, and valve attached thereto, substantially as and for the purpose hereinbefore set forth. 4th. The combination with the rim B, of a wheel for velocipedes of a cover A, divided longitudinally at one side, a wire *g* inserted into the edge of said cover, a bridge piece attached to said cover, and a coupling device for the ends of said wire, the other edge of the cover being slightly elastic and attached to the rim by a wire *c* passed round the same, substantially as and for the purposes hereinbefore set forth. 5th. The combination with the rim B, of a wheel for velocipedes of a cover A, divided longitudinally, bridge pieces or an equivalent stiffeners attached to the sides of said cover, wires passing through loops formed on said sides and through said bridge pieces, and coupling devices for the ends of the wires in the span of said bridge pieces, substantially as and for the purpose hereinbefore set forth.

No. 40,725. Saw Set. (*Tourne à gauche.*)

Robert Dillon, Oshawa, Ontario, Canada, 15th October, 1892; 6 years.

Claim.—A swage saw set and sharpener comprising a body-portion A, provided with a tapered opening, *a*, and a tapered adjustable die block, B, designed to fit within the opening, and V shaped notch, *b*, having notches constructed at right angles to the axis of the tapered die block, B, or cross surface of the face C, in combination with the shoulder, D, and set screw, C, arranged as and for the purpose specified.

No. 40,726. Sickle Bar Movement for Mowers and Reapers. (*Mouvement de porte-couteaux pour faucheuse-moissonneuse.*)

Alvin W. Lamphere, Indian Lake, New York, U.S.A., 15th October, 1892; 6 years.

Claim.—1st. In a device of the class described, the combination, with a toothed wheel, of a rock shaft arranged parallel to the said toothed wheel, arms secured to the said rock shaft and extending onto the teeth of the said wheel at opposite sides, the said arms being arranged at angles to each other so as to be alternately engaged by the teeth of the said wheel, a sleeve fitted on the said shaft and arranged to turn with the latter and to permit a sliding motion of the shaft, and a crank arm secured on the said sleeve and adapted to be connected with the sickle bar, substantially as shown and described. 2nd. In a device of the class described, the combination, with a toothed wheel, of a rock shaft arranged parallel to the said toothed wheel, arms secured to the said rock shaft and extending onto the teeth of the said wheel at opposite sides, the said arms being arranged at angles to each other so as to be alternately engaged by the teeth of the said wheel, a sleeve fitted on the said shaft and arranged to turn with the latter and to permit a sliding motion of the shaft, a crank arm secured on the said sleeve and adapted to be connected with the sickle bar, and means, substantially as described, for imparting a longitudinal sliding motion to the said shaft to throw the said arms into and out of mesh with the said toothed wheel, substantially as shown and described.

No. 40,727. Machine for Lasting.

(*Machine à enformer.*)

George Wiley Moulton, Lynn, Massachusetts, U. S. A., executor of the last will and testament of Jan Ernest Martzeliger, in his lifetime of Lynn aforesaid, 15th October, 1892; 6 years.

Claim.—1st. In a lasting machine, the combination with a fixed rest, of a single pair of pincers suspended above said rest, and mechanism for moving said pincers vertically and forward and back above and over the rest from a position in front to a position back of the same, substantially as described. 2nd. In a lasting machine, the combination with a fixed rest, of a single pair of pincers suspended above said rest and adapted to be moved vertically and forward and back above and over the rest from a position in front to a position toward the back of the same, and a forwardly and backwardly moving elastic wiper, substantially as described. 3rd. A lasting machine provided with a frame, a rest supported in a fixed position on the frame, a pair of pincers and appliances, supporting them above the rest in position to swing from front to back over the rest and mechanism connected with the pincers to open and close and move the same vertically and forward and back, substantially as described. 4th. In a lasting machine, the combination with a fixed rest having its bearing surface upon its under side, of a single pair of pincers suspended above the said rest and adapted to be moved vertically, laterally and forward and back above the horizontal plane of the rest, wherby the upper is drawn over the last and plaited at the same time, substantially as set forth. 5th. In a lasting machine, with the reciprocating pincers and fixed rest, of a guide 9, adjustable to and from the rest, for the purpose set forth. 6th. In a lasting machine, the combination, with the reciprocating pincers, of a rest having an under bearing for the last, and an edge guide 9, movable toward and from the rest, substantially as described. 7th. In a lasting machine, the combination with the pincers and last rest, and the devices for reciprocating the pincers back and forth, of the devices for reciprocating the pincers laterally a shaft from which motion is imparted to said devices through a movable driver, and a shifter whereby said driver may be moved by the operator to vary or arrest the lateral reciprocation, substantially as described. 8th. The combination, in the lasting machine, of pincers and pincer actuating mechanism, the driver M, and the shifter N, and connections, substantially as described. 9th. In a lasting machine, the combination with the pincers of a lasting machine supported to move freely, of a carrier J, and devices for moving it laterally, said carrier connected with said pincers to swing them sidewise, substantially as described. 10th. In a lasting

machine, the combination, with the pincers, of two carriers 40 J, one moving back and forth and the other from side to side and each connected to operate the pincers, substantially as described. 11th. In a lasting machine, the combination with the pincers, of a laterally movable carrier, driving shaft, movable driver, and a shifter arranged in the line of connection between the pincers and shaft in position to be moved by the operator, substantially as described. 12th. In a lasting machine, with the pincers and carrier, of a vibrating block, a bearing movable upon said block past the axis thereof, and a shifter connected with said bearing and arranged to be operated by the attendant, substantially as described. 13th. In a lasting machine, the combination, with the pincers and the forward and laterally movable carriers therefor, of the driving shaft and connections between the same and the carriers, and a driver connected with the laterally reciprocating carrier and adjustable to vary the movements of the carrier, substantially as described. 14th. In a lasting machine, the combination, with the pincers and devices for moving the same forward and laterally, of a lifter K provided with a swivel and a sleeve, substantially as described. 15th. In a lasting machine, the combination, with the pincers S, forward and lateral carriers J and 40, and lifter K, of side spring bearings interposed between the lateral carrier and the pincers, substantially as described. 16th. In a lasting machine, the combination of the pincers S, lateral carrier 40, and intermediate yielding bearings, substantially as described. 17th. In a lasting machine, the combination of the pincers S, a lifter K, and forward and lateral carriers J and 40, and vertical and lateral yielding bearings between the pincers and said lifter and carriers, substantially as described. 18th. In a lasting machine, the combination of the vertically reciprocating lifter provided with a swinging yoke supporting a pivoted ring or collar, in combination with the pincers supported by a shaft extending through said collar, substantially as described. 19th. In a lasting machine, the combination, with the swinging pincers, of a slide connected with the movable jaw thereof and jointed connections 71, 86, between said slide and an operating shaft, substantially as described. 20th. In a lasting machine, and in combination, pincers provided with mechanism for causing them to grip the leather and draw it over the last, and a wiper and mechanism, substantially as described, to advance it over the last toward the position of the pincers, said mechanisms being timed so that the wiper shall commence to advance while the pincers hold the leather tightly down over the last and continue to advance after the pincers let go and bear upon and hold the leather tightly stretched during the latter part of the movement, substantially as described. 21st. In a lasting machine, the combination, with the reciprocating pincers, of a nailer and means, substantially as described, for moving the latter horizontally toward and from the last independently of the movements of the pincers, substantially as described. 22nd. In a lasting machine, in combination, pincers provided with mechanism for causing them to grip the leather and draw it over the last, a nailing mechanism, substantially as described, adapted to advance into the position of the pincers for inserting the tack, and a wiper independent of the pincers for smoothing and holding the strained upper while the tack is inserted, the wiper being timed to take hold in time for the pincers to let go and give place to the nailer, all substantially as described. 23rd. In a lasting machine, the pincers, suspended as described and provided with a sleeve on a lever 51, joint W, loose trunnions 72, and mechanism to impart a forward lateral movement to the pincers, substantially as described. 24th In a lasting machine, the combination of the shank 48 and upper jaw, the shank 46 with lower jaw, collar 85, spring 84, rod 86, link 71, bell crank lever 87, and connections with the driving mechanisms, substantially as described. 25th. In a lasting machine, the combination of the guide foot 9 sliding on the under side of plate B, the rod 16, lever 15, and connections with the driving mechanism, substantially as described. 26th. In a lasting machine, the combination of the driver, the guide block 21, lever 110, the link 23, spring 36, rod 35, post on the plate D, and the driving mechanism connected to the lever 110, substantially as described. 27th. In a lasting machine, in combination with the driver suspended as described, the bar 20, the lever 25, and driving mechanism, substantially as described. 28th. The combination, with the stretching devices of a lasting machine, of a box 203, provided with the described slot or channel, and double incline ridgeway 209, with the channel and tack driver, all substantially as described. 29th. In a lasting machine, the combination in the pincers, with the upper movable jaw, of the lower jaw and side flanges secured thereto, whereby the edge of the leather is prevented from entering the pincers too far, substantially as described.

No. 40,728. Lubricating Hub.

(*Moyeu à graisseur automatique.*)

Frederick W. Randolph, Raynor, Virginia, U. S. A., 15th October, 1892; 6 years.

Claim.—1st. The combination, with a vehicle axle, of a lubricating hub having an open rear end, and a solid front end formed in the same piece, the said solid end having an oil channel extending from its outer edge diagonally through the inside centre thereof, and of the front cap secured to the solid end to form an oil cup, substantially as shown and described. 2nd. In a self oiling axle hub, the combination of the horizontal portion, and the front end formed in the same piece having an oil channel extending diagonally therethrough, of the front cap attached to and surrounding the said end so as to form an oil cup between the said front end and the cap, with the rear cap adapted to confine the axle to the hub, and spoke flanges shrunk upon the said horizontal portion, substantially as shown and described. 3rd. In a self oiling axle hub, the front solid end provided with an oil channel, of the front cap secured to the said solid end to form an oil cup between the said cap and the solid end, combined with the cylinder A, and means substantially such as described, for holding the cylinder in the hub and up to the inner face of the solid end, whereby the said cylinder is continually oiled, as set forth.

No. 40,729. Method of Repairing Pneumatic Tires.

(*Méthode de réparer les bandages pneumatiques.*)

Robert Cowen, Cambridge, Massachusetts, U. S. A., 15th October, 1892; 6 years.

Claim.—1st. The improved method of repairing pneumatic tires, the same consisting in injecting into the hole or fracture to be repaired a plug composed of a material or compound, substantially such as unvulcanized rubber gum rendered plastic and adhesive by heat, and thereby caused to adhere firmly to the walls of the fracture, the plug becoming elastic when cooled and being capable of resisting the softening action of solar heat, as set forth. 2nd. The improved method of repairing pneumatic tires, the same consisting in injecting into the hole or fracture to be closed, a plug composed of a material or composition substantially such as unvulcanized rubber gum, rendered plastic and adhesive by heat, the inner end of the plug projecting into the interior of the tire, and then, while the plug is in a plastic condition, forming its inner end into a head bearing against the inner surface of the tire, as set forth.

No. 40,730. Gauge Cock. (*Robinet-jauge.*)

James D. Mitchell, Marine City, Michigan, U.S.A., 15th October, 1892; 6 years.

Claim.—1st. In a gauge cock, the combination with a valve body carrying a nozzle, a metallic plate adapted to close the end of the said nozzle, and a head carrying the said plate and fitted to slide on the said valve body, substantially as shown and described. 2nd. In a gauge cock, the combination with a valve body carrying a nozzle, of a metallic plate adapted to close the end of the said nozzle, a head carrying the said plate and fitted to slide on the said valve body, and a weighted lever for holding the said head in an innermost position to press the said plate against the end of the nozzle, substantially as shown and described. 3rd. In a gauge cock, the combination with a valve body formed with guide ways and carrying a nozzle, of a metallic plate adapted to engage the end of the said nozzle, a head formed with a transverse aperture which extends the said plate, guide arms extending from the said head and fitting into the guide ways on the said valve, and a weighted lever pivoted on the said valve body and connected with the said guide arms, substantially as shown and described.

No. 40,731. Stage apparatus. (*Appareil de scène.*)

Neilson Burgess, Highlands, New Jersey, U.S.A., 17th October, 1892; 6 years.

Claim.—1st. In combination with a supporting track, a carriage movable thereon, an endless path supported on said carriage, and means whereby the progressive movement of the carriage is controlled by the movement of the endless path, all substantially as described. 2nd. In combination with a stage and its setting, a track or guideway for a carriage, a movable carriage mounted on such guideway, an endless path supported on said carriage, a pulley or drum in operative connection with the moving path, and a rope or like flexible connection extending from said drum to a fixed point beyond the carriage, all substantially as described. 3rd. In combination wirh a theatrical stage, a background scene, a movable carriage supported in operative connection with the stage, an endless path borne on the carriage, and means substantially as described for controlling the forward movement of the carriage by the movement of the endless path, all substantially as described. 4th. In combination with a stage, a movable carriage mounted thereon, a detent device extending between the carriage and means substantially as described for imparting progressive movement to the carriage through the movement of the endless path, all substantially as described. 5th. In combination with a theatrical stage, a movable carriage mounted thereon, a motor supported on the carriage and in operative connection with the supporting wheels thereof, an endless path supported on the carriage and carriage impelling mechanism in operative connection with the endless path and whereby the progressive forward movement of the said carriage is determined, all substantially as described. 6th. In combination with a movable carriage, an endless path supported thereon, means for effecting the forward movement of the carriage from the moving path, and an indicator connected to the carriage and having a hand adapted to denote by its position the distance travelled by a given point on the path, all substantially as described. 7th. In combination with a stage, a movable carriage adapted to change position with reference to fixed objects on the stage, an endless path supported on the carriage, means substantially as described for effecting the forward movement of the carriage, an indicator having a moving hand, and electrical connections extending between the indicator and the moving belt on the carriage, all substantially as de-

scribed. 8th. In combination with a theatrical stage, a movable carriage adapted to change position with reference to fixed objects on the stage, means for effecting the forward movement of the carriage, an endless path supported on the carriage, an indicator with a movable index hand, and the electrical connections between the indicator and the carriage comprising a fixed contact piece and a spring switch, the latter being located in the path of movement of a lug that projects from the moving endless path all substantially as described.

No. 40,732. Apparatus for the Distillation of Concentrated Soap Lye or the Glycerine Recovered from Soap Lye. (*Appareil pour la distillation des lessives de savon concentrées ou de la glycerine tirée des lessives de savon.*)

James S. Kirk & Company, Chicago, Illinois, U.S.A., assignee of Albert Domeier and Otto Christian Hagemann, both of London, England, 17th October, 1892; 6 years.

Claim.—1st. In an apparatus for the distillation of concentrated spent soap lye or glycerine, the combination, with a still or vessel wherein the distillation is effected, of a lower closed vessel communicating therewith by a valve controlled passage, said lower vessel having a discharge door. 2nd. In an apparatus for the distillation of concentrated spent soap lye or glycerine, the combination, with a still or vessel wherein the distillation is effected, of a lower closed vessel or vessels communicating therewith by a valve controlled passage or passages, said lower vessel provided with induction and eduction pipes with suitable valves, and a door through which to remove the matters precipitated in the distillation, substantially as described. 3rd. In an apparatus for the distillation of concentrated spent soap lye or glycerine, the combination, with a still or vessel wherein the distillation is effected, of a lower closed vessel communicating therewith by a valve controlled passage, said lower vessel having a strainer, substantially as described. 4th. In an apparatus for the distillation of concentrated spent soap lye or glycerine, the combination, with a still, of a lower closed vessel communicating therewith by a valve controlled passage, said lower vessel provided with an agitator, substantially as described. 5th. In an apparatus for the distillation of concentrated spent soap lye or glycerine, the combination, of a still having side walls converging toward its lower end, a discharge opening in said end, and a lower closed vessel communicating with the still by a valve controlled passage, said lower vessel having a discharge door, substantihlly as described. 6th. In an apparatus for the distillation of concentrated spent soap lye or glycerine, the combination, of a still or vessel wherein the distillation is effected, said vessel having side walls converging toward its lower end and terminating in an extension forming a pocket, and a second closed vessel communicating with the still by a valve controlled passage, substantially as described.

No, 40,733. Process of Distilling Glycerine Recovered from Spent Soap Lye. (*Procédé de distillation de la glycerine tirée des lessives de savon.*)

James S. Kirk & Company, Chicago, Illinois, U.S.A., assignees of Albert Domeier and Otto Christian Hagemann, both of London, England, 17th October, 1892; 6 years.

Claim.—1st. The herein described process of distilling concentrated soap lye or the crude glycerine recovered from soap lye, which consists in dividing the lye or glycerine under operation into two portions connected or separable at will and maintaining one such portion in a state of ebullition at the distilling temperature, while the other portion remains substantially quiescent and cooler, substantially as described. 2nd. The herein described process of distilling concentrated soap lye or the crude glycerine recovered from soap lye, which consists in dividing the lye or glycerine under operation into two portions connected or separable at will and maintaining one portion in a state of ebullition at distilling temperature, while the other portion remains quiescent, and the salts liberated from the distilling portion passing at once into the quiescent portion, substantially as described. 3rd. The herein described process of distilling concentrated soap lye or the crude glycerine recovered from soap lye, which consists in dividing the lye or glycerine under operation into two portions connected or separable at will and maintaining one portion in a state of ebullition at the distilling temperature, while the other portion remains quiescent, and the salts liberated from solution in the distilling portion passing at once into the quiescent portion and removing the salts from the quiescent portion without interrupting the progress of the distillation, substantially as described. 4th. The herein described process of distilling concentrated soap lye or the crude glycerine recovered from soap lye, which consists in dividing the lye or glycerine under operation into two partitions connected or separable at will and maintaining one portion in a state of ebullition at the distilling temperature, while the other portion remains quiescent, and the salts liberated from solution in the distilling portion passing at once into the quiescent portion and washing said salts and then removing them without interrupting the process of the distillation, substantially as described. 5th. The herein described process of distilling concentrated soap lye or the crude glycerine recovered from soap lye, which consists in dividing the lye or glycerine under operation into two portions connected or separable at will and maintaining one portion in a state of ebullition at the distilling temperature, while the other portion remains quiescent, and the salts liberated from solution in the distilling portion passing at once into the quiescent portion and removing said salts and feeding in fresh lye or glycerine without interrupting the progress of the distillation, substantially as described. 6th. The herein described process of distilling concentrated soap lye or crude glycerine recovered from soap lye, which consists in dividing the lye or glycerine under operation into two portions and maintaining one portion in a state of ebullition at the distilling temperature, while the other portion remains quiescent, and the salts liberated from solution in the distilling portion passing at once into the quiescent portion and washing said salts and then removing them and feeding in fresh lye or glycerine without interrupting the progress of the distillation, substantially as described.

No. 40,734. Signal for Electric Railways.

(*Signal de chemin de fer électrique.*)

William Henry Waddell, Lexington, Virginia, U.S.A., 17th October, 1892; 6 years.

Claim.—1st. In an electric railroad signal, the combination, with a vehicle and a conductor along the track, of a tubular bracket carried by the vehicle, having a metal brush on its lower end bearing on the conductor, and the wire from the brush extending up the interior of the bracket, substantially as described. 2nd. The combination, with a track, of the two separate distinct conductors respectively located on opposite sides of the track in overlapping insulated distinct sections, with a single alarm and single source of electrical energy on an engine, said alarm and electrical source being disconnected and in separate circuits, connected, respectively and separately with the rails, and with a different one of said conductors, substantially as described. 3rd. In an electric signal, the combination, with a line conductor and a vehicle, of a tubular bracket extending down from said vehicle, a support fitted in the upper end of said bracket, and a contact fitted in the lower end thereof, substantially as described. 4th. The herein described electric railway signal, substantially as set forth.

No. 40,735. Display Hook. (*Crochet d'étalage.*)

George A. Moss, San Francisco, California, U.S.A., 18th October, 1892; 6 years.

Claim.—1st. The combination with a suspension hook for displaying articles, of the elastic holder, as and for the purpose set forth. 2nd. The combination with the body portion, terminating in a hooked end, of the spring holder secured thereto and projecting therefrom, as and for the purpose set forth. 3rd. In a suspension hook, the combination with the fastening hook of the projection spring holder for holding the article to be displayed, and of the connecting body portion, a sand for the purpose set forth. 4th. A device for displaying canes, umbrellas and similar articles of merchandise, consisting of a suspension hook, and an elastic ring at the lower end of the hook, said ring adapted to encircle and grip the article to be displayed. 5th. A device for displaying canes, umbrellas and like articles of merchandise, consisting of a suspension hook, having its upper end bent to engage over a supporting rod, and an elastic ring secured to the lower end of the hook, and projecting laterally therefrom to receive and grip the article to be displayed. 6th. A display device for canes, umbrellas and like articles, consisting of a suspension hook, a tongue stamped from lower portion thereof, the lower end of said hook having a slot cut therein, through which said tongue fits when lower end is bent over to grasp the elastic ring and of the elastic ring, said ring adapted to encircle and grip the article to be displayed.

No. 40,736. Box Bending Machine.

(*Machine à cintrer.*)

Henry Born, Cleveland, Ohio, U.S.A., 18th October, 1892; 6 years.

Claim.—The combination of the stock A, the beam B hinged between the jaws G, G, of said stock, and provided with a lever N, with spring M at said hinged end, and the bracket I, with cam lever J, for locking and unlocking said beam to the stock A, constructed and arranged, substantially as and for the purposes described.

No. 40,737. Process of Protecting Steam Boilers.

(*Procédé de protection pour chaudières à vapeur.*)

Frank G. Fowler, Bridgeport, Connecticut, U. S. A., 18th October, 1892; 6 years.

Claim.—1st. The process for the protection of steam boilers, which consists in removing the gases from the water before it is used to produce steam, substantially as described. 2nd. The process for the protection of steam boilers, which consists of boiling the water while its surface is in free communication with the open air to expel the gases, and preventing their re-absorption by passing the water to the boiler excluded from any contact with the atmosphere, substantially as set forth. 3rd. In combination, a steam boiler, a chamber wherein the water is degasified, a feed pump, and a storage tank interposed between said chamber and feed pump, said tank being provided with a floating cover, substantially as set forth.

No. 40,738. Grain Binder. (*Lieuse à grain.*)

John S. Davis, Cleveland, Ohio, U. S. A., 18th October, 1892; 6 years.

Claim.—1st. The combination of the retainer arm *h* and its shaft, the lever N, and cam N^1, for forcing the arm into the receptacle to aid compressor, the cam disc I, and the delay shoe having surfaces o^1, o^2 on its trailing face, to permit of the above described movement of the retainer arm, substantially as hereinbefore set forth. 2nd. The combination of the semi revolving duplicate ended arm *h*, mounted on a shaft located below the binding receptacle, with the double lever N, cam lug N^1 in the master wheel, the double delay shoe O, and the cam disc I, the pinion P, and geared rack Q, all arranged as and for the purpose substantially as hereinbefore set forth. 3rd. The combination of the needle arm and its shaft, the slotted crank arm rigidly connected to the shaft, the pitman with its connecting pin through the slot of the crank, and the restraining spring on the needle arm, substantially as and for the purpose hereinbefore set forth. 4th. In a grain binder, the combination of the binding receptacle, cut-off arms mounted on a rock shaft, their points crossing the entrance to the receptacle, a crank on said shaft connected by a pitman to the binding gear, a needle mounted on a rock shaft, its point also passing across the entrance to the receptacle, a slotted crank on the needle shaft, and a pitman connecting said crank to the binder gear, its pin playing in the slot of the crank, with a spring to restrain the descent of the needle, substantially as and for the purpose hereinbefore set forth.

No. 40,739. Spinning Wheel. (*Rouet.*)

Henry Lotz, Horicon, Wisconsin, U.S.A., 18th October, 1892; 6 years.

Claim.—1st. A spinning wheel frame consisting of a single post, bracing legs at its lower extremity, an overhanging arm supported adjustable vertically in the post, and a spindle journalled in suitable devices on the overhanging arm, substantially as described. 2nd. The combination, with the single post of a spinning wheel frame, of an overhanging horizontal arm adjustable vertically in the post, a hanger detachably secured to the outer end of the arm, a pin or rod movable vertically in the arm, and a spindle having its bearings removably in the hanger and the movable pin, substantially as described. 3rd. In the spinning wheel, an adjustable arm, a revoluble spindle supported thereon, a wheel spliced thereon, a spool loose on the spindle, provided with a wheel somewhat smaller than the wheel on the spindle, and a driving wheel in two parts of lesser and greater diameter, respectively, the two parts of which rotate in the planes of and are in frictional contact with the spindle wheel and the spool wheel, combined substantially as described. 4th. In a spinning wheel, a driving wheel in two parts of lesser and greater diameter, respectively, a spindle journalled at one end in a relatively fixed part of the frame, an adjustable bearing in which the spindle is supported at its other extremity, a wheel of larger diameter on the spindle bearing frictionally against the driving wheel of lesser diameter, and a spool on the spindle, which spool has a wheel of smaller diameter than the spindle wheel bearing frictionally against the driving wheel of greater diameter, combined substantially as described.

No. 40,740. Method of and Apparatus for Concentrating Solutions. (*Méthode et appareil pour concentrer les solutions.*)

James Augustine Morrell, Lausdale, Pennsylvania, U.S.A., 18th October, 1892; 6 years.

Claim.—1st. The method of concentrating saccharine solutions by exposing them under pressure in thin films to high temperature and then liberating them in heated spaces, thereby volatilizating the watery portions and collecting the heavy portions by precipitation, substantially as set forth and described. 2nd. In an apparatus for concentrating saccharine solutions, the combination, of a series of inclosing jackets with an inclosed air space, containing a steam jacket surrounding a pipe arranged to contain a volumn of heated saccharine solution centrally heated by an internal pipe and exposed in thin film between said internal pipe, and a surrounding superheated steam containing pipe, substantially as described and shown. 3rd. In an apparatus for superheating and evaporating solutions, the combination, of a pipe for containing the solution surrounded by a steam jacket for heating the same, and an internal heating pipe arranged centrally therein to augment the heating surface and reduce the fluid capacity of the solution tube, substantially as described and shown. 4th. In apparatus for superheating and charging solutions with heated air or gas, the combination, of a central air displacing core, with an air heating pipe, substantially as described and shown. 5th. The process of concentrating solutions, consisting in mechanically agitating and moving the solution under pressure while being heated beyond boiling point, discharging said solution under pressure in fine spray and precipitating and collecting the heavy portions and subjecting them to further heat, as set forth. 6th. The process of concentrating liquids, which consists in highly heating the liquid, liberating the same under pressure against a rigid surface, thereby finely atomizing and precipitating the heavy portions of the liquid and releasing the vapor, and then again subjecting the heavy portions to heat, as set forth. 7th. The herein described process of concentrating liquids, which consists in highly heating the liquid, liberating the same under pressure in sprays to atomize the liquid and release the vapor and precipitate the heavy portions thereof, and collecting said precipitant and passing the same through a highly heated worm, as set forth.

No. 40,741. Fountain Pen. (*Plume-fontaine.*)

Charles Eaton Browning, Toledo, Ohio, U.S.A., 18th October, 1892; 6 years.

Claim.—1st. In a fountain pen the combination with the nozzle, of a feed plug having flat sides, upper and lower feed tongues formed integral with the plug, and an air duct extending throughout the length of the said plug and lower plug. 2nd. As an article of manufacture, a feed plug for fountain pens consisting of a single piece of hard rubber having flattened sides, upper and lower feed tongues integral with the plug, and an air duct extending throughout the length of the said plug. 3rd. A fountain pen provided with a feed shaft formed integral and having the bifurcated outer end forming upper and lower feed tongues and the flattened sides forming ink passages within the pen nozzle and the central longitudinal air passage, substantially as described.

No. 40,742. Refrigerator. (*Réfrigérateur.*)

Robert Alexander Wilson, Toronto, Ontario, Canada, 18th October, 1892; 6 years.

Claim.—1st. In a refrigerator the combination with the ice chamber and the victual compartment, of an opening between them provided with a pivoted flap or damper extending from end to end of the opening and designed to close or partially close the opening as and for the purposes specified. 2nd. The combination with the ice chamber B, provided with a bottom B^1, and an opening F, of the centrally pivoted damper or flap G, provided with a handle H, as and for the purposes specified.

No. 40,743. Miter Clamp. (*Serre-joint pour boîtes à onglet.*)

Frederick William Hedgeland, Chicago, Illinois, U.S.A., 18th October; 1892; 6 years.

Claim.—1st. In a clamping device of the class described, the combination of the companion levers, pivoted together at their inner ends, the clamping blocks, pivoted to the outer ends of said levers, and a wedge block, adapted to fit the inside corner of a miter joint, substantilly as set forth. 2nd. In a clamping device of the class described, the combination of the companion levers, pivoted together at their inner ends, the triangular blocks, pivoted to the outer ends of said levers and adapted to bear against the outer edges of the miter joint, and the wedge block or inside corner piece, having a pivotal connection common with the connected ends of said levers, susbastantially as set forth. 3rd. In a clamping device of the class described, the combination of the companion levers, provided with a number of perforations in their joining ends, the clamping blocks, adjustably connected to the opposite ends of said levers, the wedge block, provided with a perforated stem extension, and joined to the connecting ends of the clamping levers by the same pivot bolt, substantially as set forth.

No. 40,744. Car Coupler. (*Attelage de chars.*)

Francis R. Brown and John Howcutt, both of Denver, Colorado, U.S.A., 18th October, 1892; 6 years.

Claim.—1st. In a car coupler the combination with the draw head provided with the top recess having the vertical front wall, the curved or semi-circular coupling arm located in said recess and pivoted through its rear extremity, being curved below and lying in the path of the link, its upper portion being vertical to engage the upper vertical wall of the draw head, and means for lifting the coupling arm consisting of a link pivoted to the arm at one extremity and to a crank at the opposite extremity, said crank being connected with a movable bar extending to the outside of the car, substantially as described. 2nd. In a car coupler the combination with the draw head, the coupling arm and movable bar attached to the end of the car and terminating in a handle at its free extremity, of the recessed or shouldered lug secured to the car and also adapted to engage the free extremity of the bar and support the coupling arm in the uncoupled position, substantially as described. 3rd. In a car coupler the combination of the draw head and link, of the link adjusting or setting device pivoted in the draw head and provided with a bend or projection located in the rear extremity of the link recess whereby said link may be adjusted vertically or longitudinally, substantially as described. 4th. In a car coupler the combination with the draw head and link, of the link adjusting device pivoted in the draw head and provided with the bend or projection located in the rear part of the link recess and terminating at its free extremity in the external handles, substantially as described. 5th. In a car coupler the combination with the draw head and the curved coupling arm pivoted in a suitable recess formed therein, the draw head being provided with a slotted buffer to engage the dead wood, substantially as described. 6th. The combination with the draw head, the coupling arm pivoted therein, the open link pivoted to said coupling arm, the transverse bar movably attached to the end of the car and provided with a crank arm secured to the other extremity of the open link, the recessed or shouldered lug adapted to engage the outer handle or arm of the movable bar, substantially as described. 7th.

In a car coupler the combination with the draw head provided with the top recess, the curved or semi-circular coupling arm located in said recess and pivoted through its rear extremity, its forward extremity being bevelled and lying in the path of the link and means for lifting the coupling arm consisting of a link pivoted to the arm at one extremity and to a crank at the opposite extremity, said crank arm being connected with a movable rod extending to the outside of the car, substantially as described.

40,745. Lubricating Cup. (*Godet graisseur.*)

Ira J. Briggs and Alden W. Sanborn, both of San Francisco, California, U.S.A., 18th October, 1892; 6 years.

Claim.—A lubricating cup having a central chamber extending below the bottom, a valve seat formed in the bottom of the chamber, and a discharge passage below the valve seat, a valve, the lower end of which fits the seat in the bottom of the chamber, a screw plug adjustably fitted to the upper part of the chamber having a central hole through it, and a seat in the lower end into which the upper end of the valve fits, and a convex perforated screen fitting the bottom of the cup and arching above the screw plugs, substantially as herein described.

No. 40,746. Vending Machine. (*Appareil de vente*)

Kenneth Murdoch, Toronto, Ontario, trustee of Walter Howard Chamberlain, Chicago, Illinois, assignee of William George Latimer, Detroit, Michigan, 18th October, 1892; 6 years.

Claim.—1st. In a merchandise vending apparatus, the combination, with a delivery feed trough, of a chute registering thereweth, means for actuating the chute, and a spring governed by the movement of the chute for forcibly ejecting the merchandise from and free of the apparatus and chute, substantially as described. 2nd. In a merchandise vending apparatus, the combination, with the casing having a coin and delivery opening therein, of a feed trough arranged to receive a number of separate articles of merchandise, a delivery chute registering therewith, means for actuating the delivery chute, and a spring for forcibly and separately ejecting the merchandise through the delivery opening free of the apparatus as the chute is actuated, substantially as described. 3rd. In a merchandise vending apparatus, the combination of the casing having a delivery opening therein, a delivery chute normally closing the opening, means for actuating the chute, a coin receiver, a lock actuated by a coin in the receiver, and a spring compressed by the chute for forcibly ejecting the merchandise from and free of the chute and said delivery opening, substantially as described. 4th. In a merchandise vending apparatus, the combination, with a casing having a delivery opening therein, of a delivery chute for normally closing the opening, a feed trough with which the chute communicates, a shaft having a coin receptacle thereon, a clutch connection between the coin receptacle and chute, and a spring compressed by the movement of the chute and arranged to engage and forcibly eject the merchandise on the chute through the delivery opening, substantially as described. 5th. In a merchandise vending apparatus, the combination, with the casing having a delivery opening therein, the mouth of which is presented upwardly, of a delivery chute, means for actuating the chute upon the presence of a coin, and a spring for forcibly ejecting the merchandise from the chute through the delivery opening upon the actuation of the chute, substantially as described. 6th. In a merchandise vending apparatus, the combination of the rotary delivery chute, a lock therefor, an actuating shaft adapted to release said lock through the medium of a coin, and mechanism to connect said shaft and chute upon the release of said lock, substantially as described. 7th. In a merchandise vending apparatus, the combination of a throwing out mechanism, the rotary delivery chute comprising the plate I, having a frame *a* forming the support for the package in its normal position, and the flange *b* adapted to actuate the throwing out mechanism, substantially as described. 8th. The delivery chute I, the shaft K, upon which it is journalled, the coin holder N thereon, the hinged arm *c* forming one member of a clutch and having the slotted bearing *e* on its inner face, and the lug *f* on the shaft adapted to engage in said bearing and forming the other member of the clutch, substantially as described. 9th. In a merchandise vending apparatus, the combination of a shaft K, the chute I journalled thereon, the arms *c* hinged thereto and having bearing *e*, and standard *g* normally supporting said arm, and the lug *f* adapted to engage in the bearing *a* in the rotation of the chute to couple the shaft and chute, substantially as described. 10th. In a merchandise vending apparatus, the combination, with a rotary chute, a feed trough leading thereto, and a shaft on which the chute is loosely mounted, of a coin receiver, a lock for the chute actuated by a coin in the receiver, and a clutch between the chute and the coin receptacle, substantially as described. 11th. In a merchandise vending apparatus, the combination of a rotary chute I, the curved arm thereon, the spring P, and the curved arm acting to strike said spring and put the same under tension and release it to throw the package from the casing when the chute is turned to its open position, substantially as described. 12th. In a merchandise vending apparatus, the combination, with the case having a delivery opening therein normally closed, the mouth of which is presented upward, of a delivery chute, means for opening the delivery opening by the presence of a coin, and a spring for forcibly ejecting the merchandise from the chute and through the delivery opening, substantially as described. 13th. In a merchandise vending apparatus, the combination, with the casing having a delivery opening therein, and a storage compartment for a quantity of separate articles of merchandise, of means for successively presenting the articles of merchandise to the opening, a spring for forcibly ejecting the articles through the opening and free of the apparatus, and means for compressing the spring, substantially as described. 14th. In a merchandise vending apparatus, the combination, with the casing having a storage compartment for the merchandise and a delivery opening therein, of a spring for forcibly ejecting the merchandise through the opening and free of the apparatus, means for compressing the spring, and a lock actuated by a coin for controlling the compressing movement of the spring compressing means, substantially as described.

No. 40,747. Dress Stays. (*Busc de corset.*)

Frederick Crompton, Toronto, Ontario, Canada, assignee of John Stuart Crothy, New York, State of New York, U. S. A., 18th October, 1892; 6 years.

Claim.—The herein described dress stay consisting of the spring A, provided with metal tips B, at its ends, a covering composed of two thicknesses, both the thicknesses broader and longer than the width and length of the spring, with a protector E, doubled over each end of the spring, the protector being of a width substantially corresponding to the width of the two thicknesses of covering, the two thicknesses of covering applied to the respective sides of the spring and its protectors, with longitudinal lines of stitches run through the two thicknesses and through the doubled protectors at each side the spring, substantially as described.

No. 40,748. Treadle for Sewing Machines.

(*Pédale pour machines à coudre.*)

Russel Frisbey Elmira, New York, U. S. A., 19th October, 1892; 6 years.

Claim.—1st. A hanger for swingingly supporting a sewing machine treadle in position consisting of a pair of plates or standards each having outwardly extending legs adapted to rest upon the floor and at its upper portion one or more holes to receive the ends of the treadle shaft, and bolts passing through the lower portion of said hangers, for the purpose of securing the members of said hanger, respectively, to the inner face of each side of the framing, substantially as set forth. 2nd. A hanger for swing treadles for sewing machines, consisting of a pair of plates or standards adapted to be attached, respectively, to the inner faces of the framing and having outwardly extending feet adapted to rest upon the floor, said hangers having transverse slots therein, through which a bolt is passed to secure said hanger members to the framing and having an upper portion provided with a transverse hole or holes to receive the treadle shaft. substantially as set forth. 3rd. A hanger for swing treadles for sewing machines, consisting of a pair of plates or standards, each having at its upper end a plurality of holes vertically disposed for receiving the ends of the treadle shaft in vertically adjustable positions, and having at its lower portion a brace rod receiving orifice, and a pair of outwardly extending legs having slots or holes to receive bolts for connecting said hanger sections to the framing of the machine, substantially as set forth. 4th. A swing treadle for sewing machines, consisting of hangers secured to the framing of the machine, foot plates, a sectional treadle shaft, and shaft carrying standards secured to said foot support and of an angular formation to insure the angle joint of the user when the foot is in position on the foot rest registering with the treadle shaft, substantially as and for the purposes set forth. 5th. A treadle for sewing machines, consisting of a longitudinally slotted foot board for plates mounted thereon, rearwardly curved standards secured to said foot board and adjustable longitudinally thereof, and having at their upper ends a horizontally extending sleeve, a treadle shaft formed in sections, one section being contained within each of said sleeves with capability of longitudinal adjustment therein, set screws for clamping said shaft sections in position within said sleeves, and a pitman connection connecting the treadle and pitman, substantially as and for the purposes set forth. 6th. As an improvement in treadles for sewing machines, and in means for connecting them to such machines, the combination of a pair of standards or hangers having at their upper portion vertically disposed holes to receive with capability of vertically adjustable suspension therein the treadle shaft and at their lower portion supporting feet, and holes to interchangeably receive bolts or the customary treadle rod, whereby said treadle hangers or standards may be secured to the framing of the machine, a foot board and foot plates, rearwardly curved standards secured to said foot board with a capability of longitudinal adjustment therein, a sectional treadle shaft carried by and longitudinally adjustable in said rearwardly curved standards, and a suitable connection between the treadle and pitman, substantially as and for the purposes set forth.

No. 40,749. Fence Machine. (*Machine à clôture.*)

Henry J. Gebhardt, Minneapolis, Minnesota, U. S. A., 19th October, 1892; 6 years.

Claim.—1st. In a fence machine, the combination, with the twisters, the reel, and means for operating said reel, of the longitudinally fixed rotatable rods 35, the adjustable picket stops 37, mounted on said rods, the arms on said rods, the cross bar connecting said arms, and the treadle connected with said cross bar, whereby said stops

will stand normally in the path of said pickets, and by means of said treadle may be turned down to permit said pickets to pass substantially as described. 2nd. In a fence machine, the combination, with the twisters, the reel and means for operating said reel, of the rods 35 adapted to turn on their axis, the pickets stops 37 secured on raid rods, the picket pushers 33, also mounted on said rods, and arranged to slide thereon, and means for reciprocating said picket pushers, substantially as described.

No. 40,750. Electrical Meter. (*Electromètre.*)

Herbert Morris Pilkington and Roger Sherman White, both of Brooklyn, New York, U.S.A., 19th October, 1892; 6 years.

Claim.—1st. The combination, of a coil or magnet adapted for connection in an electrical circuit, an armature moved thereby, an arm moved by the armature in one direction, a propelling pawl carried by the arm, a register moved by the pawl, and means for moving said arm in a second direction to advance the pawl and through the pawl the register, substantially as described. 2nd. The combination, in an electric meter, of a coil or magnet adapted to be connected in a circuit, an armature therefor, the position of which is controlled by the current passing through the coil, a lever moved by said armature, a propelling pawl at one end of said lever, a register operated thereby, and a body having an operative surface of varying extent and having a regular motion supported adjacent to the opposite end of the lever, substantially as described. 3rd. The combination, of a body having an operative surface of varying extent and moved regularly by a motor, a register, a propelling wheel therefor, an operating device for said wheel supported at one end of an arm or lever, the opposite end of which arm is actuated by the surface of a movable body, and an armature the position of which is controlled by the current in the circuit connected with and moving said arm, substantially as described. 4th. The combination, with a register, of a movable body having an operative surface of varying extent, a rigid arm, the position of which in relation to said surface is controlled by the current to be measured, moved by said body, and a mechanical actuating device for such register carried by said rigid arm, substantially as described. 5th. The combination, of a coil or magnet adapted for connection in an electrical circuit, an armature moved thereby, a pivoted arm carried by the armature and moved thereby in one direction, a propelling pawl carried by the arm, said pawl having legs extending over the side of a ratchet wheel to hold the pawl in place thereon, and a guide or steadying device for the arm, a register moved by the pawl and means for moving said arm in a second direction to advance the pawl and through the pawl the register, substantially as described.

No. 40,751. Sleigh. (*Traîneau.*)

William C. Powell, Corry, Pensylvania, U.S.A., 19th October, 1892; 6 years.

Claim.—1st. The sleigh having the seat supporting side bars and their branches curved upward and rearward, the forward portions of said side bars diverging and standing wide apart, bringing the same about in alignment with the shafts or thills, substantially as set forth. 2nd. The sleigh having sets of braces or rods applied, one set between the forward parts of the runners and the side bars, one set between the front legs and the side bars, one set between the rear ends of the runners and the rear legs, one set between the hind or rear legs and the upper part of the side bars, one set between the hind legs and their top connecting bar, and one set between the said bar and the upper ends of the branches or arms of the side bars, substantially as set forth. 3rd. In a sleigh, the forward diverging runners and curved side bars meeting and joined together at the forward ends of said side bars, the cross tree connected to said side bars back of their forward ends at their lowest portion, the curved branches of the side bars supporting the front of the seat, the back connection at the rear and upper ends of the side bars, and the seat supported by said side bars and their curved branches, substantially as specified, and also dropping the bottom below the curved side bars or body part, thus enabling the driver to sit in a natural position and at the same time bringing the draw close to the seat, bringing the height of draw nearly perpendicular to the height of seat, thereby preventing the sleigh from tipping over and improving the rim of same.

No. 40,752. Filtering Machine. (*Machine à filtrer.*)

Edgar Martin, Hamper Mills, Herts, England, 19th October, 1892; 6 years.

Claim.—By the means and in the manner hereinbefore described, to turn up the outer edges of the part between the points of such descent and ascent, whilst the said endless band travels along so that a portion of the band itself forms a shallow cistern to receive the water to be filtered, whilst when that part of the band is not actually filtering it is flat in form, crosswise, and capable of ready and rapid cleansing.

No. 40,753. Machine for Cutting Screws.
(*Machine à fileter les vis.*)

Williams Samuel Dorman, Baltimore, Maryland, U.S.A., 19th October, 1892; 6 years.

Claim.—1st. In a screw cutting machine, the combination of a vertically arranged revoluable hollow screw spindle provided with gripping jaws to hold the screws blank, a back rest lever mounted loosely on a vertically arranged and reciprocating shaft to reciprocate in a horizontal plane, a cutting tool lever fixed on the vertically arranged and reciprocating shaft and arranged to reciprocate horizontally and vertically, cams to operate the said levers and mechanism, substantially as described, for raising and lowering the cutting tool shaft, substantially as specified. 2nd. In a screw cutting machine, the combination of a vertically arranged revolving hollow screw spindle formed with upper and lower annular collars 47, 48 and oppositely arranged mortices at its lower end, gripping jaws supported on fulcrum in the mortises with their lower ends to close over the end of the screw spindle, a supporting bearing box 8 about the spindle between the said annular collars, a sliding sleeve on the hollow spindle, having a tapering lower end to engage between the upper ends of the gripping jaws, a sleeve to raise and lower the sliding sleeve, and means substantially as described, to tilt the lever as specified. 3rd. In a screw cutting machine, the combination of the revolving hollow spindle, the gripping jaws hung thereon, and a blank stop arranged in a hole transversely across the bore of the spindle and adapted to be engaged by one of the gripping jaws and be moved by the movement of the gripping jaws, substantially as described. 4th. In a screw cutting machine, the combination of the revolving hollow spindle, the gripping jaws hung thereon, and upper and lower blank stops arranged across the bore of the spindle, substantially as described, and for the purpose specified. 5th. In a screw cutting machine, the combination of the revolving hollow spindle, the gripping jaws hung thereto, an upper screw blank stop arranged across the bore of the spindle and consisting of an angular shaped metal rod, and a lower screw blank stop consisting of a straight metal rod arranged across the bore of the spindle, all substantially as specified. 6th. The combination with a screw blank delivering and gripping mechanism, of the tool holding and back rest levers, the reciprocatable leader bar carrying the said tool holding lever, the pitch cam to depress the leader bar, snd springs to lift it vertically, whereby the lever of the cutting tool is raised and lowered, substantially as described. 7th. The combination with the screw blank delivering and gripping mechanism, of the tool holding and back rest levers, the leader bar projected loosely through the back rest lever and having the cutting tool lever secured thereto and formed with an inclined upper end, the spirally formed pitch cam to depress the leader bar consisting of a cross bar secured to the upper end thereof, and springs secured to outer ends of the cross bar and to the frame of the machine, substantially as described. 8th. In a screw cutting machine the combination with the back rest lever and the cutting tool lever, of a cam to operate the back rest lever, and a rotating cam to operate the cutting tool lever, said latter cam having its face formed with steps increasing successively in height, and intermediate idle steps to throw the tool from engagement and into corresponding cuts on the blank, substantially as described. 9th. In a screw cutting machine, the combination, with the revolving hollow spindle and the gripping jaws, of a sliding sleeve on the hollow spindle, a lever to reciprocate the sliding sleeve, and a horizomtally arranged cam to operate the lever, said cam having a horizontal surface of determined distance around its circumference, a race to draw the end of the lever down, and steps leading from the race to lift the lever, substantially as described and for the purpose specified. 10th. In an organized mechanism for cutting screws, the combination of the vertically arranged revolving hollow spindle having a knock-off plate having an aperture arranged over the delivery end, and formed with oppositely arranged mortises at its lower portion, gripping jaws fulcrumed in the mortises of the spindle to close with their gripping ends across the lower end and bore of the spindle, and means for opening and closing the jaws, substantially as described. 11th. In a screw cutting machine, the combination, with the vertically arranged shaft 9, carrying the cams 10, 20, the back rest lever, the cutting tool lever, the leader bar 36, having said levers pivotally arranged thereon, the shaft 43, carrying the pitch cam 44, and the lifting spring on the leader bar, substantially as described and for the purpose specified. 12th. In a screw cutting machine, the combination, with the back rest lever and tool holding lever formed with slots in their rear inner ends, of adjustable bearing pieces arranged in the slots, whereby the cut of the machine can be regulated to different sized blanks, substantially as described.

No. 40,754. Wrist Turning Machine.
(*Machine pour indiquer la force du poignet.*)

Octave Morel, Montreal, Quebec, Canada, 20th October, 1892; 6 years.

Claim. 1st. In a wrist turning machine, the forearm c^1, T-piece c^3, chain E, pulley c, lever F, weights G, spiral spring I, piece J, roller q, hanger L, spring K, hook j^2, levers o, P and N, slot M and conduit m, substantially as described and for the purposes set forth. 2nd. In a wrist turning machine, the forearm c^1, T-piece c^3, chain E, pulley c, weights G, bellows s and whistle pipe V, substantially as described and for the purposes set forth. 3rd. In a wrist turning machine, the forearm c^1, T-piece c^3, chain Q, lever q^3 and head R, substantially as described and for the purposes set forth. 4th. In a wrist turning machine, the forearm c^1 and accessories, with the arm c, bust A and casing a, substantially as described and for the purposes set forth.

No. 40,755. Apparatus for the Manufacture of Oil Gas. (*Appareil pour la fabrication du gaz à l'huile.*)

William Bradly Frink, Revere, Massachusetts, U.S.A., 20th October, 1892; 6 years.

Claim.—1st. In an apparatus for generating gas from oil, the combination, of a fire pot or combustion chamber contracted in width at its upper part, a single retort placed in said contracted portion of said combustion chamber, a second chamber above said combustion chamber, a perforated arch between said chambers, a number of retorts placed in said upper chamber, means for introducing oil to said retorts at one end, and pipes connecting each of said upper retorts at their other ends to the single retort in the main combustion chamber, all substantially as described. 2nd. In combination, with the retorts of an apparatus for generating gas from oil, a current breaker placed in one or all of said retorts, composed of a central rod or bolt, a series of movable plates of sheet metal, each divided into a series of radial blades, the peripheral ends of which are oblique to the axis of the bolt, thimbles or sleeves fitted upon said rod between said plates, and nuts on the ends of said rod to clamp the whole together, all substantially as described. 3rd. In an apparatus for generating gas from oil, the combination, of a superheater or series of tubes filled with refractory materials and arranged around the sides of the fire box, through which tubes steam is passed from a boiler and becomes superheated, the retorts or cylinders filled with refractory materials or not, into which the superheated steam is injected, and the current breakers in said retorts, by which combination oil is volatilized in the retorts and then is mingled with the superheated steam, and forms a highly combustible gas, all substantially as described. 4th. The combustion of a superheater as above described, filled with refractory materials and arranged in the manner shown in the fire box of a gas generating and oil consuming apparatus, for the purpose of raising steam to a high degree of heat in order to more perfectly combine with the vaporized oil, with an apparatus such as described, arranged with retorts in which the oil is volatilized, all substantially as described.

No. 40,756. Pug Mill. (*Gâche à mortier.*)

Alonzo R. Miller, Washington, Columbia, U. S. A., 20th October, 1892; 6 years.

Claim.—1st. In a pug mill, the combination of a mixing trough, mixing blades mounted to revolve in said trough, a well opposite one end of the trough, a rotable discharging conveyor mounted in said well and means for operating the mixing blades, substantially as described. 2nd. The combination of a mixing trough, a feed hopper leading to said trough, having projecting wings and a shaft having blades to register with said wings to close and open the passage from the hopper to the trough, substantially as described. 3rd. The combination of a mixing trough, a feed hopper leading to said trough having means for opening and closing the passage from hopper to trough, and a supplemented measuring hopper leading to the feed hopper having a movable gate at its bottom, substantially as described. 4th. The combination of a mixing trough and a supplemental measuring hopper having a gate between it and the main feed hopper, and an adjustable partition for regulating the relative quantity of the several ingredients to be introduced to the machine, substantially as described. 5th. The combination of a mixing trough, mixing blades mounted to revolve in said trough, a vertical well at one end of the trough, a gate or cut-off between the trough and well and a rotable shaft in said well carring horizontal mixing blades and a conveyor and means for operating the mixing blades in the trough and the shaft and its appendages in the well. 6th. The combination of a mixing trough having its lower side inclined, mixing blades mounted to rotate in said trough measuring and feed hoppers as described, a well adjacent to the trough, a gate between the trough and well, a shaft carrying mixers and conveyor in the well and means for operating the mixing blades and conveyor, substantially as described. 7th. The combination of a mixing trough and a permanently or detachably connected well adjacent to said trough, substantially as described.

No. 40,757. Shingle Machine. (*Machine à bardeau.*)

Thomas O. Wilson, Tillar, Arkansas, U.S.A., 20th October, 1892; 6 years.

Claim. 1st. A shingle edger consisting of frame A having saw slots and chain grooves in its floor and slide strips b^2, shaft a having the sprocket wheels a^3 and pulley c^3, shaft a^1 having pulleys c^1 and c^2, and loose sprocket wheels similar to sprocket wheels a^3, shaft a^2 having the saws b^1 pulleys C and c sprocket chains a^5, slotted carriers B secured to said chain, straight belt D and crossed belt d, all substantially as shown and described and for the purposes set forth.

No. 40,758. Miter Box. (*Boîte à onglet.*)

Jesse E. Bundy, San Rafael, California, U.S.A., 20th October, 1892; 6 years.

Claim.—1st. In a miter box, the combination, of a pivoted saw guide carrier formed in two parts of equal length, and the upper part hinged to the top of the lower, and saw guides attached to the end portions of the hinged part to extend vertically, and a quadrant attached to one or each end of the pivoted carrier, and a quadrant fixed to the base and extended through a mortise in the pivoted saw guide carrier for the purpose of guiding a saw diagonally, and also vertically at the same time. 2nd. An open ended box, a saw guide carrier D, D^2, pivoted to a box, a quadrant H attached to the box or base and extended through a mortise in the end of the same carrier, quadrants F, and pointers F^2, attached to the ends of the guide carrier, and saw guides G attached to the same carrier, constructed, arranged and combined to operate in the manner set forth. 3rd. A miter box comprising an oblong box, having one of the sides open at its central portion, and a door hinged to its base on the other side, adjustable posts attached to the end of the box, a saw guide carrier in the form of a bar pivoted on top of the bottom of the box, a bar hinged on top of the pivoted bar, quadrants and pointers attached to the ends of the carrier, slotted saw guides attached to the carrier to project vertically, and a quadrant extended through a mortise in the carrier and attached to the box in a concentric position to the pivoted carrier, arranged and combined to operate in the manner set forth for the purposes stated.

No. 40,759. Cultivator. (*Cultivateur.*)

The Peter Hamilton Manufacturing Company, assignee of Andrew Johnston, all of Peterborough, Ontario, Canada, 20th October, 1892; 6 years.

Claim.—1st. In a root cultivator, the side bars pivoted in the front of the machine and connected at their rear ends by links to a cross bar secured to the bottom of a vertical standard which is turned in its bearings, as and for the purpose specified. 2nd. The side bars B and C, pivoted in the bracket D, at the front of the machine at each side of the central bar A, and connected by the links I, to the cross bar H, secured at the lower end of the vertical standard E, journalled in a bracket on the centre bar, and the bridge connecting the handles, in combination with the lever K, pivoted in the top of the vertical standard and having a projecting end k, designed to engage with the quadrant F, as and for the purpose specified. 3rd. The side bars B and C, pivoted in the bracket D, at the front of the machine at each side of the centre bar A, and connected by the links I, to the cross bar H, secured at the lower end of the vertical standard E, journalled in a bracket on the centre bar, and the bridge connecting the handles, in combination with the lever K, pivoted in the top of the vertical standard having a forwardly projecting end k, designed to engage with the quadrant F, the rearwardly projecting end k^1, and the spiral spring L, extending between the end k^1, and the bracket l, attached or secured to the vertical standard E, as and for the purpose specified. 4th. In a root cultivator the combination with the side bars, of the bracket O, provided with a groove o, through which the side bar extends and the teeth o^1, and slots p, and the bracket N, provided with a groove n, through which the shank of the tooth or mould board extends, the teeth n^1, designed to engage with the teeth o^1, of the bracket O, and the bolts P, extending through the holes q, in the bracket N, and the slot p, in the bracket O, and having the nuts Q, secured on the ends of the bolts whereby the parts may be retained in any desired position, as and for the purpose specified. 5th. The combination with the side bars having an eye b, formed at the rear end, of the bracket J, having a concentric radial toothed face on its under side designed to engage with the corresponding teeth formed on the bracket V, to which the shank of the mould board is secured, the parts being secured together by the bolt W, as and for the purpose specified. 6th. The combination with the side bars having an eye b, formed at the rear end, of the bracket J, having a boss j, extending up into the eye, b, and the concentric radial toothed face formed on its under side designed to engage with the corresponding teeth formed on the bracket V, to which the shank of the mould board is secured and cap S, provided with a boss s, extending down into the eye b, the whole being secured together by the bolt W, passing through the brackets V and J, and cap S, as and for the purpose specified. 7th. The combination of the side bars having an eye b, formed at the rear end, of the bracket J, having a concentric radial toothed face formed on its under side designed to engage with the corresponding teeth formed on the bracket V, and secured in the eye b, as specified, the upright portion V^1, connected to or forming part of the bracket V, and having bevelled teeth r, and the bracket X, having the shank of the mould board or teeth secured thereto and provided at the top and bottom with bevelled teeth x, designed to engage with the bevelled teeth r, on the portion V^1, the parts V, and X, being secured together by the bots Z, passing through the hole r^1, in the portion V^1, and the slots x^{11}, in the bracket X, as and for the purpose specified. 8th. The combination of the side bars having an eye b, formed at the rear end, of the bracket J, having a concentric radial toothed face formed on its under side designed to engage with the corresponding teeth formed on the bracket V, and secured in the eye b, as specified, the upright portion V^1, connected to or forming part of the bracket V, and having bevelled teeth r, the bracket X, provided at the top and bottom with bevelled teeth x, designed to engage with the bevelled teeth r, on the portion V^1, and having a groove x^1, at its rear side into which the shank of the mould or tooth fits and the clamp Y, the parts V^1, X, shank of the mould board R, and clamp Y, being secured together by the bolts Z, passing through portion V^1, slots x^{11}, in the bracket X, and the ends of the clamp Y, as and for the purpose specified.

No. 40,760. Nut Making Machine.

(*Machine à faire les écrous.*)

The Elastic Nut Company, assignee of Justin Herbert Burdick, all of Milwaukee, Wisconsin, U.S.A., 20th October, 1892 ; 6 years.

Claim. 1st. In a nut making machine, the combination with a suitable supporting frame, and a revolving shaft journalled therein, of an eccentric secured to said shaft and provided with an eccentric strap having an interiorly screw threaded boss, a differential nut screwed thereto, a connecting rod secured to said nut, a crowner stem pivoted to said connecting rod and terminating, at its free end, in a crowner, and a die, located in line with said crowner, substantially as set forth. 2nd. In a nut making machine, the combination with a suitable supporting frame, and a revolving shaft journalled therein, of an eccentric secured to said shaft and provided with an eccentric strap having an interiorly screw threaded boss, a differential nut screwed thereto, a connecting rod secured to said nut, a crowner stem pivoted to said connecting rod and terminating at its free end in a crowner provided with a central longitudinal bore, a die located in line with said crowner, and having a central opening also in line with that in said crowner, and a mandrel projecting through said central opening in the die, and adapted to be received in said opening in the crowner, substantially as set forth. 3rd. In a nut making machine, the combination with a suitable supporting frame, and a revolving shaft journalled therein and provided with an eccentric, of a crowner stem carrying a crowner and connected to said eccentric, a rotating multiple die disk whose die openings are adapted to be brought successively in line with said crowner, a ratchet groove annulus secured to the top of said die disk, a guide block secured to the frame, a wheel on the said revolving shaft carrying a wrist pin, a slide block moving on said guide block, a pawl arm connected to said side block, and engaging with said ratchet groove, and a pitman connecting said slide block with the wrist pin on said wheel, substantially as set forth. 4th. In a nut making machine, the combination with a suitable supporting frame, and a revolving shaft journalled therein, and provided with an eccentric, of a crowner stem connected to said eccentric, and terminating at its free end in a crowner provided with a central longitudinal bore, a rotating multiple die disk having die openings and dies with central openings, mandrels projecting through said die openings, and adapted to be received successively in the crowner opening as the die disk is rotated, a ratchet groove annulus secured to the top of said die disk, a guide block secured to the frame, a wheel on the said revolving shaft carrying a wrist pin, a slide block moving on said guide block, a pawl arm connected to said slide block, and engaging with said ratchet groove, and a pitman connecting said slide block with the wrist pin on said wheel, substantially as set forth. 5th. In a nut making machine, the combination with the bed plate provided with a central opening, having an annular groove and a segmental guide at its base, of a rearwardly bent arm projecting over said opening, and having a segmental guide depending from its rear end, a vertical pivot stepped in said bed plate and having its bearing in said bent arm, a multiple die disk secured to said vertical pivot, and having die openings and dies around its periphery and vertical openings in the therewith and communicating with the said annular groove, and by horizontal openings with the said die openings, mandrels extending through the horizontal openings and die openings, sleeves on the said mandrels terminating at their outer ends with peripheral ejecting flanges, and having vertical guide arms secured to their rear ends, and rollers on the ends of said vertical guide arms, adapted for contact with the said upper and lower segmental guides, substantially as set forth. 6th. In a nut making machine, the combination with the die having a central opening, of a mandrel projecting there through, and tapered at its outer end for a length somewhat greater than the depth of the nut, substantially as and for the purpose set forth. 7th. In a nut making machine, the combination of a mandrel, with a sleeve covering and moving upon the outer part thereof, and terminating in a peripheral ejector flange, substantially as and for the purpose set forth. 8th. In a nut making machine, the combination with the die, having a central opening, tapering from its outer to its inner end, of a mandrel projecting there through, and tapered at its outer end for a length somewhat greater than the depth of the nut, substantially as and for the purpose set forth. 9th. In a nut making machine, the combination with the die, having a central opening, tapering from its outer to its inner end, of a mandrel projecting there through, and a sleeve covering and moving upon the outer part thereof, and terminating in a peripheral ejector flange, substantially as and for the purpose set forth. 10th. In a nut making machine, the combination with the die having a central opening, tapering from its outer to its inner end, of a mandrel projecting there through, and tapered at its outer end for a length somewhat greater than the depth of the nut, and a sleeve covering and moving upon the outer part of said mandrel, and terminating in a peripheral ejector flange, substantially as and for the purpose set forth. 11th. In a nut making machine, the combination with a rotating multiple die disk with a movable crowner having a central longitudinal bore, located in the line of the die openings in said disk, and a series of mandrels, each projecting through one of the die openings and adapted to be successively received in said crowner bore, as the said disk is rotated, substantially as set forth. 12th. In a nut making machine, the combination with a rotating multiple die disk, of a ratchet groove annulus secured to the top thereof, a slide block arranged adjacent thereto, and a pawl arm having a rocking bearing on said slide block, and engaging at its free end with said ratchet groove, substantially as set forth. 13th. In a nut making machine, the combination with the bed plate having a vertical opening there through, and a recess therein, of a rotary multiple die disk located in said recess, and having die openings and dies in its periphery, a feed spout secured to the wall of the said opening, and cut away in line with the said die openings, and a horizontally moving crowner adapted to pass through said cut-away part of the feed spout, and enter the said die openings, substantially as set forth.

No. 40761. Circuit Controlling and Protecting Devices. (*Appareil à régler et protéger les circuits.*)

The Thompson Houston International Electric Company, Boston, Assignees of Edwin W. Rice, Jr., Lynn, all of Massachusetts, U.S.A., 20th October, 1892 ; 6 years.

Claim. 1st. The combination, with a manual circuit breaking switch in an electric circuit, of a blow out magnet having poles adjacent to the contact point of the switch, and a supplementary lightning arresting contact also adjacent to the said poles and connected to the ground. 2nd. The combination with an electro-magnet, of a circuit breaker having its movable contact actuated by said magnet and located at its contact making and breaking portion in the arc disrupting field of said magnet. 3rd. The combination with an electro magnet, of a movable circuit breaking contact actuated thereby and included in the circuit through the coils of said magnet and having its circuit breaking point located in the arc disrupting field of said magnet. 4th. The combination with a switch in an electrical circuit, of a controlling magnet therefor adapted to respond to an abnormal current, the contact points of the said switch being located adjacent to the poles of said magnet, whereby the said magnet acts both to control the switch and to blow out any arc that may be formed. 5th. The combination with an electric switch, of a controlling magnet therefor, having its poles adjacent to the contact points of the switch, an actuating spring for said switch, and a latch holding said switch in its closed position, with intermediate mechanism between the said latch and magnet, whereby the magnet acts both to release the switch and to blow out the arc formed on breaking the circuit. 6th. The combination with a switch of an electro magnet in circuit therewith and having its poles adjacent to the contact points of the switch, a spring for operating the switch, a latch holding the switch closed, and a manual device for operating said latch. 7th. The combination with an electric switch, of a magnet in circuit therewith having its poles adjacent to the contact points of the said switch, a supplementary contact point adjacent to the said poles and connected to the ground, and a supplementary armature on the yoke end of said magnet controlling the said switch. 8th. The combination, with a machine to be protected, of a magnet in circuit therewith, a circuit breaking switch having its contact points adjacent to the poles of said magnet a releasing device for the switch controlled by the said magnet, and a supplementary point adjacent to the poles of said magnet and provided with a ground connection. 9th. The combination with a machine to be protected, of a magnet in a circuit therewith adapted to respond to abnormal currents, a switch in said circuit, having its contact points adjacent to the poles of said magnet, an actuating spring for said spring, a latch holding the switch closed, and an inclosing case having an opening through which passes a manual controlling device for the said latch. 10th. The combination with an electro magnet, of a circuit breaker having its contact points adjacent to the poles of said magnet, an armature for the said magnet, placed at the yoke end, whereby the poles of the magnet may act to blow out an arc without interference from the armature. 11th. The combination, with a machine to be protected, of a magnet in series therewith, a discharge point connected to the line at one terminal of said magnet and adjacent to a similar discharge point connected to the line at the opposite terminal, and a ground line having a discharge point adjacent to a similar discharge point connected to the line at said opposite terminal of the magnet. 12th. The combination, with the electric apparatus to be protected, of a lightning arrester in a branch to earth of low self induction, and a self inductive coil interposed between the said apparatus and the point of connection of the lightning arrester. 13th. The combination, with the lightning arrester in the branch, of an adjustable self inductive coil in circuit between the point of connection of the lightning arrester and the apparatus to be protected. 14th. The combination, with a lightning arrester applied to the circuit containing the apparatus to be protected, of a safety fuse and an arc rupturing magnet constituting a self inductive resistance and placed in the circuit containing said apparatus between the points of application of the lightning arrester and the earth or return circuit for the apparatus. 15th. The combination with an electric motor placed in an earth connection from a supply wire W, of field coils for said motor placed first in the circuit leading from such wire to the motor and thence to earth and constituting a reactive device, and a branch from such circuit containing the lightning arrester attached to the circuit at a point between the supply wire and the field magnet coil. 16th. The combination, with double wires, of lightning arresters connected to both wires, and a dynamo machine or motor in the connection between the wires, with its armature interposed between field coils constituting a reactive device and included, respectively, in the connections from such armature to the points of connection

of the lightning arrester. 17th. The combination, with the double wire or circuit of the dynamo machine and motor or other apparatus in the connection between them, lightning arrester contacts in branches from each wire to earth, and arc rupturing magnet coils in the connections, respectively, from the points of application of the lightning arrester to the opposite poles of the dynamo machine or other apparatus to be protected. 18th. The combination, with the double wire or circuit having apparatus in a connection between them, of a lightning arrester for each wire, a self inductive coil in the connection from each point of application of the lightning arrester to the apparatus to be protected. 19th. The combination, with an electric railway motor, of a self inductive coil in the connection to the same, and a branch to earth around said coil and motor containing lightning arrester electrodes. 20th. The combination, with the apparatus to be protected, of a self inductive or reactive coil, in the circuit with the same, and a ground branch of low self induction around both the coil and the apparatus.

No. 40,762. Belt Fastener. (*Agrafe de courroie.*)

Frederick Edward Shaut, Canisteo, New York, U.S.A., 20th October, 1892; 6 years.

Claim—1st. A strip of metal or other suitable material, riveted or otherwise rigidly connected to the end of a belt, substantially as and for the purpose specified. 2nd. Two ends of a belt butted together, each end having a strip of metal riveted or otherwise rigidly secured to each end, in combination with a hook or other fastening carried through holes in the belt behind the strips, substantially as and for the purpose specified.

No. 40,763. Sprocket Wheel. (*Roue dentée.*)

Daniel M. Maxon and James McKeon, both of Bay City, Michigan, 20th October, 1892; 6 years.

Claim.—1st. The combination of the wheel having on each side a radially projecting flange each flange being provided with a series of radial grooves on its inner side face and opposite each other a loose ring between the said flanges and provided on its periphery with a series of notches having sloping sides a series of radial arms between the said flanges with their inner ends resting on the sloping side of the notches and having on opposite sides radially projecting ribs resting in the said radial grooves and provided on their outer ends with sprocket teeth for carrying a cable and devices for securing the said arms in position, substantially as described. 2nd. The combination of the wheel provided on each side with radially projecting peripheral flanges one of which is removable as described the said flanges being provided with a series of radial grooves on their inner side faces and opposite each other a loose ring between the said flanges and provided on its periphery with a series of notches corresponding to the series of radial grooves and each notch having a sloping surface facing outwardly a series of radial arms having their lateral sides fitted to pass into the said radial grooves and with their inner ends resting on the said sloping surfaces of the notches on the ring and provided on their outer ends with sprocket teeth fitted to carry a cable and bolts passed transversely through the said flanges between the arms for clamping the parts together, substantially as set forth. 3rd. The combination of the wheel provided on opposite sides with radially projecting flanges one of which is removable and both flanges being provided on their inner side faces with a series of radial grooves located opposite each other, a ring loosely surrounded the wheel between the said flanges and provided on its periphery with a series of notches having inclined or sloping faces and provided on its side face with a series of inclined grooves U, a series of arms fitted to rest in the said radial grooves in the flanges and with their lower ends resting upon the said inclined faces of the ring and having portions projecting from their lower ends below the said notches and provided on their inner side with bosses T projecting into the grooves and the bolts i for clamping the parts together, substantially as set forth.

No. 40,764. Brick Kiln. (*Four à brique.*)

John Hubert Thissen, William Mack, William Warren Lowe and Augustus Henry Doncken, assignees of Millard Montgomery Arnold, all of Omaha, Nebraska, U. S. A., 20th October, 1892; 6 years.

Claim.—1st. In a brick kiln, the combination, with a burning chamber having a draft channel in its floor leading to the chimney, of a sectional sliding cover for partially closing the channel, substantially as described, whereby provision is made for regulating the draft of the burning chamber at centre and both sides, as specified. 2nd. In a brick kiln, the combination, with the burning chamber having a draft channel in its floor leading to the chimney, of two plates fitted to slide on the channel, the combined length of the said plates being less than the length of the channel, and means for independently operating the said plates, substantially as described. 3rd. In a brick kiln, the combination, with a burning chamber having a transverse draft channel in its bottom, and vertical openings at the ends of the said transverse channel, of plates fitted to slide on the transverse channel, guide sheaves in said vertical openings and chains connected to the plates passing over the guide sheaves and up to the top of the said openings, substantially as herein shown and described. 4th. In a continuous kiln, the combination, with a continuous passageway, of flexible shutters held to move transversely across the said passageway, and vertical rollers mounted to turn in the side walls of said passageway, and supporting the said flexible shutters, substantially as shown and described. 5th. In a continuous kiln, the combination, with a continuous passageway, of flexible shutters held to move transversely across the said passageway, vertical rollers mounted to turn in the side walls of the said passageway, and supporting the said flexible shutters, and means, substantially as described, for counterbalancing the said rollers and holding the shutters in position, as set forth. 6th. In a continuous brick kiln, the combination with a continuous passageway formed into compartments, of pipes leading from the top of each compartment to a branch pipe, a continuous main pipe into which leads the said branch pipes, and air inlet pipes leading over the said passageway to the outside on top of the kiln, substantially as shown and described. 7th. In a brick kiln, the combination, with a continuous passageway divided into compartments by movable shutters, of a main continuous hot air pipe, branch pipes leading from the said main pipe over the top of each compartment. and escape pipes leading from each compartment into the branch pipes, substantially as described, whereby the several compartments may be successively used for burning, drying and cooling the bricks, and the heat escaping from the cooling bricks utilized for drying the green bricks, as set forth. 8th. In a continuous kiln, the combination, with a smoke chamber, of a chimney located in the middle of the said smoke chamber, and dampers for connecting and disconnecting either end of the said smoke chamber with or from the said chimney, substantially as shown and described.

No. 40,765. Movable Seat for Vehicles.

(*Siège mobile pour voitures.*)

David M. Estey, assignee of William Henry Lingle, both of Owosso, Michigan, U.S.A., 20th October, 1892; 6 years.

Claim.—1st. The combination, with a sulky or two wheeled vehicle, of a seat frame pivoted to its support so as to be swunt outward to form a passage way to the body of the vehicle, said seat frame being provided on its under side with a quadrant having at its forward end a stop to limit the movement of the seat frame in one direction and a lug at its rear end to limit the movement in the other direction, substantially as described. 2nd. The combination, with the seat frame pivoted to its support and having upon its under side the quadrant 7, provided at its forward end with the stop 9, and at its rear end with the lug 10, having tongue 11, of the hook finger 15, secured to the under side of the seat frame, and the side piece 2, having an eye 16, engaging with finger 15, substantially as described. 3rd. The combination, with the seat frame pivoted to its support and having upon its under side the quadrant 7, provided at its forward end with stop 9, and at its rear end with lug 10, having tongue 11, of the wear plates 14 and 13, the hook finger 15, formed upon plate 14, and the lug 17, having eye 16, substantially as described.

No. 40,766. Movable Seat for Vehicles.

(*Siège mobile pour voitures.*)

David M. Estey, assignee of William Henry Lingle, both of Owosso, Michigan, U.S.A., 20th October, 1892; 6 years.

Claim.—1st. The combination, with a sulky or two wheeled vehicle, of a seat frame pivoted to its support, so as to be swung outwardly to form a passage way to the body of the vehicle, said seat frame being provided on its under side with a segment and a guard or guide consisting of a curved metallic bar having its end bent at right angles, forming short arms, which are secured to the seat frame near the ends of the segment, substantially as described. 2nd. The combination, with a sulky or two wheeled vehicle, of a seat frame pivoted to its support, so as to be swung outwardly to form a passage way to the body of the vehicle, said seat frame being provided on its under side with a segment and a guard or guide, a chafing plate secured to the opposite side bar provided with a shouldered head, and a similar chafing plate secured to the seat frame and provided with a spring to engage with said shouldered head, substantially as described.

No. 40,767. Weed Exterminator. (*Extirpateur.*)

Warren Vreeland, Nutley, New Jersey, U. S. A., 21st October, 1892; 6 years.

Claim.—1st. The combination, with the draft bars *b* and spacing blocks *c*, of the plates *a* and a^1, secured respectively, above an below the draft bars and blocks, the handles *d*, the brace *e*, and the teeth inserted through the plates *a* and a^1, substantially as herein set forth. 2nd. The combination, with the draft bars *b* and spacing blocks *c*, of the plates *a* and a^1, secured respectively, above and below the draft bars and blocks, the handles *d*, the brace *e*, and the teeth bent backwardly and provided with the heads f^1 and fitted removably in the plates *a* and a^1, with a cap held over the heads of the teeth to permit their rotations in the plates, as and for the purposes set forth. 3rd. The combination, with the draft bars *b* and spacing blocks *c*, of the plates *a* and a^1 secured, respectively, above and below the draft bars and blocks, the handles *d*, the brace *e*, the teeth bent backwardly and provided with the heads f^1 and fitted removably in the plates *a* and a^1, and the cap secured detachably over the Heads of the teeth to permit the removal of the latter.

4th. The combination, with the draft bars b and spacing blocks c, of the plates a and a^1 secured, respectively, above and below the draft bars and blocks, the handles d, the brace e, the teeth inserted through the plates a and a^1, and the hooks k provided with reversible shanks and secured adjustably to the draft bars, as and for the purpose set forth. 5th. The combination, with the draft bars b and spacing blocks c, of th plates a and a^1 secured, respectively, above and below the draft bars and blocks, the teeth f inserted through the plates a and a^1, the handles d, the brace e, the inclined bar b attached to the brace e and the plate a^1, and the adjustable reflex spring q arranged and operated substantially as herein set forth.

No. 40,768. Steam Generator. (*Générateur de vapeur.*)

Thomas F. Morrin, Jersey City, New Jersey, U.S.A., 21st October, 1892; 6 years.

Claim.—1st. A steam generator having an upright generator cylinder provided with tiers of double branched radial obliquely arranged generating tubes, both branches of which are secured to the shell of said generator cylinder and extend therein to an equal extent, said tubes being arranged about the entire periphery of the cylinder and overlapping one another, as set forth. 2nd. A steam generator having an upright generator cylinder provided with tiers of generating tubes b, of loop like form, said loop having a pear shaped outline when seen in plan, and each loop having at one side a lobe formed by the short out curve at b^1 and the short in curve at b^{11}, the plans of the loops in the tubes being set obliquely to the axis of the generator cylinder substantially as set forth. 3rd. In a steam generator, the generating cylinder a, having openings n, in its case, below the line of attachment of the concave-convex bottom i, and provided with brackets k, between said openings, substantially as set forth.

No. 40769. Roof Ladder. (*Echelle pour toitures.*)

Alexander Norris Cameron, Perth, Ontario, 21st October, 1892; 6 years.

Claim.—1st. A roof ladder, coasisting of a series of sections each made of one continuous piece of metal forming the rung or foot piece, having loops at either side, the interlocking loops b^2, eyes b, and the feet F, substantially as set forth. 2nd. In a roof ladder, the combination with a rung or foot piece having suitable side pieces or supports, of the transversely disposed feet F, substantially as set forth.

No. 40,770. Apparatus for Tapping Mains.

(*Appareil pour tarauder les tuyaux.*)

Anthony Peter Smith, Newark, New Jersey, U.S.A., 21st October, 1892; 6 years.

Claims.—1st. The improved apparatus for tapping water and other mains or pipes, consisting of a supporting frame adapted to be secured to a branch pipe connection, a drill shaft carried by said frame, a drill tap and cutting or milling tool carried by said shaft, and means for operating said milling tool, drill, &c, said parts being arranged and adapted to operate as described for the purposes set forth. 2nd. The improved apparatus for tapping water and other mains or pipes, consisting of a supporting frame adapted to be secured to a branch pipe or connection, a drill shaft carried by said frame to a drill tap and cutting or milling tool carrid by said shaft, an adjustable gear wheel also carried by said shaft, a shaft carrying a pinion adapted to engage said gear wheel, and means for operating the same, said parts being arranged in relation to one another to operate as described and for the purposes set forth. 3rd. The combination of a split sleeve adapted to be adjustable around a water or other main, means as described, or rigidly fastening the two parts of said sleeve together, a branch pipe c adapted to be connected with said sleeve, and provided with a gate valve, and a tapping apparatus adapted to be removably secured to said branch pipe, as described, and for the purposes set forth. 4th. The combination of a split sleeve, adapted to be adjusted around a water or other main, means as described, for rigidly fastening the two parts of the sleeve together and upon said main, a branch pipe adapted to be connected with either side of said sleeve, and a tapping apparatus adapted to be removably secured to said branch pipe, as described, and for the purposes set forth. 5th. The combination of a split sleeve, having tapering flanges and adapted to be adjusted around a water or other main, a clamp adapted to engage with said flanges to hold the sleeve together, a hollow hub B^1, projecting from and opening into either or both of the sections of said sleeve, a branch pipe adapted to connect with said hub and having a gate valve, and lugs to interlock with recesses or notches in said hub, as described, and a tapping apparatus adapted to be removably secured to said branch pipe, as and for the purposes set forth. 6th. The combination, with the sleeve having the hollow hub, and the main of the packing arranged inside and around the base of said hub, as described for the purposes set forth. 7th. The combination, with the main pipe, of the sleeve provided with the hub and with ledges or beads B^3, and the packing arranged inside and around the base of said hub, as and for the purposes set forth. 8th. The combination, with the main pipe, of the sleeve provided with a hub having recesses, or notches on the inside thereof, a branch pipe having lugs to engage with said recesses, and the packing also adapted to engage in said recesses or notches, as described, and for the purposes set forth. 9th. In an apparatus for tapping water and other mains, means for operating the drill and milling or cutting tool, consisting of a gear wheel adjustably secured to the drill shaft, a shaft carrying a pinion which meshes with said gear wheel, and a crank or ratchet lever for rotating said pinion, all as described, and for the purposes set forth. 10th. In an apparatus for tapping water and other mains, means for feeding the drill and milling or cutting tool while they are being rotated, consisting of a feed screw mounted in the supporting frame of the apparatus, and loosely surrounding the shaft which carries said tools and engaging with the hub of a gear wheel also carried by said shaft, or with an intervening washer, and means for operating said feed screw, all as described, and for the purposes set forth. 11th. In an apparatus for tapping water and other mains, a cutting tool consisting of a cylindrical cutter head adapted to be secured to the drill shaft, a hollow cylinder adapted to be secured to said cutter head, and provided with cutting teeth tapering backward from the edges, as described, and for the purposes set forth.

No. 40,771. Mining Machine. (*Machine de mine.*)

Henry Dierdorff. Columbus, Ohio, U.S.A., 21st October, 1892; 6 years.

Claim.—1st. The combination, of the bed, the carriage, the cutting apparatus, the main power shaft, a wheel on the carriage engaging the bed to move the carriage, a shaft as at h, carrying said wheel, two loose wheels on said shaft, two continuously rotating shafts as at g, J^5, transverse to the shaft at h, one engaging with one of said loose wheels to advance the carriage, and the other engaging with the other looose wheel to recede the carriage, substantially as set forth. 2nd. The combination, in a mining machine, of the bed, the carriage, the cutting apparatus upon the carriage, a cross shaft as at h, on the carriage and engaging with the bed to move the carriage, the engine shaft G, the intermediate shaft J, the bottom shaft K, connected to the cutting apparatus, the continuously rotating shaft J^5, engaging with said carriage moving shaft, the continuously rotating shaft g, adapted to engage with the carriage feed shaft, and the clutch interposed between said shafts J^5 and g, substantially as described. 3rd. The combination, with the bed, the carriage, the cutting apparatus on the carriage, and the cross shaft as at h, on the carriage and engaging with the bed, of the shaft J^5, transverse to the shaft at h, the worm gearing connecting said shafts, the bevel gearing driving the shaft J^5, the shaft g, the worm gearing it to shaft h, and the worm gearing at G^2, which drives shaft g, substantially as set forth. 4th. The combination, of the bed, the carriage, the cutting apparatus on the carriage, and the carriage moving mechanism which engages with the bed, of two continuously rotating shafts engaging with the carriage moving mechanism, and rotating continuously in opposite directions with different speeds, whereby the cutters can be advanced slowly and withdrawn more rapidly, substantially as set forth. 5th. In a mining machine, the combination, of the bed, the cutting apparatus, the chain which drives the cutting apparatus, the rear chain driving shaft, the carriage formed in two parts, one part carrying the cutting apparatus, and the other carrying the rear chain shaft and means for adjusting the two parts of the carriage to regulate the tension of the chain, substantially as set forth. 6th. The combination, with the bed, the carriage, the cutting apparatus on the carriage, the cleaner chains C^4, the shaft C^1, therefor, and the adjustable bearings for said shaft, substantially as set forth. 7th. In a mining machine, the combination, with the cutter bar mounted at the front end of the carriage, the chain for driving said bar and the adjustable rear driving chain shaft of the screws K^2, for regulating the tension of the chain, substantially as set forth. 8th. The combination with the bed, the carriage, the carriage moving mechanism, and the clutch for said mechanism, of the automatic clutch moving device adapted to disengage it when the cutters have been brought to the rear end of their movement, substantially as set forth. 9th. The combination with the bed, the carriage, the cutting apparatus, the carriage moving mechanism, and the clutch therefor, of the hand lever whereby the clutch can be engaged with the feeding and receding mechanism alternately, and the automatic clutch moving mechanism for releasing the receding mechanism, substantially as set forth. 10th. The combination with the bed, the carriage, the cutting mechanism on the carriage, the carriage moving mechanism, and the clutch of the hand lever, an arm as at 16 engaging with the clutch, and the rack and pinion interposed between the hand lever and said arm, substantially as set forth. 11th. The combination with the bed, the carriage, and the carriage moving mechanism, of the clutch, an arm as at P, pivoted to the carriage and adapted to engage with the clutch, and a projection as at P, on the bed to operate said arm P, substantially as set forth. 12th. The herein described cutter bar having the sprocket teeth formed on or secured thereto and curvilinear in cross section at the bases of the teeth, substantially as described. 13th. The herein described cutter bar provided with sprocket teeth and having the surface at the base of the teeth inclined longitudinally, substantially as set forth. 14th. The herein described cutter bar having the narrower portion for receiving cutters, and the thickened or enlarged parts for the application of the driving chain, substantially as set forth. 15th. The combination with a mining machine of the bracing frame situated directly above the same and extending longitudinally across the

central transverse line, whereby the machine may be braced, directly downward, substantially as set forth. 16th. The combination with a mining machine of the bracing frame extending longitudinally across the central transverse line, and bent or shaped substantially as described to permit the passage of the engines, as set forth. 17th. The combination with a mining machine of the bracing frame extending longitudinally along and over the top thereof and the longitudinally adjustable clamping screws, substantially as set forth. 18. The combination with the bed and the carriage moving longitudinally thereon, of the horns or fastening devices originally secured to the bed and projecting beyond the carriage, and the clamping screw above the forward end of the bed, substantially as set forth. 19th. The combination with the carriage having the cutter bar mounted thereon, of the bed for supporting and guiding the carriage and having a way or recess adapted substantially as set forth to permit the cutter bar to be drawn back to, or beyond, the front end of the bed, as described. 20th. The combination with the carriage and the cutter bar mounted thereon, of the bed having the side guiding bars turned upward at the front ends to points above the sliding carriage, substantially as set forth. 21st. In a mining machine the combination with the bed frame and the carriage moving thereon, of the shoe bars lying below and parallel to the bed frame and the bars or braces at A^1, connecting said shoe bars with the bed, substantially as described.

No. 40,772. Apparatus for and Method of Bleaching Cork. (*Appareil et méthode pour blanchir les bouchons de liège.*)

Raphael Girard de Vasson, Paris, France, 21st October, 1892; 6 years.

Claim.—1st. In a machine for reducing cork to fine fragments, the combination with the central rotary shaft C, and the rasping disc B attached thereto, and furnished with sectors faced with suitable rasping composition, of the non-rotary pressing traverse furnished with bevelled sectors faced with similar composition, the fixed cylinder or curb A, and the saw blades J and J^1, attached respectively to said cylinder or curb, all substantially as herein set forth. 2nd. The combination of the fixed cylinder or curb A, the stationary circular trough K, the rotary disc B, and the saw blades J and J^1 attached respectively to said disc and to said cylinder or curb, and the annular curtain or band affixed to said disc and dependent therefrom within the said trough, substantially as and for the purpose herein set forth. 3rd. The process of bleaching cork powder, consisting in first washing the powder, next placing it while damp in about sixteen times its own weight of a solution of hypochlorite of brine of the strength of 12° B, at a temperature of about 40° C, and stirring it therein, next filtering it, afterwards washing it and finally drying it, substantially as herein set forth. 4th. A composition consisting of from 1 to 2 volumes of cork powder, and from 2 to 1 volumes of a plaster composed of sulphate of lime and an adhesive matter such as dextrine, and a small quantity of sesquioxide of iron, and a necessary quantity of water to render it plastic, substantially as herein specified. 5th. A composition of cork powder and an oxychloride, as oxychloride of zinc, substantially as herein specified.

No. 40,773. Refrigerator. (*Réfrigérateur.*)

Avelyn I. Dexter, Whitewater, Wisconsin, U.S.A., 21st October, 1892; 6 years.

Claim.—1st. In a refrigerator or similar building, a metal floor or lining formed of independent plates or sheets of metal arranged to overlap each other at their edges, and an interposed felt or similar packing whereby the expansion and contraction of the metal and a water tight joint are provided for, substantially as described. 2nd. In a refrigerator, an ice chamber floor consisting of an inclined floor as P, and a metal lining thereon, constructed of independent overlapping plates provided with interposed packing, all combined, substantially as described. 3rd. In a refrigerator building the walls of which rest on a foundation footed in the ground, the foundation having therein a channel or space above the surface of the ground, and mineral wood or a similar material substantially a non-conductor of heat in the channel adapted to prevent the transmittal of heat from the outside through the wall to the space below the floor of the building, as set forth.

No. 40,774. Steam Trap. (*Purge de tuyau de vapeur.*)

Frank Annis Littlefield, Pepperel, Massachusetts, U.S.A., 21st October, 1892; 6 years.

Claim.—1st. In a steam trap, a rocking receiver, combined with a common inlet and outlet pipe therefor, inlet and discharge pipes connected with the said common pipe, and check valves in said pipes, to operate substantially as described. 2nd. In a steam trap, a support, a rocking receiver, inlet and discharge pipes connected with said receiver by a common pipe, check valves in said pipes, a steam inlet pipe connected with said rocking receiver, and a valve connected with and actuated by the rocking receiver to control the said steam pipe, substantially as described. 3rd. In a steam trap, a U-shaped support having a hollow arm connected with a steam supply, a steam valve to control the same, an inlet pipe carried by and communicating with the hollow arm of said support, and an outlet pipe carried by the other arm of said support with its axis in line with the axis of said inlet pipe, combined with a rocking receiver connected with the said inlet and outlet pipes and with and to move said steam valve, substantially as described. 4th. In a steam trap, a rocking receiver and a steam inlet and water inlet and outlet therefor, combined with a steam valve controlling the steam inlet, and an air valve for the receiver actuated by said valve, to operate substantially as described. 5th. In a steam trap, a rocking receiver, a water inlet and outlet therefor, and a steam inlet, combined with a steam valve to control said steam inlet, an air inlet entering the casing of the said steam valve, and an air valve to control the air inlet connected and moved with the said steam valve, whereby the air valve is opened when the steam valve is closed, and *vice versa*, substantially as described. 6th. In a steam trap, the combination with two axial pipes c, c^x, a valve B controlling communication through one of said pipes, combined with a rocking head interposed between and supported by the ends of the said pipes c, c^x, and divided into two chambers, with which, respectively, the said pipes communicate, a receiver communicating with one of said chambers, and a curved pipe within the receiver communicating with the other of said chambers, and a counterbalance for the receiver, all to operate substantially as described. 7th. In a steam trap, the combination with a rocking head divided into chambers, a receiver communicating with one of said chambers, and a discharge pipe within the receiver communicating with the other of said chambers, combined with an inlet pipe entering one of the chambers and an outlet pipe entering the other of said chambers, and a valve in the outlet pipe actuated by rocking of the head, to operate substantially as described. 8th. In a steam trap, the combination, with a rocking receiver and inlet and outlet pipes therefor, of a lever connected with the receiver at one end and supporting a counterbalancing weight at its opposite end, and a fulcrum between the weight and point of connection with the receiver, said fulcrum being located below a line connecting said point and weight, substantially as described. 9th. In a steam trap, a rocking receiver and inlet and outlet pipes therefor, combined with a fulcrumed lever connected with the receiver at one side of its fulcrum and supporting a weight at the other side of its fulcrum, the centre of said weight and point of connection with the receiver, both being in a horizontal plane above the fulcrum, substantially as described.

No. 40,775. Steam Generator. (*Générateur de vapeur.*)

Darwin Almy. Providence, Rhode Island, U. S. A., 21st October, 1892; 6 years.

Claim.—1st. The herein described section forming part of a water tube steam generator, the same consisting each of four vertical pipes formed into four loops extending horizontally from each side towards the centre over the furnace, the vertical ends connected at the bottom and top with a four branch fitting adapted to be secured to the water and steam multiples and form the sides and crown of the furnace, as described. 2nd. The herein described sections forming part of a water tube steam generator, consisting each of eight vertical pipes and four horizontal pipes, forming with the vertical pipes continuous water ways, connected at the ends with four branch fittings and adapted to be secured to the water and steam multiples and forming the rear of the furnace, as described. 3rd. On a water tube boiler, the combination with the side sections consisting each of eight vertical pipes and four loops, forming the sides and the crown of the furnace, having at each end a four branch fitting, and the rear sections consisting each of four horizontal pipes connected at the opposite ends by elbow fittings and vertical pipes with the four branch fittings 7, of the steam multiples 5 and 5^1, and the nipples 6 and 6^1, as and for the purpose described. 4th. The combination in a pipe boiler with a series of side pipes formed into inwardly, extending loops connected at their ends by vertical pipes to the fittings of the steam and water multiples of a series of pipes forming the rear of the boiler and extending upward and forward and connected at their ends to the water and steam multiples, as described. 5th. The combination with a steam generator, of a separator provided with inlet and outlet openings and consisting of a cylindrical vessel divided by a spiral passage closed at the upper end, except the central space which is closed above the inlet opening, as described. 6th. The combination with a pipe boiler, of the separator 20, the spiral partition 21, the passage 22 and 23 closed at its upper end, the partition 25 closing the central space above the steam inlet, and the water drum H constructed to separate the water from the steam, as described.

No. 40,776. Railway Time Signal.

(*Signal horaire de chemin de fer.*)

Adelbert H. Thorp, Toledo, Ohio, U.S.A., 21st October, 1892; 6 years.

Claim.—1st. In a railway time signal, two connected air compressors one of which has connected with the pivoted lever adapted to operate the same when actuated by a moving train, a clock mechanism, a shaft actuated thereby, having a ratchet wheel, a pointer, having a spring pawl engaging with the ratchet wheel, a pinion upon the pointer shaft and a gear operated by one compressor to revolve the shaft and return the pointer to its starting place. 2nd. In a time signal, a pointer for indicating the time, and mechanism connected therewith, and a lever having one end contiguous to the railway track, said lever having a spring actuated

bearing plate adapted to contact with the wheels of a passing train when moving in one direciton, and yield to the pressure of the wheel when contacted with by a train passing in an opposite direction. 3rd. In a railway time signal, and air compressor, a pivoted lever, one end of which is contiguou swith the railway track, the opposite end, engaging the piston of the air compressor, a clock mechanism having a ratchet wheel on the outer end of the clock shaft, a pointer having a shaft journalled on the clock shaft, a spring pressed bearing on the pointer bearing on the ratchet wheel and a gear wheel on meshing with a segmental gear operated by the piston of an air compressor, said air compressor being connected by an air conduit, substantially as described. 4th. In a railway time signal, an air compressor, actuated by a passing train, another air compressor and an air conduit between the two, said air compressor havining an upwardly extending bifurerated piston rod, a clock mechanism, a pointer moved thereby having on its shaft a segmental gear, and a gear wheel meshing therewith, having an integral arm adapted to rest in the bifurated portion of the piston rod and be actuated thereby.

No. 40,777. Process of Preparing Steel.

(*Procédé pour la préparation de l'acier.*)

William Bullus Middleton, Lancaster, Pennsylvania, U.S.A., 21st October, 1892; 6 years.

Claim.—1st. The process of improving the quality of steel, which consists in heating it in the presence of and impregnating it with silica or a silicate, as specified.

No. 40,778. Method of Making Nuts.

(*Méthode de faire des écrous*)

The Elastic Nut Company, assignee of Justin Herbert Burdick, all of Milwaukee, Wisconsin, U.S.A., 22nd October, 1892; 6 years.

Claim.—1st. In a nut making machine, the combination, with a stationary ringing die having a converging bore, of a mandrel projecting within said bore, an independently movable plunger surrounding said mandrel, and mechanism for moving said plunger the length of said bore, and for retracting it therefrom, substantially as set forth. 2nd. In a nut making machine, the combination, with a stationary ringing die, having a converging bore, and a blank opening communicating therewith, of a mandrel projecting within said bore, an independently movable plunger surrounding said mandrel, a shear and shear plate adjacent to said ringing die, a pusher bar reciprocating in line with said blank opening in the ringing die, and mechanism for operating said movable parts, substantially as set forth. 3rd. In a nut making machine, the combination, with a suitable frame of a stationary casing provided with a pair of openings, a movable die block in said casing, a pair of stationary solid open dies in said die block, and mechanism for reciprocating said die block so that one of said dies shall be in register with one of said openings, and the other against the solid wall of said casing alternately, substantially as set forth. 4th. In a nut making machine, the combination, with a suitable frame of a stationary casing provided with a pair of openings, a transversely reciprocating die block in said casing, a pair of stationary solid open dies in said die block, a longitudinally reciprocating mandrel and crowner, and mechanism for operating said movable parts successively, substantially as set forth. 5th. In a nut making machine, the combination, with a suitable frame of a stationary casing provided with a pair of openings, a transversely reciprocating die block in said casing, a pair of stationary solid open dies in said die block, a longitudinally reciprocating mandrel and crowner, and a pair of longitudinally reciprocating ejectors in line with said openings in the casing, and mechanism for operating said movable parts, substantially as set forth. 6th. In a nut making machine, the combination, with a suitable frame provided with a longitudinal recess, of a yoke reciprocating therein, a transverse revolving shaft in said frame, a driving cam and a retracting cam fast on said shaft, for engagement with the inner walls of said yoke, a stud projecting from said yoke, a transverse rock shaft supported in raised bearings near one end of the frame, a shear plate in said frame, a vertically reciprocating shear, moving in bearings above said shear plate, a rocker arm on said rock shaft in engagement with said shear, a crank arm projecting from the end of said rock shaft, and a pitman pivoted at one end to said crank arm, and loosely linked at the other end to said yoke stud, substantially as set forth. 7th. In a nut making machine, the combination, with a suitable frame provided with a longitudinal recess, of a yoke reciprocating therein, a transverse revolving shaft in said frame, a driving cam and a retracting cam fast on said shaft for engagement with the inner walls of said yoke, a wheel fast on the end of said revolving shaft and having a cam groove in its periphery, a stationary ringing die having a converging bore and a blank opening communicating therewith, and with a transverse passage in the frame, a reciprocating pusher rod in said transverse passage, a lever pivoted to the frame, and linked to said pusher rod at one end, a roller at the other end of said lever engaging with the said cam groove, a revoluble mandrel attached to the frame and projecting into the bore of the ringing die, and a plunger surrounding said mandrel, and projecting from said yoke in line with said die bore, substantially as set forth. 8th. In a nut making machine, the combination, with a suitable frame provided with a longitudinal recess, of a yoke reciprocating therein, a transverse revolving shaft in said frame, a driving cam and a retracting cam fast on said shaft for engagement with the inner walls of said yoke, a cam plate projecting from the under side of said yoke, and having a cam groove formed therein, and a movable pointed cam pivoted thereto, a stationary transverse casing provided with a pair of openings, a movable die block in said casing, a pair of stationary solid open dies in said die block, a stud projecting from said die block and in engagement with with said cam groove, a mandrel and crowner projecting from said yoke, in line with one or the other of said dies, alternately, and a pair of ejectors also prejecting from said yoke, in line with the pair of openings in said casing, substantially as set forth. 9th The herembefore described method of making nuts, consisting in first cutting off a section of a hot bar of iron or steel, forcing the same around a mandrel within a die, forming a ring, and then pressing said ring into the shape of a nut around a mandrel, within a solid die, substantially as set forth.

No. 40,779. Machine for Preparing Leather.

(*Machine pour préparer le cuir.*)

Matthew N. Howard, Brooklyn, New York, U.S.A., 22nd October, 1892; 6 years.

Claim.—1st. In a machine for treating leather, the combination, with a fixed frame, of a roller mounted on the same, a swinging frame, rollers mounted on the swinging end of the same, an endless belt passed over said rollers, a friction roller above the endless belt, cams for raising the swinging frame and having an aperture through which the rollers on the swinging frame and that part of the endless belt on said rollers can pass, a sheet extending over the belt and swinging frame, substantially as set forth. 2nd. In a machine for treating leather, the combination, with a fixed frame, of a roller mounted in the same, a swinging frame on said fixed frame and carrying at its swinging end two pressure rollers, an endless belt passed around said pressure rollers, a cam for raising the swinging frame, an endless driving chain passed over sprocket wheels and imparting motion to the endless left and to the rollers mounted on the fixed frame above the pressure rollers on the swinging end of the swinging frame, substantially as set forth. 3rd. In a machine for treating leather, the combination, with a fixed frame, of a pressure roller on the same, a swinging frame carrying pressure rollers over which an endless belt is passed, a cushion plate on the swinging frame adjacent to the pressure rollers, a plate held on the fixed frame above the cushion plate and having diverging stretching blades, and an endless driving chain passed over sprochet wheels and rotating the pressure rollers on the fixed frame and imparting motion to the endless belt on the swinging frame, substantially as set forth. 4th, In a machine for treating leather, the combination, with a fixed frame, of a canvas sheet held on the same and provided with an opening, a pressure roller on the fixed frame and above said opening, a swinging frame below said sheet, pressure rollers on said swinging frame and below the opening in the sheet, an endless belt passed over said rollers on the swinging frame, a cushion plate on said swinging frame adjacent to the rollers and a plate held on the fixed frame and above the cushion plate and diverging knives on the under side of said plate on the fixed frame, substantially as set forth. 5th. In a machine for treating leather, the combination, with a plate having diverging tongues and grooves on its upper surface with their apexes pointing in the direction from which the leather enters, of a sheet of flexible material stretched over said grooves, a plate above said sheet of flexible material and diverging blades on the under side of said latter plate, substantially as set forth. 6th. In a machine for treating leather, the combination, with a plate having diverging grooves in its upper surface, of a sheet of flexible material stretched over said grooves, a plate above said flexible material, diverging blades in the underside of said latter plate, and screws for adjusting said blades, substantially as set forth. 7th. In a machine for treating leather, a leather stretching device composed of two flat plates having divergent grooves in the adjacent faces, the tongues or ribs thus formed on one plate fitting in the grooves in the other plate, substantially as set forth. 8th. In a machine for treating leather, the combination, with a cushion plate, of a flat stretching plate having diverging ribs that can act on the leather resting on the cushion plate, substantially as set forth. 9th. In a machine for treating leather, the combination, with the plate *a*, having grooves *c*, of the blades *d*, the wedges *h*, screws *g* and *k*, the plate M, having grooves *n*, and of the sheet *o*, substantially as set forth.

No. 40,780. Railway Rail Chair. (*Coussinet de rail.*)

George Wallace Wells, Worcester, Massachusetts, U.S.A., 22nd October, 1892; 6 years.

Claim.—1st. A railroad chair, composed of the two interlocking sections adapted to clamp and support the rail, substantially as described. 2nd. A railroad chair, composed of the two similar sections each adapted to interlock with the other section and to clamp and support the rail, substantially as described. 3rd. A railroad chair, composed of the two sections, each section having the hook adapted to catch the other section, sul stantially as described. 4th. A railroad chair, composed of the two similar sections each section having the head and the base and the supporting T rib between the same, substantially as described. 6th. A railroad chair, composed of the two similar sections, each section having the head and the base and the supporting T rib between the same, and the hooks ex-

tending from the sides of the T ribs, substantially as described. 6th. A railroad chair, composed of the two similar sections, each section having the head and the base and the supporting T rib between the same and the hooks, having the tapered portions extending from the sides of the T ribs, substantially as described. 7th. As an article of manufacture, the section A, having the head C, the bar D, and the rib B, L, between the same and the hook F, projecting from the side of the rib, substantially as described

No. 40,781. Signal Lantern. (*Lanterne à signaux.*)

Wolfred Nelson, New York, State of New York, U.S.A., 22nd October, 1892; 6 years.

Claim.—1st. A reflecting lantern having an interior plane reflector the surface of which is smooth and unbroken placed approximately at a right angle to the elements of an interior corrugated concave reflector substantially as described. 2nd. A reflecting lantern constructed of a hollow cylindrical glass case, one head and a portion of the cylindrical wall of which are silvered on the outside to form interior reflecting surfaces at a right angle to each other, substantially as described. 3rd. A reflecting lantern constructed of a hollow cylindrical glass case, a portion of the cylindrical wall of which is corrugated transversely and silvered on the outside to form an interior corrugated reflecting surface, substantially as described. 4th. In a lantern, the combination with a metallic or other nonfriable ring frame, of a hollow cylindrical glass case partially silvered on the outside and fixed within said ring frame, substantially as described. 5th. The herein described lantern constructed of a hollow cylindrical glass case, the inner head, and the rear part of the wall of which are silvered on the outside, the outer head of which is at an acute angle to the inner head, and the whole set in a ring frame, substantially as described. 6th. A lantern having an interior plane reflector and a plane transparent wall in front of and inclined at an acute angle to the plane reflector, said inclined transparent wall being provided with one or more transparent condensing prominences likewise inclined to the plane reflector, substantially as described. 7th. A lantern having an interior concave corrugated reflector, the transverse elements of which are straight, and a plane transparent wall provided with a transparent condensing prominence in front of the concave corrugated reflector and inclined at an acute angle to the transverse elements thereof, substantially as described. 8th. As an improved article of manufacture, a glass plate for a lantern wall formed integrally with a condensing prominence of different colour from the remainder, as and for the purpose specified.

No. 40,782. Apparatus for Spreading Fertilizing Materials. (*Distributeur d'engrais.*)

Warren Tay Butler, Chelsea, Massachusets,, U.S.A., 24th October, 1892; 6 years.

Claim.—The above described fertilizer spreader, consisting of the bearing and driving wheels a^7, the hopper a, with its vibrating gate a^1, the pin wheel and gear c, the chute a^{11}, the lever a^5, the spring a^6, the propelling handles c^1, and the lever c^{11}, substantially as described.

No. 40,783. Furnace Grate. (*Grille de foyer.*)

John Lawrence Mason, Brooklyn, New York, U.S.A., 24th October, 1892; 6 years.

Claim.—1st. A grate bar having its lower edge formed with devices, substantially as shown and described, for adapting the bar to engage a friction roller and a rocking bar at either end thereof, for rendering the grate bar reversible, such devices corresponding in position relatively to the ends of the grate bar. 2nd. A grate bar having its upper edge formed with teeth which project laterally and also upwardly therefrom, for stirring the fire, substantially as shown and described. 3rd. A grate bar having its upper edge formed with laterally projecting and bevelled or chamfered towards both sides of the bar, intermediate of the teeth, for increasing the air space and affording ready escape of ashes at those points, substantially as shown described. 4th. The combination of grate bars, each having its sides formed with wings which are opposite to each other, and extend at right angles upon adjacent bars, for supporting the bars laterally throughout the reciprocating motion thereof, substantially as shown and described. 5th. The combination of a friction roller having a hole extending entirely through it in a plane to intersect the axis thereof, for the escape of ashes, and a grate bar and roller guide, each engaging the roller at one end of said hole, substantially as shown and described. 6th. The combination of movable grate bars, with a rocking bar arranged to act on the grate bars and constructed in sections, for permitting either a portion or the whole series of grate bars to be operated, substantially as shown and described. 7th. The combination of movable grate bars, friction rollers, a roller guide bar, and stationary grate bars having stirrups supporting the roller guide bar, substantially as shown and described. 8th. The combination of movable grate bars, friction rollers, a roller guide bar, stationary grate bars having stirrups supporting the roller guide bar, a rocking bar, and arms on the roller guide bar, forming bearings for the rocking bar, substantially as shown and described. 9th. The combination of movable grate bars and sills for supporting the ends thereof, each having guides to engage the bars, openings between said guides, and a vertical flange with an incline inner surface, substantially as and for the purpose described.

No. 40,784. Running Gear for Vehicles. (*Train de voiture.*)

John Michael Holler, Albany, New York, U.S.A., 24th October, 1892; 6 years.

Claim.—1st. In a vehicle running gear, the combination of a formed axle having a rearwardly extending bracket secured thereto, said bracket having a pivot hole formed near its rearmost extremity and also having an arc that is formed concentrically to said pivot hole, a reach having no direct connection with said forward axle, but having a head on its foremost end which is fitted to engage with said arc as herein describe, said head having a pivot hole which corresponds to the pivot hole of said bracket, and an immovable pivot fitted to engage in the pivot holes of said bracket and reach head, said arc, pivot holes and pivot being all arranged rearwardly in respect to the aftermost side of said forward axle, as and for the purpose herein specified. 2nd. The combination of a vehicle body provided with a metallic circle secured to its bottom and having a pivot hole centralized in said circle, a segment corresponding to said circle and secured to the spring bar of the forward axle, said segment having a pivot hole corresponding to the pivot hole of the vehicle body, a forward axle provided with a rearwardly extending bracket having a pivot hole near its rearmost extremity which is arranged to correspond to the pivot hole of the vehicle body, said bracket having an arc that is concentric to said pivot holes, a reach provided with a head which is fitted to engage with said arc and having a pivot hole which corresponds to the pivot hole of said bracket, and a pivot fitted to engage in said pivot holes, as and for the purpose herein specified.

No. 40,785. Cultivator. (*Cultivateur.*)

Charles C. Hiestand, Richlandtown, Pennsylvania, U.S.A., 24th October, 1892; 6 years.

Claim.—1st. In a machine of the class described, the combination, with the bolster or cross bar and the keepers depending from the same, of the slotted axle sections, bolts passing through the slots into the bolster and provided with nuts, opposite wheels mounted on the axle sections and having their peripheries provided with radiating pins having cylindrical bodies and tapered points, and the draft and frame bar, substantially as specified. 2nd. In a machine of the class described, the combination, with the bolster or cross bar and the keepers from the same, of the slotted axle sections, bolts passed through the slots into the bolster and provided with nuts, opposite wheels mounted on the axle sections and having their peripheries provided with radiating pins or teeth, and the Z-shaped brackets secured to the rear faces of the axle sections and terminating in rear of the wheels and provided with depending curved plates having slots in line with the pins or teeth of the wheels and forming intermediate fingers for taking between said pins, substantially as specified. 3rd. In a machine of the class described, the combination, with the bolster or cross bar and the keepers depending from the same, of the slotted axle sections, bolts passed through the slots into the bolster and provided with nuts, said axle sections terminating in spindles and adapted to receive wheels or the eyes of a standard, substantially as specified.

No. 40,786. Folding Bed. (*Lit pliant.*)

John Reunison, assignee of George Albert Garland, both of Boston, Massachusetts, U.S.A., 24th October, 1892; 6 years.

Claim.—1st. In a folding bed, the swinging section b, having the outwardly projecting brackets or end pieces d, d, the latter having grooves e, e, on their inner sides, combined with the pivoted casing f, located between said end pieces or brackets and having the desk top 4, which is hinged to the casing, and studs g, adapted to move in the grooves of the end pieces or brackets d, as set forth. 2nd. The swinging section b, having the grooved end pieces or brackets d, d, combined with the casing f, pivoted to the end pieces or brackets and having the studs g, g, movable in the grooves in the said end pieces or brackets, the desk top 4, hinged to said casing and forming a part thereof, and the box 7, covered by said top, as set forth.

No. 40,787. Method of and Apparatus for Shaping Tubular Fabrics. (*Méthode et appareil pour donner la forme aux tricots circulaires.*)

Dewey A. Cobb, Philadelphia, Pennsylvania, U.S.A., 24th October. 1892; 6 years.

Claim.—1st. The method of fashioning an interbraided wire tube which consists in regularly feeding the tube upon a core or former, of a cross sectional shape approximately that designed to be imparted to the tube and as the feeding continues compressing said tube upon the core, substantially as described. 2nd. The method of manufacturing and shaping wire tubular fabric, which consists in interbraiding the wires upon a central core or former, and as the braiding proceeds feeding the fabric upon a supplemental core or former, of a cross sectional shape approximately that designed to be imparted to the fabric and compressing the fabric upon the core, substantially as described. 3rd. In a braiding machine, the combination, with the central core or former, upon which the fabric is braided, of the supplemental core or former upon which said fabric is continuously fed as the braiding proceeds, and devices adapted regularly to compress said fabric upon the supplemental core or

former, substantially as described. 4th. In a braiding machine, the combination, with the central core or former, upon which the fabric is braided, of the supplemental core or former, upon which said fabric is continuously fed as the braiding proceeds, the reciprocating head blocks adapted to compress said fabric upon the supplemental core or former, and mechanism adapted to reciprocate said head blocks, substantially as described.

No. 40,788. Harvester. (*Moissonneuse.*)

John S. Davis, Cleveland, Ohio, U. S. A., 24th October, 1892; 6 years.

Claim.—1st. The combination of the main frame of the harvester, rectangular in shape and braced by a longitudinal bar which divides the frame into two compartments, the driving wheel and its axle, which carries the frame, being located in the inner compartment, while the driving shaft and the actuating mechanism of the binder are located in the outer one and supported by brackets secured to both the adjacent longitudinal bars of the frame, with a grain platform rigidly connected at its outer front corner to the rear of the main frame, substantially as hereinbefore set forth. 2nd. The combination of the main frame of a harvester, located in front of the outer end of the platform and rigidly connected thereto, the outer side bar of the frame extending across the platform to the rear sill thereof, to which it is secured, with a binding receptacle located substantially on the level of the platform at its outer end, and a truss brace on the extension bar below the plane of the bottom of the receptacle, substantially as hereinbefore set forth. 3rd. The combination of a harvester platform, a binding mechanism located at its outer end having the binding receptacle substantially on the level of the platform, a series of narrow carrier belts extending along the platform and beneath the bottom of the receptacle, with a series of spring fingers or bars supported at their inner ends beneath the carrier belts, between which they rise at an easy angle until they attain an altitude sufficiently above the belts to lift the grain therefrom, whence they proceed in a plane parallel with the upper surface of the belts to form the bottom of the receptacle, substantially as hereinbefore set forth. 4th. The combination of a binding receptacle, a grain carrier consisting of a series of narrow belts which pass beneath the receptacle, with a series of spring fingers or bars which form the bottom of the receptacle and are supported at their inner ends below the carrier belts through the spaces between which they rise, supports upon which the outer ends of the fingers may rest when pressed down by grain in the receptacle, but from which they spring up when the bound bundle is ejected therefrom, substantially as and for the purpose hereinbefore set forth. 5th. A binding receptacle the bottom of which is composed of a series of narrow steel or spring bars rigidly secured at their inner ends to a supporting bar but left free at their outer ends, substantially as described. 6th. The combination, in a harvester, of a binding receptacle located substantially on the level of the platform and having an open slotted bottom inclining downwardly at the entrance of the receptacle, and a series of bolts which pass through the slots in the inclined portion and beneath the bottom to a point well beyond the entrance, with a packing device whose field of operation in the entrance is between the receptacle and the point where the carrier belts pass below the bottom bars, substantially as and for the purpose hereinbefore set forth. 7th. The combination of the main frame of a harvester, rigidly connected to the front outer corner of the grain platform and divided longitudinally by a brace bar, with a supporting frame for the binding mechanism consisting of the two standards D and E, spanning the outer compartment of the main frame, being securely bolted at their bottom to the side bars thereof, and united at their tops by an overhanging arm F, which extends across the platform to the middle of the binding receptacle thereon, substantially as and for the purpose hereinbefore set forth. 8th. The combination of a frame to support the binding mechanism, composed of two standards D and E, rigidly secured at their bottoms to the main frame, and united at their tops by a flat bar F, which extends with its edge uppermost to a point over the centre of the binding receptacle on the platform, with a brace a^5, extending horizontally from the end of the arm F to the fixed reel post A^7, and a brace rod a^6, extending from the stardard E to the reel post, substantially as hereinbefore set forth. 9th. The combination of a binder frame arm overhanging the binding receptacle, a bar J, supported thereby and extending inwardly above the receptacle to form its top, a brace rod a^5, from the overhanging arm to a fixed post on the harvester frame, with a brace rod j, extending from the inner end of the bar J, and intersecting the brace a^5, substantially as hereinbefore set forth. 10th. The combination of an overhanging binder frame F, a breast or top receptacle bar J, attached thereto and extending inwardly above the binding receptacle bar J, attached thereto and extending inwardly above the binding receptacle, with a companion breast bar J^1, extending parallel to the bar J, and supported by it through a tubular bridge piece J^2, and a bolt and spacing thimble j, j^1, at their inner ends, a space being left between the two bars through which the several operating arms of the binding mechanism pass, in the binding operation, substantially as hereinbefore set forth. 11th. The combination of an overhanging binder frame arm, a breast frame which forms the top of the receptacle supported thereby, a brace rod A^7, extending from the overhanging arm to a fixed post A^7, with the brace rod j, which unites the inner ends of the bars composing the breast frame, and extending thence to a rod a^5, to which it is securely fastened, substantially as hereinbefore set forth. 12th. In a grain binder, the combination of a crank shaft H, and the pinion M, mounted thereon, with binding mechanism, the master wheel M^1, of which gears into and is intermittingly driven by the pinion M, substantially as hereinbefore set forth. 13th. The combination, in a grain binder, of the gear wheel b, the counter shaft B^2, with the pinion b^1, and the gear wheel b^2, mounted thereon, the pinion b^3, and the crank shaft H, with the pinion M fixed thereon, all arranged and jointly operating to transmit motion directly from the driving wheel to the master wheel M^1, of the binding mechanism, substantially as set forth. 14th. In a grain binder, the combination of the binding mechanism, the platform carrier belts, the reciprocating packer arms, and the vibrating sway bar, with the constantly revolving shaft H, by which all these elements are directly operated, substantially as hereinbefore set forth. 15th. The combination, in a platform binder, of a binding receptacle located on the platform, carrier belts which are driven by rollers beneath the receptacle, with packing devices located between the upper and lower surfaces of the belts and projecting through the spaces between them and into the entrance of the receptacle when operating on the grain, substantially as hereiebefore set forth. 16th. The combination, in a grain binder, of a binding recepticle located practically on a level of the platform, and packing devices to force the grain into the receptacle, with carrier belts running past the packers and well into the receptacle substantially as hereinbefore set forth. 17th. The combination of a bracket bolted to the platform, a double knuckle joint pivoted to the bracket, a packer arm pivoted to the knuckle joint and provided at its free end with an upturned projection or finger which operates directly on the grain, with a reciprocating sway bar to which the packer arm is connected by a pitman, and by which it is vibrated back and forth, substantially as set forth. 18th. The combination of a bracket bolted to the platform, a double knuckle jointed pivoted to the bracket, a packer arm pivoted to the knuckle joint and provided at its free end an upturned projection or finger which operates directly on the grain, the knuckle joint having a downwardly projecting arm to which is pivoted a bar, the reciprocations of which elevate or depress the fingers on the free end of the packer arm, substantially as hereinbefore set forth. 19th. The combination of two packer arms pivoted to double knuckle joints on the front and rear sills of the platform, said knuckles having downwardly projecting arms which are united by a bar extending across the platform, with a pivoted lever connected to said bar and operated at its free end by a cam roller on the driving shaft, substantially as hereinbefore set forth. 20th. The combination of the packer arms pivoted to double knuckle joints supported from the front and rear sills of the platform, the packer arms being connected to the sway bar upon either side of its center and are oppositely reciprocated thereby, with a link or bar which connects the depending arms of the knuckle joints and is reciprocated longitudinally by a lever and cam on the driving shaft to quickly elevate and depress the points of the packer arm into or from the stream of grain, the action of the cam being so timed that the packer arms rise or fall at each extremity of the stroke of the sway bar, substantially as hereinbefore set forth. 21st. The combination of a packer arm mounted upon a double joint, a recess or socket being formed in the arm, and a similarly recessed cap to cover said socket and enclose the ball on one end of its driving pitman, the other end of the pitman being connected to the sway bar by a soft rubber sleeve joint which will yield to give it freedom of motion, substantially as described. 22nd. The combination of a binding receptacle located on the platform, carrier belts which extend beneath the receptacle, reciprocating packing devices lying beneath the receptacle and between the upper and lower surfaces of the belts, with a centrally pivoted sway bar also between the upper and lower surfaces of the belts and connected to the packer arm by pitmens, through which it imparts to them a reciprocating motion, substantially as hereinbefore set forth. 23rd. The combination of a centrally pivoted sway bar extending transversely across the platform, a cutter bar connected to the sway bar and reciprocated thereby, and packing devices located beneath the binding receptable, also connected to and reciprocated, by the sway bar, substantially as hereinbefore set forth. 24th. The combination of a binding receptacle located on the platform at its outer end and having a contracted throat or entrance, constantly moving carrier belts which pass beneath the receptacle, bars which constitute the bottom of the receptacle extending horizontally above the belts to its throat and then inclining at an easy angle to a point below the belts, the inclined portion crossing the plane of the top of the belts and lifting the incoming grain therefrom, with packing devices located beneath the entrance of the receptacle and seizing the grain deposited upon the bars by the belts, urging it into the receptacle, substantially as hereinbefore set forth. 25th. In a grain binder, the combination of a binding receptacle, alternately reciprocating packers working in the entrance to the receptacle, cut-off arms to close said entrance, with a cam in the binding mechanism to operate the cut-off, and so timed relatively to the packers that it raises the arms across the entrance when the packers are at mid-stroke, substantially as and for the purpose hereinbefore set forth. 26th. The combination of a binding receptacle having a contracted throat or entrance, a broad cut-off arm which is pivoted below the throat, swings outwardly and crosses said throat to stop the incoming stream of grain and open a path therethrough, with a compressor arm pivoted below the receptacle and on

the grain side thereof, its points when rising crossing the throat through the path held open by the cut-off arm, substantially as hereinbefore set forth. 27th. The combination of a binding receptacle located on the platform and having a contracted throat or entrance, a broad cut-off arm pivoted below said throat and rising across it and swinging outwardly to stop the incoming stream of grain and open a path therethrough, an inwardly swinging compressor arm pivoted below the receptacle, its point rising across the throat through the path opened by the cut-off arm, which it materially widens, a needle arm pivoted above the receptacle, its point descending across the throat through the path opened by the cut-off, and compressor arms, with means, substantially as described, for actuating the several arms and imparting to them at the proper times the motions above described, substantially as hereinbefore set forth. 28th. The combination of a binding receptacle located on the platform and having a contracted throat or entrance, with a cut-off arm pivoted below the receptacle and extending outwardly, and a compressor arm pivoted beneath the receptacle and extending inwardly, the points of the two arms passing or lapping each other just below the throat, through which they rise, the paths of their points intersecting at a point above the throat, from which they diverge to effect a wide separation of the gavel from the grain on the platform, with means, substantially as described, for actuating them, substantially as hereinbefore set forth. 29th. The combination of a binding receptacle located on the platform and having a contracted throat or entrance, a cut-off arm pivoted beneath the receptacle and extending outwardly, a compressed arm also pivoted beneath the receptacle and extending inwardly, its point lapping past the point of the cut off arm, a crank on the binder mechanism, with suitable connections to raise the compressor arm across the throat and into the receptacle, with a cam, also on the binder mechanism, operating through suitable connections to raise the cut off arm across the throat and away from the receptacle, said cam being so timed relatively to the movement of the compressor crank and its track so shaped that it raises the cut off to close the throat before the compressor enters it, then holds the cut off still until the point of the compressor has crossed the throat through the path held open, then again actuating the cut off so that it moves simultaneously with, but in the opposite direction from the compressor, substantially as and for the purpose hereinbefore set forth. 30th. The combination, of cut-off arms mounted on a shaft extending across the platform beneath the throat or entrance to the binding receptacle and operated through a stud roller o^5, and suitable mechanism, substantially as hereinbefore described, by a cam groove on the binder wheel, said groove being divergent from its initial point x^1 and x^2, so that its movement first elevates the cut off arms to a position across the throat, then concentric at x^3, to hold the arms for a moment in this position, and then again divergent at x^4, to rock the arms forward to their most advanced position, where it holds them until the completion of the binding operation, and finally convergent at x^6, into the starting point or pocket x^1, to rapidly return the arms to their normal position beneath the binding receptacle, substantially as described. 31st. The combination of a compressor arm P, pivoted below the binding receptacle on a rock shaft P^1, a crank arm R^1, mounted on the compressor shaft and connected by a link r^1, to the wrist pin of a crank plate R, said wrist pin in its position of rest being located back of a central line drawn from the binder shaft to the link connection with the lever B^1, so that the first portion of the movement of the wrist pin will impart no appreciable movement to the compressor arm, substantially as hereinbefore set forth. 32nd. The combination of a cut-off arm pivoted below the throat or entrance to the binding receptacle, and operated through a stud roller o^5, and suitable mechanisms, by a cam track on the binder wheel, the divergent initial portion x^1 to x^2, of which on the first movement of the wheel rapidly raise the cut-off arms to a position across the throat, where they check the incoming stream of and open a path therethrough, with a compressor arm pivoted beneath the receptacle, a crank arm on the compressor shaft connected by a link to the wrist pin of a crank plate on the binder shaft, the wrist pin in its position of rest being back of a centre line drawn from the binder shaft to the pitman connection with the crank arm, so that during that portion of the movement of the binder wheel by which the cut-off arms are raised across the throat practically on motion will be imparted to the compressor arms by the wrist pin, substantially as hereinbefore set forth. 33rd. The combination of a cut off arm mounted on a rock shaft below the throat or entrance to the binding receptacle, and operated through a stud roller o^5, and suitable connecting mechanism, by a cam on the binder wheel, the divergent initial portion x^1 to x^2, of which raises the cut off arm across the throat to close it and open a path through the grain therein, the concentric portion x^3, holding it momentarily in this position, the divergent portion x^4, then rocking it (the cut off arm) forward to its most advanced position, with a compressor arm pivoted beneath the receptacle on a rock shaft, a crank arm mounted on the compressor shaft and connected by a link r^1, to the wrist pin of a crank plate on the binder shaft, said wrist pin in its position of rest being so located back of the dead centre line of the link r^1, that during that portion of the movement of the binder wheel in which the cut-off arms are raised across the throat it will impart no motion to the compressor arm, but will rapidly elevatd it (the compressor arm) through the path opened by the cut off arm while the latter standsc in its temporary position across the throat and continues to swing it outwardly, while the cut-off arm swings inwardly, the divergent motion of the two arms affecting a wide separation or parting in the stream of grain, substantially as hereinbefore set forth. 34th. The combination of a compressor arm mounted on a rock shaft P, and a crank arm R^1, mounted on the compressor shaft and connected by a link r^1, to the wrist pin r, of a crank plate on the binder shaft, the wrist pin being normally located back of the dead centre line of the link r^1 and its path lying close to the shaft P^1, the relative location and arrangement of all these parts being such that the first part of the movement of the wrist pin imparts no motion to the compressor arm, but its continued movement raises it (the arm) very rapidly to its highest point, when the wrist pin again crosses the dead centre line of the link r^2 and exerts its greatest power on the compressor arm, substantially as hereinbefore set forth. 35th. The combination of a compressor arm mounted on a rock shaft below the binding receptacle, a crank arm or lever R^1, mounted on the compressor shaft and connected by a link r^1 to the wrist pin of a crank plate, with a needle arm mounted on a rock shaft above the binding receptacle, and a crank arm Q^2 on the needle arm shaft connected by a link R^2 to the crank arm R^1 on the compressor shaft, substantially as hereinbefore set forth. 36th. The combination of a compressor arm mounted on a rock shaft P^1 below the binding receptacle, a crank arm R^1 mounted on the compressor shaft and connected by a link r^1 to the wrist pin of a crank plate, a needle arm pivoted above the receptacle, a crank arm Q^2 on the needle shaft connected by a link R^2 with the crank arm R^1 on the compressor shaft, the compressor arm lying nearer to the binding receptacle than the needle and moving into it in advance of the needle, substantially as hereinbefore set forth. 37th. The combination of a compressor arm pivoted on a rock shaft P^1 below the binding receptacle, a crank arm R^1 mounted on the compressor shaft, a needle arm pivoted on a rock shaft above the receptacle, and a crank arm Q^2 on the needle shaft connected by a link R^2 to the crank arm R^1, the connecting point of the link to the crank arm R^1 crossing and re-crossing a line drawn from the compressor shaft through the link connection to the crank arm Q^2, so that when the needle is down the crank arm Q^2 imparts no appreciable movement to its arm during the completion of the advance and the beginning of the retreating movement of the compressor, substantially as hereinbefore set forth. 38th. The combination of a compressor arm secured upon a rock shaft, a crank arm R^1 loosely mounted on the rock shaft and connected by a link to the wrist pin of a crank R, with a crank arm p^1 secured to the compressor shaft and actuated by the loose crank arm R^1 through a spring p^2, substantially as hereinbefore set forth. 39th. The combination of a compressor arm secured upon a rock shaft, a crank arm R^1 loosely mounted the shaft between two arms p, p^1, secured to the shaft, the arm R^1 provided with a slot in which a stud projection on the arm p lies and a projecting pin over which one end of a spring p^2, coiled around the shaft, is caught, the other end of the spring being caught under any one of the series of pins on the fixed arm p^1, substantially as hereinbefore set forth. 40th. The combination of a retainer and ejector arm mounted on a shaft, means for imparting to it a half revolution for each actuation of the binding mechanism, with a cam also mounted on the shaft, and a spring acting on said cam, substantially as hereinbefore set forth. 41st. The combination of a needle arm and a segmental gear rack mounted on a rock shaft above the binding receptacle, with a retainer arm, a mutilated pinion and a lever arm also mounted on a shaft above the receptacle, the lever trailing upon the periphery of a cam plate on the binder shaft to maintain the retainer arm in its working position and hold the teeth of the pinion out of engagement with the rack when the binder arm descends, the cam disc being cut away to free the trailing lever and allow the pinion to roll into the path of the rack before the needle begins its upward movement, substantially as hereinbefore set forth. 42nd. The combination of a binding receptacle and a fixed frame forming its top, with a spring finger attached to the frame and extending down into the receptacle to trail over the butt ends of the bundles and retard them, substantially as hereinbefore set forth.

No. 40,789. Gas Retort Charger.

(Appareil pour charger les cornues à gaz.)

Andrew Hickenlooper, Cincinnati, Ohio, U.S.A., 24th October, 1892; 6 years.

Claim—1st. In a retort charger, a carriage adjustable to and from the face of the retort bench, two or more fixed charging hoppers arranged in vertical succession with discharge nozzles in a common vertical plane adapted to enter the mouths of two or more retorts simultaneously, a blast distributer to each hopper at the rear of the discharge nozzle, a stand pipe upon said carriage having an extensible connection with a reservoir of blast force, and connections between said stand pipe and blast distributers, combined and arranged substantially as set forth. 2nd. In a retort charger, a carriage adjustable to and from the face of the retort bench, two or more fixed charging hoppers in vertical succession with discharge nozzles in a common vertical plane adapted to enter the mouths of two or more retorts simultaneously, a blast distributer to each hopper at the rear of the discharge nozzle, a stand pipe upon said carriage having an extensible connection with a reservoir of blast force; connections between said stand pipe and blast distributers, and controlling valves in each connection between the stand pipe and blast distributers, combined and arranged substantially as set forth. 3rd. In a retort charger, the combination of a carriage adjustable to

and from a retort bench, a fixed vertical series of hoppers thereon, each having a discharge nozzle and blast distributers at the rear of said discharge nozzle, a stand pipe on the carriage, pipe connections thence to the blast distributers, controlling valves in said connections, a pipe connection between said stand pipe and a reservoir of blast force, and a valve governing said connection and controlling the entire series of blast distributers, substantially as set forth. 4th. In a retort charger of the character described, the combination of the hoppers arranged in fixed vertical succession, the blast distributers attached thereto, the stand pipe, the pipe connections thence to the blast distributers, and the jointed pipe connection, constructed and arranged as shown, between the head of the stand pipe and the top of the reservoir, substantially as set forth.

No. 40,790. Foot Power for Machinery.

(Machine à pieds.)

Charles Nicholson, New York, U.S.A., 24th October, 1892 ; 6 years.

Claim.—1st. The combination with the pedals O, of the clutches F, carried by reciprocating arms driven by chains or leather belts from the pedals, flanges A, fastened to the driving shaft, the shaft B, and its bearing, substantially as set forth. 2nd. The combination of the shaft D, having adjustable drums connected by chains or belts to the sleeves G, whereby alternate reciprocating motion is insured to the clutches F, with the pedals O, driving shaft B, clutches F, and flanges *a*, as described and set forth. 3rd. The combination of the pedals O, of the sleeves G, carrying clutches or their equivalent and of shaft D, having adjustable drums the said parts being connected by chains or belts, as and for the purpose set forth. 4th. The combination with the shaft B, and balance wheel C, of the volute spring E, substantially as shown and described. 5th. The combination of the brake H, with the balance wheel C, as shown and described. 6th. The combination of the pedals O, sleeves G, carrying clutches F, or their equivalent, shaft D, drums *i. j.* and the connecting chains or belts shaft B, spring E, balance wheel C, and brake H, all the said parts combined and arranged as shown and described. 7th. The combination of the frame A, the pedal shaft M, the pedals O. The sleeves G, the arms on said sleeve G, the flanges *a*, the spiral spring *b*, the friction shoe *l*, the adjustable drums *i*, *j*, and shaft D, the main shaft B, the spring case Y, the volute spring E, and the combined dress guard and brake H, as shown and described. 8th. In a foot power in which the power produced by the action of the feet is transmitted through a spring to the object being driven. The pedals journalled at one end so that their weight in connection with the weight of the operators' limbs prevent the recoil of the spring while in operation. 9th. In a power transmitter. The pedals pivoted at one end "A "chain or belt connecting pedals to sleeves, with shaft B, and chain "or belt connecting sleeves with adjustable drums and shaft D," as shown and described. 10th. In a foot power in which the power given by the pedals is transmitted through sa pring. The fly wheel C, mounted loosely on the stud. The stud and its bearing. The spring E, fastened to the elongated hub of the fly wheel. The spring case Y, to which outer end of the spring is attached and the shaft B, and its bearings, as shown and described. 11th. The combination of the shaft D, the drums *i* and *j* and the chains or bolts connecting with sceves G, as shown and described. 12th. The combination of the adjustable arm *d*, the spring *b*, the roller *k*, the wedge shape shoe *l*, the flange and sleeve G, substantially as described. 13th. In combination with frame A, the pedals O, the sleeves G, the adjustable drums *i*, *j*, the connecting chains or belts and the shafts B & D and their bearings, substantially as described. 14th. The combination of the wedge shaped shoe *l*, and the roller *k*, for the purposes set forth. 15th. The combination of the wedge shaped shoe *l*, the roller *k*, the adjustable arm *d*, and spring B, as described. 16th. In the clutch as herein described the adjustable arm *d* and spring *b*, for the purpose set forth. 17th. The adjustable arm *d*, the spring *b*, the wedge shaped shoe *l*, as and for tha purpose herein set forth. 1bth. In a foot power wherein the fly wheel is loosely mounted on a stud, and the stud is secured to the main frame, a volute spring attached at one end to the hub of the fly wheel, as and for the purposes herein set forth. 19th. In a foot power for running sewing and other machines, a spring actuated brake for stopping or regulating the speed of the machine as herein shown and described. 20th. In a foot power for running sewing and other machines a spring actuated brake, one end of which is journalled on to the main frame, the other end provided with a friction surface which by a sidewise motion of the knee comes in contact with the periphery of the driving wheel as set forth.

No. 40,791. Type-Writing Machine. (*Clavigraphe.*)

Pearl Type-Writer Co., New Jersey, assignee of Theodore Wesley Searing, New York, 24th October, 1892 ; 6 years.

Claim.—1st. In a single key type-writer the combination of a supporting base a paper carriage movable thereon in a horizontal plane a plate adapted to slide on the base in a horizontal plane but in a direction at a right angle to the movement of the paper carriage a vertical spindle carried by the sliding plate a type wheel on the spindle adapted to revolve in a horizontal plane a key hinged at one end to the type wheel and suitable connections between the key sliding plate and supporting base substantially as described whereby the key serves the double purpose of revolving the type wheel and advancing it to the printing point as specified. 2nd. In a single key type writer the supporting base a slide B movable thereon a spindle rigidly attached to the slide a revoluble type wheel carried by the spindle and a key pivoted to the type wheel and having a slot through which the spindle passes combined with a link and lever connection between the slide and supporting base a device interposed between the key and the link and lever connection to transmit motion from one to the other and a paper carriage, substantially as and for the purpose specified. 3rd. In a single key type writer the supporting base a paper carriage movable in a horizontal plain thereon and a slice B also movable in a direction at a right angle to that of the paper carriage combined with a spindle rigidly attached to the slide a revoluble type wheel carried by the said spindle a key pivoted to the type wheel and provided with a slot through which the spindle passes a forked lever pivoted to said slide a link connecting one end of the lever to the base of coller surrounding the spindle and interposed between the key and the forked end of the lever and a spring to retract the slide substantially as specified. 4th. In a single key type-writer the supporting base a paper carriage movable in a horizontal plain on said base said carriage being provided with a rack J and a pin *j* rigidly secured to a suitable support on the base combined with a slide B having a pin K adapted to enter between the teeth of the rack J a revoluble type wheel carried by the said slide and having a series of grooves on its lower rim into which the pin *j* is adapted to enter and means substantially as described to move the slide and type wheel in a horizontal plain toward the paper carriage as and for the purpose specified.

No. 40,792. Machine for Buffing Boots and Shoes.

(Machine pour polir les chaussures.)

George Henry Peck Flagg, Boston, assignee of Harold A. Webster, Haverhill, both in Massachusetts, U.S.A., 25th October, 1892 ; 6 years.

Claim.—1st. A buffing pad holder, having an elastic or resilient margin, as set forth. 2nd. A buffing pad holder, having an elastic or resilient margin reduced to a thin edge at its periphery, and presenting a tapering or inclined outer surface, as set forth. 3rd. A buffing pad holder, having an elastic or resilient margin, an air space or chamber, and an air inlet communicating with said chamber, as set forth. 4th. A buffing tool, comprising a chambered holder having an air inlet, and a buffing pad engaged with said holder and extending across the chamber thereof, as set forth. 5th. In a buffing machine, the combination of a pad holder having an internal chamber, a pad at one side of said chamber, a shaft secured to the holder and having a passage communicating with the chamber, a supporting frame having bearings for said shaft and a passage communicating with the passage in the shaft, and pump or forcing apparatus adapted to maintain pressure in said chamber, as set forth. 6th. A buffing pad, having an inwardly turned crimped flange integral with the body of the pad. 7th. A buffing pad having an inwardly turned flange composed of plaits or folds integral with the body of the pad, and gradually decreasing in width from the margin of the pad piece.

No. 40,793. Stanchion. (*Etançon.*)

Philander Avery, Industry, Illinois, U.S.A., 25th October, 1892 ; 6 years.

Claim.—The combination of the stanchion frame provided with horizontal guide bars, the vertical lever arranged between the guide bars, the hinged sections arranged between the guide bars and provided above and below with V-shaped openings, and the horizontal lever connected with the sections and operating the same, substantially as described. 2nd. The combination of the stanchion frame provided with guide bars, the vertical lever arranged between the guide bars, the sections hinged together and provided with V-shaped openings above and below and arranged between the guide bars, and provided with tie bars secured to their outer ends, the horizontal lever fulcrumed on the frame and connected with the hinged sections, and the operating cord attached to the lower section to raise the same, substantially as described. 3rd. The combination of the stanchion frame having its front end open, the platform, the pivoted legs arranged at the front of the platform and adapted to hold the same in an inclined position, and the folding section 39, hinged to the front of the platform and adapted to extend through the opening at the front of the frame to form a skid for loading animals into a vehicle, substantially as described.

No. 40,794. Kiln. (*Four.*)

William A Eudaly, Cincinnati, Ohio, U.S.A., 25th October, 1892 6 years.

Claim.—1st. In a down draft kiln, the combination of an exterior furnace, a fire pocket opening into the upper portion of the kiln, a throat from the furnace to said pocket, a transverse horizontal flue in the bottom of the kiln opening in the same, and a vertical flue from said throat to said horizontal flue provided with a damper, substantially as described. 2nd. In combination, a pair of kilns, horizontal transverse flues in the bottom of the same opening into the kiln, an underground flue connecting said two kilns and open-

ing into the ends of corresponding transverse flues therein, dampers for said connecting flue, exterior furnaces for said kilns, a fire pocket in each kiln opening into the upper portion thereof, a throat connecting each furnace and pocket, and a flue from each throat to a transverse bottom flue provided with a damper, substantially as described. 3rd. In a kiln, the combination of the exterior furnaces therefor, the fire pockets from each furnace into the top of the kiln, a separate horizontal transverse flue in the bottom of and opening into the kiln for each furnace, the main longitudinal discharge flue in the bottom of the kiln opening into a chimney, and the separate transverse bottom discharge flues provided with chimneys, substantially as described. 4th. The combination, with two or more downdraft kilns, provided with furnaces communicating with fire pockets opening into the tops of the kilns, of one or more flues connecting the bottoms of said kilns and communicating with said pockets, and means to control said flues, so that the heat can be drawn from the bottom of one kiln into the bottom or top of the other kiln, substantially as described. 5th. In combination, two kilns, furnaces for the same, separate transverse inlet flues in the bottom of each kiln from the furnaces, underground flues connecting said two kilns and opening into the ends of corresponding inlet flues in the same, transverse separate discharge flues in the bottom of each kiln communicating with chimneys, separate underground connecting flues opening into the ends of corresponding discharge flues in each kiln, and dampers for said flues, substantially as described. 6th. In combination, two or more kilns, furnaces for the same, a longitudinal discharge flue in the bottom of each kiln, opening into the kiln and into chimneys at one or both ends of the kiln, and an underground flue extending past the ends of said kilns, and connected with the ends of the longitudinal discharge flue of each kiln, and dampers for controlling said flues, as set forth. 7th. A downdraft kiln, having its bottom divided into compartments, in combination with two sets of non-communicating flues in each compartment, one set discharging heat into the kiln and the other conveying it out, substantially as described. 8th. In combination, two or more kilns, furnaces for the kilns, each kiln having transverse inlet flues in its bottom from the furnaces opening into the kiln, separate flues in its bottom communicating with chimneys, and a longitudinal bottom discharge flue connecting with chimneys at the ends of the kiln, the separate underground flues connecting, respectively, the corresponding transverse inlet flues in opposite kilns, underground flues connecting corresponding transverse discharge flues in opposite kilns, underground flues connecting the ends of the longitudinal discharge flues in said kilns, cross flues connecting said underground flues. and dampers controlling said flues, substantially as described.

No. 40,795. Pump. (*Pompe.*)

Edward Seitz, Market Buildings, Flinders Lane, Melbourne, Victoria, Australia, 25th October, 1892; 6 years.

Claim.—1st. In centrifugal pumps, a pipe acting as a drive shaft A, and terminating at one end against a thrust ring and at the other end in a curved bend A^1, with a gradual increase or decrease in its internal diameter at any point and having mounted on it a spring ring with countersunk set pin metal liners with grooves on same for lubrication, and an open space for lubricant to collect in, and also on which is mounted a pulley, water tight glands and bearings, substantially as and for the purposes hereinbefore described and explained and as illustrated in the accompanying drawings. 2nd. In centrifugal pumps, a curved pipe A^1, of the same diameter as the inlet or of a gradually increasing or decreasing diameter attached to the end of a hollow pipe shaft A, and rotated to produce a centrifugal force, substantially as and for the purposes hereinbefore described and explained and as illustrated in the accompanying drawings. 3rd. In centrifugal pumps, a circulating curved pipe A^5, which is rotated for the purpose of removing any sediment matter or sludge that may accumulate behind or in front of the discs, substantially as and for the purposes hereinbefore described and explained and as illustrated in the accompanying drawings. 4th. In centrifugal pumps, a thrust ring E^1, of lignum vitæ or analogous material, for receiving the thrust at the end of a rotating pipe shaft and preventing any circulation of fluid from the inside to the outer surface of said pipe shaft or to or from the bearings, substantially as and for the purposes hereinbefore described and explained and as illustrated in the accompanying drawings. 5th. In centrifugal pumps, a spring ring F, having a countersunk set screw pin F^1, for holding and drawing it, substantially as and for the purpose hereinbefore described and explained and as illustrated in the accompanying drawings. 6th. In centrifugal pumps, the method of the forward delivery of the fluid or liquid to the centre, and the peculiar apparatus and casing therefor, substantially as and for the purpose hereinbefore described and explained and as illustrated in Fig. 7 in the accompanying drawings. 7th. In centrifugal pumps, the combination, with a rotating curved pipe (such as A), of a false bottom such as G, the latter being in the form of either a renewable plate liner or removable trap door. 8th. In centrifugal pumps, the special arrangement and peculiar construction of the bearings A^6, lubrication grooves A^9, glands B, and pressure lubricant cups B^2, substantially as and for the purpose hereinbefore described and explained, and as illustrated in the accompanying drawings. 9th. In centrifugal pumps, the combination, of any of the parts above described and claimed with one another or altogether, as hereinbefore set forth and as illustrated in the accompanying drawings.

No. 40,796. Wrench. (*Clé à écrou.*)

Campbell A. McIntosh, Vancouver, British Columbia, Canada, 24th October, 1892; 6 years.

Claim.—1st. A wrench, comprising a hollow head, a body portion mounted therein and provided on its circumference with projecting teeth, a pawl pivoted in the wrench handle so as to engage the teeth, opposite jaws mounted in the wrench body so as to slide therein, and means for adjusting the jaws, substantially as described. 2nd. A wrench, comprising a hollow head having a suitable handle connected therewith, a circular body mounted in the head and provided upon its edge with projecting teeth, a pawl pivoted in the handle and adapted to engage the teeth of the body, opposite jaws mounted in the body of the wrench so as to slide therein, and a worm and gear mechanism for adjusting the jaws, substantially as described. 3rd. A wrench, comprising a hollow head having a suitable handle, a circular body mounted in the head and provided upon its edge with projecting teeth, movable jaws mounted in the body, as shown, means for adjusting the jaws, and a double pawl pivoted in the handle and provided with diverging arms to engage the teeth of the body, substantially as described. 4th. In a wrench the combination, with a revoluble body having projecting teeth and carrying suitable jaws, of a pawl pivoted in the wrench handle and provided with diverging arms each adapted to engage the teeth of the body, substantially as described. 5th. In a wrench the combination, with a hollow head having a suitable handle, and pins projecting through the hollow portion of the handle, of a revoluble body mounted in the head, said body carrying suitable jaws and having projecting teeth upon its edge, a pawl pivoted in the handle and provided with diverging arms to engage the teeth of the wrench body, and a rearwardly extending spring plate to engage the pins in the handle, substantially as described. 6th. In a wrench the combination, with a revoluble body having parallel recesses therein, of jaws fixed upon blocks adapted to slide in the recesses, said blocks having projecting teeth upon their inner edges, as shown, and a worm and gear mechanism for moving the blocks and jaws, substantially as described. 7th. In a wrench, the combination, with a revoluble body having parallel recesses therein, of jaws having blocks connected therewith and arranged to slide in the recesses, said blocks having teeth upon their inner edges, a gear mounted in the centre of the body and provided with teeth to engage the teeth of the jaw blocks, and a worm mounted in a recess of the body and adapted to engage the teeth of the centre gear, substantially as described. 8th. In a wrench, the combination, with a revoluble body having parallel recesses therein, of jaws fixed to blocks adapted to slide in the recesses, said blocks having teeth upon their inner edges, as shown, a centre gear mounted centrally in the wrench body and provided upon its inner end with teeth to engage the teeth of the jaw blocks, and upon its outer end with teeth, a worm mounted in the recess and adapted to engage the outer teeth of the centre gear, and a thumb wheel fixed to the worm shaft so as to project from the face of the body, substantially as described. 9th. In a wrench, the combination, with a revoluble body having parallel recesses and parallel bars between the recesses, jaws mounted in the body and provided with movable jaw blocks to slide in the recesses, and with depending tongues to fit between the parallel bars, a gear centrally mounted in the body and provided on its inner end with teeth to engage with teeth on the jaw blocks, and on its outer end with similar teeth, and a worm mounted in a recess of the body and adapted to engage the gear, substantially as described. 10th. A wrench, comprising a hollow head having a suitable handle attached thereto, a revoluble body mounted in the head and provided upon its edge with teeth, said body having a central opening therein and having parallel recesses in one face, a double pawl pivoted in the handle so as to engage the teeth of the body, jaws fixed to suitable blocks adapted to slide in the recesses of the body, said blocks having teeth upon their inner edges, as shown, a centre gear mounted in the body and provided with two sets of teeth one set of which engages the teeth of the jaw blocks, and a worm mounted in a recess of the body and adapted to engage the other set of gear teeth, said worm having at one end a suitable thumb wheel, substantially as described.

No. 40,797. Nut Lock. (*Arrête-écrou.*)

Thomas James Kennedy, Renfrew, Pennsylvania, U.S.A., 25th October, 1892; 6 years.

Claim.—The herein described nut lock, consisting of a nut provided at one side with an L-shaped recess communicating with the interior perforation of the nut, a bell crank lever pivoted at its angle in the angle of the recess, and terminating at its inner end in a head having longitudinal thread sections corresponding with but deeper than the threads of the nut, said thread sections having inclined transverse teeth, and a spring for pressing the outer end of the bell crank beyond the face of the nut and the inner end inwardly, whereby its teeth are adapted to engage the seats between the threads of a bolt, substantially as specified.

No. 40,798. Railroad Snow Plow and Flangers.

(*Charrue à neige pour chemin de fer.*)

Richard James McKeone and John Patrick Moran, both of Sault de Ste. Marie, Michigan, U.S.A., 25th October, 1892; 6 years.

Claim.—1st. In a snow plow, the combination, with the frame, of revoluble vertical cylinders mounted in the frame, said cylinders

being comprised of a series of vertical cutting blades, substantially as described. 2nd. A railroad snow plow, comprising a frame adapted to run upon a track, and revoluble cylinders mounted vertically in the frame, said cylinders being comprised of a series of vertical cutting blades and a series of inclined lifting plates, substantially as described. 3rd. A railroad snow plow, comprising a frame adapted to run upon a track, revoluble cylinders mounted vertically in the frame and provided with cutting blades and lifters, as described, and means for forcing currents of air through the cylinders, substantially as described. 4th. A railroad snow plow, comprising a frame or body adapted to run upon the track, revoluble cylinders mounted vertically in the frame and provided with cutting blades and lifters, as described, hoods mounted on the tops of the cylinders and provided with openings through their upper ends, and means for forcing currents of air through the cylinders, substantially as described. 5th. A railroad snow plow, comprising a frame or body, revoluble cylinders mounted vertically in the body and provided with cutting blades and lifters, as described, hoods mounted on the cylinders, said hoods being arranged in pairs one within the other and with openings through the top, and means for forcing currents of air through the cylinders and hoods, substantially as described. 6th. The combination, with the cylinders and the hoods thereon, of a sprocket wheel mechanism for changing the angle of the hoods, substantially as described. 7th. The combination, with the revoluble cylinders mounted vertically in the body of the plow, of an inclined lifter extending from the lower portion of the cylinder to a point near the level of the track, substantially as described. 8th. A snow plow, comprising a frame or body, revoluble cylinders pivoted vertically in the frame and provided with cutting and lifting plates, as described, air fans mounted in the rear of the cylinders, and air boxes leading from the fans into the lower portions of the cylinders, substantially as described. 9th. In railroad snow plows of the character described, the cutting cylinders comprising a series of inclined lifters arranged horizontally around and between the cutting blades forming the cylinders, and a series of vertical cutting blades arranged between which are said lifters, substantially as described. 10th. In a snow plow of the character described, the revoluble flangers comprising a central body, and a series of flexible teeth radiating therefrom and adapted to fit the rails, substantially as described. 11th. In a railroad snow plow of the character described, the revoluble flangers comprising a central collar, a series of flexible teeth radiating from the collar, and a disc between the series of teeth, substantially as described. 12th. The combination, with the revoluble flangers comprising a central collar and cutting teeth radiating therefrom, of brushes fixed to the flanger shaft and adapted to fit the rails, substantially as described. 13th. The combination with the V-shaped frame pivoted beneath the body of the plow, and means for changing the position of the frame, of a shaft journalled in one end of the frame, and flangers fixed to the shaft, said flangers comprising a central collar and radiating flexible teeth, substantially as described.

No. 40,799. Rivetter. (*Riveuse.*)

Joseph J. Kropacek, Irving, Kansas, U.S.A., 25th October, 1892 6 years.

Claim.—In a device of the class described, the opposite pivoted members terminating in rear of their pivot in handles and in front of the same in jaws having rings at their ends, in combination with a hollow hammer head supported in the upper ring, an upsetting plug mounted in the hammer head, a set screw for adjusting the same, a bored holder mounted in the lower ring and having an upper reduced bore, a tubular guide mounted for reciprocation in the reduced bore and provided at its lower end with an annular shoulder forming a stop, a plunger mounted in the tube and terminating at its lower end in a head, a spring coiled upon the plunger and interposed between the head of the same and the lower end of the tube, and a set screw supporting the lower end of the plunger and threaded in the lower end of the holder, substantially as specified.

No. 40,800. Harness. (*Harnais.*)

Henry Epton King, London, England, 25th October, 1892; 6 years.

Claim.—1st. As applied to saddles or pads of the harness of horses and other animals metal flaps or skirts paddled in the interior with cushions consisting of inflated India rubber or like bags enclosed in bags of canvas or equivalent material and secured in position by lining of leather or other suitable material sewn or wired to the metal portion of saddle or pad, substantially as hereinbefore described with reference to figs. 1 and 2 of the accompanying drawings. 2nd. A saddle or pad for harness for horses and other animals the said pad or saddle being composed entirely of metal, substantially as hereinbefore described with reference to figs. 3 and 4 of the accompanying drawings. 3rd. In saddles or pads for horses and other animals a padding or cushion composed of metal attached to the saddle or pad so as to be capable of yielding under pressure substantially as hereinbefore described with reference to figs. 3 and 4 of the accompanying drawings. 4th. The construction of metal portions of either collars or saddles or pads for harness for horses or other animals in the manner hereinbefore explained with reference to figs. 5 and 6 of the accompanying drawing,

No. 47,801. Process of Refining Hydro-Carbon Oils.

(*Procédé de raffinage d'huile hydro-carbone.*)

John Gardner and James Forsyth Harris, both of Toledo, Ohio, U.S.A., 25th October, 1892; 6 years.

Claim. 1st. The process of refining oils, which consists in injecting a ferruginated liquid into a vaporizing chamber, intimately comingling a spray of oil therewith and vaporizing the same, condensing the vapors, and separating the surplus compounds. 2nd. The process of refining oils, which consists in vaporizing the oil at a temperature above four hundred degrees Fahrenheit, co-mingling a ferruginated liquid therewith, and uniting with the resulting vapor a heated current, carrying a metallic oxide. 3rd. The process of refining oils, which consist in leading a volume of ferruginated liquid into a highly heated chamber, injecting a volume of oil above the same and within a heated current, whereby the vapor from the liquid is caused to pass through the hydro carbon vapor. 4th. The process of refining oils, which consists in vaporizing the oil within a chamber provided with a conduit for leading the vapor to a condensing chamber co-mingling a metallic oxcide within the chamber, and uniting a heated current therewith.

No. 40,802. Motor or Pump. (*Moteur ou pompe.*)

Horace Franklin Hodges, Boston, Massachusetts, U.S.A., 25th October, 1892; 6 years.

Claim.—1st. In a motor or pump, the shell a, cylinder a^1, a^2, offset from each other, cylinder heads e, yoke b, offset pistons b^1, b^2, link block b^3, shaft d and crank pin d^1, all combined and arranged substantially as shown and described. 2nd. In a motor or pump, the shell a, cylinders a^1, a^2, offset from each other, cylinder heads e, yoke b, offset pistons b^1, b^2, link block b^3, supporting ways b^4, b^5, shaft d and crank pin d^1, combined and arranged substantially as shown and described. 3rd. The shell a having cylinders a^1, a^2, attached, whose entire lines are parallel but not coincident, substantially as described and shown, in combination with a yoke and pistons, whose centre lines are not coincident, engaged with said yoke. 4th. The shell a, cylinders a^1, a^2, offset from each other, yoke b, offset pistons b^1, b^2, hand hole plate a^4, and pull or block f, said shell having a central space between the cylinders adapted to contain a lubricating liquid, wholly or partially filling said space, all combined and arranged substantially as specified. 5th. The shell a, cylinders a^1, a^2, offset from each other, yoke b, offset pistons b^1, b^2, shaft d, bearing d^4, stuffing box d^5, and pull or block f, all combined and arranged substantially as specified and shown. 6th. The double headed offset pistons b^1, b^2, and yoke b, firmly but separably secured together, substantially as described and shown. 7th. The offset pistons b^1, b^2, and yoke b, combined with a chamber adapted to contain a lubricating fluid, substantially as specified. 8th. The shell a and offset cylinders a^1, a^2, constructed as shown, combined with cylinder heads e, e, containing induction and eduction valves, substantially as described. 9th. The combination of two motors or pumps, substantially such as herein described and shown, on the opposite ends of crank shaft d, as specified. 10th. The combination of a motor and pump, substantially such as herein described and shown, one on either end of the crank shaft d, as specified. 11th. In a motor or pump, the combination, with a shell a provided with two oppositely arranged but offset independent cylinders and with a central closed chamber or centre space between said cylinders adapted to retain a lubricating fluid, of a yoke fitted to slide in ways in said chamber and having a central opening or slot, a shaft having a crank pin entering said opening or slot, a block fitted to slide in said opening or slot and surrounding said crank pin, and pistons working in said cylinders and connected to the opposite sides of said yoke at points which are offset from each other, substantially as set forth. 12th. The combination, with the shell a provided with the independent cylinders a^1, a^2, and the central closed chamber or centre space between said cylinders, of the yoke sliding in said chamber, the shaft having a crank pin working in said yoke, pistons working in said cylinders and having offset connections with said yoke and the pillow block f, and the manhole plate a^5 completely closing the sides of said chamber and rendering the same fluid tight, substantially as set forth.

No. 40,803. Phototype. (*Phototype.*)

Arthur C. Ferguson, Saratoga Springs, New York, U.S.A., 25th October, 1892; 6 years.

Claim.—1st. The combination with a series of independent character carrying arms, of means for arranging said characters in series to form an ordinary line of printed matter, and a camera for photographing said line in succession, substantially as described. 2nd. The combination with a series of independent character carrying arms, means for assembling said characters in succession to form an ordinary line of printed matter, means for successively photographing said lines, and vices for simultaneously distributing said line, and means for restoring the character carrying arms to their normal position, substantially as described. 3rd. The combination with a series of character carrying arms, keys for controlling said arms, a line channel, means for automatically arranging the character carrying arms in said channel in accordance with the keys struck, and

means for restoring said character carrying arms to their normal position, substantially as described. 4th. The combination with a supporting frame, of horizontal sliding bars, the pivoted bars mounted thereon, and character carrying arms to their normal position, substantially as described. 4th. The combination with a supporting frame, of horizontal sliding bars, the pivoted bars mounted thereon, and character carrying arms supported on said pivoted bars, substantially as described. 5th. The combination with the frame, of the horizontal sliding bars having a spring at one end, and carrying at the other end a pivoted bar supporting a character carrying arm, substantially as described. 6th. The combination with the frame, of the sliding bars having a spring at one end, of the pivoted bars mounted thereon and supporting a character carrying arm, and a spring mounted on the bars for deflecting the pivoted bars to form a lock for holding the horizontal sliding bars in position, substantially as described. 7th. The combination with the frame, of the horizontal sliding bars, the pivoted bars mounted thereon, the character carrying arms supported on said pivoted bars, the keyboard, the keys, and connections between the keys to operate the character carrying arms, substantially as described. 8th. The combination with the frame, of two lines of sliding bars, each bar being provided with a pivoted bar supporting the character carrying arms whereby any arm can be forced inward to allow it to travel past the adjacent arms, substantially as follows. 9th. The combination, with the frame of two sets of horizontal sliding bars, each provided with a spring, a pivoted locking bar attached to each horizontal sliding bar, a character carrying arm mounted on each pivoted bar, a line channel centrally arranged between the sets of character carrying arms, and keys and connections for releasing the locking bars and allowing the character carrying arms to be assembled in succession in the line channel, substantially as described. 10th. The combination, with the line channel, and a series of independent character carrying arms, and means for arranging said character carrying arms in succession in said chute, of a justifying device having tapes carrying characters, and arranged to be applied in the line channel, substantially as described. 11th. The combination, with the line channel and the independent character carrying arms adapted to be arranged in succession in said chute, of a justifying device having tapes carrying characters and arranged to be applied to said chute, pawls for holding the tapes, and means for restoring the character carrying arms to the normal position and simultaneously releasing the justifying tapes, substantially as described. 12th. The combination, with a frame, of a line channel supported thereon, a series of independent character carrying arms adapted to be arranged in succession in said chute, a keyboard, and connections for controlling the character carrying arms, the camera arranged to photograph the line of assembled characters, and a key for operating the camera, substantially as described.

No. 40,804. Method of and Apparatus for Making Oxygen Gas. (*Méthode et appareil pour la fabrication du gaz oxygène.*)

Robert Davy Bowman, East Dulwich, Surrey, England, 26th October, 1892; 6 years.

Claim.—1st. The preparation of granulated material to be used in the production of oxygen gas, by subjecting sodium hydrate to a red heat, adding thereto sesquioxide or peroxide of manganese, stirring constantly in such a manner as to reduce the material to a granular state, then dusting over the granules with black oxide of copper, and finally subjecting them to a red heat in a current of air, substantially as herein described. 2nd. In the production of oxygen gas by the absorption of the same from atmospheric air and its subsequent liberation, returning the impure or dilute oxygen gas at first obtained into retorts or vessels in which absorption is going on, whereby in consequence of these retorts being supplied with gas richer than atmospheric air, the yield of oxygen is increased. 3rd. In an apparatus for the production of oxygen gas, the combination of cock and by pass adapted to be opened at, and kept open for the proper time, as and for the purpose set forth. 4th. In an apparatus for the production of oxygen gas, the combination consisting of retorts, of cocks or valves admitting alternately air and steam to the retorts and allowing nitrogen gas to pass out, and of apparatus automatically reversing the positions of these cocks and valves from time to time, substantially as herein described. 5th. In an apparatus for the production of oxygen gas, the combination consisting of retorts, of cocks or valves admitting to them steam and air alternately and drawing off nitrogen and oxygen gases, of another cock or valve drawing off the impure or dilute oxygen at first produced, and automatic apparatus controlling all these cocks or valves, substantially as herein described. 6th. In an apparatus for the production of oxygen gas, the combination consisting of retorts arranged in two sets or series, of cocks or valves admitting alternately air and steam to these retorts and allowing nitrogen gas and oxygen gas to pass out, and apparatus automatically controlling all these cocks or valves so that whilst air is admitted to the retorts of one series, steam is admitted to the retorts of the other series, and whilst nitrogen is drawn off from one set of retorts, oxygen is drawn off from the other set, and the whole so arranged that the apparatus automatically reverses the positions of all these cocks or valves at suitable times, substantially as herein described. 7th. Apparatus substantially as described and represented by the annexed drawings.

No. 40,805. Bearing for Railway Cars.

(*Coussinet pour chars de chemin de fer.*)

Luther Kendall Jewett, Boston, Massachusetts, U. S. A., 26th October, 1892; 6 years.

Claim.—1st. The combination, with a car body and its truck, of an anti-friction device, substantially as described, and a side support to sustain said anti-friction device, whereby a firm or rigid support is obtained for the car body and the friction between the wheels and rails is reduced to a minimum, substantially as described. 2nd. The combination, with a car body and its truck, of an anti-friction device, substantially as described, springs to support said anti-friction device, and a side support to sustain said springs, substantially as described. 3rd. The combination, with the car body and its truck, of an anti-friction device, substantially as described, springs to support said anti-friction device, and a side support to sustain said springs, an independent plate b^7, supported by the anti-friction device, and an anti-friction bearing for the car body to reduce the friction caused by the oscillation of the car body, substantially as described. 4th. The combination, with the car body and its truck, of an anti-friction device, substantially as described, a side support to sustain said anti-friction device, the independent plate b^7, and anti-friction bearing between said plate and car body, substantially as described. 5th. The combination, with a car body and its truck, of an anti-friction device, substantially as described. a side support to sustain said anti-friction device. the independent plate b^7, anti-friction bearing between said plate and car body, a box c^5, secured to the car body and provided with a buffer, and a lug or projection to operate on said buffer, substantially as described. 6th. The combination, with a car body and its truck, of an anti-friction device, substantially as described, and a side support to sustain said anti-friction device, consisting of the parts a^1, a^2, the part a^1, being provided with a shoulder, as a^5, to co-operate with the equalizer bar, substantially as described. 7th. The combination, with a car body and its truck. of an anti-friction device interposed between the sides of the said truck and the car body, and a firm support for said anti-friction device, substantially as and for the purpose specified. 8th. The combination, with a car body and its truck provided with an equalizer bar on its opposite sides, of an independent chair or support on each side of the truck, adapted to shoulder or rest upon the equalizer bar, to form a solid support for the car body when tipped, substantially as described. 9th. The combination, with a car body and its truck, provided with an equalizer bar on its opposite sides, of an independent chair or support on each side of the truck adapted to shoulder or rest upon the equalizer bar to form a solid support for the car body when tipped and an anti-friction device interposed between said car body and chair or support, substantially as described.

No. 40,806. Disk Harrow. (*Herse à disque.*)

Caleb Grandmont, St. Stanislas, Champlain, Quebec, 26th October, 1892; 6 years.

Résumé, 1er. Dans une machine a défricher la combinaison du billot A muni de coutres a, b, a^1, b^1, et a^{11}, b^{11} disposés tels que décrits ci-dessus et pour les fins du défrichement. 2me. La combinaison de la virole B et de l'anneau d'attelage d qui permet au billot A de tourner suivant que besoin en est, ainsi que la chaine C qui sert à tenir le défricheur en place sur un plan incliné.

No. 40,807. Truck. (*Châssis de char.*)

The Fox Solid Pressed Steel Company, assignee of William Voss, all of Chicago, Illinois, U.S.A., 28th October, 1892; 18 years.

Claim.—1st. The combination, in a car truck, of an equalizing bar connected to the axles of the truck, and springs between the bar and the truck frame, substantially as subscribed. 2nd. The combination, in a car truck, of two axles, two springs connected with said axles, and an equalizing lever attached to the frame of the truck by a spring connection, substantially as described. 3rd. The combination, in a car truck frame, of the springs SS, bearing upon the truck frame and interposed between said frame and the equalizing lever O, the equalizing lever O, and the springs NN, connected with the axle, substantially as described. 4th. A truck side frame having pockets for the recepture of the springs consisting of lateral recesses pressed in the side frame, and semi cylindrical covers secured to the frame, substantially as described.

No. 40,808. Cigar Blank. (*Blanc de cigarre.*)

William S. Rowe, assignee of Harry Neilson Anderson, both of Boston, Massachusetts, U.S.A., 28th October, 1892; 6 years.

Claim.—1st. As an improved article of manufacture, a cigar blank composed of the usual component parts of a cigar, as the filler, binder, and wrapper, arranged in their proper relative order, but in a flat condition ready to be rolled into a cigar, as set forth. 2nd. A cigar blank consisting of a flat filler composed of superposed flat layers, a binder folded as a cover upon the flat filler and covering both sides of the same, and a wrapper attached at one end to the binder and extending diagonally therefrom, whereby when the blank is rolled into a cigar the wrapper will assume its proper position on the cigar, as set forth.

CERTIFICATES OF THE PAYMENT OF FEES FOR FURTHER TERMS HAVE BEEN ATTACHED TO THE FOLLOWING PATENTS.

2733. THE ROYAL ELECTRIC COMPANY (assignees), 2nd five years of No. 27,849, from the 17th day of October, 1892. Compound Wound Dynamos, 1st October, 1892.

2734. ELI JABEZ HAWLEY, 2nd five years of No. 27,707, from the 3rd day of October, 1892. Improvements in Centrifugal Pumps, 1st October, 1892.

2735. EUGENE MOREAU, 2nd five years of No. 27,706, from the 3rd day of October, 1892. Improvements in Machines for Drilling Rocks, 3rd October, 1892.

2735½. THE DOVERCOURT TWINE MILLS COMPANY (assignee), 2nd five years of No. 27,754, from the 6th day of October, 1892. Improvements in Machinery for the Manufacture of Twines, &c., 6th October, 1892.

2736. THE ONTARIO HEDGE AND WIRE FENCE COMPANY (assignees), 2nd five years of No. 28,101, from the 29th day of November, 1892. Improvements in Hedge Fences, 7th October, 1892.

2737. GEORGE VALIANT, 2nd five years of No. 27,762, from the 8th day of October, 1892. Improvements in Boots or Shoes, 7th October, 1892.

2738. EDWARD ETHEL GOLD, 2nd five years of No. 27,855, from the 18th day of October, 1892. Improvements in Steam Traps, 10th October, 1892.

2739. WILLIAM BLANE MACK, 2nd five years of No. 27,809, from the 13th day of October, 1892. Improvements in Injectors, 10th October, 1892.

2740. JAMES KOURTWRIGHT TREMAIN, 2nd five years of No. 27,877, from the 27th day of October, 1892. Improvements on Revolving Railway Signals, 10th October, 1892.

2741. JOHN BELMER ARMSTRONG, 2nd five years of No. 27,872, from the 27th day of October, 1892. Improvements in Side Bar Side Spring Buggy Gear, 13th October, 1892.

2742. CHARLES JOHN BAILEY, 2nd five years of No. 27,929, from the 3rd day of November, 1892. Improvements in Bath Brushes, 13th October, 1892.

2743. GEORGE A. BERRY, 2nd five years of No. 27,829, from the 15th day of October, 1892. Improvements in Trunk Straps, 15th October, 1892.

2744. MIKAEL PEDERSON and JENS NIELSON, 2nd five years of No. 27,898, from the 21st day of October, 1892. Improvements in Centrifugal Machines, 17th October, 1892.

2745. EDMOND JULIEN, 2nd five years of No. 27,857, from the 18th day of October, 1892. Improvements in Electric Batteries, 18th October, 1892.

2746. W. J. CRAWFORD, 2nd five years of No. 27,852, from the 18th day of October, 1892. Improvements in Skirts, 18th October, 1892.

2747. HERBERT WATSON FLEURY, 3rd five years of No. 15,784, from the 13th day of November, 1892. Improvements on Cone Root Cutters, 20th October, 1892.

2748. THE INTERNATIONAL GAS COMPANY (assignee,) 2nd five years of No. 27,858, from the 20th day of October, 1892. Improvements in the Manufacture of Gas and in Apparatus therefor, 20th October, 1892.

2749. JOSEPH ANDREW JEFFREY, 2nd five years of No. 28,159, from the 9th day of December, 1892. Improvements on Chains and Chain Making, 20th October, 1892.

2750. THE BELL TELEPHONE COMPANY (assignee), 2nd and 3rd five years of No. 28,932, from the 16th day of April, 1893. Improvements in Telephone Systems, 21st October, 1892.

2751. THE BELL TELEPHONE COMPANY (assignee), 2nd and 3rd five years of No. 29,143, from the 11th day of May, 1893. Improvements in Telephone Transmitters, 21st October, 1892.

2752. WILLIAM STUART, 2nd and 3rd six years of No. 40,093, from the 26th day of August, 1898. Improvements in Machinery or Apparatus for Making Nets for Fishing and other Purposes, 21st October, 1892.

2753. WARWICK & SONS (assignee), 2nd five years of No. 27,880, from the 28th day of October, 1892. Improvements in the Manufacture of Paper Pads, 22nd October, 1892.

2754. JOSEPH LEWIS, 2nd five years of No. 27,868, from the 27th day of October, 1892. Improvements in Elastic Balanced Valves, 22nd October, 1892.

2755. JOHN BELMER ARMSTRONG, 2nd five years of No. 28,041, from the 21st day of November, 1892. Improvements in Elliptic Spring Gear for Buggies or Carriages, 24th October, 1892.

2756. SAMUEL MAY, 2nd five years of No. 27,916, from the 2nd day of November, 1892. Improvements on Wooden Pulleys, 24th October, 1892.

2757. JESSE JOSEPH, 2nd five years of No. 27,870, from the 27th day of October, 1892. Improvements in Axle Lubricators, 25th October, 1892.

2758. CANCELLED. See correspondence. No. 39,938.

2759. CHARLES WILLIAM TAYLOR, ALBERT MALLISH WICKENS and JAMES WATT, 2nd five years of No. 28,009, from the 14th day of November, 1892. Improved Adjustable Expansion Spool for Paper Rolls, 25th October, 1892.

2760. WILLIAM HARRINGTON FORBES, 2nd five years of No. 27,921, from the 3rd day of November, 1892. Improvements in Chromatic Printing Machines, 27th October, 1892.

2761. EDWIN CROSBY DURAND, 3rd five years of No. 15,728, from the 4th day of November, 1892. Improvements on Belt Shifters, 27th October, 1892.

2762. JOHN E. DARBY and ELSON BLAKESLEE, 2nd five years of No. 27,915, from the 2nd day of November, 1892. Improvement in the Art or Process of Impregnating Chamois Skin with Rouge, 31st October, 1892.

TRADE MARKS

Registered during the month of November, 1892, at the Department of Agriculture—Copyright and Trade Mark Branch.

4446. JAMES CHADWICK & BRO., Ld., of Eagley Mills, Bolton, Lancashire Co., England. Sewing Thread, 1st October, 1892.

4447. D. RITCHIE & CO., of Montreal, Que. Plug and Cut Tobaccos, Cigars and Cigarettes, 1st October, 1892.

4448. GOWANS, KENT & CO., of Toronto, Ont. Tubular Lanterns, 4th October, 1892.

4449. WILLIAM J. SHEAN, of Owen Sound, Ont., trading as W. J. SHEAN & CO. Washing Powder, 6th October, 1892.

4450. JAMES ROBERT MOODIE & JOHN MOODIE, JUNIOR, of Hamilton, Ont., trading as the EAGLE KNITTING CO. Underwear, 6th October, 1892.

4451. ARTHUR ERNEST NICHOLSON, of 11 Rood Lane, London, England. Tea, 7th October, 1892.

4452. A. LALANDE & CIE., de Bordeaux, France. Vins et Spiritueux, 10 octobre, 1892.

4453. THE HOLYOKE MACHINE CO., of Holyoke and Worcester, Massachusetts, U. S. A. Turbine Water Wheels, 13th October, 1892.

4454. THE J. T. ROBERTSON CO., of Manchester, Connecticut, U. S. A, Soap and other cleansing and detergent preparations, 17th October, 1892.

4455. B. GOLDSTEIN & CO., of Montreal, Que. Cigars, Cigarettes and Tobaccos, 19th October, 1892.

4456. LEON LARUE, JUNIOR, of Montreal, Que. Plug Tobacco, 20th October, 1892.

4457. HENRY WADE, of Kingston, Ont. A Medicinal Compound, 21st October, 1892.

4458. JANE JULIA SYKES, of Cobourg, Ont. A Medicinal Compound, 22nd October, 1892.

4459. JEAN MARIE RAYMOND, of Paris, France. A Disinfectant, 24th October, 1892.

4460. GEORGES HARMAN LEES AND WILLIAM LEES, of Hamilton, Ont., trading as G. H. Lees & Co. Jewellery, 26th October, 1892.

4461. EDWIN C. FOSTER, of St. John, N. B. Nails, 26th October, 1892.

4462. WYCKOFF, SEAMANS AND BENEDICT, of Ilion, Herkimer Co., New York, U.S.A. Type Writing Machines, 27th October. 1892.

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6649. ROLLING ON TO MERRIE ENGLAND. Song. Words and music by M. D. Kilburn. Whaley, Royce & Co., Toronto, Ont., 3rd October, 1892.

6650. CONVERSATION METHOD IN FRENCH. By Jean Victor Plotton, Halifax, N.S., 3rd October, 1892.

6651. MÉTHODE PRATIQUE DE STYLE ET DE COMPOSITION LITTERAIRE. Cours Elémentaire. Frères Maristes, St. Athanase d'Iberville, Qué., 3 octobre 1892.

6652. COURS COMPLET DE COMMERCE THÉORIQUE ET PRATIQUE. Par F. T. D. M. S. Frère Marie Sigebert, Roxton Falls., 3 octobre 1892.

6653. MISS DIVIDENDS, by A. C. Gunter. The National Publishing Co., Toronto, Ont., 4th October, 1892.

6654. HISTORICAL AND DESCRIPTIVE ACCOUNT OF THE ISLAND OF CAPE BRETON, and of its Memorials of the French Regime, with Bibliographical, Historical, and Critical Notes, by John George Bourinot, &c., &c., Ottawa, Ont., 5th October, 1892.

6655. AVE MARIA. Adaptation from the celebrated "Intermezzo," from "Cavalleria Rusticana." English words by Fred. E. Weatherly; Italian words by P. Mazzoni. Music by Pietro Mascagni. E. Ascherberg & Co., London, England, 7th October, 1892.

6656. INTERMEZZO from "L'Amico Fritz," by Pietro Mascagni. Original Edition. E. Ascherberg & Co., London, England, 7th October, 1892.

6657. INTERMEZZO from "Cavalleria Rusticana," by Pietro Mascagni. E. Ascherberg & Co., London, England, 7th October, 1892.

6658. CASTOROLOGIA; OR, THE HISTORY AND TRADITIONS OF THE CANADIAN BEAVER, by Horace T. Martin, Montreal, Que., 7th October, 1892.

6659. ADVANCED SYSTEM FOR LOCATING ERRORS WITHOUT RECHECKING OR COPYING ENTRIES, by Henry Goldman, Montreal, Que., 8th October, 1892.

6660. BRITISH COLUMBIA, MANITOBA, NORTH-WEST TERRITORIES AND ONTARIO GAZETTEER AND DIRECTORY, 1892-93. Might's Directory Co., Toronto, Ont., 10th October, 1892.

6661. LITHOGRAPH *re* THE TORONTO BREWING AND MALTING COMPANY. John Buchanan Anderson, Toronto, Ont., 11th October, 1892

6662. RAPPORTS JUDICIAIRES REVISÉS DE LA PROVINCE DE QUEBEC. Par l'Honorable M. Mathieu. Tome IV. Wilfrid John Wilson, Montreal, Qué., 11 octobre 1892.

6663. BELLA NAPOLI. Barcarolle. Words by Clifton Bingham. Music by F. Boscovitz. The Anglo-Canadian Music Publishers Association, Ld., London, England, 11th October, 1892.

6664. LE MEDAILLIER DU CANADA. (The Canadian Coin Cabinet.) Deuxième Edition. Par Joseph LeRoux, M.D., Montréal, Qué., 12 octobre 1892.

6665. BELL TELEPHONE COMPANY OF CANADA, LIMITED, TORONTO AND TORONTO JUNCTION EXCHANGES, SUBSCRIBERS' DIRECTORY, ONTARIO DEPARTMENT, SEPTEMBER, 1892. The Bell Telephone Company of Canada, Ld., Montreal, Que., 13th October, 1892.

6666. AN ISLAND PARADISE AND REMINISCENCES OF TRAVEL, by Henry Spencer Howell, Galt, Ont., 13th October, 1892.

6667. NATIONAL AND VACATION SONGS. Edited by William H. Smith, F. T. S. C., Eng. F. E. Grafton & Sons, Montreal, Que., 14th October, 1892.

6668. LOVE'S PROMISE WALTZ. For Piano, by Marie Stuart. Whaley, Royce & Co., Toronto, Ont., 15th October, 1892.

6669. CONFÉRENCES SUR LA QUESTION OUVRIÈRE. Par le Rév. Père Ch. Gohiet, O. M. I., Ph. et Th. D. Avec Préface par le Rév. Père J. J. Fillâtre, O. M. I., Th. D. Leclerc et Roy. Québec, Qué., 15 octobre, 1892.

6670. THE ONTARIO REPORTS. Vol. XXI. The Law Society of Upper Canada, Toronto, Ont., 17th October, 1892.

6671. LYRIC AND OTHER POEMS, by S. J. Macknight, Dartmouth, N. S., 18th October, 1892.

6672. THE LAW OF THE CANADIAN CONSTITUTION. By William Henry Pope Clement, B. A., L. L. B., Toronto, Ont., 19th October, 1892.

6673. THE REV. OLIVER ARNOLD. First Rector of Sussex, N. B., with some Account of His Life, His Parish and His Successors, and the Old Indian College, with Illustrations. By Leonard Allison, B. A., Sussex, N. B., 19th October, 1892.

6674. THE CITY OF TORONTO, ONTARIO, CANADA, VOL. II. (Insurance Plan). Chas. E. Goad, Montreal, Que., 19th October, 1892.

6675. BROCKVILLE, KINGSTON, AND ALLISTON, ONTARIO, CANADA. (Insurance Plans). Chas. E. Goad, Montreal, Que., 19th October, 1892.

6676. BEDFORD, TERREBONNE AND FRASERVILLE, (Rivière du Loup en bas) QUÉBEC, CANADA. Chas. E. Goad, Montreal, Que., 19th October, 1892.

6677. ADRIENNE WALTZES, by L. V. Williams. The Anglo-Canadian Music Publishers' Association, Ld., London, England, 19th October, 1892.

6678. ENKOSIS OR THE CHIEF GAME OF LACROSSE, (Chart). Frederick T. Butler, Toronto, Ont., 19th October, 1892.

6679. THE TRAVELLER'S HAND BOOK FOR THE PREVENTION OF SEA SICKNESS. Egerton Villiers Tuthill, Montreal, Que., 19th October, 1892.

6680. HARVESTING ON THE SANDISON FARM AT BRANDON, MANITOBA. (Marked A.) (Photo.) John Allen Brock, Brandon, Man., 24th October, 1892.

6681. HARVESTING ON THE SANDISON FARM AT BRANDON, MANITOBA. (Marked B.) (Photo.) John Allen Brock, Brandon, Man., 24th October, 1892.

6682. OUTFIT ON THE SANDISON FARM AT BRANDON, MANITOBA. MORNING START. (Photo.) John Allen Brock, Brandon, Man., 24th October, 1892.

6683. THRASHING OUTFIT ON THE SANDISON FARM AT BRANDON, MANITOBA. (Photo.) John Allen Brock, Brandon, Man., 24th October, 1892.

6684. ROLAND GRAEME: KNIGHT. A Novel of Our Time, by Agnes Maule Machar. W. Drysdale & Co., Montreal, Que., 24th October, 1892.

6685. ENKOSIS; OR, THE PARLOUR GAME OF LACROSSE. (Book.) Frederick T. Butler, Toronto, Ont., 26th October, 1892.

6686. THE IVORY GATE, by Walter Besant. (Book.) The National Publishing Co., Toronto, Ont., 28th October, 1892.

6687. MONK'S SIMPLE DECIMAL STERLING AND DOLLAR EXCHANGE TABLES. Thomas H. Monk, London, England, 29th October, 1892.

6688. MÉTHODE PRATIQUE DE STYLE ET DE COMPOSITION LITTERAIRE, Cours Moyen. Frères Maristes, St. Athanase d'Iberville, Qué., 31 octobre 1892.

6689. THE GUINEA STAMP. A Tale of Modern Glasgow. By Annie S. Swan. William Briggs (Book Steward of the Methodist Book and Publishing House) Toronto, Ont., 31st October, 1892.

THE CANADIAN PATENT OFFICE RECORD.

ILLUSTRATIONS.

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FIG 10.

FIG 11

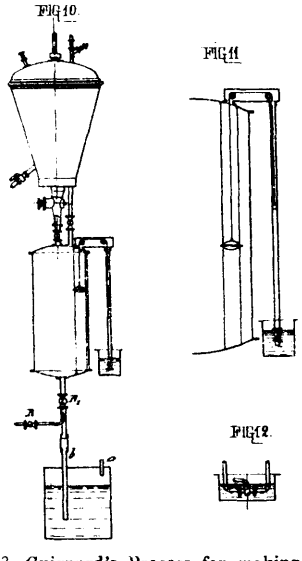
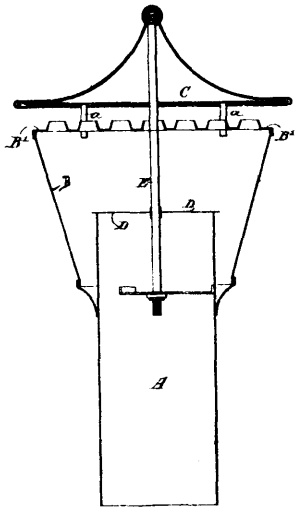
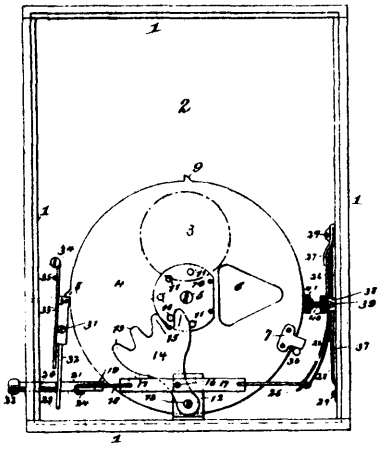


FIG 12.

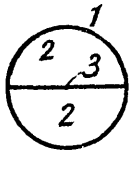
40493 Guignard's Process for making and preserving Pure Yeast.



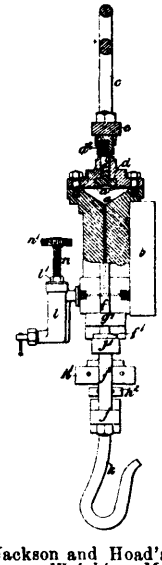
40494 Sugg's Ventilating Apparatus.



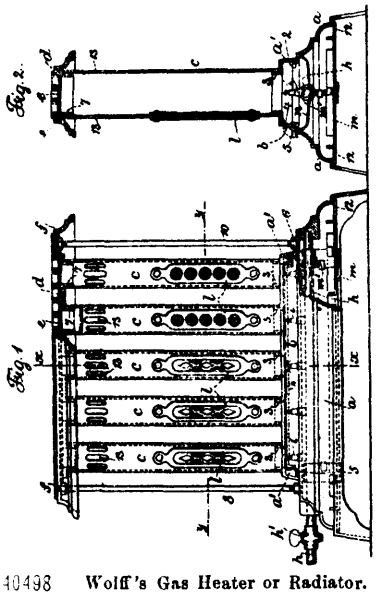
40495 Clairmont's Camera Shutter.



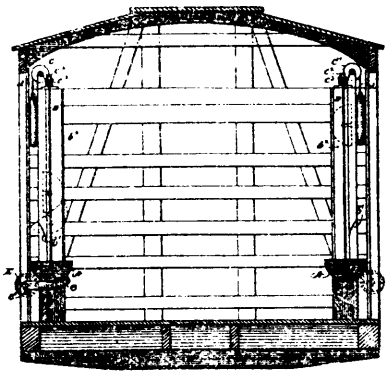
40496 Oppenheimer's Capsule.



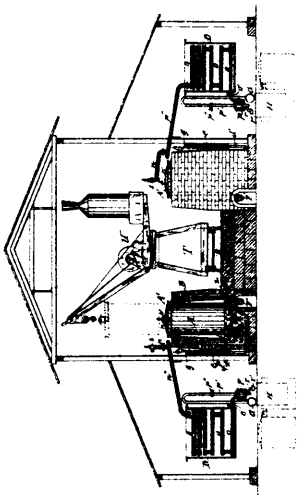
40497 Jackson and Hoad's Hydrostatic Weighing Machine.



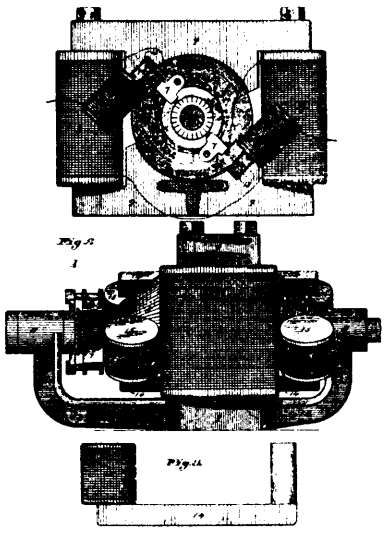
40498 Wolff's Gas Heater or Radiator.



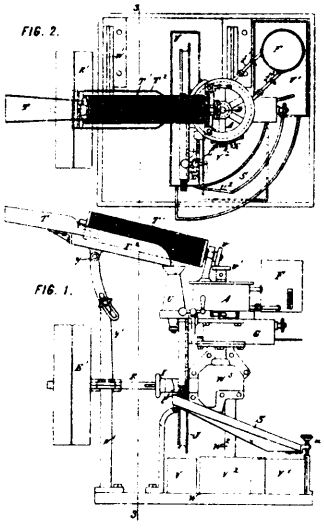
40499 **Avery's Stock Car.**



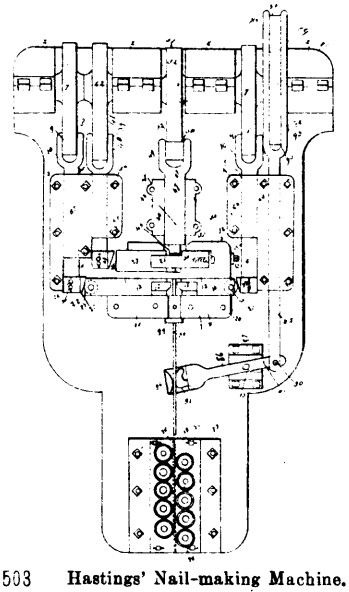
40500 **Burcey's Wood Distilling Apparatus.**



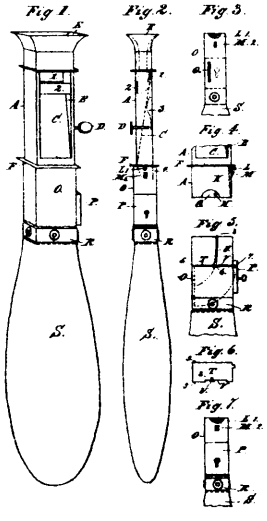
40501 **Atwood's Magneto-electric Machine.**



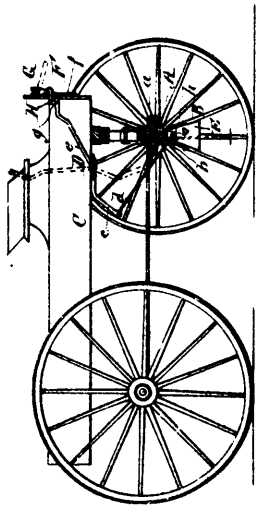
40502 **Weller and Gibney's Pill Machine.**



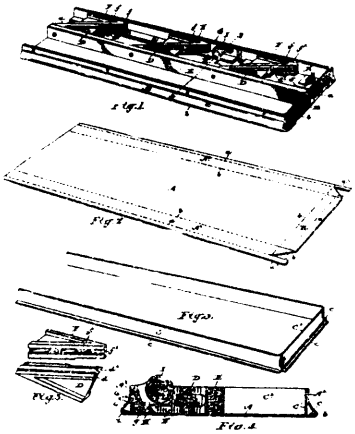
40503 **Hastings' Nail-making Machine.**



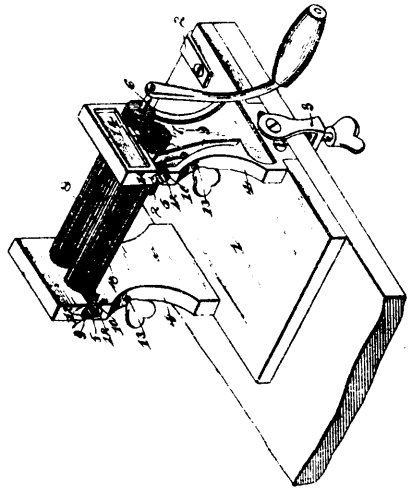
40504 **Berne's Fare Collector.**



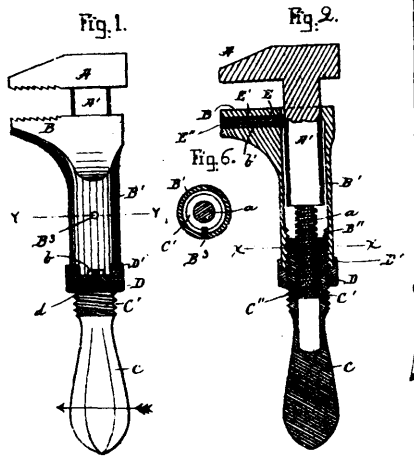
40505 **McHenry's Lifter for Halter Weights.**



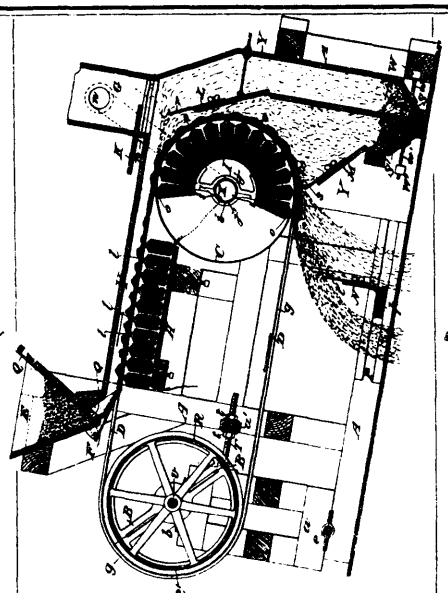
40506 **Horne's Printer's Galley.**



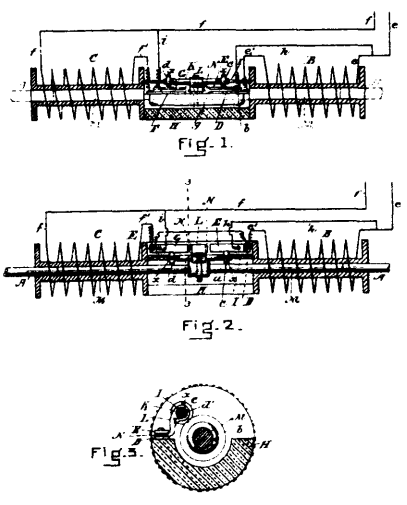
40507 **Arnold's Meat Tenderer.**



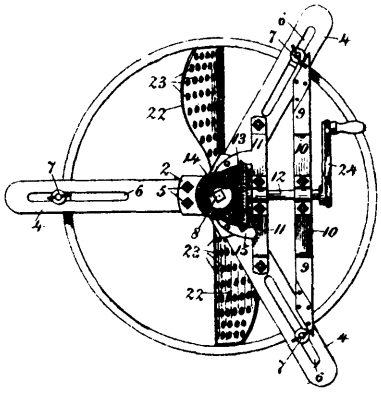
40508 Bornstein's Wrench for Pipes and Nuts.



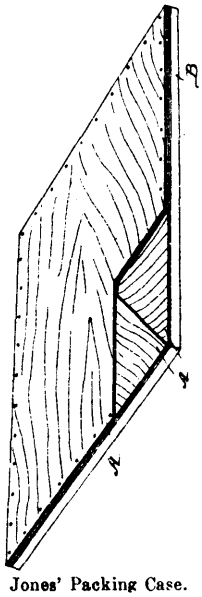
40509 Hoffman's Magnetic Separator.



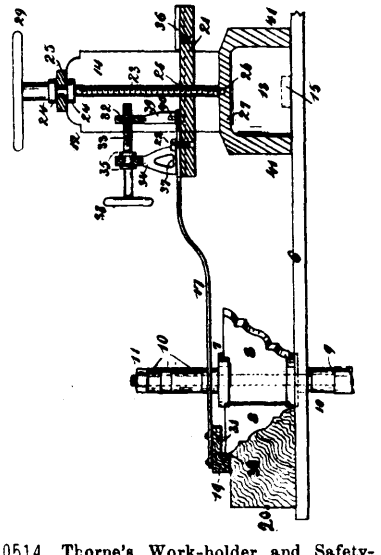
40510 McKay's means for electrically giving Reciprocating Motion.



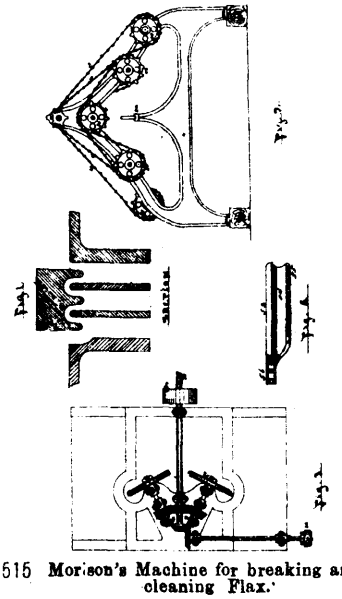
40511 Randle's Mixing Machine.



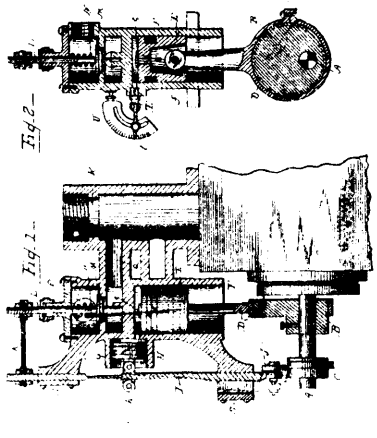
40512 Jones' Packing Case.



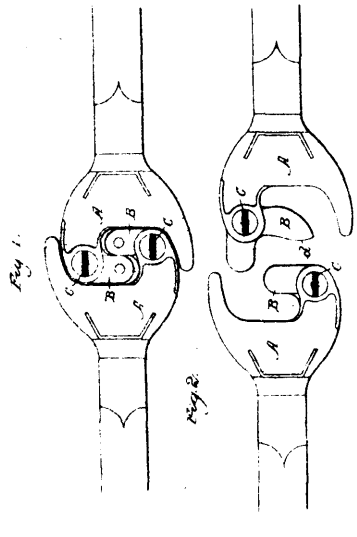
40514 Thorne's Work-holder and Safety-guard for Wood Cutting Machines.



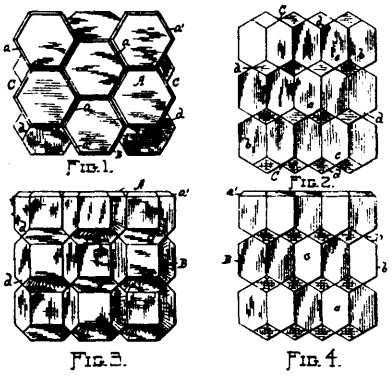
40515 Morison's Machine for breaking and cleaning Flax.



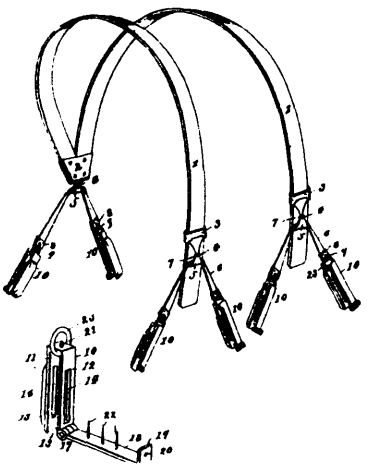
40516 Sharpneck's Gas Engine Governor.



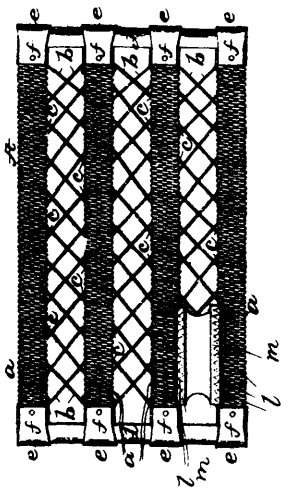
40517 Decker's Car Coupler.



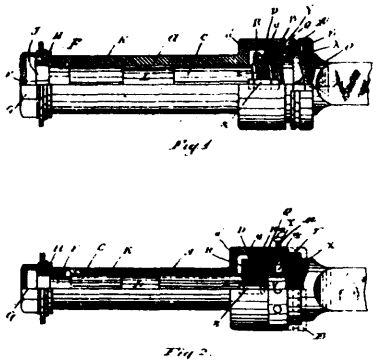
40518 **Graham's Artificial Stone.**



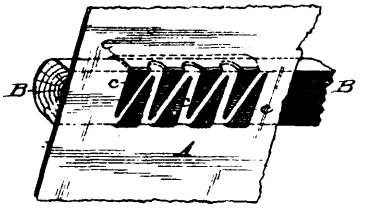
40519 **Fredlihp's Suspender.**



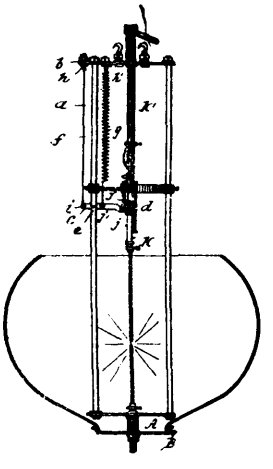
40521 **Emerson and Midgley's Wire Mat.**



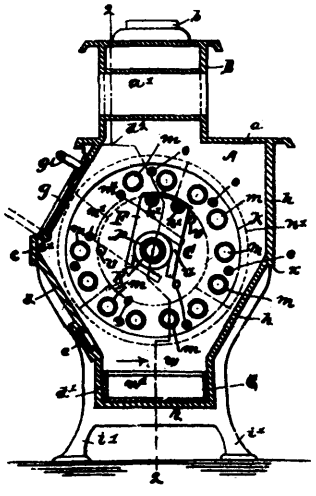
40522 **Dansereau's Axle Skein.**



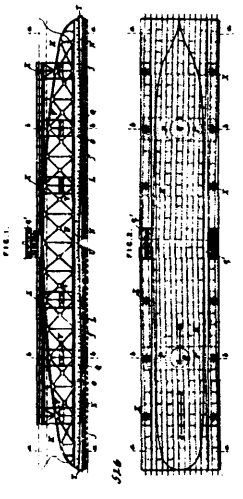
40523 **Merriam's Device for Repairing Broken Slats.**



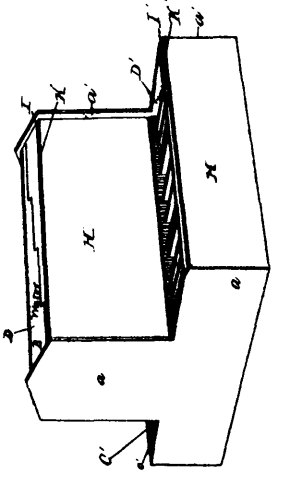
40524 **Irish's Arc Lamp.**



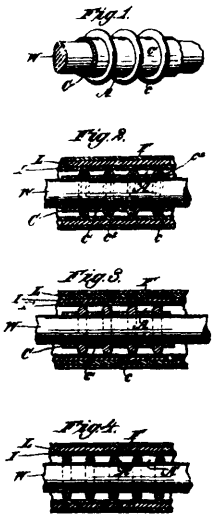
40525 **Forbes' Stove.**



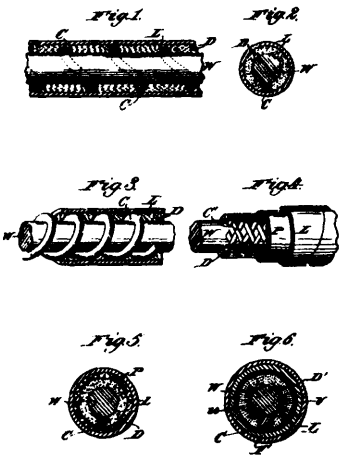
40526 **Kinipple's Railway Car.**



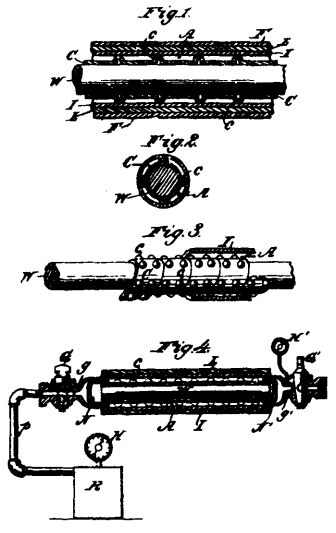
40527 **Ward's Fixing and Washing Tank for Photographic Purposes.**



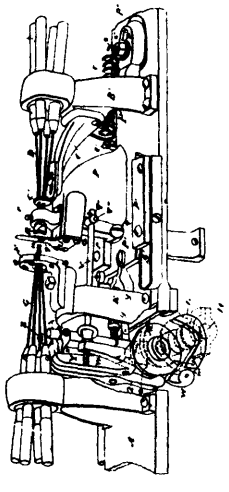
40528 Williams' Insulated Electric Conductor.



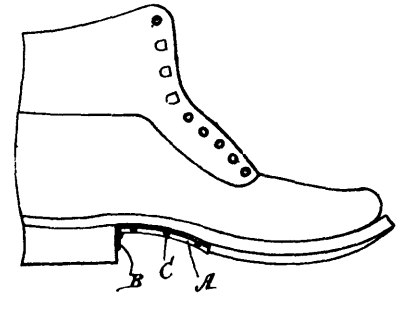
40529 Williams' Insulated Electric Conductor.



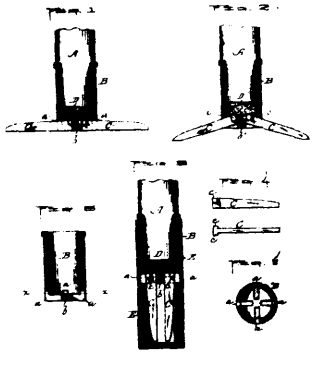
40530 Williams' Process of Treating Insulated Electric Conductors.



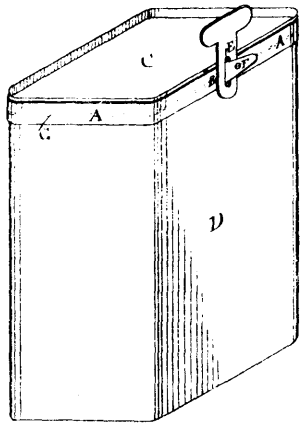
40531 Shantz's Machine for Boring Holes in Buttons.



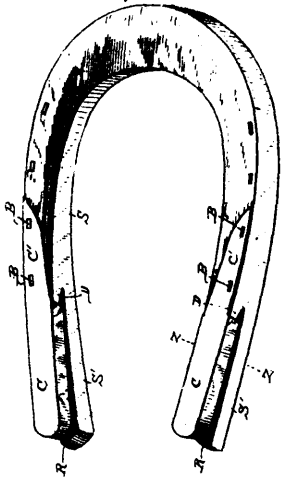
40532 Martin's Protector for Boots & Shoes.



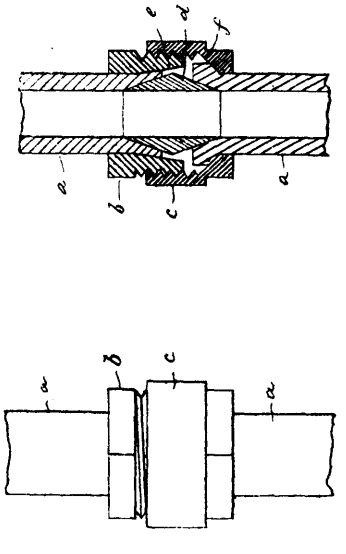
Reutter's Folding Base for Stands.



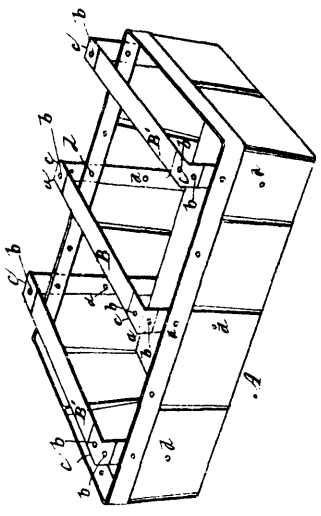
40534 Cowan's Can.



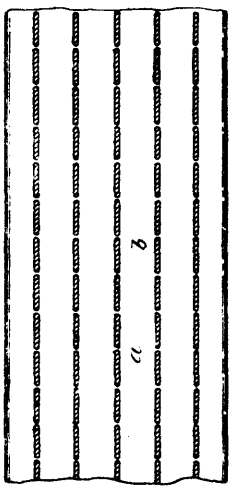
40537 Dwyer and Stewart's Horse-shoe.



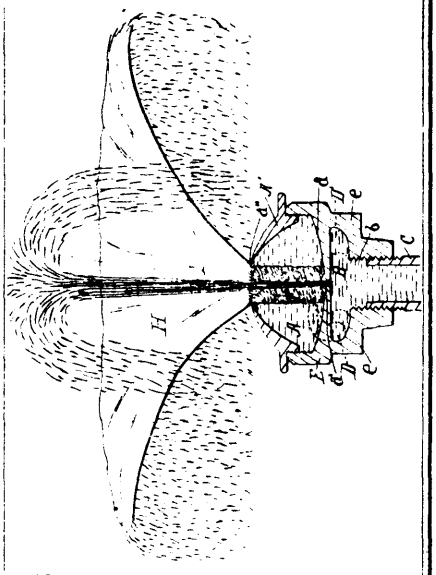
40538 Wait's Metallic Pipe Coupling.



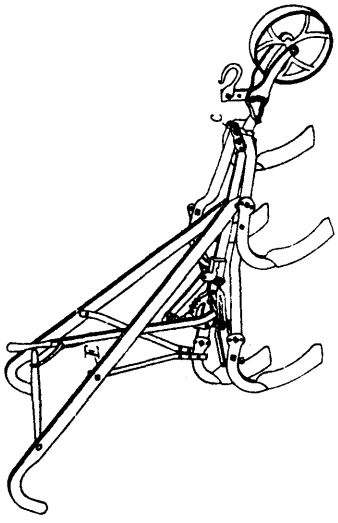
40539 Field's Fruit Basket.



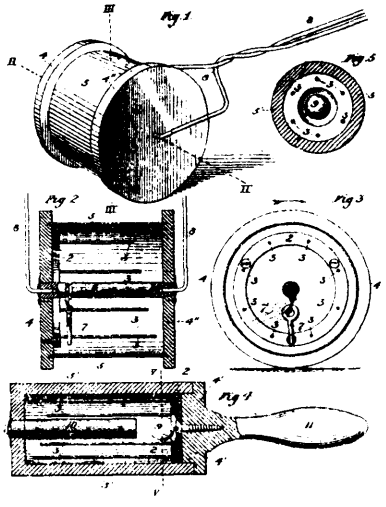
40540 Cowen's Belting.



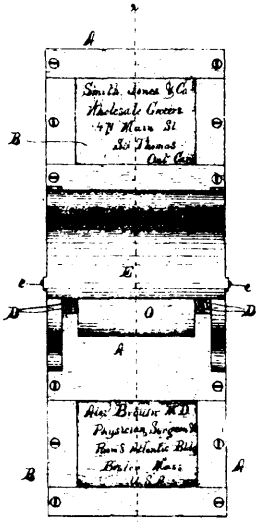
40542 Wilgus' Lawn Sprinkler.



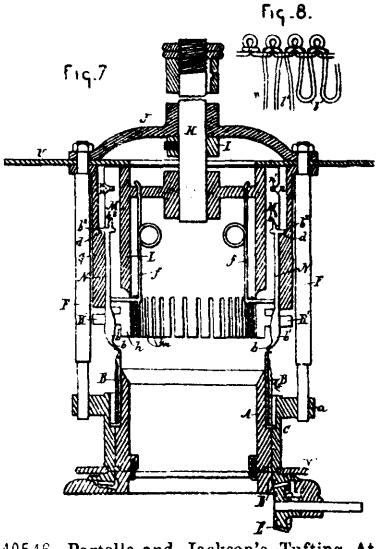
40543 Bement's Cultivator.



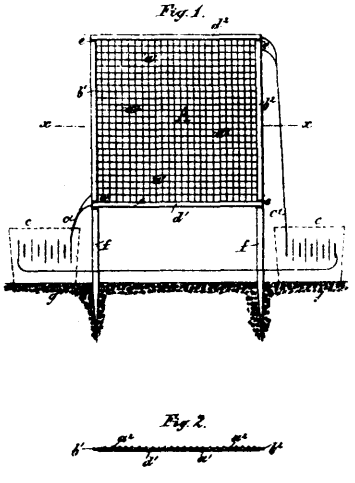
40544 Gay's Toy.



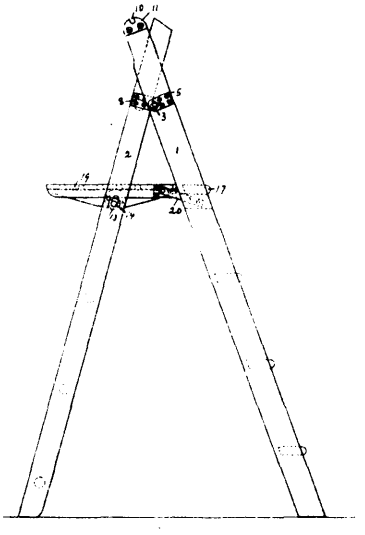
40545 Harmer's Advertising Medium.



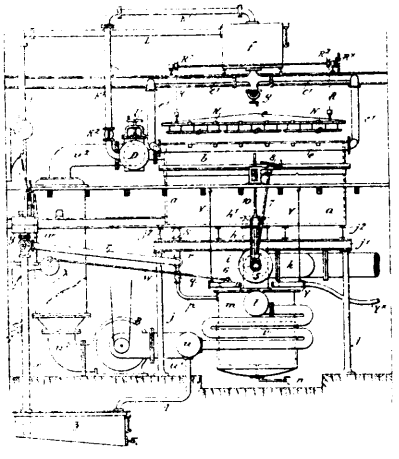
40546 Partello and Jackson's Tufting Attachment for Knitting Machines.



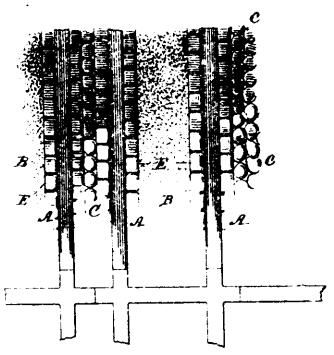
40547 Puckler's Device for Destroying Insects.



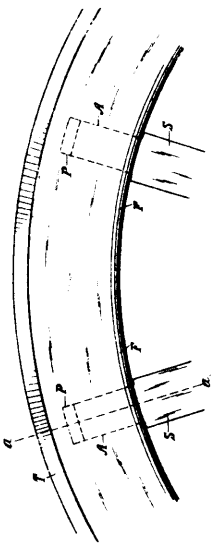
40548 Barr's Step-ladder.



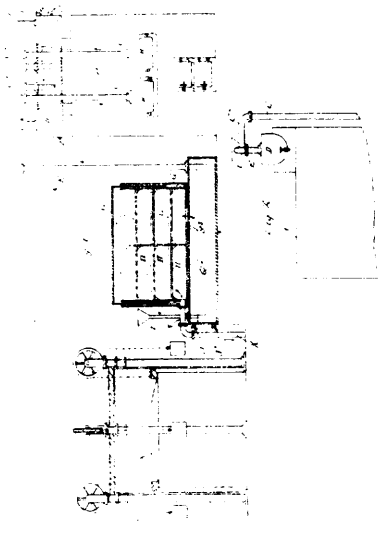
40549 Turney's Process of and Apparatus for Degreasing Leather.



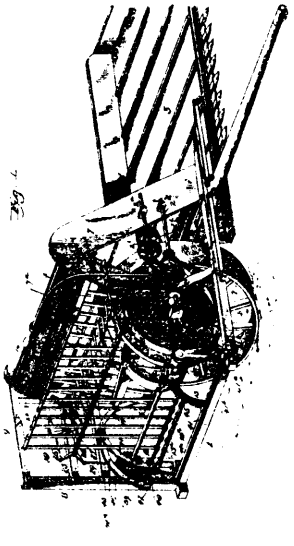
40550 Chanter's Pavement.



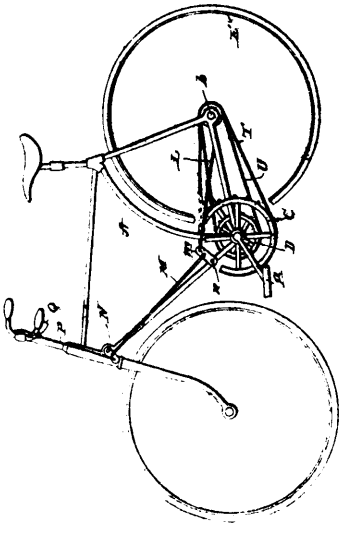
40551 Stothers' Wheel.



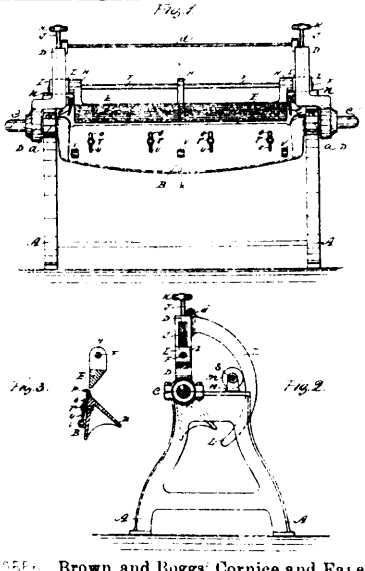
40552 Wiesender's Method of making Illuminating Gas.



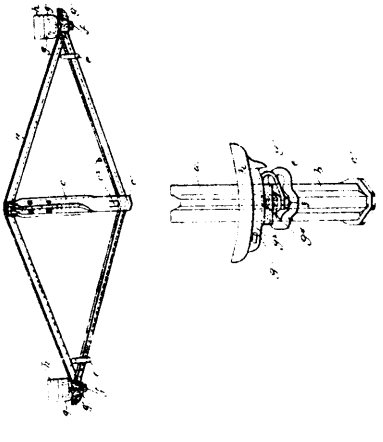
40553 Grieser's Grain Binder.



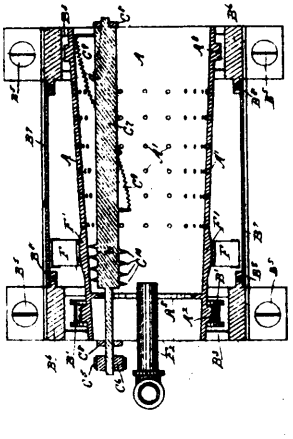
40554 Anthony and Everitt's Bicycle.



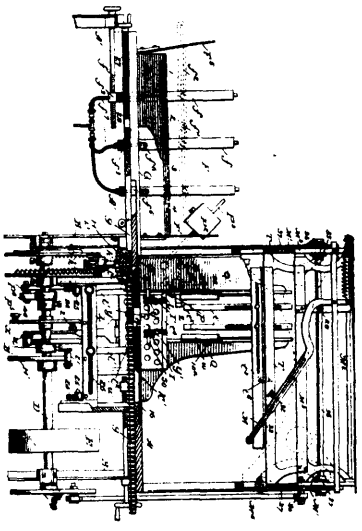
40555 Brown and Boggs' Cornice and Eave-trough Brake Machine.



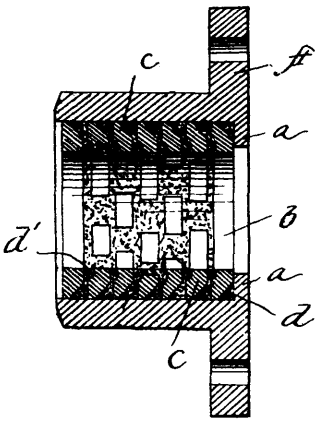
40556 Schoen and Newton's Brake Beam and Shoe Head for Railway Cars.



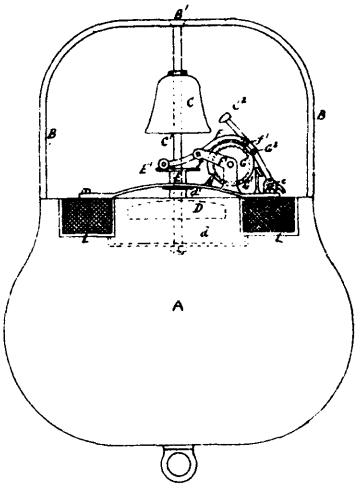
40557 Stevens' Centrifugal Pulp Dryer.



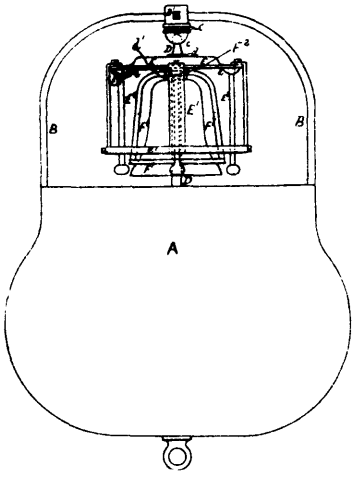
40558 Coons' Box Machine.



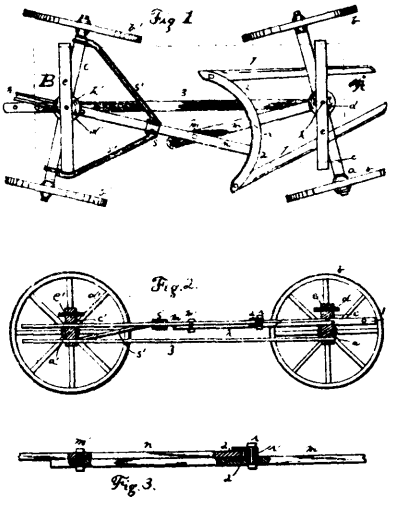
40559 Torrey's Journal Bearing.



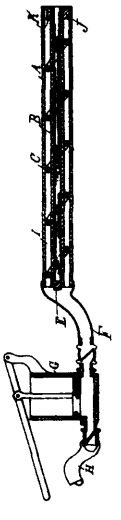
40560 Gibson's Bell Buoy.



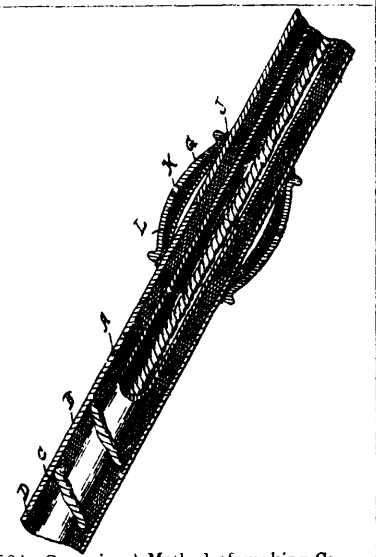
40561 Gibson's Bell Buoy.



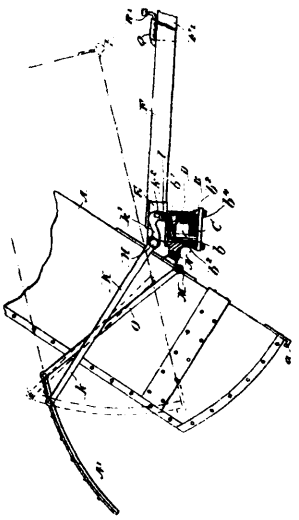
40562 Capwell and Fuller's Vehicle Gear.



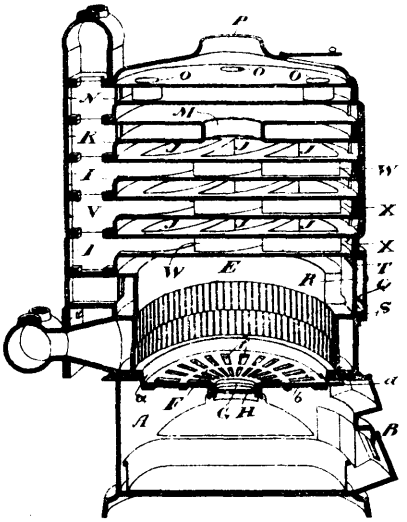
40563 Cummings' Underground Conduit for Electrical Conductors.



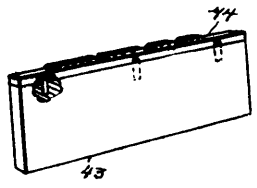
40564 Cummings' Method of making Conduit Sections for Underground Electrical Conductors.



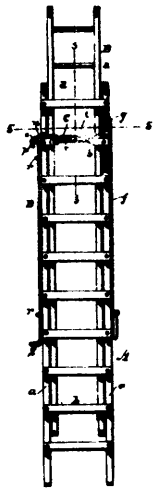
40565 Browning's Dumping Wagon.



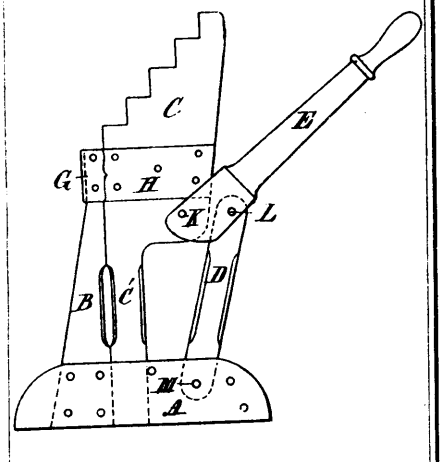
40567 Gurney's Hot Water Heater.



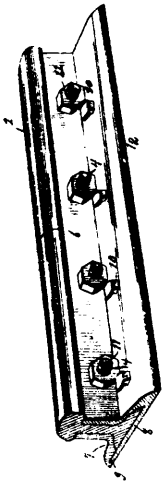
40568 St John's Type Bar.



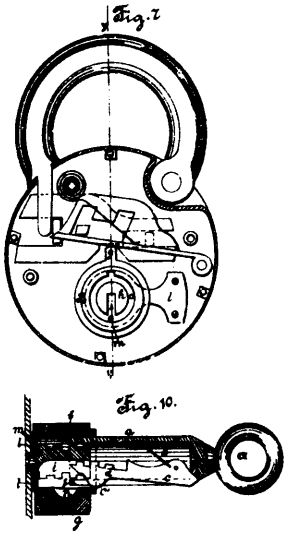
40569 Robertson and Genin's Ladder.



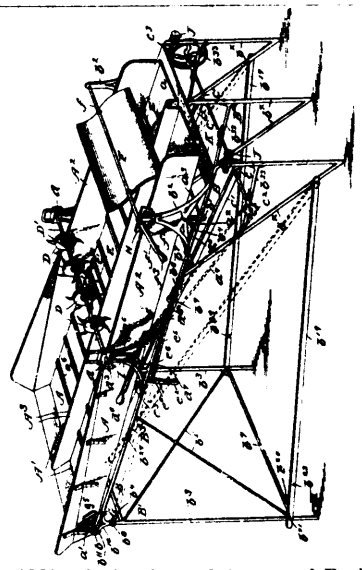
40570 Shirreff's Wagon Jack.



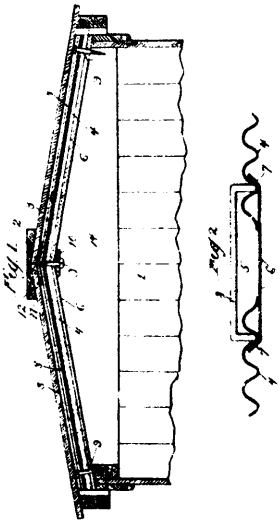
40571 Hane's Railroad Joint.



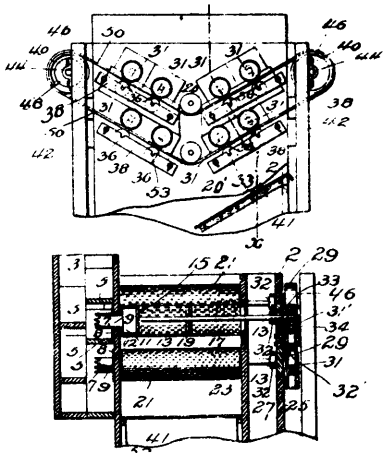
40572 Menike's Lock.



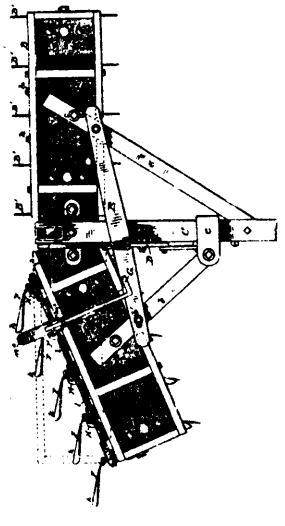
40573 Graham's Band Cutter and Feeder for Thrashing Machines.



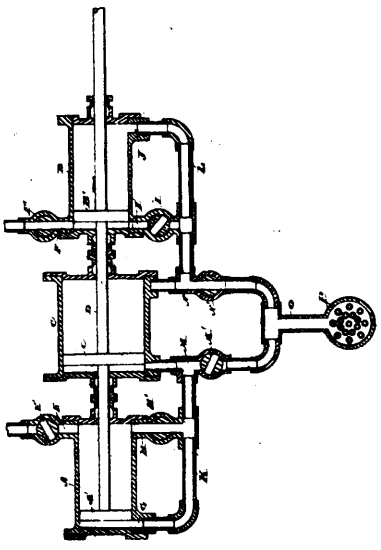
40574 McCarthy's Roof.



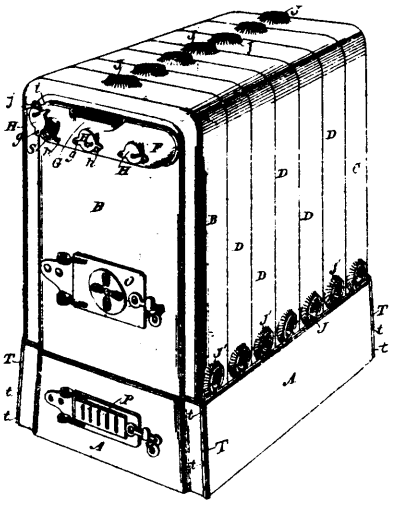
40575 King's Grain Separator.



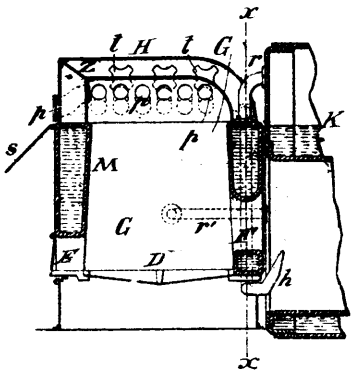
40577 Clark's Land Plowing Machine.



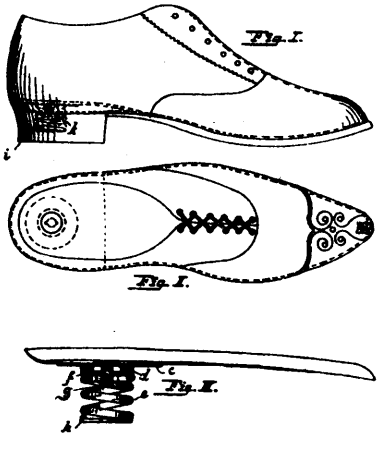
40578 Parmenter's Engine.



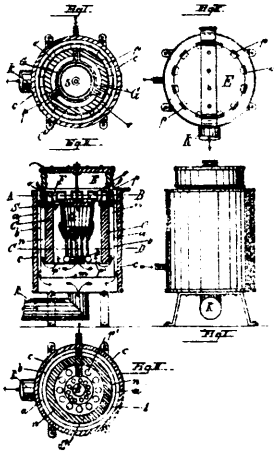
40579 Howatt's Water Heater.



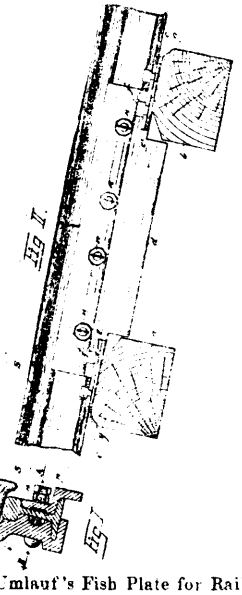
40580 Müller's Boiler and Furnace therefor.



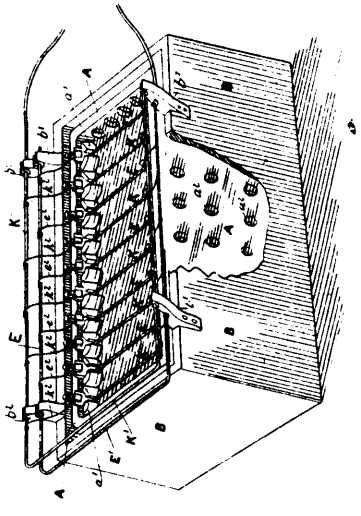
40581 Riedig's Boot and Shoe.



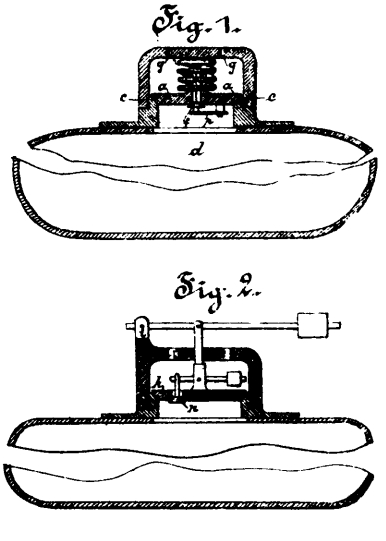
40582 Kohler and Kegler's Furnace.



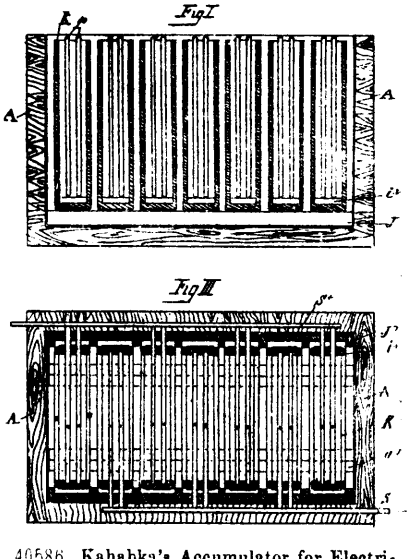
40583 Umlauf's Fish Plate for Rails.



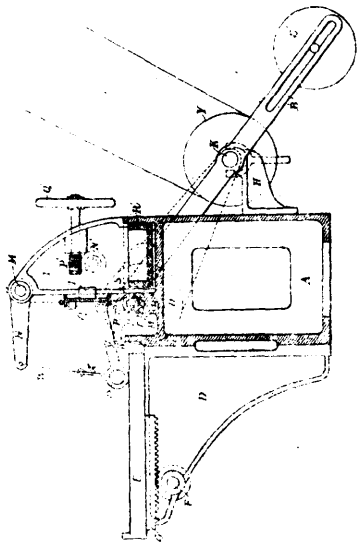
40584 Heathfield's Apparatus and Means for coating and cleaning Metals.



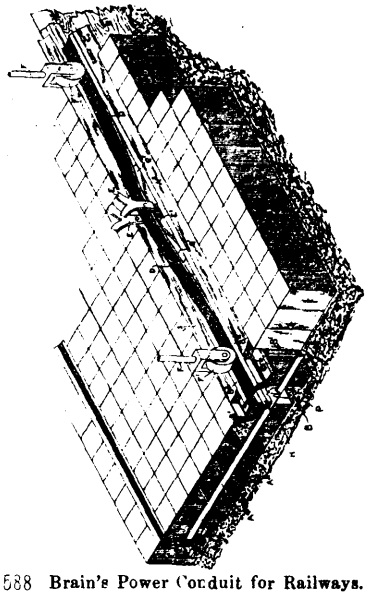
40585 Wurfler's Relief Valve.



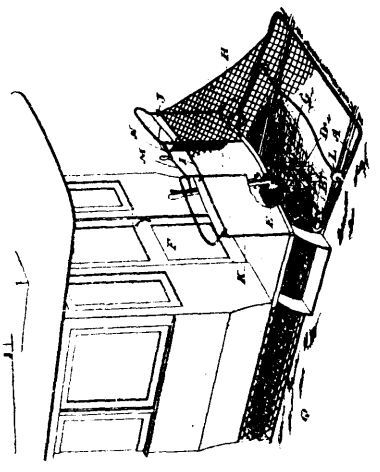
40586 Kahabka's Accumulator for Electrical Light.



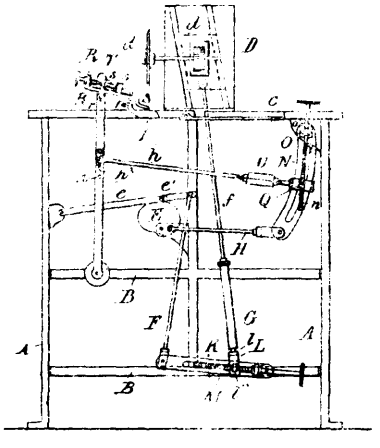
40587 De Ferranti's Electric Main.



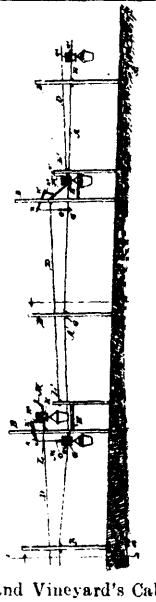
40588 Brain's Power Conduit for Railways.



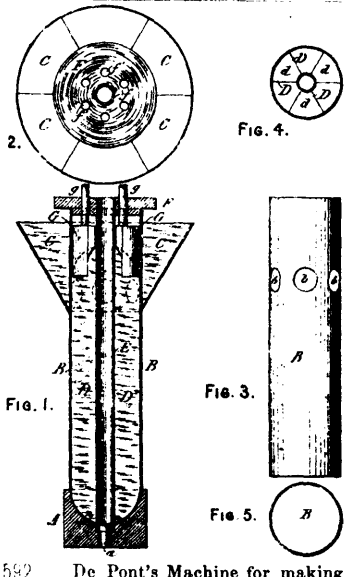
40589 Dubois' Safety Attachment for Street Cars.



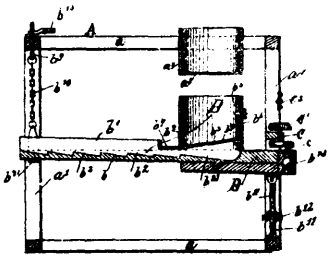
40590 Sheets' Saw-sharpening Machine.



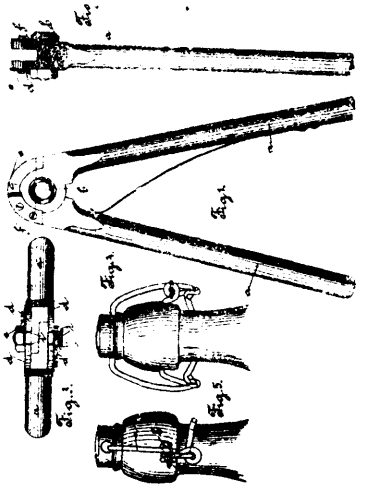
40591 Root and Vineyard's Cable Railway.



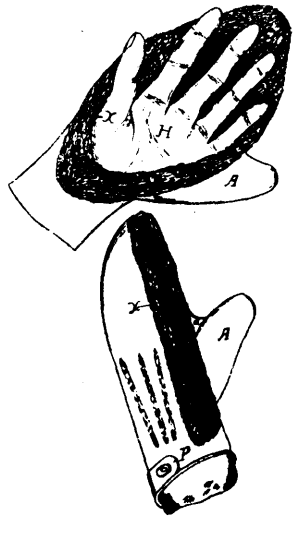
40592 De Pont's Machine for making Ivory Articles.



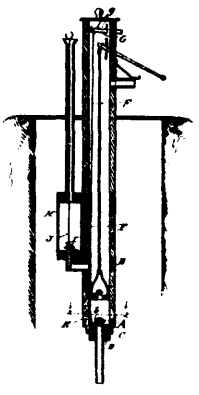
40593 Hill's Gold Concentrator.



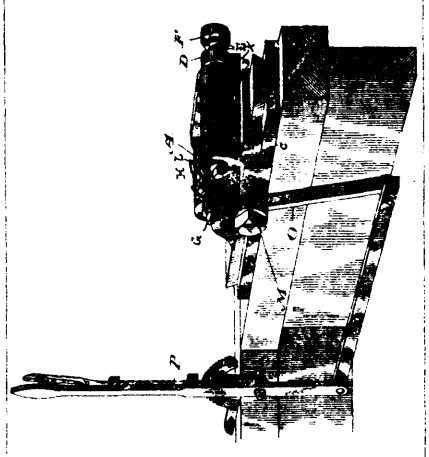
40594 Kirschner's Method of Securing Corks in Bottles.



40595 Kahn's Mitten.

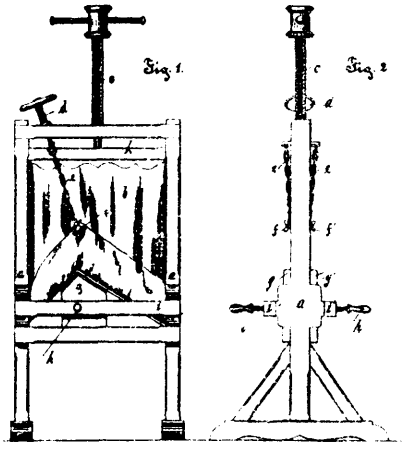


40596 Mills' Pump.

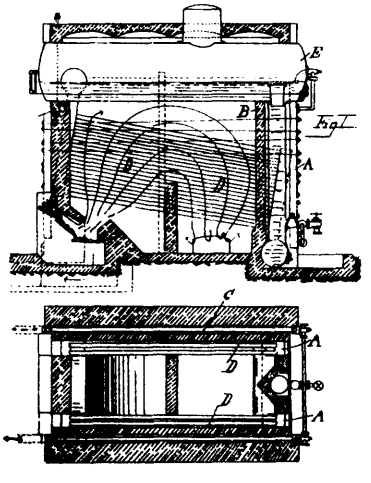


40597 Mowry's Saw Guide.

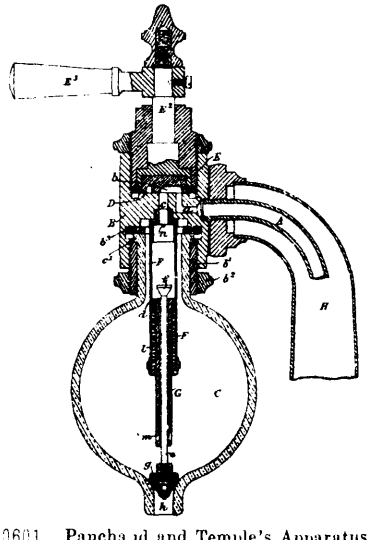
40598 Barger's Combined Folding Bed, Billiard Table and Rack, and Settee.



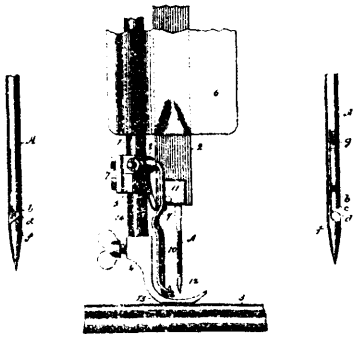
40599 Krone's Machine for Shaping or Moulding Leather.



40600 Seipp's Multi-tubular Boiler.



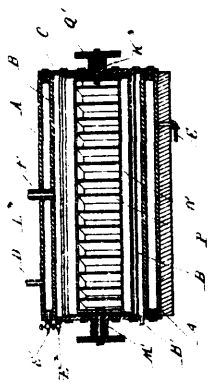
40601 Panchaud and Temple's Apparatus for drawing off Aerated Liquids.



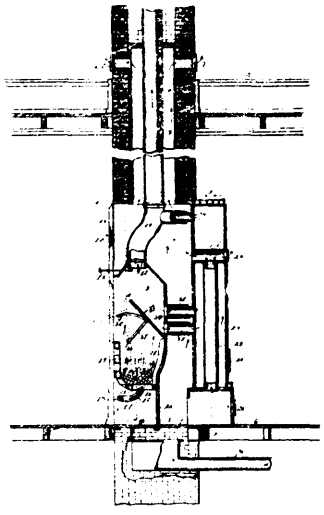
40602 Legg and Wes on's Sewing Machine.

40603 Wilcox's Hoist and Travelling Carrier.

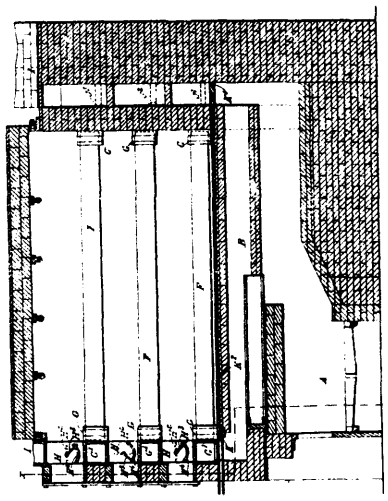
40604 Ferns' Tubular Lantern.



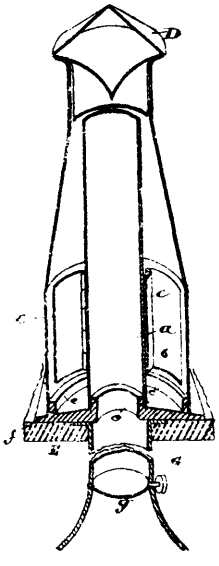
40605 Palmer's Apparatus for making Soap.



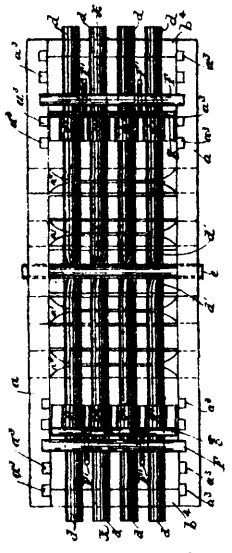
40606 Scates' Open Fire-place Heater.



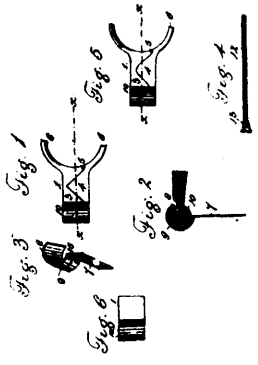
40607 Adair's Oven and Tray therefor.



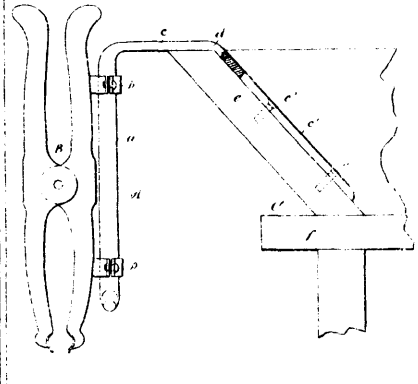
40608 McFarlane's Ventilator.



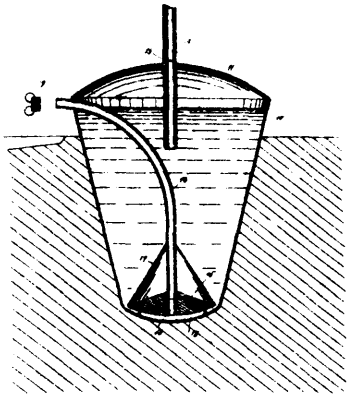
40609 Hodges' Flask for making Seamless Sash Weights.



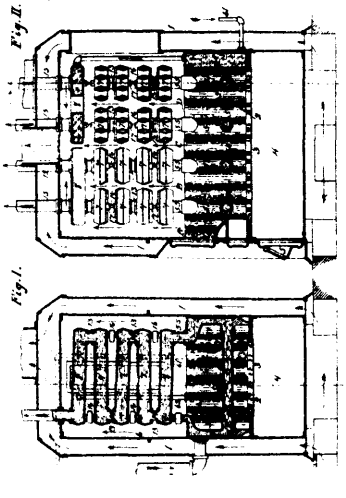
40610 Price's Joint for Spectacle Frames.



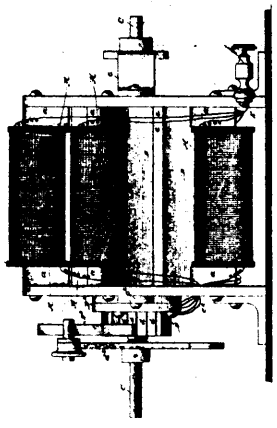
40611 Tulloch's Whip Socket Support.



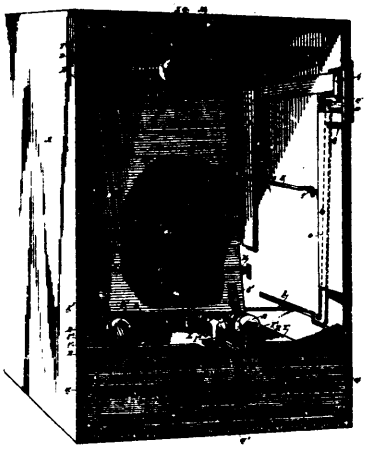
40612 Johnson's Cistern.



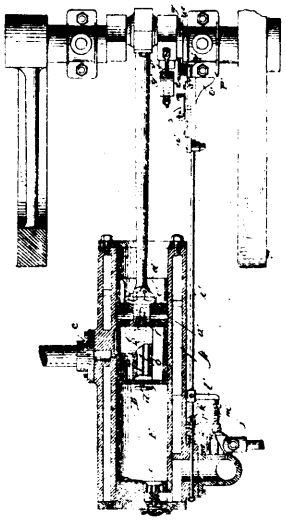
40613 Culver's Water Heater.



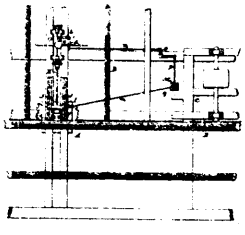
40614 **Hewett's Electric Motor.**



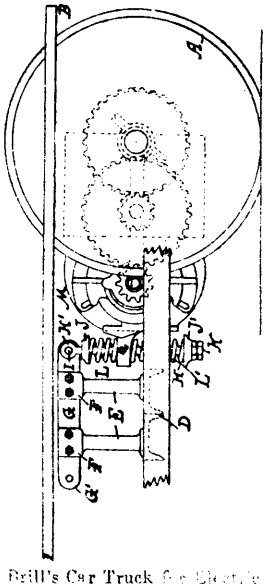
40615 **Moran's Vending Machine.**



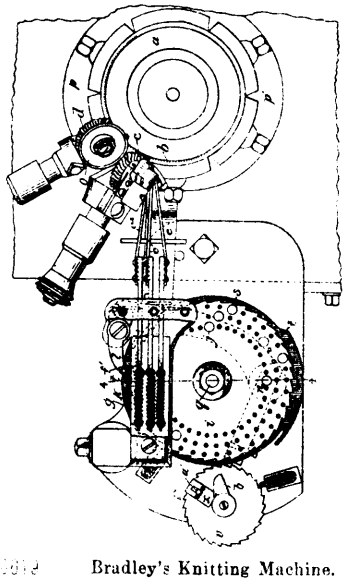
40616 **White and Middleton's Gas Engine.**



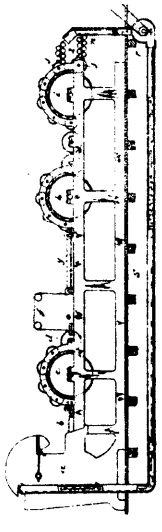
40617 **Wilkins' Log Turner.**



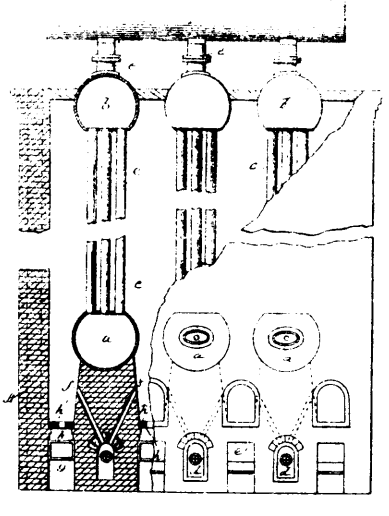
40618 **Brill's Car Truck for Electric Motors.**



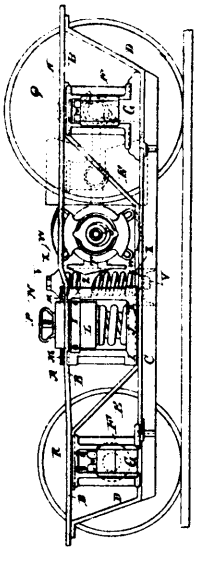
40619 **Bradley's Knitting Machine.**



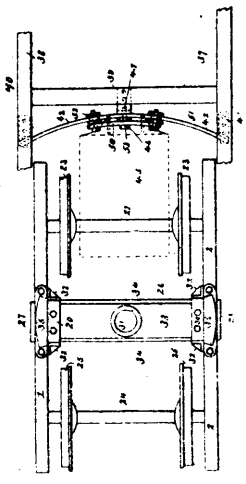
40620 **Craggy's Waste End Conveyor for Carding Machines.**



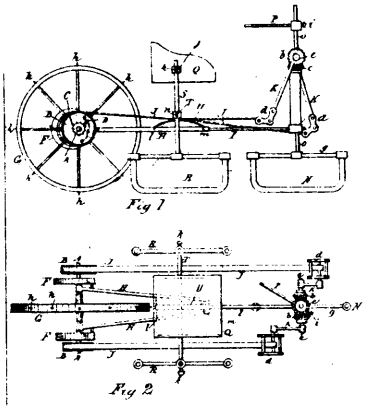
40621 **Wheeler's Boiler Furnace.**



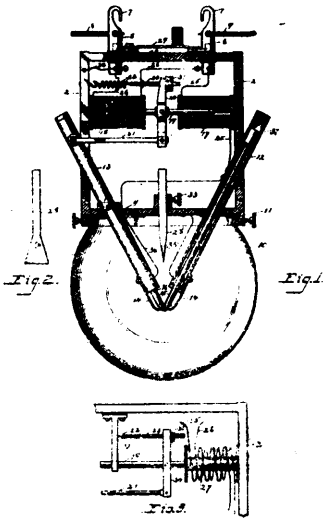
40622 **Brill's Car Truck for Electric Cars.**



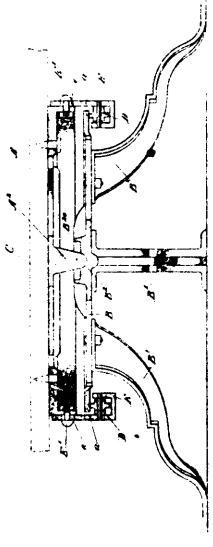
40623 Brill's Motor Truck for Cars.



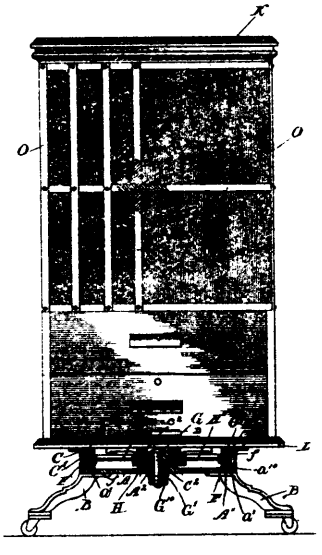
40624 Morris' Mechanical Movement.



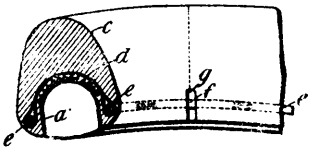
40625 Beach's Arc Lamp.



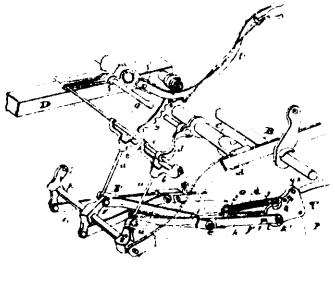
40626 Haley's Book-case.



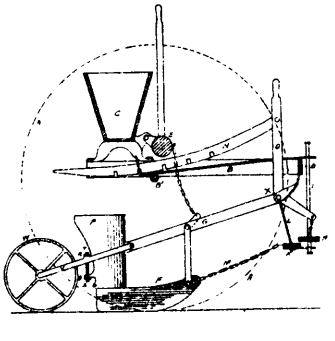
40627 Haley's Book-case.



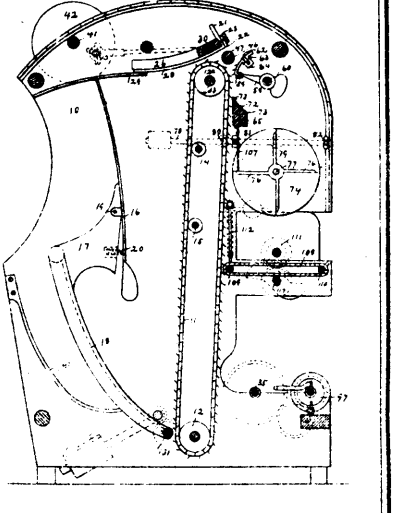
40630 Welch's Rubber Tyre and Metal Rim for Vehicle Wheels.



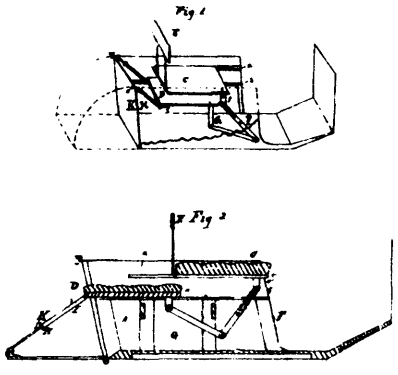
40631 Johnston's Seeding Machine.



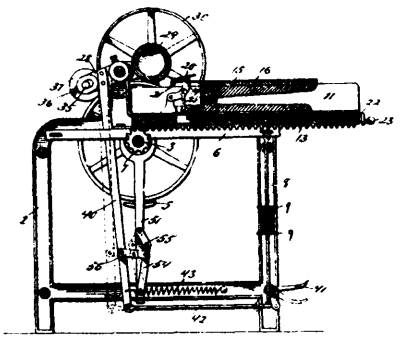
40632 Coulthard and Scott's Seeding Machine, Cultivator, etc.



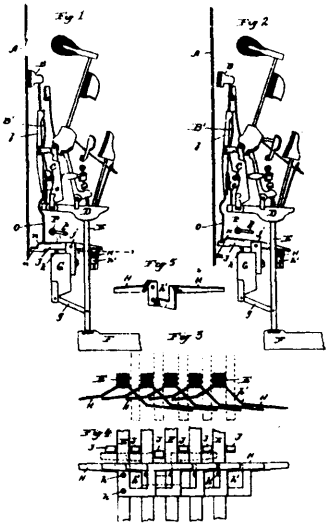
40633 Peckham's Feeding Machine for Carding Engines.



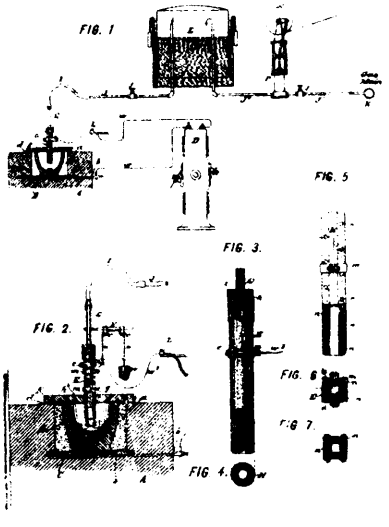
40634 Armstrong's Shifting Seat for Vehicles.



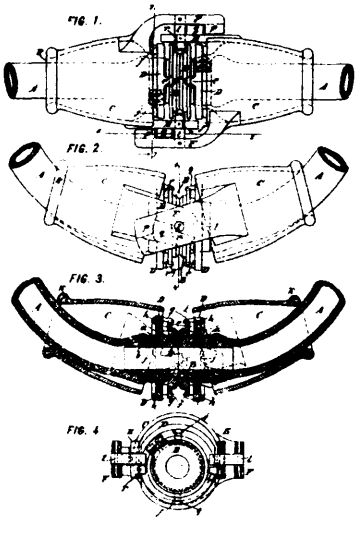
40636 White's Shirt-ironing Machine.



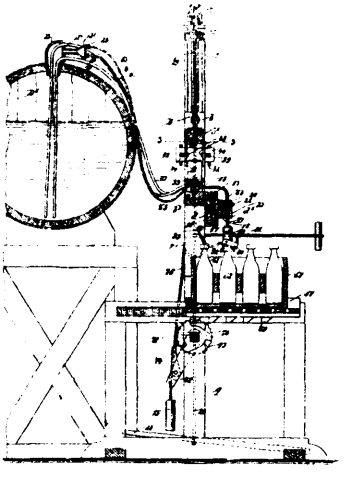
40637 Phelps' Pianoforte Action.



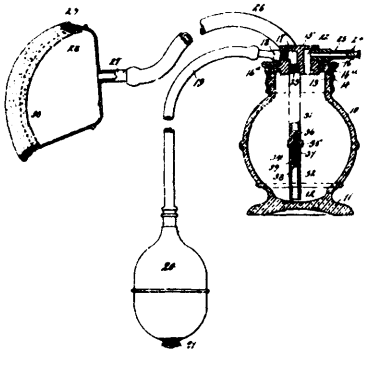
40638 Willson's Process of reducing Metals by Electricity.



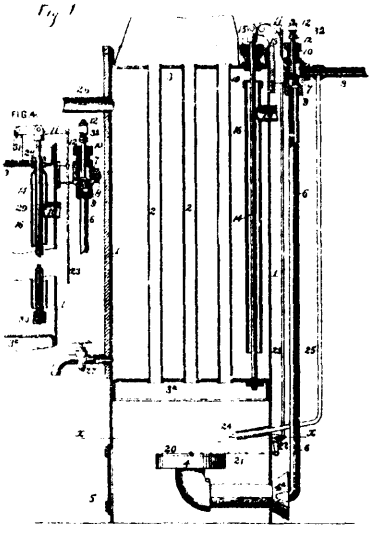
40639 Wright's Hose Coupling.



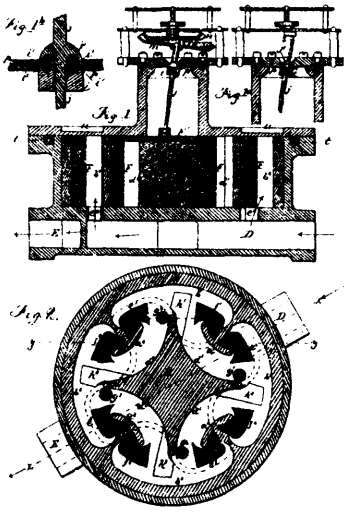
40640 Donally's Bottling Apparatus.



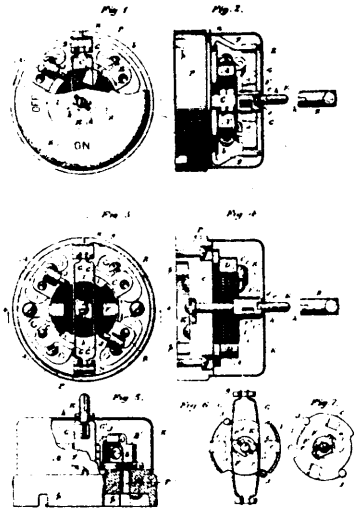
40641 Dunlap's Atomizer.



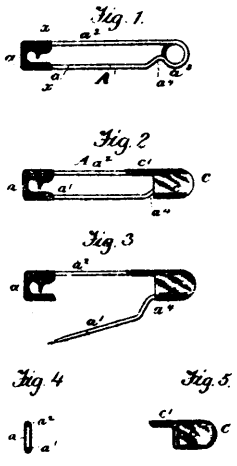
40642 Rund's Water Heater.



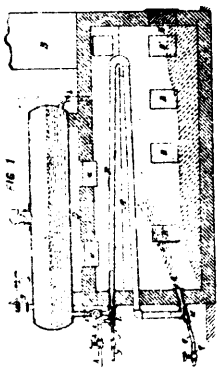
40643 Nash's Water Meter.



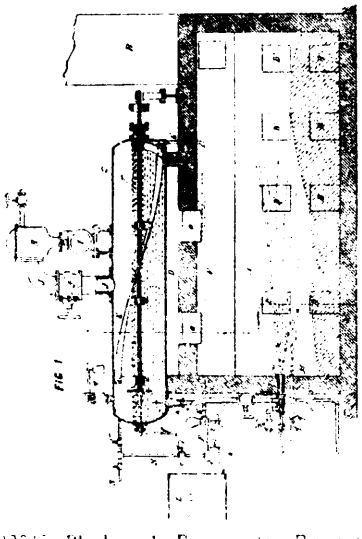
Perkins' Electric Switch.



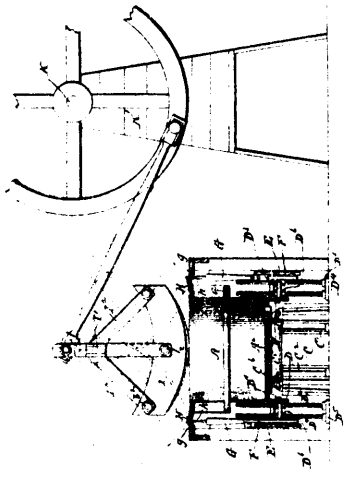
Noyes' Safety Pin.



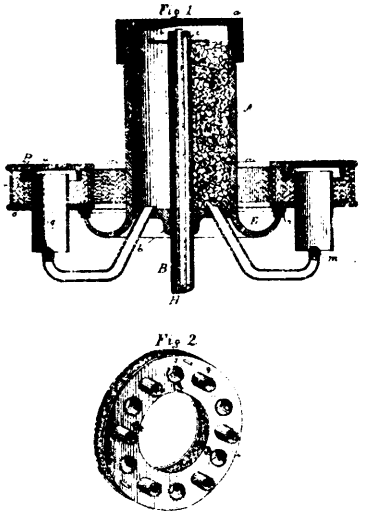
Blackman's Art of Recovering Refractory Substances from Solutions, etc.



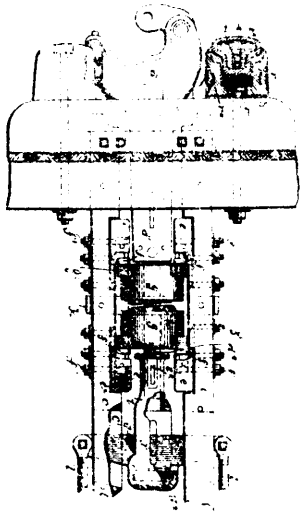
Blackman's Furnace for Evaporating and Calcining Alkaline Solutions.



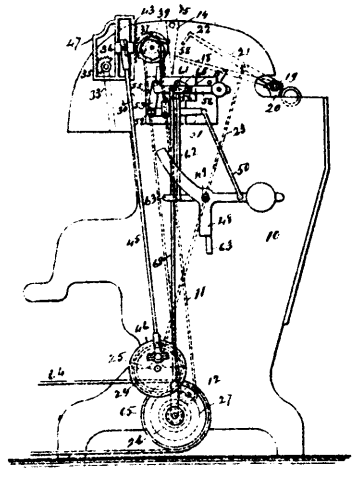
Briggs' Sausage Meat Cutter.



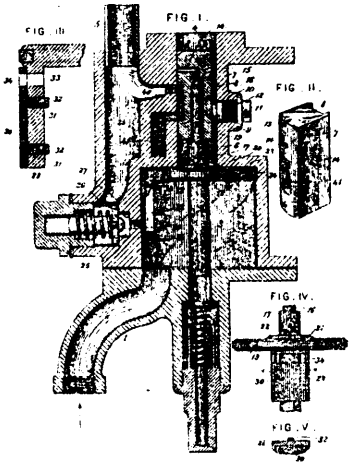
Wilson's Burner for Hydro-carbon.



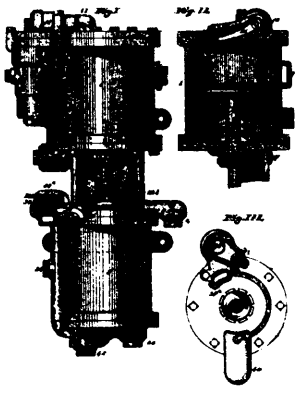
Van Dorston's Draw Gear for Railway Cars.



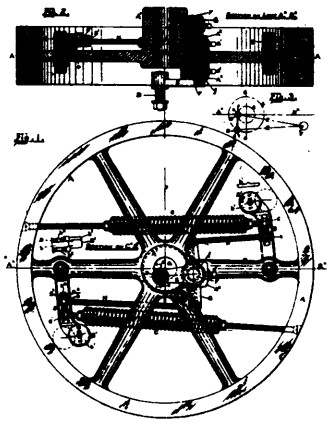
Packham and Fletcher's Feeding Mechanism for Carding Machines.



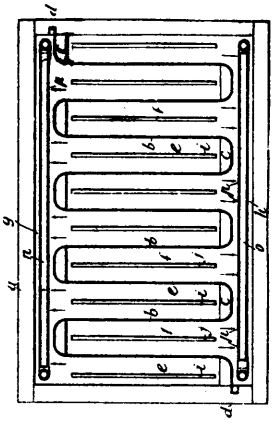
Lansberg's Air Brake.



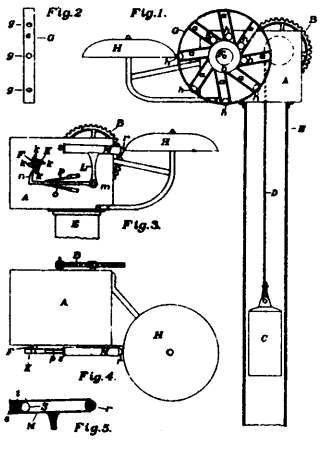
40653 Lansberg's Steam Pumping Engine.



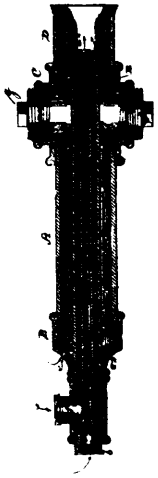
40654 Webber's Steam Engine Governor.



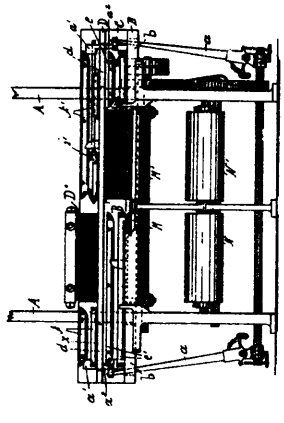
40655 Howell's Apparatus for use in obtaining Copper.



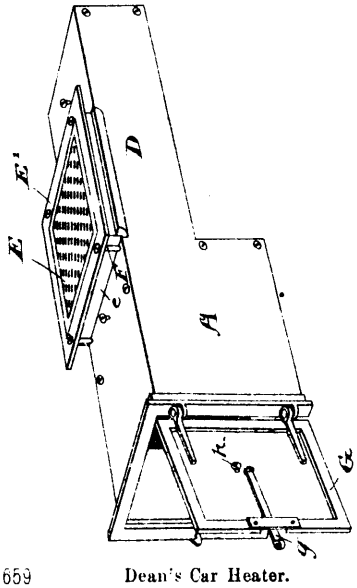
40656 Close's Fog Signal.



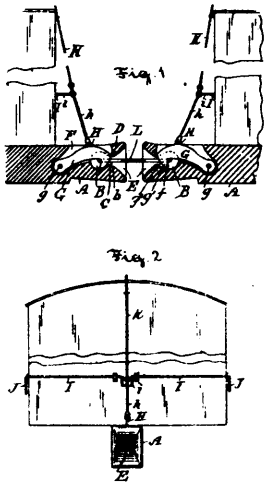
40657 Myers' Oil Burner.



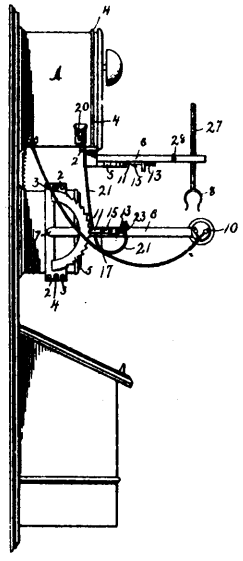
40658 Tweles and Robinson's Picker for Looms.



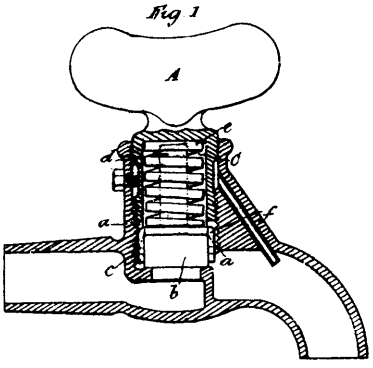
40659 Dean's Car Heater.



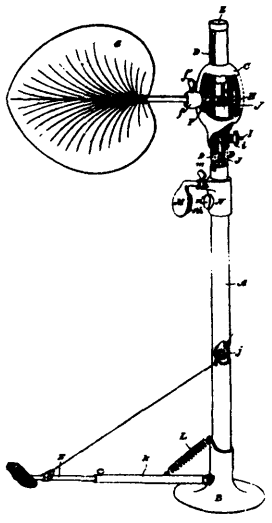
40660 De Grace's Car Coupler.



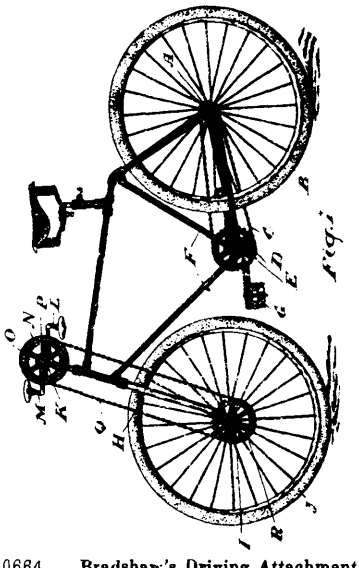
40661 Moore's Phone Holder.



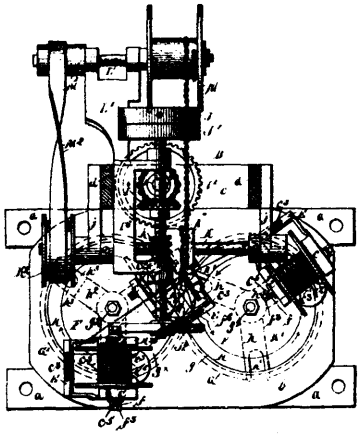
40662 Thomson's Valve.



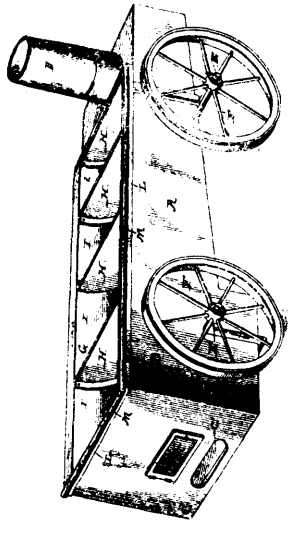
40663 Hart's Foot Power Fan.



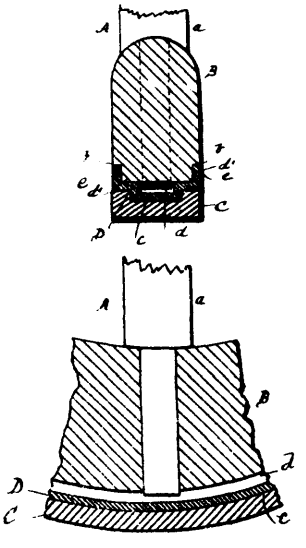
40664 Bradshaw's Driving Attachment for Bicycles.



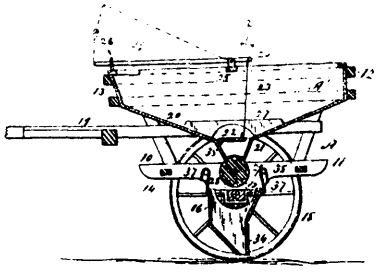
40665 Preston's Wire-plaiting Machine.



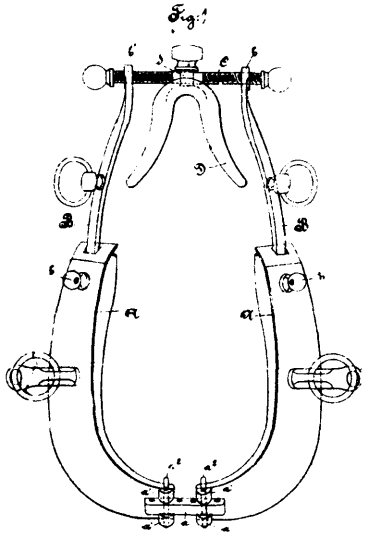
40666 Richards' Portable Evaporating Apparatus.



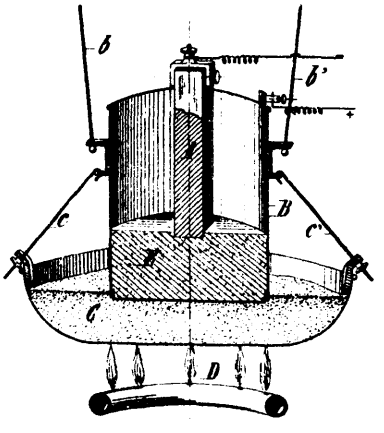
40667 Rohrer's Vehicle Tire.



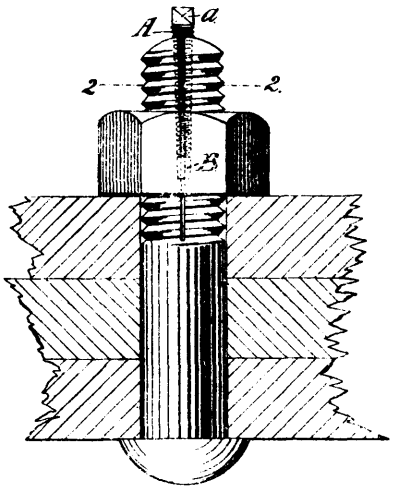
40668 Knight's Seed Planter.



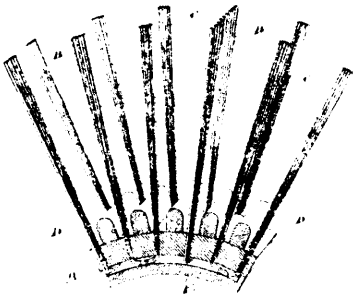
40669 Ahl's Horse Collar.



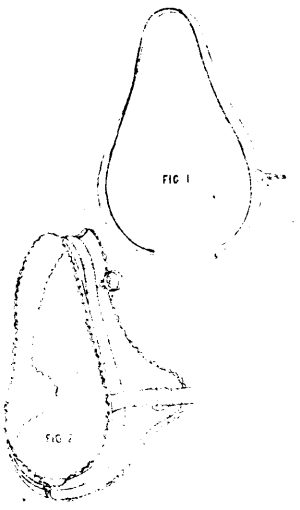
40670 Vernhet's Electric Battery.



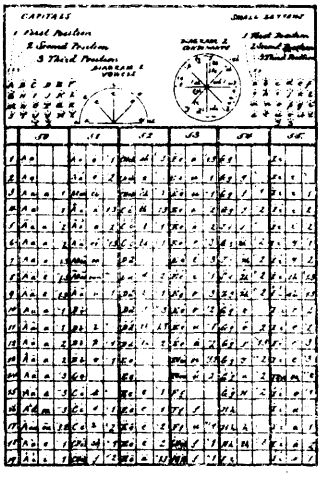
40671 Evinof's Nut Lock.



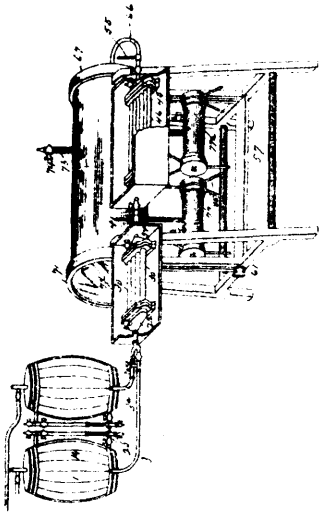
40672 Jones and Gillies' Street Broom.



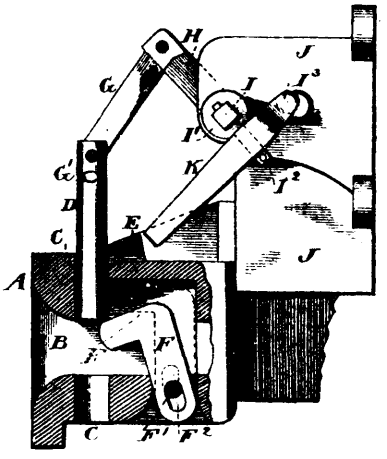
40673 MacGregor's Horse Collar.



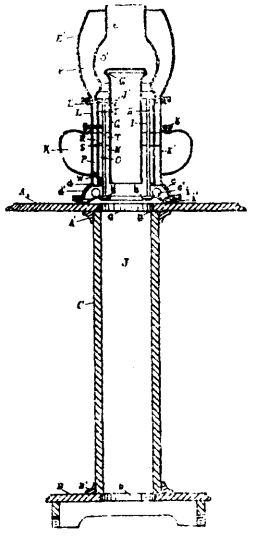
40674 Anderson's Systematic Alphabet of Sound.



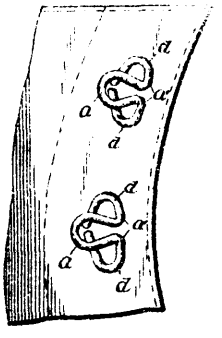
40675 Kersenbrock's Apparatus for Bottling Beer.



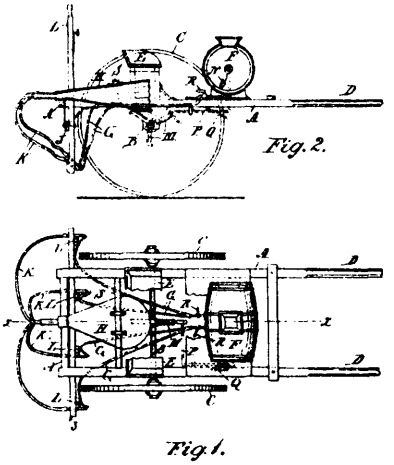
40676 Robertson's Car Coupler.



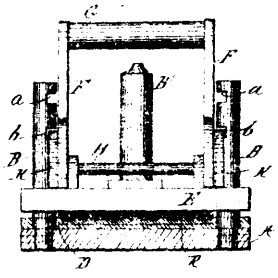
40677 Wilcox's Device for Heating and Lighting.



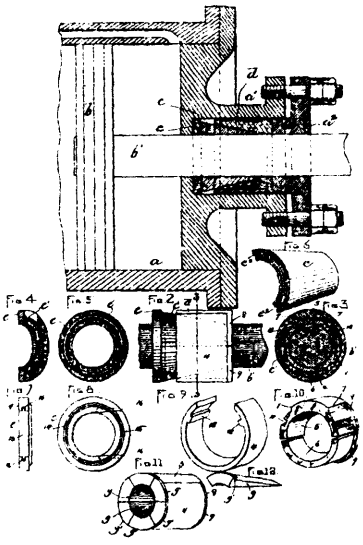
40678 Baker's Wire Lacing Hook.



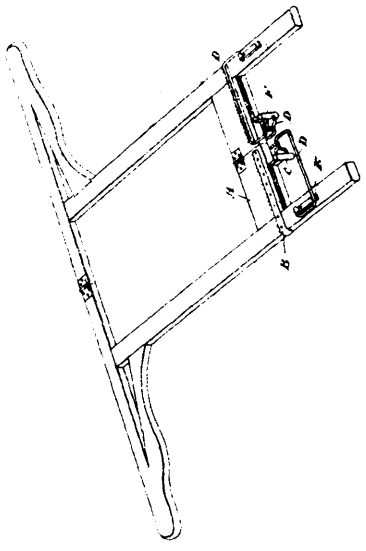
40679 McEvoy and Freeman's Sprinkler for Potato Vines.



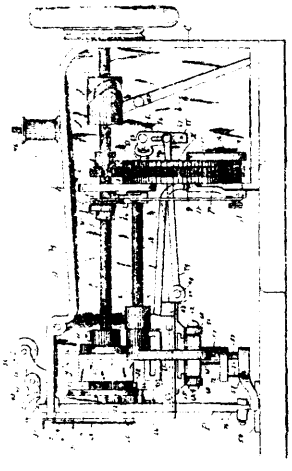
40681 Barton's Apparatus for making Rubber Stamps.



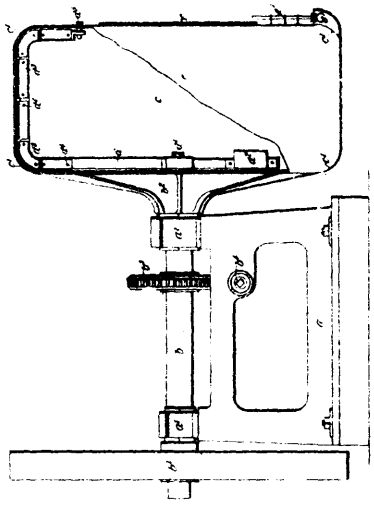
40683 Bodfish's Metallic Packing.



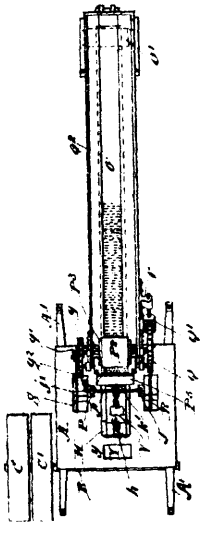
40682 Schofield and Robb's Clamp for Shirt Boards.



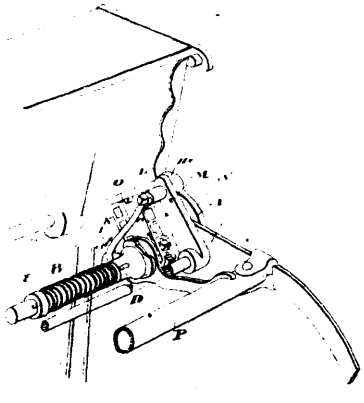
40683 Gaquin and Nichols' Sewing Machine.



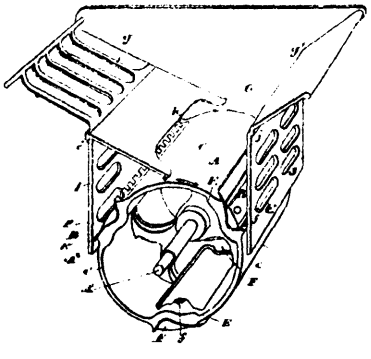
40684 Adair's Dough-mixing Machine.



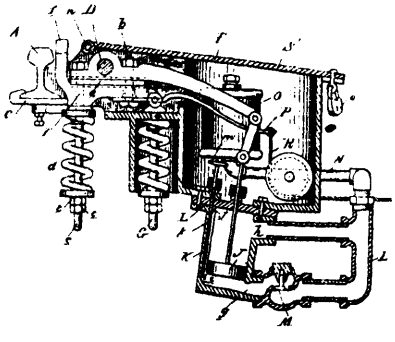
40685 Parsons' Cigarette-making Machine.



40686 Johnston's Feed-operating Gear for Seeding Machines.

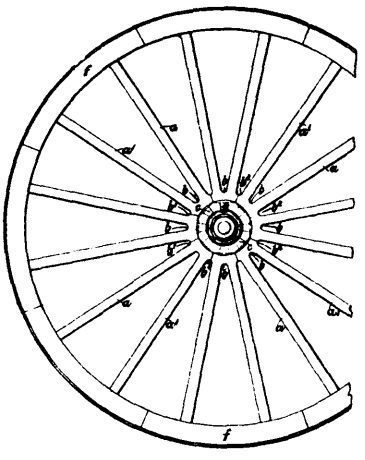


40687 Maxwell's Root Cutter.

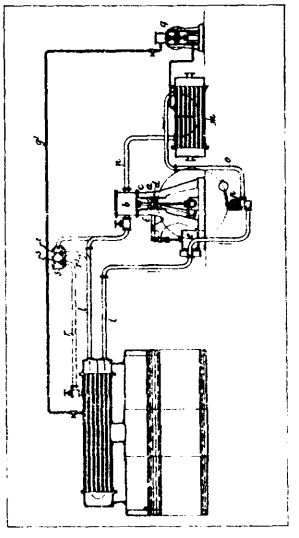


40688 Fontaine's Actuating Device for Railway Signals.

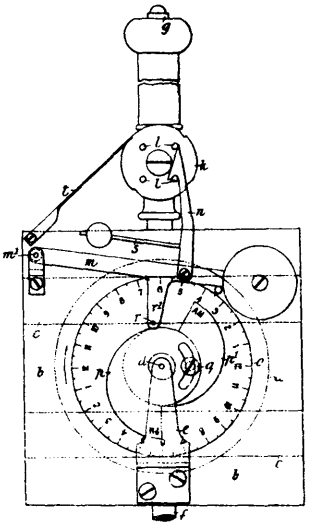
Fig 1.



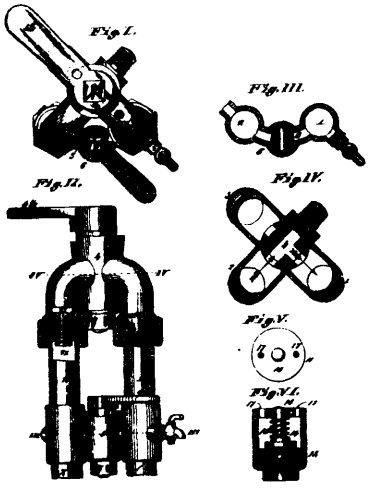
40690 Lowinsky's Wheel for Vehicles.



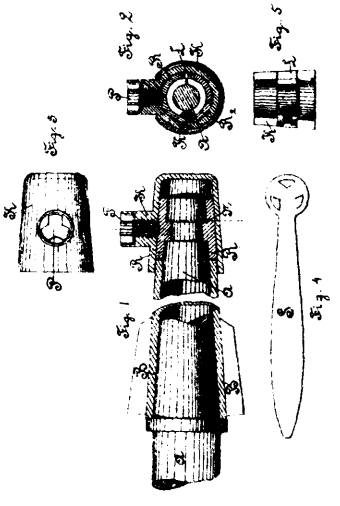
40691 Krank's Apparatus for Producing Motive Power.



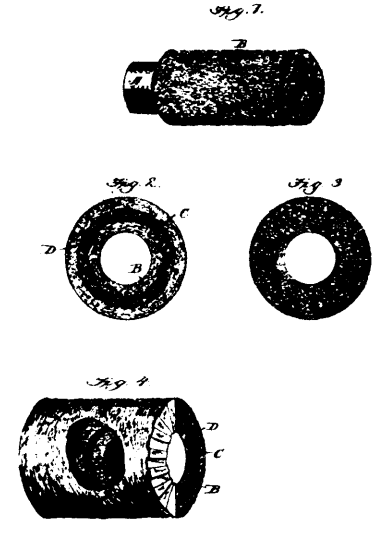
40692 Everitt's Apparatus for Automatically Lighting and Extinguishing Gas Lamps.



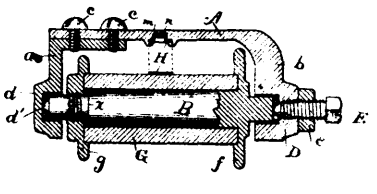
40693 Lunsberg's Air Brake.



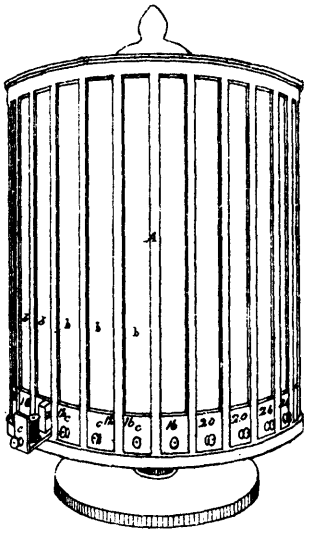
40694 Dickman's Wheel Axle.



40695 Goldman and Lowenthal's Muff Bed.



40696 Ganon and Felt's Guard for Vehicle Wheels.



40697 Boone and Burtt's Machine for Holding Reels.

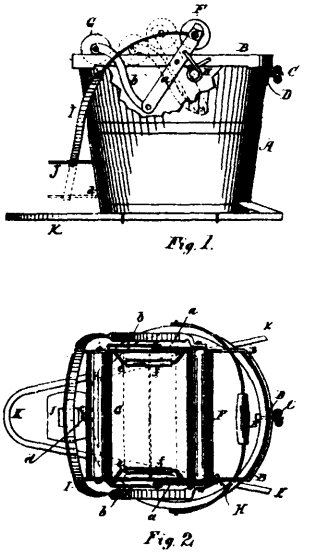
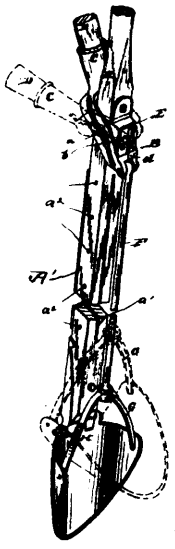


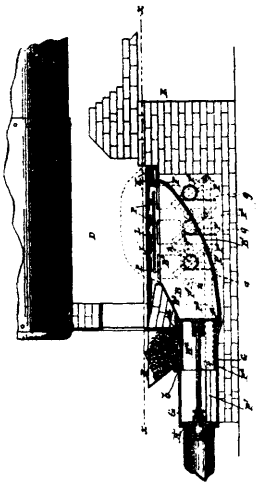
Fig. 1.

Fig. 2.

40698 Graham's Mop Wringer.

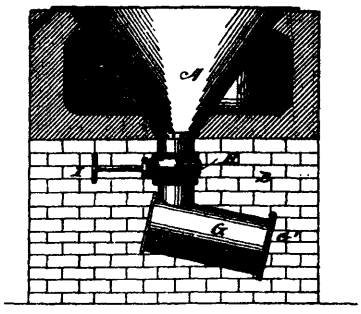


40699 Gibbs' Digger.

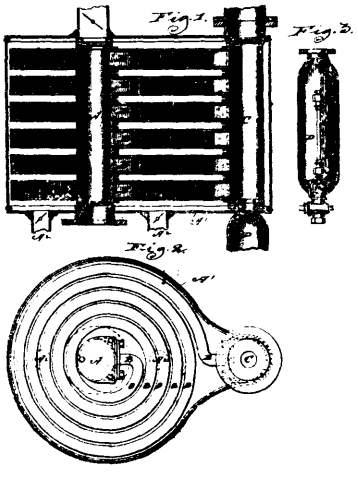


40700 Jones' Boiler and other Furnace.

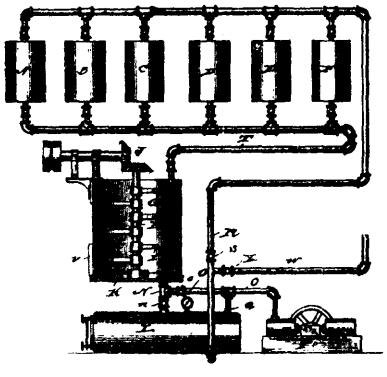
Fig. 1.



40703 Domeier and Hagemann's Apparatus for Concentrating Spent Soap Lye to recover Salt and Glycerine therefrom.

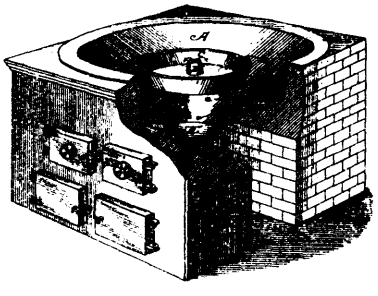


40704 Hagemann's Method of Purifying Glycerine.

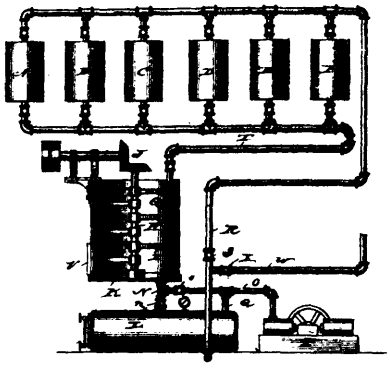


40705 Domeier and Hagemann's Apparatus for Purifying Salt Recovered from Spent Soap Lye.

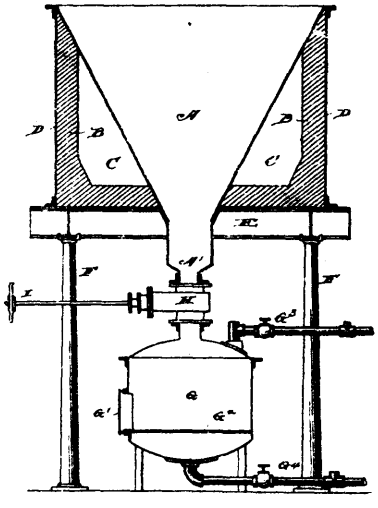
Fig. 1.



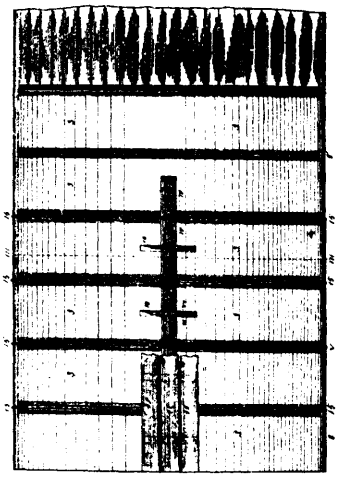
40706 Domeier and Hagemann's Apparatus for obtaining Salt and Crude Glycerine from Spent Soap Lye.



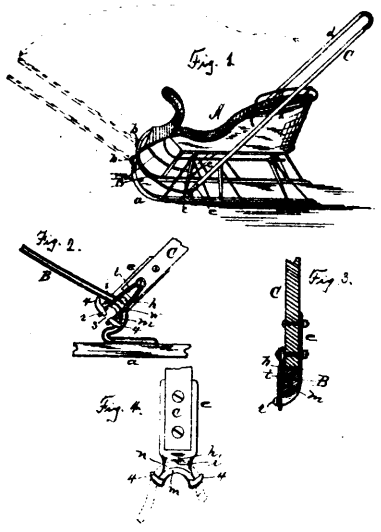
40707 Domeier and Hagemann's Apparatus for Purifying Salt Recovered from Spent Soap Lye.



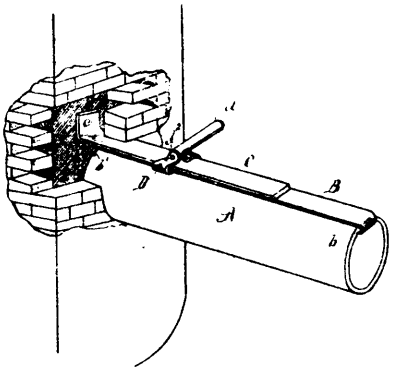
40708 Domeier and Hagemann's Method of making Glycerine from Spent Soap Lye.



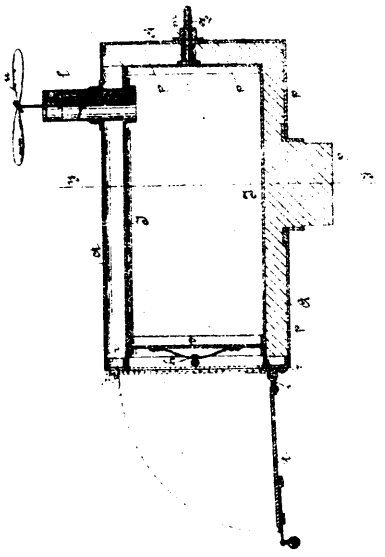
40709 Wand's Car Roof.



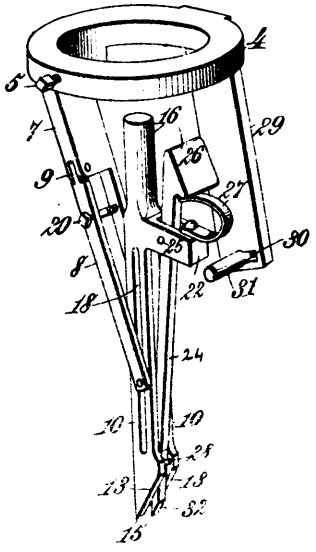
40710 Bouton's Device for Propelling Vehicles.



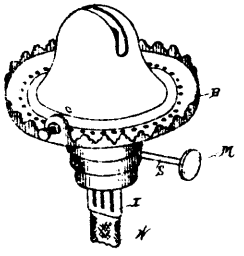
40711 Bloomburg's Stove Pipe Fastener.



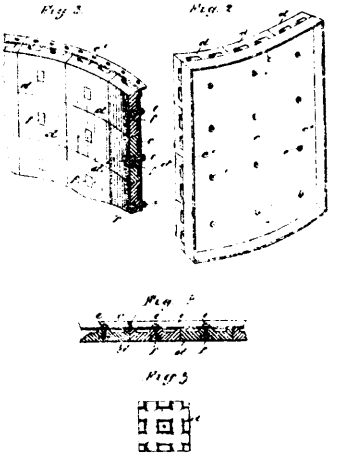
40712 Schulze Oven.



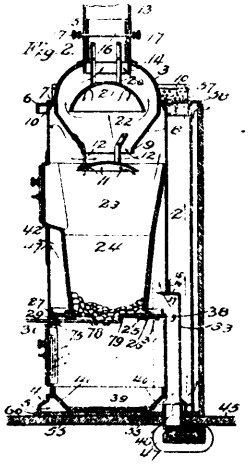
40713 Belmont and Cload's Morticing Machine.



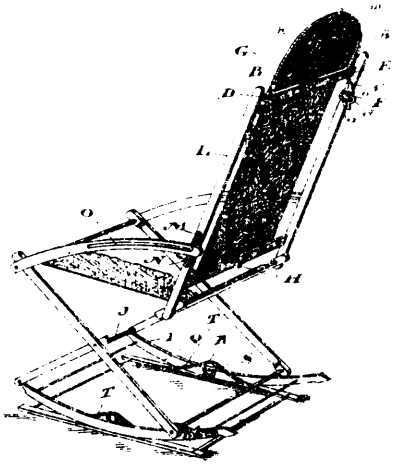
40714 McDowell's Lamp Burner.



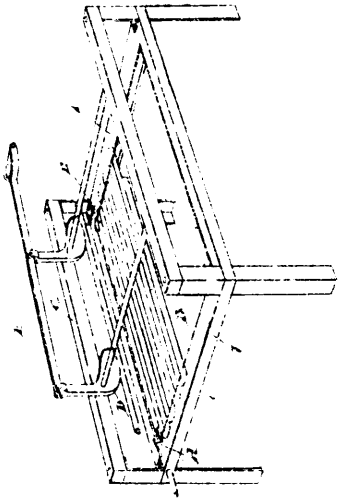
40715 Morrin's Sectional Casing for Steam Generators.



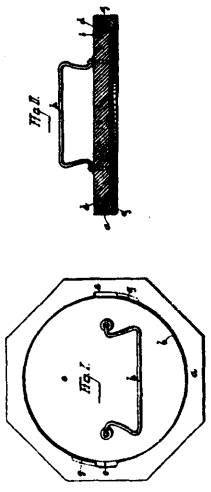
40716 Allingham's Street Car Heater



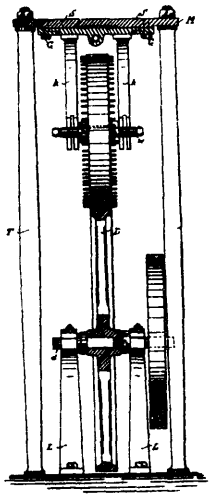
40717 Thornbeck's Folding Rocking Chair.



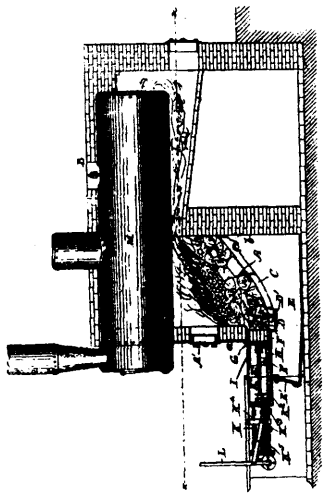
40718 Turrell's Machine for Corrugating Veneer.



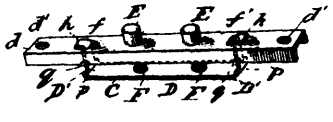
40719 Faeger's Chimney Cowl.



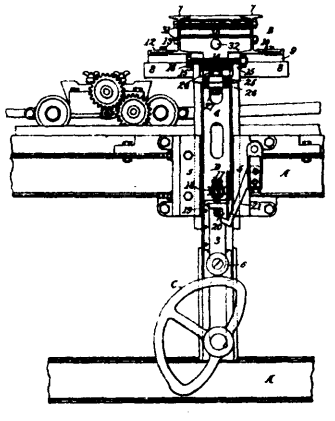
40720 Krieg's Apparatus for Transmitting Power.



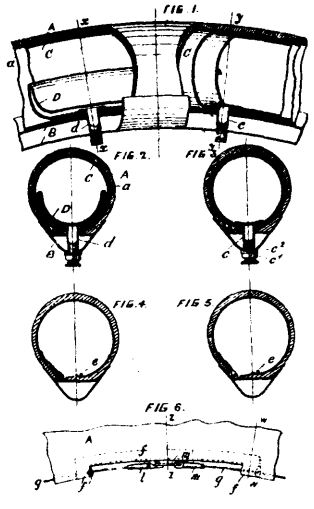
40721 Jones' Furnace.



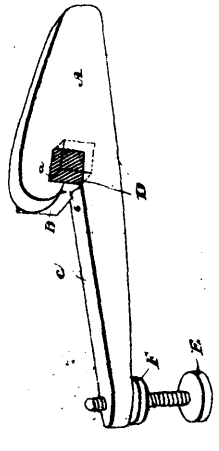
40722 Collins' Horse Collar.



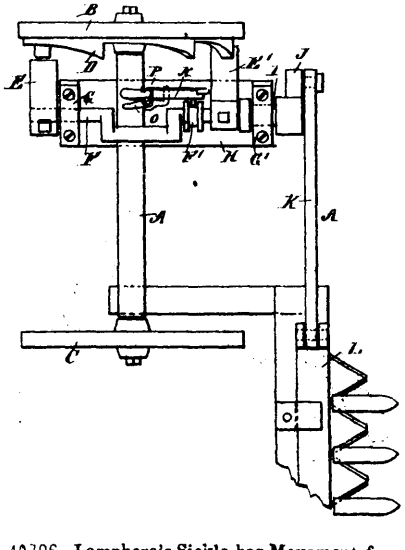
40723 Eisenhardt's Machine for Printing Oilcloth.



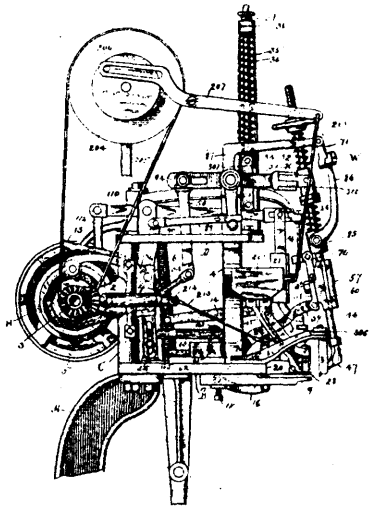
40724 Seddon's Pneumatic Tire.



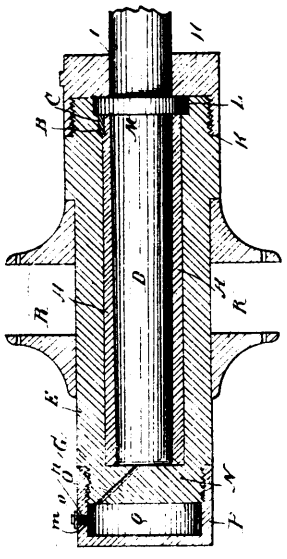
40725 Dillon's Saw Set.



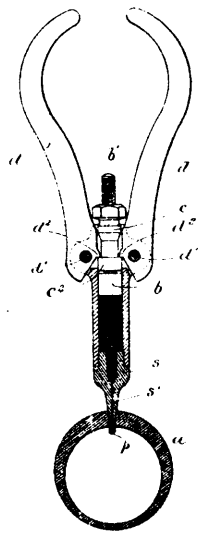
40726 Lamphere's Sickle-bar Movement for Mowers, etc.



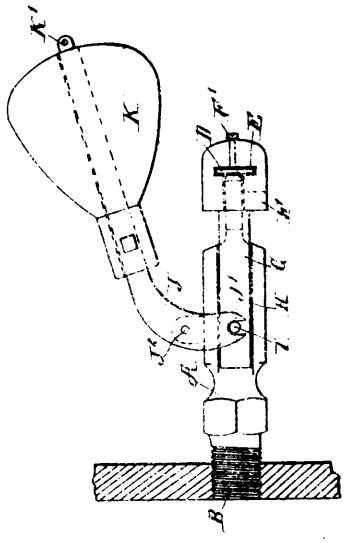
40727 Moulton's Machine for Lasting Boots and Shoes.



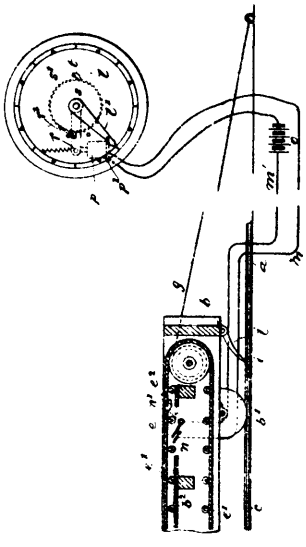
40728 Randolph's Lubricating Hub.



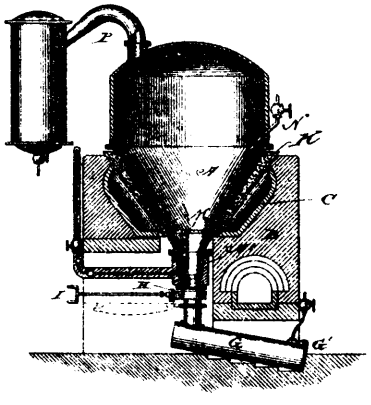
40729 Cowen's Method of repairing Pneumatic Tires.



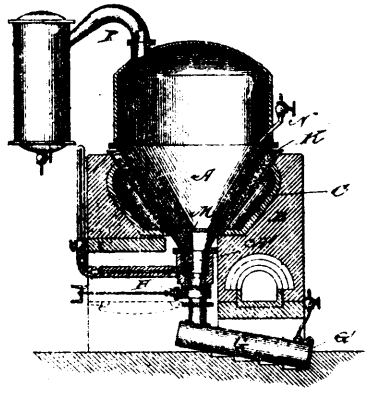
40730 Mitchell's Gage Cock.



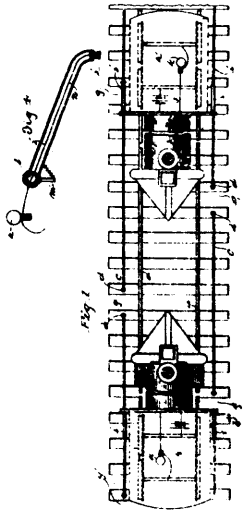
40731 Burgess' Stage Apparatus.



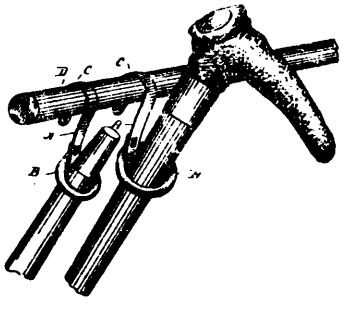
40732 Domeier and Hagemann's Apparatus for Distilling Glycerine Recovered from Soap Lye.



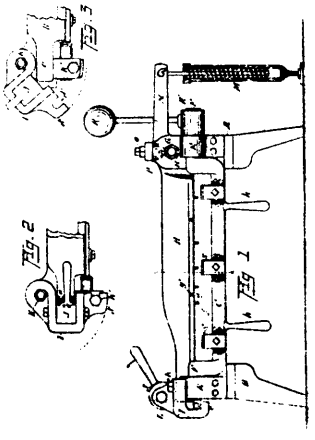
40733 Domeier and Hagemann's Apparatus for Distilling Glycerine Recovered from Soap Lye.



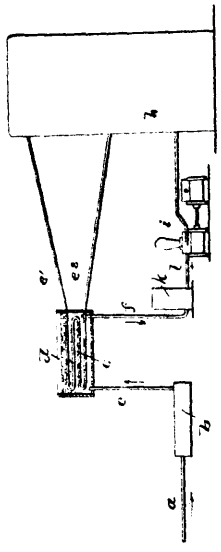
40734 Waddell's Signal for Electric Railways.



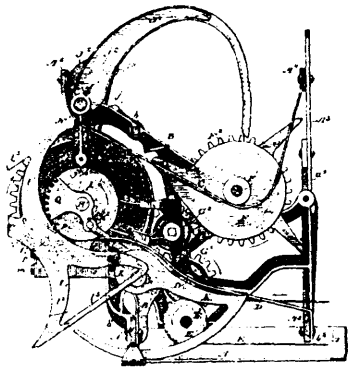
40735 Moss' Display Hook.



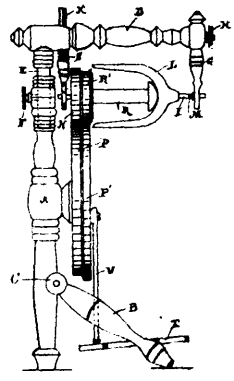
40736 Born's Box-bending Machine.



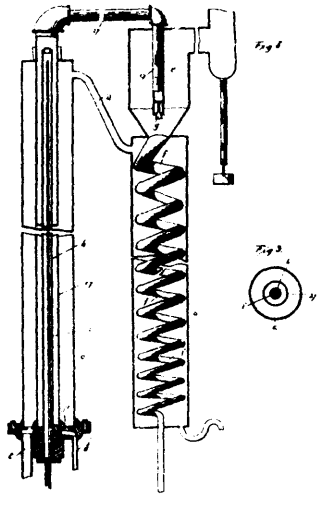
40737 Fowler's Method of Protecting Steam Boilers.



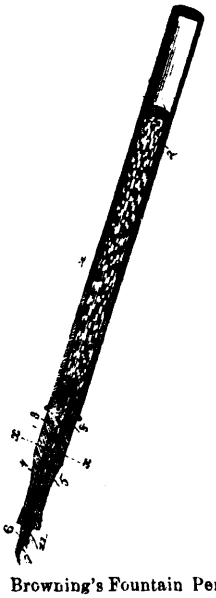
40738 Davis' Grain Binder.



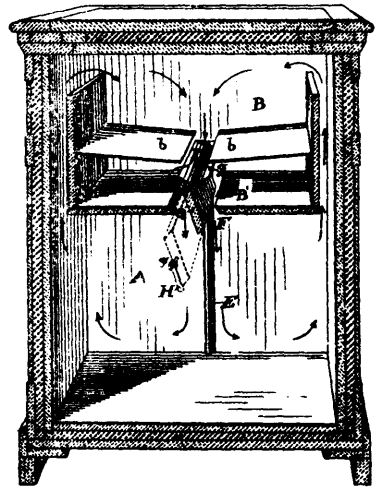
40739 Lotz's Spinning Wheel.



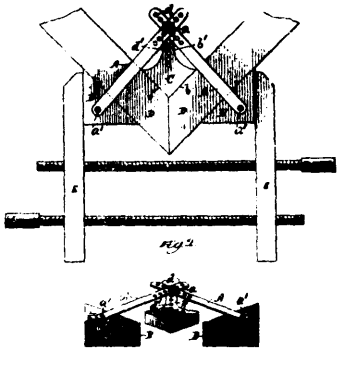
40740 Morrell's Apparatus for Evaporating and Concentrating Solutions.



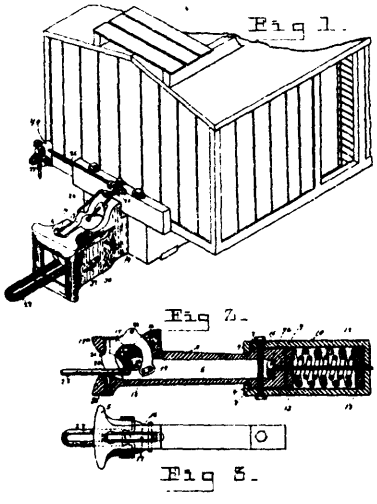
40741 Browning's Fountain Pen.



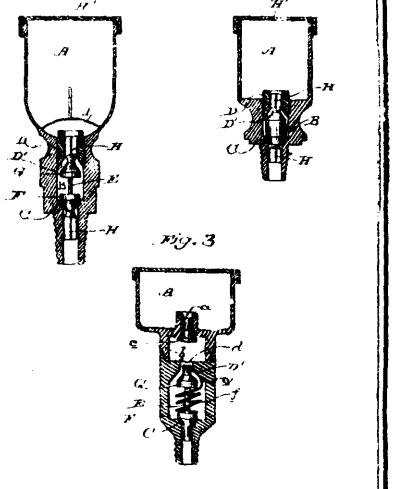
40742 Wilson's Refrigerator.



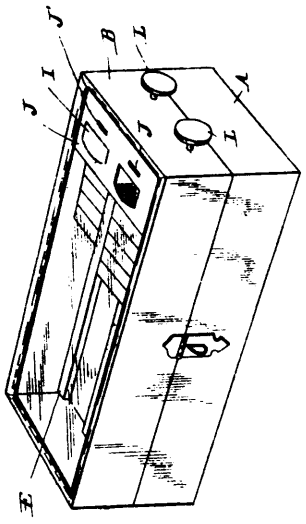
40743 Hedgeland's Miter Clamp.



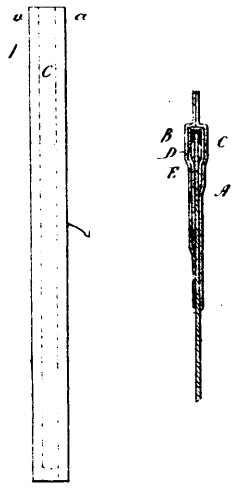
40744 Brown's Car Coupler.



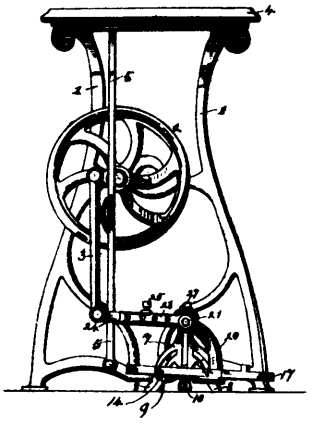
40745 Briggs' Lubricating Cup.



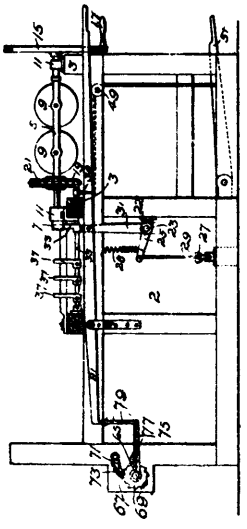
40746 Latimer's Vending Machine.



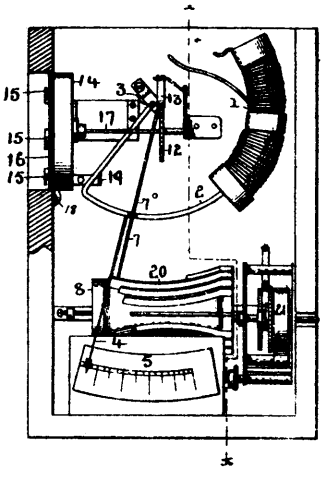
40747 Crotty's Dress Stay.



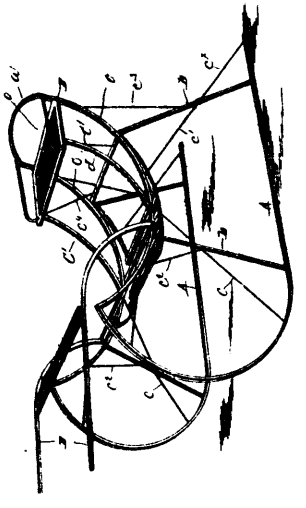
40748 Frisbey's Treadle for Sewing Machines.



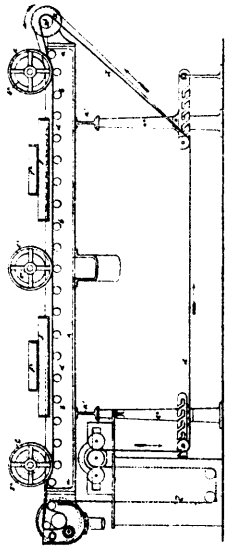
40749 Gebhardt's Fence Machine.



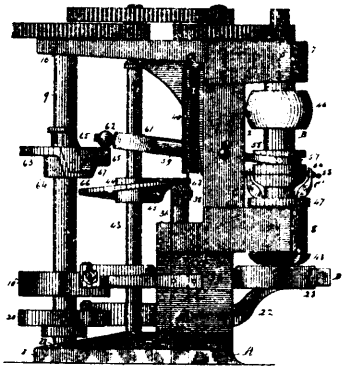
40750 Pilkington and White's Electrical Meter.



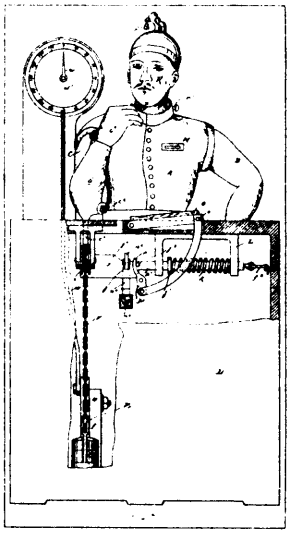
40751 Powell's Sleigh.



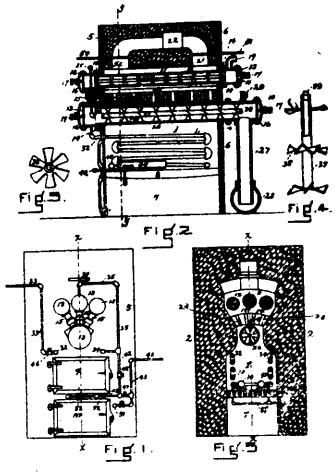
40752 Martin's Filtering Machinery.



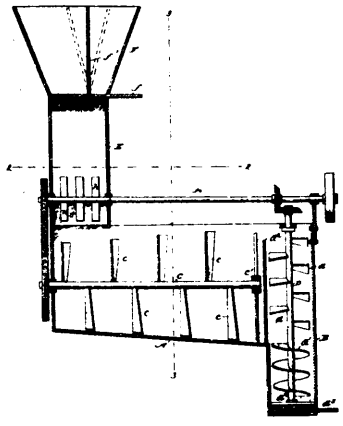
40753 Dorman's Machine for Cutting Screws.



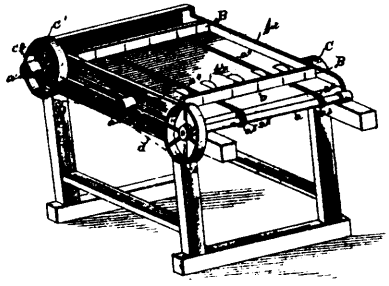
40754 Morel's Wrist-turning Machine.



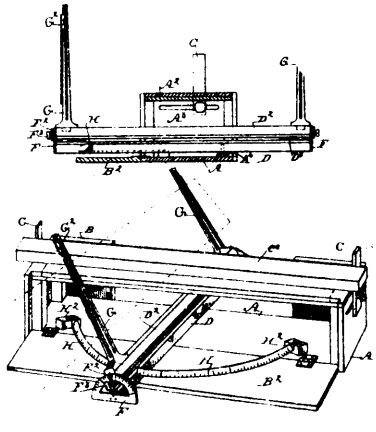
40755 Frink's Apparatus for making Oil Gas.



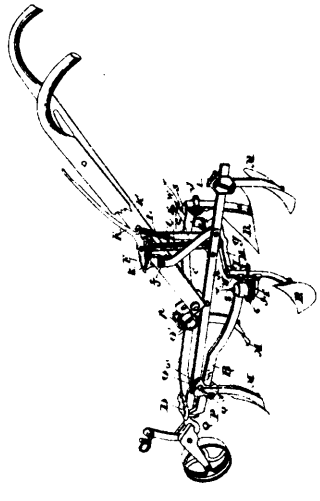
40756 Miller's Pug Mill.



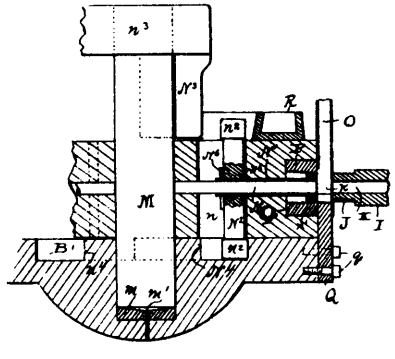
40757 Wilson's Attachment to Shingle Machines for Edging Shingles.



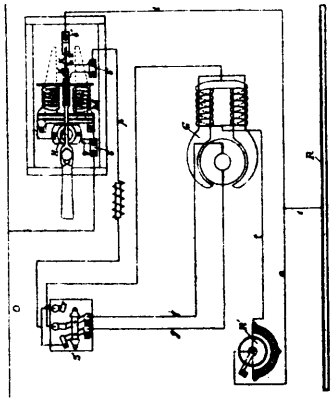
40758 Bundy's Miter Box.



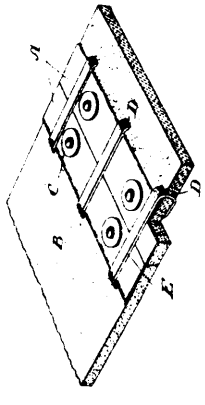
40759 Johnston's Cultivator.



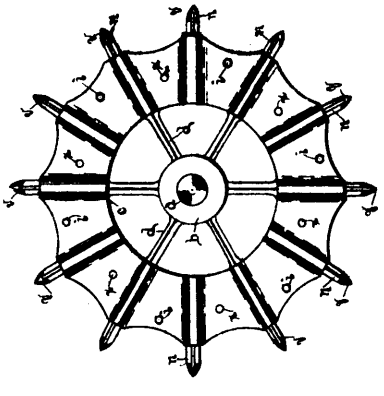
40760 Burdick's Nut-making Machine.



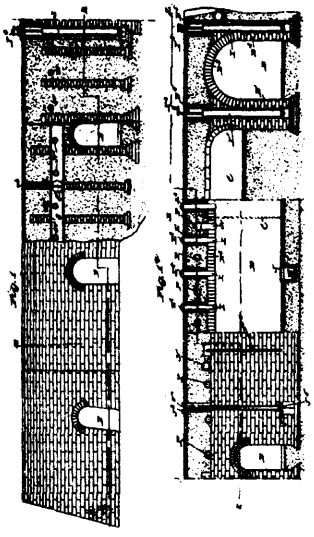
40761 Rice's Circuit Controlling and Protecting Device.



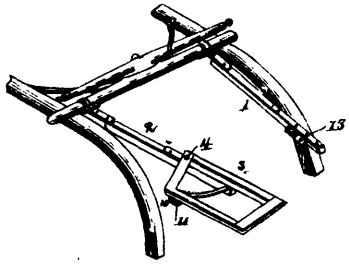
40762 Shaut's Bell Fastener.



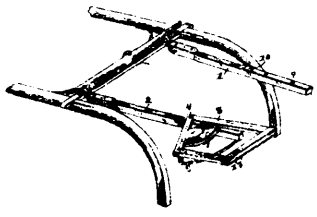
40763 Maxon's Sprocket-wheel.



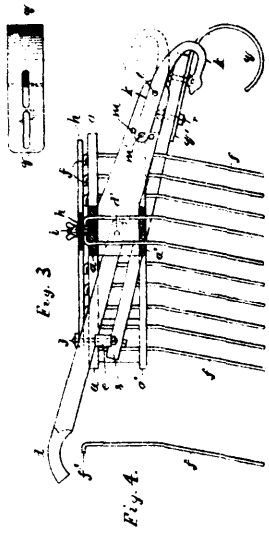
40764 Thissen and Arnold's Kiln.



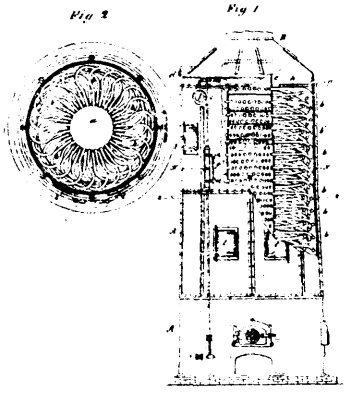
40765 Lingle's Movable Seat for Vehicles.



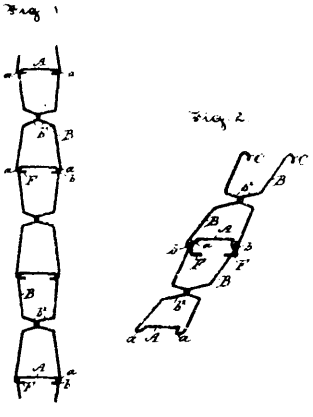
40766 Lingle's Movable Seat for Vehicles.



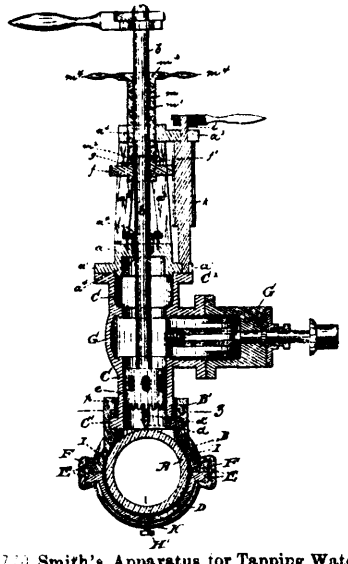
40767 Vreeland's Weed Exterminator.



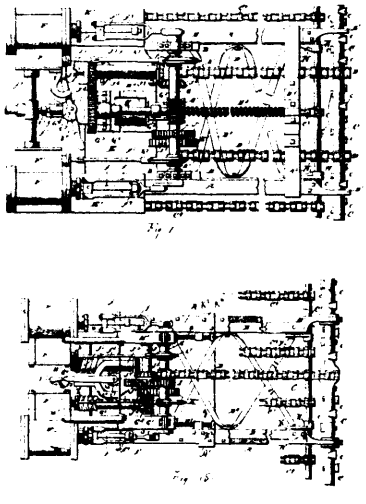
40768 Morrin's Steam Generator.



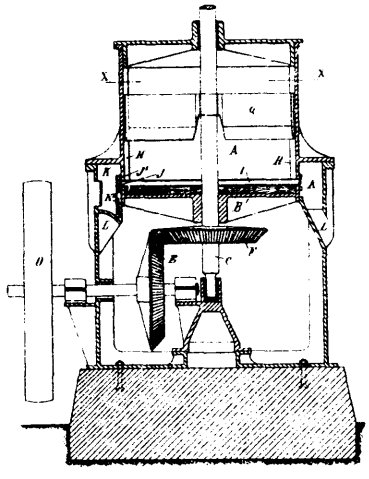
40769 Cameron's Roof Ladder.



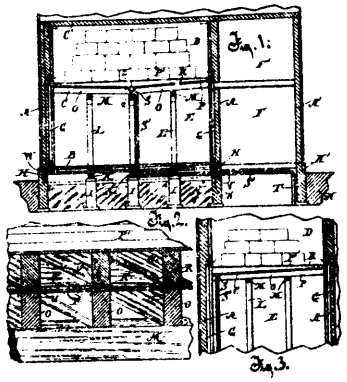
40770 Smith's Apparatus for Tapping Water, Gas and other Mains.



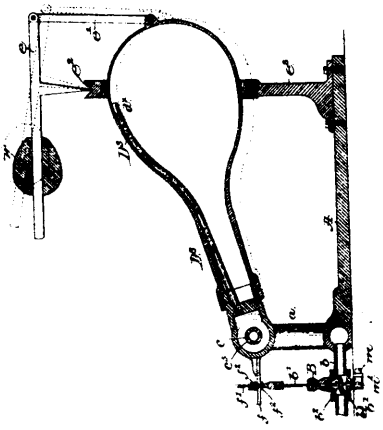
40771 Dierdorff's Mining Machine.



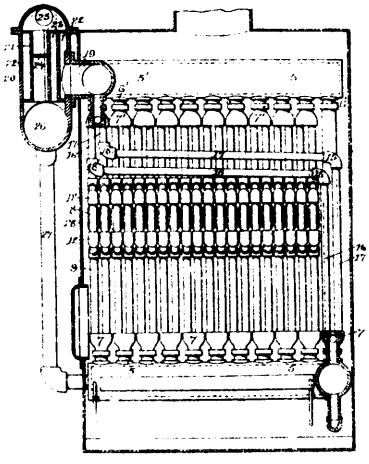
40772 De Vasson's Machine for making Compositions.



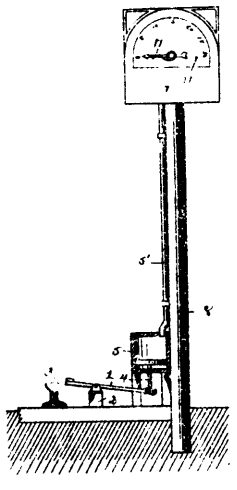
40773 Dexter's Refrigerator.



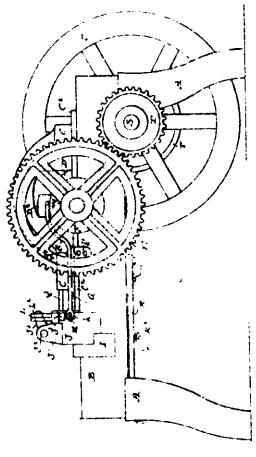
40774 Littlefield's Steam Trap.



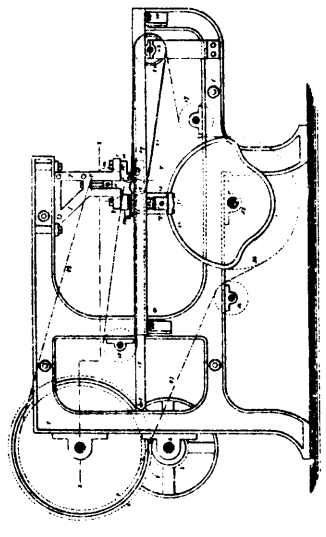
40775 Almy's Steam Generator.



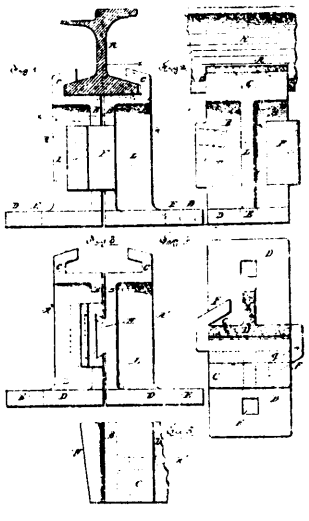
40776 Thorp's Time Signal for Railways



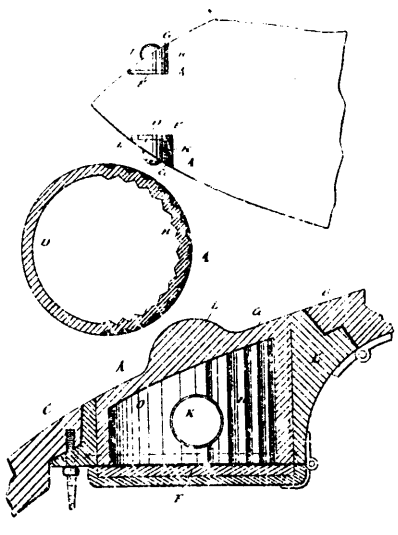
40778 Burdick's Machine for making Nuts.



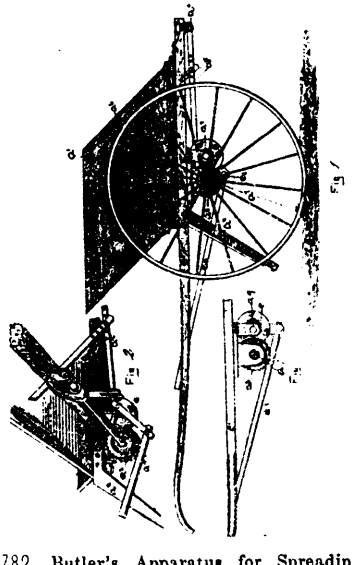
40779 Howard's Machine for Treating Leather.



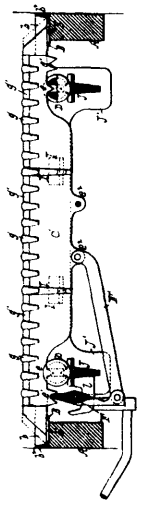
40780 Wells' Railroad Chair.



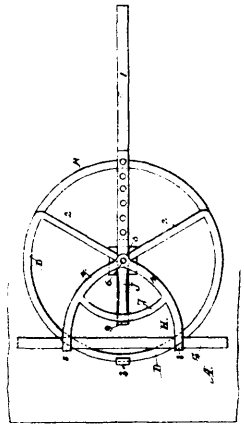
40781 Nelson's Signal Lantern.



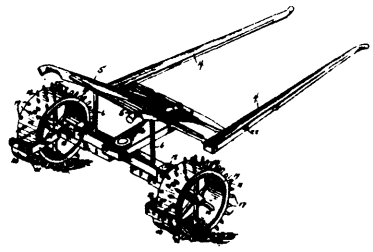
40782 Butler's Apparatus for Spreading Fertilizing Material.



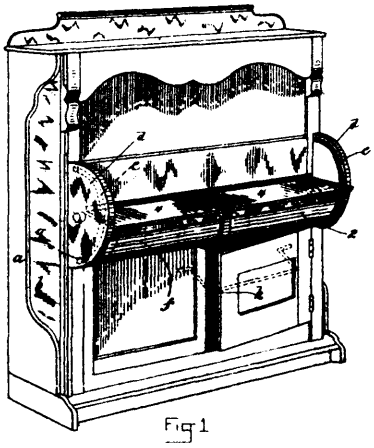
40783 Mason's Furnace Grate.



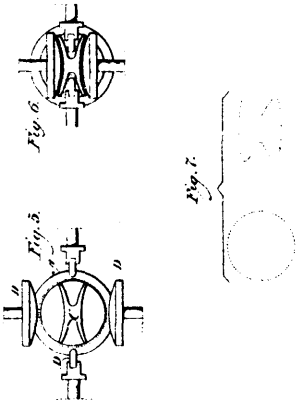
40784 Holler's Running Gear for Vehicles.



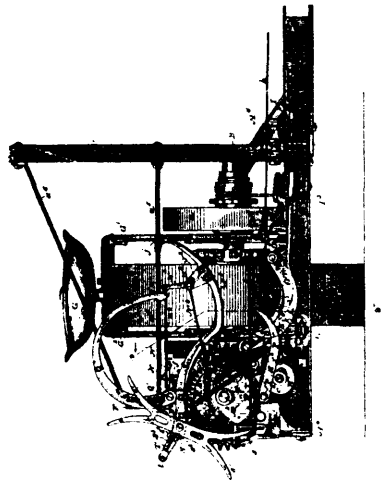
40785 Hiestand's Cultivator.



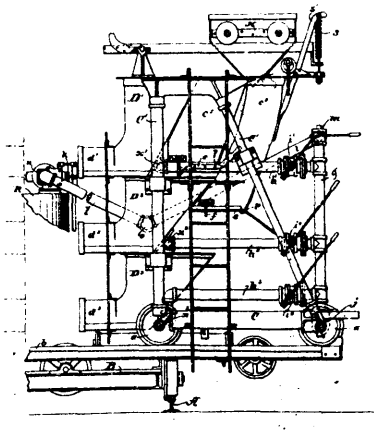
40786 Garland's Folding Bed.



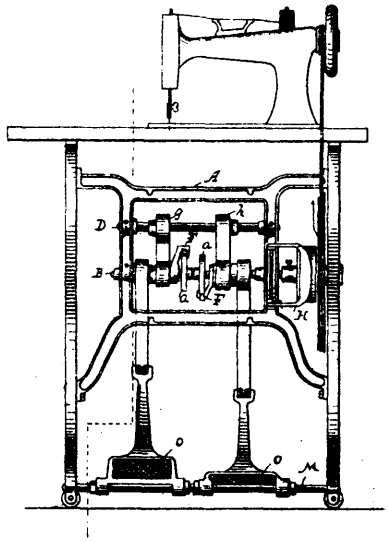
40787. Cobb's Apparatus for Shaping Tubular Fabrics.



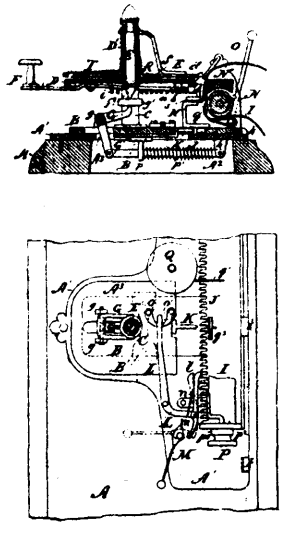
40788 Davis' Grain Binder.



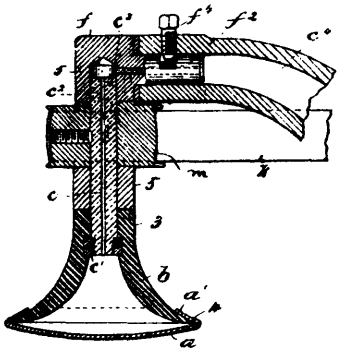
40789 Hickenlooper's Gas Retort Charger.



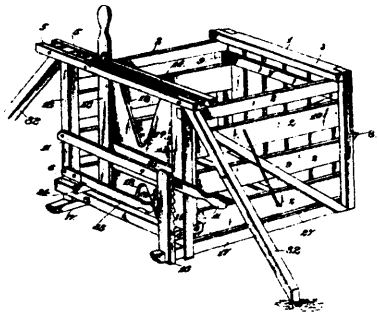
40790 Nicholson's Foot Power for Machinery.



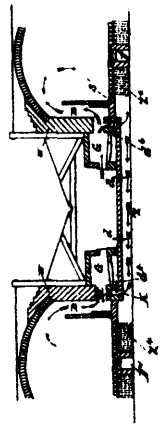
40791 Searing's Typewriter.



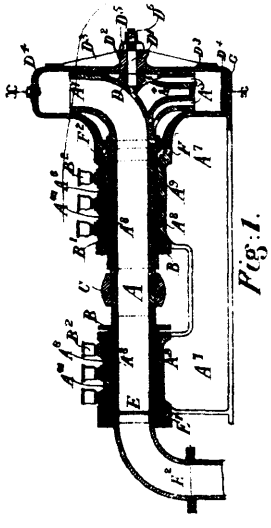
40792 Webster's Boot and Shoe Buffing Machine.



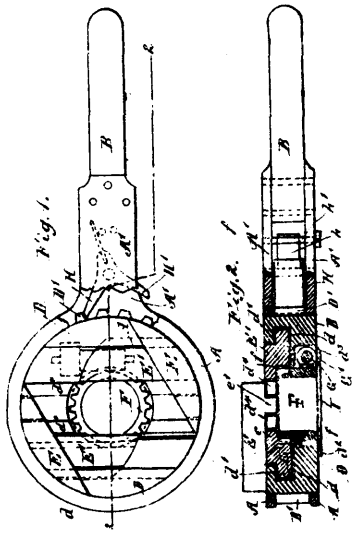
40793 Avery's Stanchion.



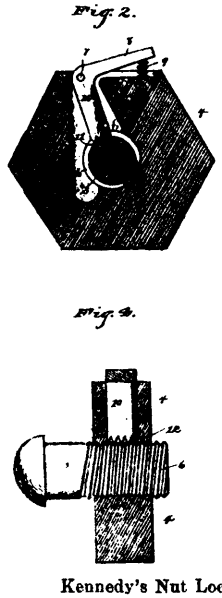
40794 Endaly's Kiln.



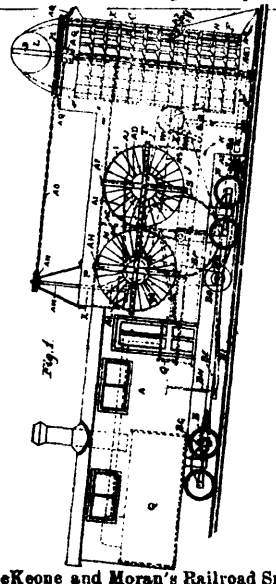
40795 Seitz's Centrifugal Pump.



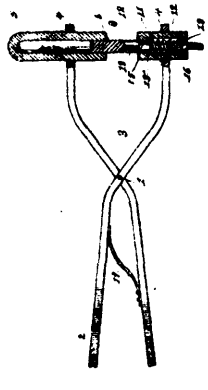
40796 McIntosh's Wrench.



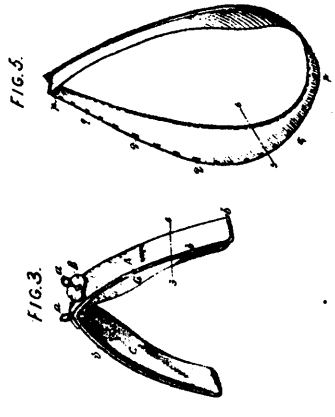
40797 Kennedy's Nut Lock.



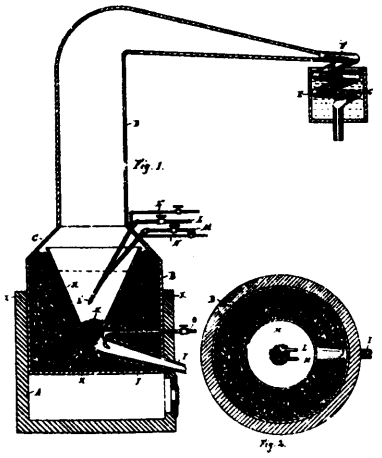
40798 McKeone and Moran's Railroad Snow-Plow and Flanger.



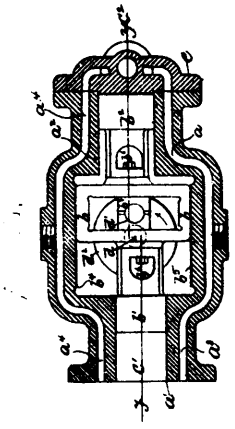
40799 Kropacek's Rivetter.



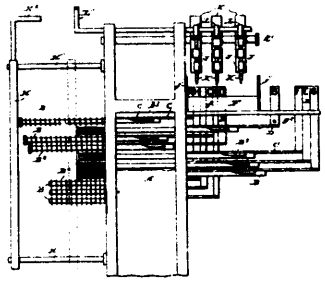
40800 King's Harness.



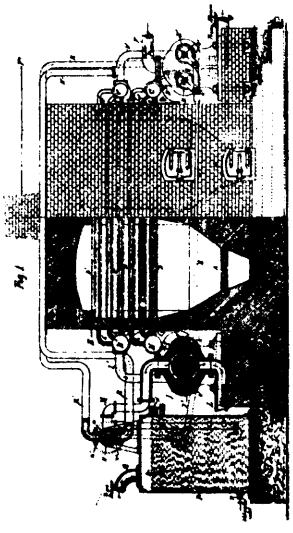
40801 Gardner and Harris' Process of Refining Hydro-carbon Oils.



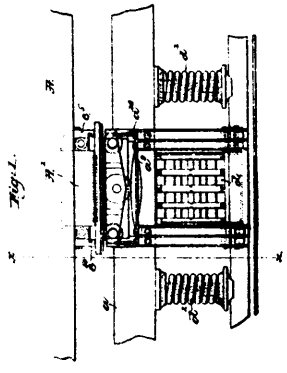
40802 Hodges' Pump.



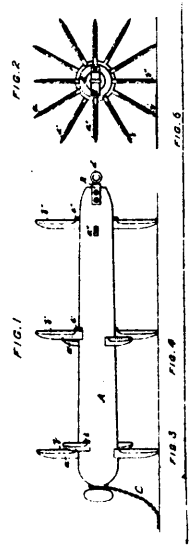
40803 Ferguson's Phototype.



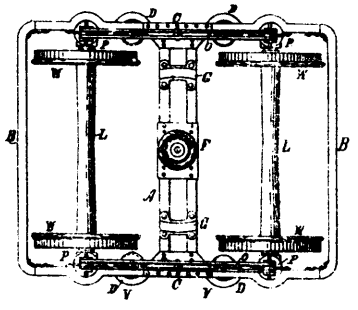
40804 Bowman's Apparatus for the Production of Oxygen Gas.



40805 Jewett's Bearing for Railway Cars.



40806 Grandmont's Harrow.



40807 Voss' Truck.

40808 Anderson's Cigar Blank.