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INVENTIONS PATENTED.

NOTE.—Patents are granted for 15 years. The term of years for which the fee has been paid, is given after the date of the patent.

No. 33,548. Drive Point for Driven Wells.

(*Sonde de puits artésien.*)

William A. Royce, Newburg, N.Y., U.S., 1st February, 1890; 5 years.

Claim.—As a new article of manufacture, a drive point for a driven well, comprising a tube, enameled both internally and externally, and provided with perforations arranged in rows, the perforations of one row being intermediate of the perforations of the next adjacent row or rows and opposite those of another row, and all said perforations having rounded or curved internal and external edges, substantially as specified.

No. 33,549. Street Letter Box.

(*Boîte à lettres de rue.*)

George P. Bliss, Winnipeg, Man., 1st February, 1890; 5 years.

Claim.—1st. The combination, with the body or shell of a street letter box or equivalent device, of an interior receptacle pivoted therein, having an open top and a hinged drop bottom, substantially as and for the purpose hereinbefore set forth. 2nd. The combination, with the body or shell of a street letter box or similar receptacle, having an opening in its front, of a receptacle pivoted within the said body, constituting a portion of the front of the body, and provided with an open top and a hinged drop bottom, substantially as and for the purpose specified. 3rd. The combination, with the body or shell of a street letter box, or similar device, of a receptacle opening therein, having its front face exposed and provided with an hinged drop bottom, a propelling spring attached to the front face of the receptacle, capable of contact with the said ratchet wheel and as and for the purpose set forth. 4th. In a street letter box or similar device, the combination, with a body or shell having an opening therein, the front face whereof constitutes a portion of the front face of the body, the said front face of the receptacle being provided with an opening at or near its top, of a drum held to revolve within the receptacle opposite the front opening and provided with an attached ratchet wheel, a propelling spring vertically attached to the inner face of the receptacle at one end, and capable of contact with the ratchet wheel at its opposite end, and a horizontal retaining spring also contacting with the said ratchet wheel, substantially as and for the purpose set forth.

No. 33,550. Drying Rack.

(*Séchoir.*)

George R. Carr, Lockport, N.Y., U.S., 1st February, 1890; 5 years.

Claim.—In a drying rack, the standard C provided with the vertically adjustable extension D and the collar E, and clamping screw E vertically adjustable head F mounted upon the extension D, the rotatable bracket G mounted upon the head F, and provided with radial slots g, having adjustable arms H mounted therein, the pulley I in the upper end of the extension D, the pulley J secured to the adjustable head E, and elevating cord k passing over said pulleys and secured at one end to the extension D, all constructed, arranged and operating, substantially as shown and described.

No. 33,551. Check Rein Turret Guide.

(*Guide-crochet de fausses-rènes.*)

William A. Brock, London, Ont., 1st February, 1890; 5 years.

Claim.—The swinging link I and the guide G, in combination with a turret rim D, having a foot or base D', substantially as and for the purpose set forth.

No. 33,552. Steam Boiler.

(*Chaudière à vapeur.*)

William Cowles, Brooklyn, N.Y., U.S., 1st February, 1890; 5 years.

Claim.—1st. In a steam boiler, the combination, with horizontal water and steam drums, and vertical or substantially vertical circulating tubes connecting said drums, of the shell A, communicating with said drums and forming with the steam drum a steam chamber C, substantially as described. 2nd. In a steam boiler, the combination, with horizontal water and steam drums, of vertical, or substantially vertical, circulating tubes connecting said drums and located in rows, with space between adjacent rows for the removal and insertion of any one tube without disturbing any of the others, and the shell A communicating with said drums and forming with the steam drum a steam chamber C, substantially as described. 3rd. In a steam boiler, the combination, with horizontal water and steam drums, and vertical or substantially vertical circulating tubes connecting said drums of the shell A communicating directly with said steam drum and forming a steam chamber C, and with said water drum or drums by a water leg or legs, substantially as described. 4th. In a steam boiler, the combination, with horizontal water and steam drums, of vertical, or substantially vertical, circulating tubes connecting said drums and located in rows, with space between adjacent rows for the removal and insertion of any one tube without disturbing any of the others, the shell A communicating directly with said steam drum, and forming a steam chamber C, and communicating also with said water drum or drums by a water leg or legs, substantially as described. 5th. The combination, with the steam drum F and the steam chamber C, of the baffle plate y for directing the steam and water downward from the mouth of the steam drum, substantially as described. 6th. The combination, with the water drum or drums and the vertical, or substantially vertical, circulating tubes G, of the baffle plate or plates u for arresting the sediment in the water drum or drums, substantially as described. 7th. The combination, with the horizontal steam and water drums, and the vertical, or substantially vertical, circulating tubes G, of the shell A, the water leg or legs and the feed water pipe or pipes l entering said water leg or legs, substantially as described. 8th. The combination, with the horizontal water and steam drums, and the vertical, or substantially vertical, circulating tubes, of the casing D enclosing the same, and the horizontal deflector H, substantially as described. 9th. The combination, with the horizontal water and steam drums, and the vertical, or substantially vertical, circulating tubes, of the casing D enclosing the same, and the vertical deflector I, substantially as described. 10th. The combination, with the horizontal water and steam drums, and the vertical, or substantially vertical, circulating tubes G, of the casing D enclosing the same, the horizontal deflector H, and the vertical deflector I, substantially as described. 11th. The combination, with the water drum or drums, and the baffle plate or plates u for arresting the sediment in the water drum or drums, and the blow-off pipe or pipes, substantially as described.

No. 33,553. Sash Lock.

(*Fermeture de croisée.*)

John M. Kirby, St. Thomas, Ont., 1st February, 1890; 5 years.

Claim.—The combination of the rack A and the pinion B with a drop, or the spring stop c, substantially as and for the purpose hereinbefore set forth.

No. 33,554. Combination of Dust Pan and Broom Protector.

(*Combinaison de pelle à main et de serre-balai.*)

John A. Gardner, Toronto, Ont., 1st February, 1890; 5 years.

Claim.—In a dust pan and broom protector, the parts a, b, c, formed and united substantially as and for the purpose hereinbefore set forth.

No. 33,555. Railroad Frog.

(*Rail de croisement.*)

Frederick J. Hoyt, Chicago, Ill., U.S., 4th February, 1890; 15 years.

Claim.—1st. In combination with the rails of a main and side track, a sliding frog, consisting of a tongued plate, provided with a

main and a side rail section, the ends of said sections bevelled to form an oblique joint with the rails, a case to hold said plate having grooves and flanges, friction rollers between said plate and case, and a switch mechanism, substantially as described. 2nd. The tongued plate, provided with the main and side rail sections and friction rollers, in combination with the case to hold the said plate, and provided with the flanges and grooves, substantially as and for the purpose described. 3rd. The tongued plate, provided with the rail sections and friction rollers, in combination with the grooved case provided with corrugations, substantially as and for the purpose described.

No. 33,556. Safety Vault and like Structures. (*Coffre-fort et autres choses semblables.*)

George S. Clark, Philadelphia, Penn., U. S., 4th February, 1890: 5 years.

Claim.—1st. The combination of a vault or analogous structure, having a raised sill or obstruction, and a depression beyond the same, with a movable floor or filling piece covering said depression fitting to said sill or obstruction, substantially as specified. 2nd. The combination of a vault or analogous structure, having a raised sill or obstruction, and a sunken door pit beyond the same, with a movable floor or filling piece covering said pit and fitting snugly to the sill or obstruction and to the open door, substantially as specified. 3rd. The combination of a vault or analogous structure, having inner and outer doorways, with raised sills or obstructions, and one or more intervening vestibules, with a movable floor or filling piece extending from the inner to the outer sill or obstruction, whereby the floor of the vestibule is flush with that of the vault, substantially as specified. 4th. The combination of a vault or analogous structure, having inner and outer doorways with raised sills or obstructions, one or more intervening vestibules, and a door pit beyond the outer sill or obstruction with movable floors or filling pieces applied to said door pit and vestibule or vestibules forming a passage way flush with the tops of the sills or obstructions, substantially as specified.

No. 33,557. Wind-Mill. (*Moulin à vent.*)

Roderick A. McLennan, Walkerton, Ont., 4th February, 1890; 5 years.

Claim.—In a wind-mill, the combination, with the main shaft A, the bearing B for the wind wheel shaft and the wind vane F, of the hinge D, the stop E therefor, the compound hinge L, M and the stop collars I and K, all formed and arranged to operate substantially as shown and described.

No. 33,558. Apparatus for Extinguishing Fire. (*Appareil-extincteur d'incendie.*)

George Dickson, Toronto, and David A. Jones, Beeton, Ont., 4th February, 1890; 5 years.

Claim.—1st. The combination, with a pipe or vessel through which water flows under pressure, of a receptacle containing liquified anhydrous carbon, dioxide or nitrogen, and so connected to the water pipe or vessel that the flowing water may be impregnated with the fire-extinguishing gas, as specified. 2nd. A strong receptacle, containing liquified anhydrous carbon di-oxide or nitrogen, in combination with a strong receptacle containing water and suitably connected with the anhydrous carbon di-oxide receptacle, the said water receptacle being provided with means by which the gas impregnated water may be discharged as required. 3rd. A strong receptacle A, containing liquified anhydrous carbon di-oxide or nitrogen, a water receptacle B connected to the receptacle A by a pipe C, which extends from the receptacle A to a point at or near the bottom of the receptacle B, in combination with a suitable discharging pipe provided with a stop-cock.

No. 33,559. Keeper for the Loose Ends of Straps. (*Garde pour les bouts libres des courroies.*)

Henry Sherman, Luotter, Kan., U.S., 4th February, 1890; 5 years.

Claim.—The herein described keeper for the free ends of straps, comprising the base plate a provided at its sides with laterally-extending perforated ears B, side plates a' and a top plate a'', said base and top plates being provided with openings or recesses, substantially as and for the purpose described.

No. 33,560. Sash Fastener. (*Arrête-croisée.*)

Curtis H. Hodgkins, Northeast Harbor, Me., U. S., 4th February, 1890; 5 years.

Claim.—1st. In a sash holder, the combination of the non-rotatable rod B depending vertically from the lintel of a window, and provided with the notches b and the catches E, each composed of the casing E' attached to the top rail of one of the sashes, and provided with the opening e' for the rod B, a transverse opening e'' and the lifting handle a', the pivoted lever E' having the detent or pawl a, and the coiled spring c, substantially as specified. 2nd. In a sash holder, the combination of the notched rod depending from the lintel, the casing E having a spring catch attached and provided with the integral arm E', and the sleeve G secured to the upper rail of one of the sashes to receive the arm E', substantially as and for the purpose specified.

No. 33,561. Water Heater. (*Calorifère à eau.*)

George R. Prowse, Montreal, Que., 4th February, 1890; 5 years.

Claim.—1st. The combination, in a water heater, of a casing g, having tubes b, m and n, also having diaphragm k and inlets and outlets, with the combustion chamber and revertible or down-take flue

of a furnace, the whole substantially as described. 2nd. The combination, in a water heater, of a casing divided into two parts, as described, and arranged to form the fire-bridge wall of a furnace having a combustion chamber and revertible flue, and said casing being provided with tubes extending in the combustion chamber and revertible flue of the furnace, and with inner tubes by which the water in the back of the fire bridge wall casing is enabled to pass from the back to the front thereof, with a furnace and said combustion chamber and revertible flue, the whole substantially as described. 3rd. The combination, in a water heater, of the casing g, having diaphragm k and tubes l and n, by which the water is enabled to pass from the part i of the casing g into the tubes l, and return by them to the front part of the casing g, the whole substantially as described.

No. 33,562. Method of and Apparatus for Burning Coal and other Fuel in Furnaces. (*Mode de combustion du charbon et autre combustible et appareil pour cet objet.*)

Edward Fales, Philadelphia, Penn., U.S. 4th February, 1890; 5 years.

Claim.—1st. The method, herein described, for burning fuel in furnaces for steam boilers and other purposes, which consists in storing and feeding the fuel in a vertical chamber, having grated side openings supporting from lateral displacement the burning fuel, and the fuel to be burned on a bed or bank of ashes in the lower portion of the furnace igniting the fuel lying between the grated side openings and drawing off the products of combustion at right angles to the vertical body of the furnace, as set forth. 2nd. A grateless furnace for steam boilers and other purposes, consisting of a vertical chamber in which the fuel being burned is supported by a bed of ashes in the lower portion of a vertical chamber, as set forth. 3rd. A grateless furnace for steam boilers and other purposes, consisting of a vertical chamber in which the fuel being burned and the fuel to be burned is supported by a bed of ashes in the lower portion of the vertical chamber. 4th. A grateless furnace for steam boilers and other purposes, consisting of a vertical chamber, in which the fuel is fed by gravity, the air to support combustion being at right angles to the travel of the fuel through an opening in the side of a vertical chamber, as set forth. 5th. In a gravity feeding furnace for steam boilers and other purposes, the main body A provided with grated openings in front and rear sides thereof, one of said openings communicating with the space below the boilers, and the other being provided with an adjustable door for regulating the amount of air admitted to the fire. 6th. In a gravity feeding furnace, the main body A provided with the openings in the front and rear sides thereof, the front opening being larger than the rear opening, as and for the purpose set forth. 7th. In a furnace, of the character described, the grated openings in the vertical walls thereof, in combination with the spaces A outside of the grated openings, whereby the ashes falling through the side bars will pass down into the ash chamber.

No. 33,563. Compound for the Scrubbing Surfaces of Wash Boards, etc. (*Composition pour les surfaces de lavage des planches à savonner, etc.*)

James R. Cluxton, London, Ohio, U.S., 4th February, 1890; 5 years.

Claim.—The herein described compound, consisting of powdered fire-clay, spanish white, litharge, powdered or granulated wood, gum shellac, pitch and a solvent oil, mixed and incorporated, substantially in the manner and for the purpose set forth.

No. 33,564. Position and Range Finder.

(*Télé-mètre.*)

Bradley A. Fiske, New York, N.Y., U.S., 4th February, 1890; 5 years.

Claim.—1st. The apparatus for finding the range and position of a distant object, operating and arranged substantially as hereinbefore described, and as follows, to wit: first, by directing two alidade arms K, L, moving over arcs G, H, of conducting material, in line with said object; second, placing two pointers or arms K' L', moving over arcs G', H', of conducting material, located at a distant station, and similarly disposed with reference to a base line at the same angle as said arms K, L, and thereby establishing an electrical balance in each of two circuits, one circuit including the arcs G, G', arms K, K', a battery and an indicating apparatus, the other circuit including the arcs H, H', arms L, L', a battery and an indicating apparatus; third, noting the point of intersection of the lines of direction of the arms K', L'. 2nd. The apparatus for finding the range and position of a distant object with reference to a predetermined point, operated and arranged substantially as hereinbefore described, and as follows, to wit: first, by directing two alidade arms K, L, moving over arcs G, H, of conducting material, in line with said object; second, placing two pointers or arms K' L', moving over arcs G', H', of conducting material, located at a distant station, and similarly disposed with reference to a base line at the same angle as said arms K, L, and thereby establishing an electrical balance in each of two circuits, one circuit including the arcs G, G', arms K, K', a battery and an indicating apparatus, the other circuit including the arcs H, H', arms L, L', a battery and an indicating apparatus; third, noting the point of intersection of the lines of direction of the arms K', L' on a chart a, b, c, d, representing on a reduced scale; fourth, determining on said chart the distance and bearing of said point of intersection from said predetermined point. 3rd. The apparatus for finding the range and position of a distant object with reference to a predetermined point, operated and arranged substantially as hereinbefore described, and as follows, to wit: first, by directing two alidade arms K, L, moving over arcs G, H, of conducting material, in line with said ob-

ject: second, placing two pointers or arms K¹ L¹, moving over arcs G¹ H¹ of conducting material, located at a distant station and similarly disposed with reference to a base line at the same angle as said arms K, L, and thereby establishing an electrical balance in each of two circuits, one circuit including the arcs G, G¹, arms K, K¹, a battery and an indicating apparatus, the other circuit, including the third, noting the point of intersection of the lines of direction of the position of said distant object on a reduced scale; fourth, determining on said chart the distance and bearing of said point of intersection from said predetermined point; fifth, signalling to the said predetermined point the said bearing and distance. 4th. The apparatus for finding the position of a distant object with reference to a pre-determined point and indicating the same at said point, substantially as hereinbefore described and operated, and arranged as follows, to wit: first, by determining the position of said object; second, marking said position on a chart or map, representing on a reduced scale an area, including the position of said object; third, directing a pivoted index or pointer to point to said marked position, the said pointer moving over and making contact with an arc of conducting material; fourth, moving an index or pointer, located at said predetermined point, and traversing a similar arc of conducting material until an electrical balance is attained in a circuit including said arcs, a battery and an indicating apparatus:

No. 33,565. Machine for Stapling Books and Pamphlets. (*Machine à brocher les livres et brochures au fil de fer.*)

John F. Daggelt, Chicago, Ill., U.S., 4th February, 1890; 5 years.

Claim.—1st. In a wire stapling machine, the combination of a revolving shaft, a reciprocating former and driver cams on said shaft in direct engagement with the former and driver, and a work supporting table below said former and driver, substantially as described. 2nd. In a wire stapling machine, the combination of a revolving shaft, a reciprocating former and driver cams on said shaft in direct engagement with said former and driver, and an adjustable work supporting table below said former and driver, substantially as described. 3rd. In a wire stapling machine, the combination of a revolving shaft, cams on said shaft, a former and driver respectively actuated by said cams, and a wire feed actuated by one of said cams, substantially as described. 4th. The actuating cams and shaft thereon, in combination with a former and driver projecting between and engaging said cams, substantially as described. 5th. The combination, with the cutter, a support therefor, and a pivoted connection bodily moving the cutter back and forth to adapt it for cutting wire of different lengths, substantially as described. 6th. The clenching jaws and the levers pivoted together and supporting said jaws, in combination with a pivoted connection between said jaws and levers, substantially as described. 7th. The table, the clenching jaws and levers pivoted thereto and to each other, in combination with means, substantially as described, for adjusting said jaws and table, substantially as described. 8th. The levers K and the clenching jaws projecting between said levers, and a blade on said shaft for rocking said shaft and oscillating the plate, substantially as described.

No. 33,566. Frame for Velocipedes. (*Bâti de vélocipède.*)

John B. Dunlop, Belfast, Ireland, 4th February, 1890; 5 years.

Claim.—1st. In the construction of frames for safety bicycles and other cycles, the employment of flexible flat bars preferably of spring steel for reducing vibration, substantially as set forth. 2nd. In the construction of frames for safety bicycles and other cycles, the combination of the bifurcated or duplicated horizontal flexible metallic flat bars S, S', vertical flexible metallic supports S¹, S¹¹ and horizontal flexible metallic flat bars S¹¹, S¹¹¹ for connecting the handle bar socket or steering post H, with the front fork, substantially as herein described and shown and for the purposes specified.

No. 33,567. Ironing Board. (*Planche à repasser.*)

William Walters, Findlay, Ohio, U.S., 4th February, 1890; 5 years.

Claim.—1st. In an ironing board, the board having depending lugs, the legs having the casting pivoted in said lugs, the eccentric crank and cross bar against which the first-named legs, having the pawl for engaging the rack in said lugs, substantially as the board, and described. 2nd. In an ironing board, the combination of secured thereon, having the racks d, the legs C having the rack plates c¹ on the board, the arm D carrying a plate d, engaging the racks d¹ c¹, for engaging the rack plate c¹ on the legs C, the legs B pivoted to rod c² on legs C, and the eccentric c², carried by legs B, for engaging the rod c² on legs C, all of said parts being arranged, as shown, and operating in the manner and for the purpose described.

No. 33,568. Manufacture of Ornamental Plates of Metal or other Malleable Sheets. (*Fabrication des plaques et autres feuilles métallique d'ornement.*)

César F. Jozs, Brussels, Belgium, 4th February, 1890; 5 years.

Claim.—1st. The herein described method of ornamenting plates by grounding or frosting parts thereof, printing thereon and varnishing and drying the plates, substantially as described. 2nd. The herein described method of embossing ornamental plates by pressing between a die and a matrix, prepared substantially as herein described. 3rd. As articles of commerce, plates of metal or other malleable material, ornamented in the manner described.

No. 33,569. Electric Signalling Apparatus. (*Appareil électrique à signaux.*)

George F. Milliken, Boston, Mass., U.S., 4th February, 1890; 5 years.

Claim.—1st. A municipal or other electric alarm system, comprising a main electric circuit, a main battery and a response-signal magnet, both normally disconnected from the said circuit, and a key or switch adapted to be manually operated and thereby to introduce successively the battery and magnet into the said main circuit, a normally open shunt circuit of the same battery, including the said magnet, and also its armature and back stop or vibratory contacts, all at the alarm-sending station, and a clock mechanism, an electro-magnet controlling and adapted when energized to release the same, and a circuit-breaking device actuated by the said mechanism, both electric magnet and circuit-breaking device being included in the said main circuit, all at a second or alarm-receiving station, whereby the magnet of the response signal at the home station may be constantly energized by the battery current in the main circuit when the signal is sent, and intermittently energized with its armature and vibratory points in the shunt circuit upon the automatic operation of the distant circuit-breaker by means of the clock mechanism at the alarm-receiving station, substantially as hereinbefore described. 2nd. In an auxiliary fire alarm telegraph system, the combination, with a main circuit, a signal-transmitting device acting to introduce a battery into the said circuit, and an electro-magnet in a fire alarm box at a distant station, said magnet being adapted when energized to trip the mechanism of said box, of a response or return signal comprising an electro-magnet introduced into the main circuit by the act of sending the signal, a spring armature and back contact therefor normally out of contact with one another, and a normally open shunt circuit of the main battery controlled by the said armature and back contact, and including the said magnet, and an automatic circuit-breaker in the main circuit operated by the box mechanism when tripped, and acting to break the said main circuit through the response magnet, whereby the armature thereof is allowed to rebound upon a back contact and thereby to close the shunt circuit and to give a vibratory signal, substantially as described. 3rd. A main electric circuit, a battery and an electro magnet normally disconnected therefrom, and an armature for the said magnet, which armature, when at rest, is out of contact with its back stop, a normally open shunt or local circuit through the said armature and its back stop or contact, and adapted, when closed, to include also the electro-magnet and battery, a circuit-closing switch or key arranged to include the said battery and electro-magnet in the main circuit and to close the same, causing the magnet to be energized and to attract its armature, and an independent and automatic circuit breaker to open the said main circuit for the purpose of allowing the armature to rebound beyond its point of rest, and to make contact with its back stop and vibrate thereon, thus directing an intermittent or vibratory current through the shunt circuit and an electro-magnet, and producing a continuous signal, substantially as hereinbefore described. 4th. A fire-alarm box, provided with a keyless self-locking door or cover, and an aperture covered with a plate of easily fractured material, substantially as and for the purposes set forth. 5th. In a fire-alarm box, the combination of the box with a keyless self-locking door or cover, having an aperture covered with a plate of easily fractured material, substantially as and for the purposes set forth. 6th. A fire alarm box, provided with a keyless self-locking door or cover, the means for locking and unlocking being upon the inside of the said box and door or cover, and an aperture covered with a plate of easily fractured material, substantially as and for the purposes set forth. 7th. In a fire-alarm box, the combination of the box with a keyless self-locking door or cover, the means for locking and unlocking being upon the inside of the said box, and door or cover having an aperture covered with a plate of easily fractured material, substantially as and for the purpose set forth. 8th. In a fire-alarm box, the combination of the box with a removable keyless self-locking door or cover, the means for locking and unlocking being upon the inside of the said box and door or cover, and an aperture covered with a plate of easily fractured material, substantially as and for the purposes set forth.

No. 33,570. Baling Press. (*Presse d'emballage.*)

Peter K. Dederick, Loudonville, N. Y., U.S., 4th February, 1890; 5 years.

Claim.—1st. In combination with a baling press, the double cam casting H, H, with the cam S, slide D, traverser E, as and for the purpose set forth. 2nd. In combination with a baling press, castings P, P, rods Y, as and for the purpose set forth. 3rd. In combination with a baling press, I claim band casting O. 4th. In combination with a baling press, I claim pipe C, in combination with clamp castings F, as set forth. 5th. In combination with a baling press, feed blade T, lever U and guide bar S, and curved lever W, connected as described as and for the purpose set forth. 6th. In combination with a baling press, the roller S with folding blade M, as and for the purpose set forth. 7th. In combination with a baling press, traverser E, pipe D, and joint K, as and for the purpose set forth. 8th. In combination with a baling press, the pipe connection between the press and power end of machine, as and for the purpose set forth. 9th. In combination with a baling press, the combination, with the press and power ends of the machine, of the pipe connection between them and the inner slide staff for communicating the power, substantially as and for the purpose set forth. 10th. In combination with a baling press in which the pressing and power ends of the machine are connected by means of supporting timbers, beam or pipe, and the power communicated by means of a staff or other slide device, I claim the said connection and slide in combination, when operated in within or through each other, as and for the purpose set forth.

No. 33,571. Adjustable Mirror. (*Psyché*)

Frank M. Chapman, New York, N. Y., U.S., 4th February, 1890; 5 years.

Claim.—A looking-glass or mirror pivoted on a bar or bars, which is or are pivoted on a bureau or other article of furniture, and provided with a counterbalance, substantially as and for the purpose specified.

No. 33,572. Reclining Revolving Car Chair.
(*Fauteuil brisé et tournant de char.*)

Athol B. Macklin, Toronto, Ont., 4th February, 1890; 5 years.

Claim.—1st. The combination, with a suitable standard, a revolving plate B and frames *f, f*, arising from the sides thereof, of the arm-rests F, F, pivotally connected to said frames *f* and to the vertical side edges of the back, said back G and a longitudinally reciprocal seat frame, the rear of which is permanently pivoted, as shown, to the lower edge of said back, as and for the purpose set forth. 2nd. The combination, with a suitable standard boss O rotating thereon, and arms E, E projecting from said boss, of two chairs, one of which is supported on each arm, and which have reclining backs and a longitudinally reciprocating seat suitably pivoted together, as set forth. 3rd. The combination, with a suitable standard boss O rotating thereon, and arms E, E, projecting laterally in diametrical opposite directions therefrom, of plate B, frame *f*, longitudinally reciprocal seat back G pivotally connected to rear of said seat, and arm-rests pivoted to and connecting said back and frames *f, f*, as set forth. 4th. A standard plate B revolving upon said standard, frames *f* arising from the ends thereof, and a radially moving spring-actuated bolt for locking said plates and preventing it revolving independently, in combination with the sliding seat back G permanently and pivotally connected to the rear of said seat frame, and arm-rests pivoted to and connecting said back G and frames *f, f*, as set forth. 5th. In a revolving car seat, the combination, with standard A, plate B, frames *f, f* and arm-rests F, of back G, reciprocal seat frame *g*, to the rear of which the lower edge of said back is pivotally connected, and which moves longitudinally upon plate B, parallel bars H connecting the rear to the front of frame *g*, having grooves in their inner surfaces, frame I having tenons on the outer surfaces and foot-rest J, as set forth. 6th. In a car seat, a suitable standard plate B, frames *f, f*, vertically reciprocating bolt K, lever *m* and spring rod L, in combination with arm-rests F, F, back G, seat-frame *g* to the rear of which said back is permanently pivotally connected, and bars H, H, one of which is provided with a series of recesses in its under surface made with reference to bolt K, as and for the purpose set forth. 7th. In a car seat, a suitable standard plate B, frames *f, f*, vertically reciprocating bolt K, lever *m* and spring-actuated rod L, in combination with arm-rests F, F, back G, seat frame *g* to the rear of which said back is permanently pivotally connected, and bars H, H, provided with longitudinal dove-tail tenons projecting from their under sides which move in corresponding grooves in plate B, and one of which is provided with a series of recesses made with reference to said bolt K, as set forth. 8th. The combination, with a suitable standard revolving plate B, frames *f, f*, arm-rests F, back G, seat frame *g* to the rear of which said back is pivoted, and longitudinal bars H, H, connecting the rear to the front of frame *g* and having longitudinal grooves in their inner contiguous sides of frame I having tenons on their outer surfaces, which move in said grooves, of bars H, foot-rest J fulcrumed to the free ends of said frame, and links *k, k*, having longitudinal slots therein through which lateral studs projecting from near the inner end of said foot-rest pass, as set forth.

No. 33,573. Conveyer Machine.
(*Machine à transporter.*)

John Campbell, West Lorne, Ont., 4th February, 1890; 5 years.

Claim.—1st. The combination of the oscillating table H, and the balance box G, and the lever J, substantially as and for the purpose hereinbefore set forth. 2nd. The combination of my invention with the herein described conveyer machine or any other machine, substantially as and for the purpose hereinbefore set forth.

No. 33,574. Grain Drill and Broad Cast Seeder.
(*Semoir en lignes et à la volée.*)

Walter Bristow, Ottawa, Ont., 4th February, 1890; 5 years.

Claim.—1st. In combination with grain drills and broad cast seeders when combined with grain drills of a mechanical construction, such as hereinbefore shown and described, and as and for the purposes set forth. 2nd. In grain drills or broad cast seeders or grain drills and seeders combined, the combination of idle wheel H operated as described, shafts E and their links *g*, connecting rods C and cams G, which cams move the cross heads or carriages 3, 4 forward or back, thereby changing the angle at which the drill holes or seeder teeth enter the ground irrespective of the zig-sag motion already used in grain drills and broad cast seeders, substantially as and for the purposes hereinbefore set forth.

No. 33,575. Secondary Battery or Accumulator.
(*Pile secondaire ou accumulateur.*)

Thomas Harris and Henry F. deB. Cameron, Detroit, Mich., U.S. 4th February, 1890; 5 years.

Claim.—1st. In the manufacture of secondary batteries or accumulators, the method of fixing the active material in the apertures or interstices of the plates by screw threading, or otherwise corrugating said apertures, substantially as described. 2nd. In a secondary battery or accumulator, the washers and rods of vulcanite or other suitable non-conducting material, when arranged to secure the elements together, substantially as described. 3rd. In a secondary battery or accumulator, the washers extending below the bottom of the plates to form legs to support the battery, substantially as described. 4th. In a secondary battery or accumulator, the elastic cushion supporting the battery and formed of a sheet of elastic non-conducting material provided with the cups or bosses thereon, substantially as described.

No. 33,576. Compound of Chloride of Sulphur with Fatty Bodies.
(*Composition de sulfure de chlore avec des corps gras.*)

Adolph Sommer, Berkeley, Cal., U. S., 4th February, 1890; 5 years.

Claim.—1st. The improvement in combining fatty bodies with chloride of sulphur, consisting in diluting the chloride of sulphur with twice its weight or more of a comparatively inert substance which is not volatilized at the temperature of the reaction. 2nd. The improvement in combining fatty bodies with chloride of sulphur, consisting in diluting the fatty body with half its weight or more of a comparatively inert substance which is not volatilized at the temperature of the reaction. 3rd. The improvement in combining fatty bodies with chloride of sulphur, consisting in cooling the fatty body previous to the admixture of the chloride of sulphur. 4th. The improvement in combining fatty bodies with chloride of sulphur, consisting in incorporating with the fatty body at the ordinary temperature a portion of the chloride of sulphur, allowing the combination to take place and the compound to cool off, and then adding the remainder of the chloride of sulphur. 5th. The process of combining fatty bodies with chloride of sulphur, consisting in adding the chloride of sulphur to the fatty body while warm or hot. 6th. The improvement in neutralizing sulphochlorinated fatty bodies, consisting in incorporating therewith one or several inorganic neutralizing agents in a concentrated form. 7th. The improvement in incorporating therewith one or several liquid unsaturated organic compounds. 8th. The improvement in neutralizing sulphochlorinated fatty bodies, consisting in passing a current of air through them. 9th. The improvement in neutralizing sulphochlorinated fatty bodies, consisting in passing a gas through them which is charged with a volatile unsaturated compound. 10th. The process of making neutral sulphochlorinated compounds, consisting in adding to the fatty body or to the chloride of sulphur, previous to their being combined, either an oxide, hydroxide, sulphide, borate or carbonate of manganese, magnesium or calcium, or an amide or an amido-acid. 11th. The compounds of chloride of sulphur with the solid vegetable and animal fats and waxes. 12th. The compounds of chloride of sulphur with the fatty acids. 13th. Sulphochlorinated fatty bodies holding in suspension or in solution a neutralizing agent or an unsaturated organic compound, or the chlorhydric acid-derivatives of either of these, or a mixture of the latter with the former.

No. 33,577. Process of Burning Liquid and Liquecent Fuels.
(*Mode de combustion des combustibles liquides et liquéfiables.*)

Charles H. Land, Detroit, Mich., U. S., 4th February, 1890; 5 years.

Claim.—1st. The herein described process of burning liquid and liquecent fuels, consisting of disseminating the fuels upon a diffusing device in contact with a free circulation of air, and consuming the fuel so diffused by combustion, substantially as described. 2nd. The herein described process of burning liquid and liquecent fuels, consisting of disseminating the fuel upon a diffusing device by its own gravity in contact with a free circulation of air, and consuming the fuel so diffused by combustion, substantially as set forth. 3rd. The herein described process of burning liquid and liquecent fuels, consisting of disseminating the fuel upon a series of diffusing surfaces located one below another, in contact with a free circulation of air, and consuming the fuel so diffused by combustion, substantially as set forth. 4th. The herein described process of burning liquid and liquecent fuels, consisting of disseminating the fuel by its own gravity over a series of separated diffusing surfaces located one below another, in contact with a free circulation of air, and consuming the fuel so diffused by combustion, substantially as set forth. 5th. The herein described process of burning liquid and liquecent fuels, consisting of disseminating the fuel by its own gravity over a succession of diffusing surfaces located on an incline one below another, to permit the thorough spreading of the fuel over the successive diffusing surfaces, in contact with a free circulation of air upon said surfaces, and consuming the fuel so diffused by combustion, substantially as set forth. 6th. The herein described process of burning liquid and liquecent fuels, consisting of diffusing the fuel over a succession of diffusing plates separated from and located one beneath another, to permit a free circulation of air between the plates, and consuming the fuel so diffused by combustion, substantially as set forth. 7th. The herein described process of burning liquid and liquecent fuels, consisting of diffusing the fuel over heated diffusing surfaces located on a gradual descent in contact with a free circulation of air, and consuming the fuel so diffused by combustion, said fuel being discharged upon said diffusing surfaces in a heated condition, substantially as set forth. 8th. The herein described process of burning liquid and liquecent fuels, consisting of diffusing the fuel over a porous diffusing surface in contact with a free circulation of air, and consuming the fuel so diffused by combustion, substantially as set forth. 9th. The herein described process of burning liquid and liquecent fuels, consisting of diffusing the fuel by its own gravity upon an inclined plane or planes, in contact with a free circulation of air over said plane or planes, and consuming the fuel as diffused by combustion, substantially as set forth.

No. 33,578. Portable Drinking Fountain or Water Tank.
(*Fontaine ou citerne à eau potable portative.*)

George Dickson, Toronto, and David A. Jones, Beeton, Ont., 4th February, 1890; 5 years.

Claim.—1st. The combination of a flask or flasks of liquid anhydrous carbon dioxide with a drinking tank or other tanks, whereby

pressure may be obtained to force the water for extinguishment of fire. 2nd. The saturation of water in a portable drinking fountain or tank with liquid anhydrous carbon dioxide, whereby it may be used as a fire extinguisher. 3rd. The application of liquid anhydrous carbon dioxide as a motive power to drive fluids for the extinguishment of fire.

No. 33,579. Method Whereby Flowing Water in a Pipe or Hose in the Fixed Pipes of any Ship or Building may be rendered more effective for Extinguishing Fire.

(*Mode par lequel l'eau courante dans un tuyau ou boyau dans les tuyaux fixes d'un navire ou une bâtisse quelconque peut être rendue plus efficace pour éteindre les incendies.*)

George Dickson, Toronto, and David A. Jones, Beeton, Ont., 4th February, 1890; 5 years.

Claim.—1st. The application of liquid anhydrous carbon dioxide directly to flowing water in pipes, hydrants, fire hose or pumps, to form a mixture for the extinguishment of fire. 2nd. A special section of pipe C with the small bent tube D running through the side and passing within the special section of pipe, as shown in section Fig. 2, substantially as and for the purpose herein set forth.

No. 33,580. Street Railway. (Tramway.)

The Judson Pneumatic Street Railway Company, (assignee of Whitcomb L. Judson.) Minneapolis, Minn., U.S., 4th February, 1890; 5 years.

Claim. 1st. The combination, with a movable car or carriage, of one or more revoluble driving drums or shafts extending along the line of travel, and one or more friction-wheels adjustable to different angles with respect to the axis of said drum and adapted to engage therewith, substantially as described. 2nd. The combination with a movable car or carriage, of one or more revoluble driving drums or shafts extending along the line of travel, and one or more friction-wheels connected with said car mounted in bearings both vertically and angularly adjustable in respect to said drum or drums, and adapted to engage therewith, substantially as described. 3rd. The combination, with a movable car or carriage, of one or more revoluble driving drums or shafts extending along the line of travel, and one or more friction wheels connected with the car mounted in bearings revoluble in the planes of their axes, substantially as described. 4th. The combination, with a movable car, of one or more revoluble driving drums or shafts extending along the line of travel, a friction wheel supporting frame connected to said car, and one or more friction wheels on said frame mounted in bearings revoluble in the planes of their axes, substantially as described. 5th. The combination, with a movable car, of friction-wheels connected therewith and driving drums extending along the line of travel, there being of said drums and friction-wheels one device of one kind opposed to and engaging two of the other kind, whereby a wedging or crowding action is secured between them, substantially as described. 6th. The combination, with a movable car, of a revoluble driving drum or shaft extending along the line of travel, one or more friction-wheels adjustable in the planes of their axes adapted to engage with said drum at different angles to its axis, and connections extending from said wheel or wheels to the car for changing the angle of the friction-wheels to the driving drum, substantially as described. 7th. The combination, with a movable car, of a revoluble driving drum or shaft extending along the line of travel, a vertically movable friction-wheel supporting frame connected with said car, one or more driving drums at different angles, a connection from the car to said frame for raising and lowering the same, and a connection from the car to the friction-wheels for varying their angle to the driving-drum, substantially as described. 8th. The combination, with a movable car or carriage, of a revoluble sectional drum or shaft extending along the line of travel, and two or more friction-wheels each adapted to engage said drum at an angle to its axis, whereby there will be engagement of one or more wheels with the drum while substantially as described. 9th. The combination, with a movable car, of a revoluble drum or shaft extending along the line of travel, a truck frame or spider having friction-wheels therein engaging the drum at an angle to its axis, and a bar or standard connected engaging the car with said truck-frame having a sliding and a swiveled engagement therewith, substantially as described. 10th. The combination, with a movable car, of a revoluble drum or shaft extending along the line of travel, a truck-frame or spider having to its axis, and a sliding and a swiveled engagement therewith. 11th. The combination, with a movable car, of a revoluble drum or shaft extending along the line of travel, two or more friction-wheels connected to different parts of the car longitudinally adapted to engage between said wheels, substantially as described. 12th. The combination, with a movable car, of a slotted conduit along the line of travel, a revoluble drum mounted in said conduit, and one or more adapted to engage said drum at an angle to its axis, substantially as described. 13th. The combination, with a movable car, of a slotted conduit extending along the line of travel, a revoluble drum or shaft within said conduit, a truck within said conduit provided with friction-wheels adapted to engage said drum at an angle to its axis, and a bar or standard extending from the car to the truck through the slot in the conduit and having swiveled connections with both, substantially as described. 14th. The combination, with a movable car,

of a revoluble drum or shaft extending along the line of travel, and one or more sets of friction-wheels in couples connected to the car adapted to engage opposite sides of the drum at like angles to its axis, substantially as described. 15th. The combination, with a movable car, of a revoluble drum or shaft extending along the line of travel, and one or more sets of friction-wheels in couples connected to the car mounted in bearings revoluble in the planes of their axes, adapted to engage opposite sides of said drums at any desired angles to its axis, substantially as described. 16th. The combination, with a movable car, of a revoluble drum or shaft extending along the line of travel, one or more sets of friction wheels in the couples connected to the car mounted in bearings revoluble in the planes of their axes, adapted to engage the opposite sides of said drums at any desired like angles to its axis, and a connection from said wheels to within reach of the operator adapted to turn the wheels of each couple in opposite directions for effecting their adjustment to different like angles to the drum, substantially as described. 17th. The combination, with a movable car, of a revoluble drum or shaft extending along the line of travel, two or more sets of friction-wheels in couples connected to the car mounted in bearings revoluble in the planes of their axes, adapted to engage opposite sides of the drum at any desired like angles, and a common connection from all of said wheels to within reach of the car-operator for effecting like angular adjustment thereof, substantially as described. 18th. The combination, with a revoluble car, of a revoluble drum extending along the line of travel, two or more friction-wheel-supporting frame or spiders connected to different parts of the car longitudinally, friction-wheels mounted on said frames adapted to engage the drum at like angles to its axis, and pivotal connections coupling together said frames, substantially as described. 19th. The combination, with a movable car, of a slotted conduit extending along the line of travel, a revoluble drum mounted in said conduit, sets of friction-wheel-supporting spiders or frames, bars or standards connecting said frames with the car through the slot in the conduit, having a swiveled connection with each friction-wheels mounted on said frames in couples, adapted to engage opposite sides of said drum at like angles to its axes, and pivotal connections coupling together said frames, substantially as described. 20th. The combination, with a movable car or carriage, of a driving drum or shaft extending along the line of travel, and variable-speed gearing between the drum or shaft and the car, substantially as described.

No. 33,581. Plastering Compound.

(*Composition pour crépir.*)

Isaac C. Hart, William G. Wade, Cincinnati, Ohio, and William D. McCracken, Sandford, Flor., U.S., 4th February, 1890; 5 years.

Claim.—A plastering compound composed of equal parts by measure of sand, plaster of paris, lime and asbestos, prepared, substantially as hereinbefore set forth.

No. 33,582. Surgical Chair.

(*Fauteuil de chirurgie.*)

Miner and Elbreg, (assignees of Henry H. Elbreg.) Indianapolis Ind., U.S., 4th February, 1890; 5 years.

Claim.—1st. In a surgical-chair, the combination of the base, the rocking-frame and spring-coupling connecting the two, the back seat and foot sections hinged together, the pivots securing the back section to the rear of the rocking-frame, the pivoted links connecting the seat-section to the front of said frame, the pivoted segment, its guides and locking lever for securing the back and seat sections in the desired position, and the pivoted segment, its guides and locking lever to secure the rocking-frame in any desired position with relation to the base, substantially as shown and described. 2nd. The combination, in a surgical chair, of the base and rocking frame, the adjustable back and seat-sections pivotally secured in said frame and the elevating device for the chair consisting of the guide-plate and the elevating pawl or dog, substantially as shown and described. 3rd. The combination of the rocking frame, the links D¹ for hinging the said section in said frame, the seat section, the links D for hinging the front end of the seat section to the rocking frame, and locking bolts H¹ for holding the links D¹ parallel with the back section, substantially as described. 4th. The combination of the base A, the rocking frame B and spring connection C, with the back seat and leg section hinged together, as shown, and pivotally connected to the rocking frame, the segmental G¹ pivoted to the back section, guide plate G² secured upon the cross-piece of the rocking frame B, the lever G³ pivoted to said cross-piece the segment I pivoted to the rocking-frame, the guide plate I² therefore secured to the front cross-bar of the base, and the lever I¹, said part being arranged, substantially as set forth. 5th. In a surgical chair, a pivotal connection for the back and seat sections, consisting of a plate having a trunnion thereon and secured to one section, a plate secured to the other section having an opening to receive the end of said trunnion, and a link hung upon said trunnion between said plates which is pivoted at its lower end to the seat section, substantially as described. 6th. A surgical chair in which the back and seat sections are both hinged or pivoted to the frame and may be moved together or independent of each other, substantially as described. 7th. In a surgical chair, the base A and the rocking frame B secured together by springs, the seat section C hung by links D, D¹ to the frame B, the back section C¹ pivoted to the said frame, and having bolts H¹ to engage the links D¹, to lock the seat and back section together, substantially as described. 8th. In a surgical chair, the base A and rocking frame secured together, movable by springs, in combination with a seat section hung at its front and rear ends to the rocking frame by links and the back section pivoted to said frame and having mechanism, as described, to engage with the seat section and lock the two together, as set forth. 9th. In a surgical chair, the combination, with the base A, of the rocking frame B movably secured thereto by springs, and a locking device to secure the locking frame in any position with relation to the base consisting of a toothed segment secured to said frame, and

a locking lever pivoted to the base to engage the teeth of the segment, substantially as described. 10th. A surgical chair having a stationary base, a frame rockingly supported upon said base, and back seat and foot section hinged to said frame in such manner that they can all or either of them be adjusted to different positions, substantially as described. 11th. A surgical chair provided with an elevating device at its side, consisting of a guide a prop or a bar loose in said guide, a lever to press said prop downward, and a pawl or dog to lock said lever and prop in a depressed position, substantially as set forth. 12th. The combination, with the back and seat section and the supporting link D', of the locking device consisting of the two oppositely extended bolts H', the lever H to which they are pivoted, and, the rod or pull bar h', substantially as and for the purpose set forth.

No. 33,583. Charcoal Kiln.

(Four à charbon de bois.)

Edward W. Rathbun, Deseronto, Ont., (assignee of Elbert J. Burrell, Newbury, Mich., U.S.) 4th February, 1890; 5 years.

Claim.—1st. In a kiln for producing wood charcoal the outlet to the gases passing through the floor, and the flue descending below the kiln floor, as herein described and for the purpose specified. 2nd. In a kiln for producing wood charcoal, the outlet flue passing through the floor and covered by a screen wall E, as herein described and for the purpose specified.

No. 33,584. Friction Clutch Pulley.

(Poulie d'embrayage à friction.)

The Watrous Engine Works Co., (assignee of Charles H. Watrous and James N. Peel), Brantford, Ont., 4th February, 1890; 5 years.

Claim.—1st. In a friction clutch pulley, the friction wheel B rigidly fastened to the shaft A and separate from the pulley E, and clamping devices, substantially as shown and for the purpose specified. 2nd. In a friction clutch pulley having a continuous ring made in the ring, the yokes O, O, said ring may be made in sections attached to the spokes of the pulley E, in yokes O, O, the clamping jaws C, C, are located hinged and carried on the bolts N, N, in the yokes O, O, and co-operate with each other, substantially as shown and for the purpose described. 3rd. In a friction clutch pulley, the outer jaws C carrying the blocks G, G hinged on the bolts L, L, located in said jaws, and the adjusting blocks H, H, for adjusting the blocks G, G, and clamping jaws C, C, substantially as shown and for the purpose specified. 4th. In a friction clutch pulley, the inner jaws C carrying the levers F, F, held in the jaws and hinged on the bolt Q, Q, in the jaws C, said levers F, F, connected at the bottom by the links J, J, to the sliding sleeve K, and operate with each other, substantially as shown and for the purpose described. 5th. In a friction clutch pulley, the manner of attaching the ring or section containing the yokes O, O, located in said yokes, the clamping jaws C, C, to the spokes of a pulley by bolts, or other means of fastening, to said spokes, the collars S, S, for holding the pulley E in its place, substantially as shown and for the purpose specified.

No. 33,585. Pipe Wrench. (Clé à tuyaux.)

James R. Smith and John W. Myrick, Beaumont, Texas, U. S., 4th February, 1890; 5 years.

Claim.—1st. In a wrench the handle having the integral L-shaped foot at its end forming the rigid jaw of the wrench, said foot or jaw having its inner face curved so as to receive and provide a bearing for the pipe, and its outer face at right angles to the handle, and said face being serrated, combined with the C-shaped swinging jaw pivoted at one end to the handle by a single bolt, and having its entire inner face serrated from the pivot-point to the outer end, and the teeth 6 along the outer edge of the handle in close proximity to the rigid foot, as set forth. 2nd. In a wrench, the handle having the integral L-shaped foot at its end, forming the rigid jaw of the wrench, said foot or jaw having its engaging face at right angles to the stock or handle, and said face being serrated combined with the C-shaped swinging jaw pivoted at one end to the handle by a single bolt, and having its entire inner face serrated from the pivot-point to the outer end, the teeth 6 on the outer straight side edge of the handle in close proximity to the rigid jaw, and the teeth on the inner straight edge of the stock, whereby the C-shaped jaw may be swung around so as to engage the pipe with either of the three different series of teeth and this without any adjustment or changing of the parts, as set forth.

No. 33,586. Beer Glass with Automatic Opening and Opening Device.

(Verre à bière avec appareil d'ouverture et de fermeture automatique.)

Käthe Peters, Kiel, Prussia, 4th February, 1890; 5 years.

Claim.—1st. In mugs, jugs and the like fitted with lids, the combination of a toothed sector attached to such lid engaging with a rack attached to or integral with a sliding handle of their equivalent, substantially as described. 2nd. In mugs, jugs and the like fitted with lids, the method of attaching a self-acting lid thereto by means of spring rings engaging with grooves round the circumference of the said vessels, substantially as described. 3rd. Attach self-acting to drinking vessels, jugs and the like, by means of spring rings, in combination with a ring or plate at the bottom of the bar connecting the spring rings, substantially as described.

No. 33,587. Safety Railway Car.

(Char de chemin de fer de sûreté.)

Charles C. Gilman, Eldora, Iowa, U.S., 4th February, 1890; 5 years.

Claim.—1st. In a car provided with an opening in its roof, a cover for said opening and catches arranged for engaging and disengaging with said cover, in combination with an electric battery and connections for operating said catches, substantially as and for the purpose described. 2nd. In a car provided with an opening in its roof, a cover for the opening, a catch or grapple device to catch and hold the cover and adapted also to be released therefrom, an armature, an electro-magnet, an electric battery and a wire circuit, in combination with a circuit-breaker and means for operating the latter, substantially as and for the purpose described. 3rd. In a car having an opening in its top or roof, a cover to fit and close said opening, a catch device adapted to engage and hold said cover, an armature for operating the catch device to cause it to engage the cover, and means tending to move the armature in an opposite direction to disengage the catch device from the cover, in combination with an electric battery, an electro-magnet, an electric circuit connection, and means for breaking the circuit, substantially as and for the purpose described. 4th. A car having an opening in its roof, a cover adapted to close the opening, and a catch mechanism to engage and hold the cover and also adapted to be disengaged therefrom to release the same, in combination with electro-magnetic mechanism for operating the same, substantially as and for the purpose described. 5th. A car provided with an opening of a size adapted for the escape of its occupants or passengers when unobstructed, a cover fitting said opening, and a catch device adapted to engage and hold said cover when the car is in its upright or normal position, and to release the cover when the car is overturned, in combination with an electric battery, an electro-magnet, electric circuit connections, and an armature connected with said catch device, substantially as and for the purpose described. 6th. A car provided with an opening for the escape of passengers therethrough when unobstructed, a cover loosely fitting and closing said opening, and a catch device for fastening the cover in place, in combination with electro-magnetic mechanism arranged to release the catch device from the cover upon the over turning of the car, substantially as and for the purpose described. 7th. In a car having an opening in its roof and a cover fitting to close the same, the combination, of pivoted armatures provided with catches for engaging the cover, electro-magnets for operating the armatures in one direction, spring to operate them in the opposite direction, an electric battery, circuit breakers and an electric circuit wire, substantially as and for the purpose described. 8th. In a car having an opening in its roof, and C² to loosely fit within and close said opening, the electro-magnets E, and spring-actuated pivoted armatures F supported in bracket frames G, in combination with an electric battery D, an electric wire and circuit-breakers, substantially as and for the purpose described. 9th. In a car provided with a bushing B', fitting in its roof and affording through its central part an opening for the escape of passengers, a cover C² fitting said opening, electro-magnets E and pivoted armatures F carried on brackets G, in combination with a battery D, the electric circuit wire formed of the parts x, x', and y and the circuit-breakers substantially as and for the purpose described. 10th. A car provided with an opening and a cover fitting loosely and closing the same, electro-magnets E, pivoted armatures F, brackets G, circuit-breakers L, L', and circuit-breaker H, I, K, h', s', in combination with the battery D and the electric circuit wire connections, substantially as and for the purpose described.

No. 33,588. Composition of Matter for Roadways, Sidewalks, Fireproof Roofing, Vault Linings and similar purposes.

(Composition de matières pour les chemins, trottoirs, toitures incombustibles, doublures de coffres-forts et autres choses semblables.)

Henry Benjamin, Montreal, Que., 4th February, 1890; 5 years.

Claim.—The composition herein described of finely divided iron particles and a bituminous substance, substantially in the proportions and for the uses set forth.

No. 33,589. Lock. (Serrure.)

Charles R. Uhlmann, Peoria, Ill., U. S., 4th February, 1890; 5 years.

Claim.—1st. The combination, with the lock case having the notched edge wall and a lug projecting inward from said wall, of the sliding key-hole guard or block equal in thickness to the distance between the side walls of the case, and provided with a stud projecting through the notch in said walls, and a spring acting to throw the guard into engagement with said lug, whereby the guard pressed inward, by means of said stud, and passed over the key-hole or to the oppositelimit of its path, may be automatically locked in either position. 2nd. The combination, with the lock case A having its edge wall notched to a suitable depth and provided with integrally formed lugs C, H, of the sliding key-hole guard E provided with the recess J adapted to receive the lug H, the guard-actuating stud E' formed integrally with the guard and projecting through the notch in the edge wall of the case, the spring-actuated stud F projecting from the guard against the lug C, and the removable side plate K resting upon the guard E, and stud E' retaining them in position, substantially as set forth.

No. 33,590. Electric Mechanism for Operating Telephone Call Bells.

(Mécanisme électrique pour faire fonctionner les timbres des téléphones.)

Frederick W. A. Schneider, Toronto, Ont., 4th February, 1890; 5 years.

Claim.—1st. A telephone call-bell connected to the telephonic circuit in such a manner that, upon being signalled, its action breaks the circuit leading to the telephone call-bell and switches the said circuit on to a line leading to an auxiliary call-bell situated at a point remote from the telephone. 2nd. The wire A and wire L connected to the magnet C, and the wire B connected to the plate D, the spring E arranged to form an electrical connection with the lever H, lever G, and the magnet C, in combination with the armature H, lever G, pin J and wire K, arranged substantially as and for the purpose specified. 3rd. The wire A and wire L connected to the magnet C, and the wire B connected to the plate D, the spring E arranged to form an electrical connection between the plate D and the magnet C, in combination with an armature H, lever G, pin J, wire K and air or oil cushion formed by the cylinder M, arranged substantially as and for the purpose specified. 4th. The pivoted lever G arranged to engage with a notch in the armature H and to project over the pivoted lever U, in combination with the spring E, arranged substantially as and for the purpose specified. 5th. The pivoted indicating plate R having a weighted arm S fixed to it and designed to extend over the pivoted lever U, in combination with the pins a and b, arranged substantially as and for the purpose specified.

No. 33,591. Tea and Coffee Pot.

(*Théière et cafetière.*)

Richard M. Wanzer, Hamilton, Ont., (assignee of John C. Bayley, Bournemouth, Eng.), 4th February, 1890; 5 years.

Claim.—1st. In combination with a tea or coffee pot A, the weighted base E provided with a space F underneath it, the tube G made to pass from the bottom of the said base E upwards through the perforated receptacle D, and a valve or cap H loosely fitted in the top of the tube G, substantially as and for the purpose specified. 2nd. In a coffee or tea pot, the combination, with the pot A, weighted base E with recess F under it, tube G, valve or cap H, perforated receptacle D, all arranged and constructed substantially as and for the purpose specified.

No. 33,592. Cash Register and Indicator.

(*Régistre et indicateur de monnaie.*)

The Boston Cash Indicator and Recorder Company, Bangor, Me., (assignee of Jerome J. Webster, Somerville, Mass.), U.S., 4th February, 1890; 5 years.

Claim.—1st. The combination of a series of keys of signal levers differently numbered, a suitable stand, a registering lever pivoted on said stand and extending over said keys, and arranged to be struck by said keys when the same are depressed, a ratchet concentric with the pivot of said registering lever, a pawl pivoted on said registering lever and engaging the teeth of said ratchet, the under side of said registering lever being curved, substantially as described, and stops to limit the motion of said keys, whereby the depression of any one of said keys will cause said pawl to travel over a number of the teeth of said ratchet corresponding to the number of said key, as and for the purpose specified. 2nd. The combination of a series of keys differently numbered, a suitable stand, a registering lever pivoted on said stand and extending over said keys, and arranged to be struck by said keys when the same are depressed, a ratchet concentric with the pivot of said registering lever, a registering pawl pivoted on said registering lever and engaging the teeth of said ratchet, the under side of said registering lever being curved, substantially as described, stops to limit the motion of said keys, and a spring to restore said registering lever to position when a depressed key is released, whereby the depression of any one of said keys will cause said pawl to travel over a number of the teeth of said ratchet corresponding to the number of said keys, and the release of said key will cause said ratchet to be rotated an angular distance corresponding to the same number of said teeth, as and for the purpose specified. 3rd. The combination of a series of keys differently numbered, a fulcrum common to said keys, a suitable stand, a registering lever pivoted on said stand and extending over said keys, and arranged to be struck by said keys when the same are depressed, a ratchet concentric with the pivot of said registering lever, a registering pawl pivoted on said registering lever and engaging the teeth of said ratchet, the under side of said registering lever being curved, a spring to restore said registering lever to position when a depressed key is released, a single toothed pinion concentric with and turning with said ratchet and engaging with said gear, the sides of said ratchet a d gear being marked with figures to indicate the numbers said figures, as and for the purpose specified. 4th. The combination pressed automatically against said keys, and provided with notches laterally when said keys are depressed, to allow said keys to pass above said notches and overhanging said notches whereby the raising of the rear ends of said keys to the tops of said inclines will move return to their normal position, as and for the purpose specified. 5th. The combination of a series of keys and a grid composed of rack-bars adapted to be pressed against said keys and provided with notches adapted to engage said keys, said grid being adapted to be moved

laterally when any of said keys are depressed to allow the rear ends of said keys to pass said notches, each of said rack-bars being provided with an incline above its notches, whereby the raising of the rear ends of said keys to the tops of said inclines will move all of said notches out from under said key, and allow said keys to return to their normal position, said grid being provided with a projection, and a hook adapted to swing over said projection and to prevent said notches from engaging with said keys, as and for the purpose specified. 7th. The combination of a series of keys, a grid composed of rack-bars provided with notches and adapted to be automatically pressed against said keys and to engage said keys, each of said bars being provided above its notches with an incline, the upper end of which overhangs said notches, whereby raising the rear end of any of said keys to the top of an incline will move said grid to one side of said keys, the grid being provided with a projection, and a hook turning on a stationary pivot and adapted to engage said projection, to prevent said grid from returning to its normal position, a bar arranged above said keys and adapted to be raised by raising the rear ends of any of said keys, a lever provided with an arm which reaches under said hook, said lever being adapted to be operated to depress said arm to allow said hook to engage said projection when said bar is raised, and a spring to rock said lever upon its fulcrum when said keys are restored to their normal position, and to raise said hook out of engagement with said projection to allow said grid to return to its normal position, as and for the purpose specified. 8th. The combination of the frame, the locking-rod provided with a projection and adapted to slide in said frame, a spring adapted to draw said locking-rod endwise in one direction, an unlocking lever adapted when turned upon its fulcrum to press against said projection, and to move said locking-rod against the resistance of said spring, and to pass by said projection and to release said locking-rod, said locking-rod being provided with a series of pins, and a series of rods guided vertically in said frame, and each provided with a pin adapted when raised above a pin on said locking-rod to be supported thereby, as and for the purpose specified. 9th. The combination of the frame, the locking-rod provided with an incline and adapted to slide endwise on said frame, a spring adapted to draw said locking-rod in one direction, an unlocking lever adapted when turned upon its fulcrum to press against said incline, and to move said locking-rod against the resistance of said spring and to pass by said incline to release said locking-rod, signals provided with stems or signal-rods guided vertically in said frame and having projections, said locking-rod being provided with projections equal in number to the number of signal-rods, a series of keys equal in number to said rods, one of said signal-rods normally resting on each of said keys, and a bar resting upon said keys and adapted to engage and to turn said unlocking lever when any of said keys are depressed, as and for the purpose specified.

No. 33,593. Automatic Car Coupler.

(*Attelage automatique de chars.*)

Edwin B. Reid and John G. Scott, Barrie, Ont., 4th February, 1890; 5 years.

Claim.—1st. A draw-head A having a disc C eccentrically pivoted within it, and a hook-shaped link D fixed to the said disc, substantially as and for the purpose specified. 2nd. A draw-head A having a disc C eccentrically pivoted within it, and a hook-shaped link D fixed to the said disc, in combination with the pivoted wing E acted upon by the spring I and having a lip F formed on it, substantially as and for the purpose specified. 3rd. A draw-head A having a disc C eccentrically pivoted within it, and a hook-shaped link D fixed to the said disc, in combination with the pivoted wing E acted upon by the spring I having a lip F formed on it, lever G and crank H, substantially as and for the purpose specified.

No. 33,594. Protector for Electrical Instruments.

(*Protecteur pour les instruments électriques.*)

Joseph E. Crandall, Washington, D. C., 4th February, 1890; 5 years.

Claim.—1st. In a protector for electrical instruments, the combination of the plate, one limb of which supports an electro-magnet, and the other limb of which is connected to the armature, substantially as described. 2nd. In a protector for electrical instruments, the combination of a bent bar, one limb of which supports a magnet, and the other limb of which supports an armature, contacts arranged on each side of the armature, and a connector between the armature and bar, constructed and arranged to normally hold the armature in equilibrium between the contacts, substantially as described. 3rd. In a protector for electrical instruments, the combination of a bent iron bar, one limb of which supports a magnet, and the other limb of which supports an armature, of a standard attached to, but insulated from the bar, and connected to the ground circuit, and another standard connected to the armature, substantially as normal electric contact with the armature, substantially as described. 4th. A protector for electrical instruments, consisting essentially of an insulated base, a bent iron bar secured thereto, one arm of which extends laterally and supports an electro-magnet, and an adjustable contact connected with the ground and the other arm of which is electrically connected to the armature, and a standard having a contact piece normally supporting the armature when in operative position, substantially as described.

No. 33,595. Filling and Weighing Machine.

(*Machine à empaqueter et peser.*)

Nelson L. Tuck, Philadelphia, Penn., U. S., 6th February, 1890; 5 years.

Claim.—1st. The combination, in a machine for automatically filling, weighing and packing boxes, of the hopper and a spout through which the material continuously flows, with weighing mechanism and a box carrier, and a funnel-frame for the boxes, mechanism for moving the boxes, and funnel-frame into and out of

line with the spout of the hopper as the weighing mechanism dictates, without waste of the material being packed, substantially as specified. 2nd. The combination of the hopper, the spout through which the material has a continuous flow, the disk carrying the boxes to be filled, a frame F, by which the material is guided into said boxes, said frame having a series of partitions so that, on the movement of one box out of line with the spout, and the movement of another box into line with the same, the partition will cut off the flow of material into one box and allow it to flow into the other box, substantially as described. 3rd. The combination of the hopper, the intermittently moved box-carrier having cups on which are supported the boxes to be filled, with weighing mechanism, and a platform adapted to support the cup and box being filled, substantially as specified. 4th. The combination of the hopper, the intermittently rotated shaft C, disk D, carrying platform e, springs e', with a funnel-frame F having projections f for holding the boxes to be filled in place on the platform e, substantially as specified. 5th. The combination of the hopper box carrying disk D having radiating slots g, an intermittently rotated disk L having pins p adapted to engage with the slots in said disk, substantially as described. 6th. The combination of the hopper, the box carrying disk D, driving-shaft J, a friction-disk K secured thereto, a friction thero, a friction-disk L adapted to drive said disk D, with a stop plate S for said disk L, with a scale-beam adapted to trip said plate and release the disk L, substantially as set forth. 7th. The combination of the hopper, the rotated box-carrying disk and the scale-beam, with the shaft J having a friction-disk, a friction-disk L, adapted to drive the box carrying disk and having pins p, a spring plate engaging one of said pins, a trigger e, and pins on the shaft adapted to engage with the trigger and depress the plates S when the weight of the box overbalances the scale weight, substantially as specified. 8th. The combination of the scale beam, the projecting theroon, a friction-disk L having a pin p, a spring plate S engaging said pin with a trigger e, pivoted to said plate and having a lip and pins on the shaft, the whole combined and acting substantially as described. 9th. The combination of the intermittently rotated box carrier D, a driver cam U with a packing plunger W² pivoted to a lever W, said lever having a pivoted cam block adapted to the slot of the cam U, and a trigger Y, adapted to press on the pivoted cam-block and direct it into the slot of the cam, substantially as described. 10th. The combination of the box carrying disk D, the shaft J, the disk L having pins p, and a cam U, a lever W having a packing plunger W², and a cam block with a trigger Y, one arm of which is adapted to be acted upon by a pin p on the disk L, and the other arm adapted to act upon the cam-block and to throw it into the groove in the cam U, substantially as and for the purpose described. 11th. The combination, in a box filling machine, of the rotated carrying disk D supporting the box to be filled, with a funnel frame having partitions g, which form the funnels for the different boxes, said partitions terminating in a knife edge e', substantially as shown and described. 12th. The combination of the shaft J, the cam U thereon, and a lever W carrying a packing plunger, with a pivoted cam-block carried by said lever, and a stop bar X acting to limit the upward movement of said lever W and at the same time steady the cam-block, substantially as shown and described.

No. 33,596. Steam Trap and Valve for Steam Heating Systems. (*Trappe et soupape pour les appareils de chauffage à la vapeur.*)

Edward E. Gold, New York, N.Y., U.S., 16th February, 1890; 5 years.

Claim.—1st. The combination, with a steam-pipe coupling for the steam heating pipes of a railway car, of an automatic trap applied to the coupling-head consisting of a valve opening inwardly with the seat arranged to draw the liquid from the normally lowest portion of said head, and a tension device arranged to exert a pressure against said valve tending to open it, but insufficient to resist the normal steam pressure within the pipes, substantially as set forth. 2nd. The combination, with a steam pipe hose coupling for the steam heating pipes of a railway car, of a steam trap applied beneath the coupling-head consisting of a chamber communicating with the normally lowest part thereof, a valve-seat formed at the outlet from said chamber, a valve within said chamber opening inwardly, adapted to close against said seat and formed with a stem projecting beneath it, a spiral spring arranged beneath it and pressing upwardly against it with a tension sufficient to open it, but insufficient to resist the normal steam pressure within the pipes, and a guide projecting upwardly beneath said valve seat receiving the valve-stem with it and holding the spring upon its exterior, substantially as set forth. 4th. The combination, with a steam heating system, of an automatic trap consisting of a drainage valve connected with the steam heating pipe or vessel and opening inwardly, and a tension device arranged to exert a pressure against said valve, tending to open it, but insufficient to resist the normal steam pressure in said pipe or vessel, whereby said valve is closed when steam is turned on and opens automatically when the steam pressure ceases, and an impact plate arranged in the path of the issuing steam against said plate tends to seat said valve, substantially as set forth. 5th. The combination, with a steam heating system, of an automatic trap consisting of a drainage valve connected with the steam heating pipe or vessel and opening inwardly, and a tension device arranged to exert a pressure against said valve tending to open it, but insufficient to resist the normal steam pressure in said pipe or vessel, and a screw arranged when turned to force said valve to its seat, whereby the automatic operation of the valve may be prevented at will, substantially as set forth. 6th. The

combination, with a steam pipe or vessel, of an automatic trap consisting of a valve seat, a tubular standard borne by said seat, a valve opening inwardly, a valve-stem within said standard, a transverse partition in said standard forming a stop for limiting the opening movement of the valve, a spring tending to open the valve reinforced against said partition, and an adjusting nut screwing on the valve-stem and receiving the tension of said spring, whereby the latter may be adjusted, substantially as set forth. 7th. A hose-coupling head formed with a circular opening in its upper side, a cap closing said opening, a thermo-expansive vessel within the chamber of the coupling-head, means for vertically adjusting said vessel, and an automatic trap within the chamber of the coupling-head, consisting of a seat at the normally lower side thereof, a valve opening inwardly and arranged relatively to said thermo-expansion vessel so that the expansion of the latter will force it to its seat, and a tension device arranged to exert a pressure tending to open said valve, substantially as set forth. 8th. An automatic trap consisting of a valve opening inwardly, and a tension device tending to open said valve, combined with a thermo-expansion device arranged relatively to said trap, so that, upon its expansion by heat, its movement shall be communicated to and shall close the valve, an adjustable stop to limit the movement of said expansion device away from said valve, and a screw connected to said thermo-expansion device and adapted to move the latter toward or from the valve, whereby, by turning said screw, the valve may be forced to its seat, substantially as set forth. 9th. A combined steam trap and blow-off valve for a steam heating system, consisting of a shell or casing a valve opening inwardly, a spring tending to lift said valve from its seat, and having a tension insufficient to resist the normal steam pressure, whereby said valve seats itself when steam is turned on, and automatically opens and discharges the water of condensation after steam is turned off, and a screw-stem working through said shell and engaging said valve, and adapted when screwed up to draw the valve away from its seat and prevent its being stated by the steam pressure, thereby permitting steam to blow through, substantially as set forth. 10th. A combined steam trap and blow-off valve for a steam heating system, consisting of a shell or casing, a valve opening inwardly, a spring tending to lift said valve from its seat and having a tension insufficient to resist the normal steam pressure, whereby said valve seats itself when steam is turned on, and automatically opens and discharges the water of condensation after steam is turned off, a screw-stem working through said shell and a handle for turning said stem, the said shell provided with marks for indicating three distinct positions of said handle and stem corresponding to open, closed and set positions of said valve, and said stem connected to said valve and adapted when screwed up to the "Open" position to draw said valve away from its seat when screwed down to the "Closed" position, to press said valve against its seat, and when in an intermediate or "Set" position, to leave said valve free to open or close automatically by the variations of the steam pressure, substantially as set forth.

No. 33,597. Anti-Friction Bearing. (*Coussinet sans friction.*)

Alfred W. Terry, Brooklyn, N. Y., U. S., 6th February, 1890; 5 years.

Claim.—1st. An anti-friction bearing consisting of the rings A, A', united by the series of pins a, a', arranged alternately, as set forth, the pins a, a', a' of said series having mounted thereon rolls b, b', b', and the remaining pins a, a, a, having mounted thereon rolls b, b, b, each roll b' passing between two of the rolls b, b, on either side of the same, substantially as and for the purpose described. 2nd. In an anti-friction bearing, the combination of the rings A, A', the series of pins a, a', arranged alternately, as set forth, the rolls b, b arranged in pairs, one pair on each of the pins a, a, and the rolls b', b', one on each of the pins a', a', each roll b' passing between the rolls b, b of each of the two pairs on each side of the same, substantially as and for the purpose described.

No. 33,598. Mail Bag Fastening. (*Fermeture de valise à lettres.*)

John R. Greenfield, Ottawa, Ont., 6th February, 1890; 5 years.

Claim.—1st. The metallic disk B having a circumferential wall B¹ and a diametrical groove B², and the wall correspondingly slotted to meet the groove and provided with holes to fasten the same to a bag, as set forth. 2nd. The bag A having a disk B provided with a wall B¹ and a diametrical groove B², and secured thereto, substantially as set forth. 3rd. In combination, the bag A, the disk B secured thereto, and having a circumferential wall B¹ and a diametrical groove B², the cord C surrounding the groove and traversing the grooved disk, and the wax impression D enclosed by the wall and covering the cord, substantially as set forth.

No. 33,599. Detachable Strainer. (*Couloir mobile.*)

Lizzie Pickard, Toronto, Ont., 6th February, 1890; 5 years.

Claim.—1st. A perforated receptacle B made of galvanized iron, or other non-corrosive material, and provided with means for suspending it within a sink, substantially as and for the purpose specified. 2nd. A perforated receptacle made of galvanized iron, or other non-corrosive material, and shaped to fit into the corner of a sink, a perforated flange or flanges being formed on the sides of the receptacle to fit on to the pin or pins projecting on the side of the sink, substantially as and for the purpose specified.

No. 33,600. Combined Hammock Spreader and Cushion. (*Châssis de hamac et traversin combinés.*)

Alexander Miller, Toronto, Ont., 6th February, 1890; 5 years.

Claim.—A hammock cushion B movably connected to the detachable hammock spreader A, substantially as and for the purpose specified.

No. 33,601. Bridle Bit. (*Mors de bride.*)

Clarke P. Pond, Olena, Ohio, U.S., 6th February, 1890; 5 years.

Claim.—1st. An improved bridle-bit, the bar or mouth-piece of which has one end or side around and smooth and its opposite or end provided with corrugations, sharp edges or projections, as and for the purpose described. 2nd. An improved bridle-bit, the bar or mouth-piece of which has one end or side covered with soft or elastic material, and its opposite side or end of hard material and provided with sharp edges or projections, as and for the purpose described.

No. 33,602. Fishing Reel.(*Dévidoir de canne de pêche.*)

Joseph P. Costigan, St. Paul, Minn., U.S., 6th February, 1890; 5 years.

Claim.—1st. The combination, with the spool and winding mechanism of a reel, a guide bar attached to the frame and having parallel grooves or ways therein, and a slide mounted to reciprocate in said groove ways, of a cylinder provided with reversed grooves mounted in proximity to said guide bar, and a pin adjustably mounted in said slide and provided with a blade entering the groove in the cylinder to reciprocate the slide, substantially as described. 2nd. In combination with the spool-frame and winding mechanism of a reel, a cylinder provided with reversed grooves and connected to the driving mechanism, a guide bar mounted in proximity to said cylinder, a slide mounted to reciprocate upon said guide bar, an eye or guide for the line connected to said slide and an adjustable pin supported in said slide and carrying a blade for engaging the grooves in the cylinder, substantially as described. 3rd. In combination with the spool of a reel such as described, a tension device composed essentially of two guides through which the line is passed, and an intermediate hinged cross-piece substantially as and for the purpose set forth. 4th. In combination with the winding drum or spool of a reel, a tension device consisting essentially of two guides supported upon the frame, and a yoke or tongue pivotally supported to swing between the guides and carrying a cross-bar with supporting springs, substantially as described. 5th. The combination, in a fishing reel and with the winding drum or spool, of two angularly disposed guides mounted upon the frame, and a yoke or tongue pivoted to swing between said guides and carrying a cross-piece, with yielding tension devices operating to hold the line when passed through the guide and over the cross piece clamped between the cross-piece and wall of the guide, substantially as described. 6th. The combination, in a fishing reel and with the winding spool thereof, of a guide through which the line is carried to the spool, and a cross-bar or support for the line mounted upon a swinging support, and adapted to be moved toward the guide to clamp the line against the latter, substantially as described. 7th. The combination, in a fishing reel and with the winding spool thereof, of a guide through which the line is conducted to the spool, and a friction-bar mounted on movable supports in front of said guide and held pressed toward the wall of the guide by elastic tension devices, said bar being adapted and arranged to be drawn toward the guide by the friction of the line upon it, substantially as described. 8th. In a fishing reel and in combination with the winding spool thereof, two guides angularly disposed and a pivoted yoke or tongue carrying a cross-bar mounted upon springs, said cross-bar being interposed between the guides in position to be acted upon by the line, and swung up toward the rear guide to clamp the line, substantially as described. 9th. The combination, to form a tension attachment for a fishing reel, of the bar provided with a line guide and a frictional tension bar mounted upon said bar and movable toward and from the front of the guide, with an elastic support for holding said bar pressed upon the line, substantially as described. 10th. In a fishing reel and in combination with the spool, the winding mechanism and an eye or guide reciprocated longitudinally of the reel to lay the line, and a tension device, substantially such as described, consisting of a guide for the line and a movable bar supported to reciprocate in front of said guide and provided with elastic pressure devices, substantially as described. 11th. In combination with the spool and winding mechanism of a fishing reel, substantially as described, the slide carrying the line guide and blade, the grooved cylinder and the pinion upon the extremity of said cylinder, a pinion mounted upon the extremity of a movable lever for connecting and disconnecting said bar rotated without moving the cylinder, substantially as described. 12th. The combination, in a fishing reel and with the winding drum or spool, of a spring mounted pin extending through the end disk of the reel, a rock shaft or bar mounted in the end disks of the reel, shaft, and a projecting thumb piece for rocking said shaft and whereby the inclined face of said tappet to act upon said pin to retard the movement of the same, substantially as specified.

No. 33,603. Umbrella. (*Parapluie.*)

Charles H. Knubel, New York, N. Y., U.S., 6th February, 1890; 5 years.

Claim.—1st. In an umbrella runner, the combination of the outer sleeve D, the inner tube F having the hooks K and M projecting beyond the ends of the sleeve, and the spiral spring J, all arranged to engage substantially as described, whereby the end hooks act automatically to engage projections on the stick as the canopy is raised or lowered. 2nd. The combination, with an umbrella stick having pins L and N, sleeve D, inner tube F, having hooks K and M projecting beyond the ends of the sleeve, and the spring J, arranged substantially as set forth, whereby the said hooks act automatically to engage the pins of the stick.

No. 33,604. Secondary Battery Plate.(*Plaque de pile secondaire.*)

Victor H. Ernst, Jersey, N.J., U.S., 6th February, 1890; 5 years.

Claim.—1st. A battery-plate, having the active material embedded therein with a passage in the interior of said active material extending parallel with the surface of the plate, whereby the acid of the battery can gain access to the interior of said active material, substantially as specified. 2nd. A storage battery plate, having longitudinal and transverse openings, active material in said openings, with central passages in the active material confined in the longitudinal openings, substantially as described.

No. 33,605. Walking Cane and other Devices made of Conical or Cylindrical Paper Cops. (*Canne et autres objets faits de cannettes de papier coniques ou cylindriques.*)

Ewald Höfel, Lugan, Saxony, 6th February, 1890; 5 years.

Claim.—The manufacture of walking sticks or sticks for umbrellas or sun shades, picture frames, baskets, toys and similar fancy goods, from material produced by stringing together conical or cylindrical paper cops or tubes upon a central core of metal or other suitable material, the cops being secured together by means of glue or other cement, and colored or finished to suit the fancy, substantially as described.

No. 33,606. Plough. (*Charrue.*)

George Taylor, Victoria, B.C., 7th February, 1890; 5 years.

Claim.—1st. The combination, in a plough, of a frame A with handles B, mould board C, point D, sole plate E, with petroleum engine G, all substantially as set forth. 2nd. In a plough, the combination of a petroleum engine G, with gearing H, drive chain I, worm or screw J adapted to propel the plough, all substantially as set forth.

No. 33,607. Wood Sawing Machine.(*Machine à scier le bois.*)

Benjamin F. Camp, Clinton, Ky., U.S., 7th February, 1890; 5 years.

Claim.—The combination, substantially as described, of the frame provided at front with vertical standards having ways, the gravitating counter-balanced sash-frame mounted in said ways and provided with horizontal grooved side sills, the cross-head mounted to slide in said grooves and connected by pitman with the driving crank, the saw secured at one end to the front of the cross-head, and guides secured to the sash frame adjacent to the cross-head and bearing, with their free ends upon opposite sides of the saw-blade.

No. 33,608. Art or Process of making Bakers' Flour from White Corn.(*Art ou procédé de fabrication de la farine de boulanger avec du maïs blanc.*)

Charles Herendeen, St. Thomas, Ont., 7th February, 1890; 5 years.

Claim.—The process of making bakers' flour from white corn by crushing, kiln-drying and grinding or rolling and bolting alternately, substantially as described.

No. 33,609. Electric Cam. (*Came électrique.*)

Henry S. Prentiss, Elizabeth, N.J., U.S., 7th February, 1890; 5 years.

Claim.—1st. A disc or wheel, having a closed duct or groove, which makes two complete turns or convolutions within said disc, a conducting fluid within said duct, and means, as the wires *w*, whereby an electric circuit is closed by the passage of said fluid at a certain point in said duct. 2nd. The combination of the shaft S, the disc A having the duct formed within it in two complete convolutions and closing upon itself, as shown, the mercury or conducting fluid and the conducting wires through which a circuit is closed by the passage of said mercury. 3rd. The combination of a shaft, a disc or wheel carrying a duct, which makes two complete convolutions and closing upon itself, a moving body within said duct, and means whereby an electric circuit is closed by the passage of said body through a certain predetermined part of said duct.

No. 33,610. Shoe Buckle. (*Boucle de soulier.*)

Major J. Robinson, Marshfield, Wis., U.S., 7th February, 1890; 5 years.

Claim.—1st. A shoe buckle, comprising the similarly-shaped sections A and A', curved in cross-section and provided with lateral flanges *a*, one of said sections having a series of teeth and the other being provided with lateral projections *a'*, having notches, and the link having its lower edge curved and provided with recesses *b* in its sides, near the lower ends thereof, and fitting in said notches, substantially as described. 2nd. A shoe buckle, comprising the sections A, A', curved in cross-section, and sliding upon each other, and provided with lateral flanges *a*, one of the sections being provided with a series of teeth and the other having notched projections *a'*, a spring secured to the end of the section A' and lying within its curved sides, and the link having its sides provided with bends *b*, and the recesses *b*, and adapted to fit in the notches of said projections, substantially as described.

No. 33,611. Feed Trough for Pigs.*(Auge à cochons.)*

John Jackson, Rockton, Ont., 7th February, 1890; 5 years.

Claim.—1st. A feeding trough A, provided with a series of arched guards, arranged substantially as specified. 2nd. A feeding trough A, provided with a series of arched guards C, in combination with end pieces D, back board E and slanting board F, arranged substantially as specified.

No. 33,612. Fire Ladder. (Echelle d'incendie.)

Andrew J. Sutherland, Battle Creek, Mich., U. S., 7th February, 1890; 5 years.

Claim.—1st. The combination of the ladder, fulcrumed at its base, to rise edgewise, the levers, having the half-wheels fulcrumed, as shown, a truck, having a suitable foundation and a windlass and ropes or cables for operating said levers, substantially as set forth. 2nd. The combination of the truck, having the foundation beams, a ladder fulcrumed at its base to said beams, the levers having the half-wheels, the shaft forming a fulcrum to said levers, the posts extending upward from the foundation beams and supporting said shaft, a windlass having bearings forward of the lever fulcrum pulleys in the rear of said fulcrum, and ropes or cables attached to the lever half-wheels passing around the pulleys and attached to the windlass, substantially as set forth. 3rd. The combination of a ladder, fulcrumed at its base, levers fulcrumed in the rear of the ladder-fulcrum for raising said ladder, a windlass between the said fulcrums, pulleys in the rear of the lever-fulcrum, ropes or cables attached to the windlass and levers and passing around the pulleys, and a rope attached to the ladder and windlass for pulling the ladder down when the levers are lowered, substantially as set forth. 4th. The outer ladder, provided with the recessed lug and with the swinging-ladder rests, having the projection to fit into the recess of said lugs, substantially as set forth. 5th. The combination of a truck, provided with suitable foundation beams, the ladder-base fulcrumed at its rear edge to said beams, said base consisting of the internal gear and the centrally-pivoted plate above said gear, the ladder hinged to said plate, a frame attached to the plate and parallel with the upright ladder, said frame having a crank-shaft, and a shaft gear connected with said crank-shaft, and the lower end passed through the plate, and provided with a pinion meshing with the internal gear, substantially as set forth. 6th. The combination of the rotatable plate of the ladder base, the ladder hinged thereto, the frame attached to the plate and provided with the shaft bearing the spools, the crank-shaft below said shafts being gear-connected, and a rope or cable attached to the spools and looped around the ladder, substantially as set forth. 7th. The combination of the upright frame, provided with a crank-shaft and pinion, and a ladder hinged to tilt down and provided with the pivotally connecting rack engaging said pinion, substantially as set forth.

No. 33,613. Chill. (Coquille de fonderie.)

Jacob N. Barr, Milwaukee, Wis., U. S., 7th February, 1890; 5 years.

Claim.—1st. A contracting chill, having the chill blocks or segments separated by slits or spaces, in combination with a hardened filling of sand and flour in said slits. 2nd. The contracting chill, consisting of the outer ring, and the separated chill blocks extending inward therefrom, in combination with a hard compressible filling, substantially as described, seated between the chill blocks and flush with their inner faces. 3rd. The contractible chill, having the separated chill blocks and the groove at the shoulder, in combination with the compressible filling between the blocks and the sand in the groove.

No. 33,614. Grinding Mill. (Moulin à blé.)

James Jones and Aldred J. Jones, Thorold, Ont., 7th February, 1890; 5 years.

Claim.—1st. In a grinding mill, a revolving roller having longitudinal ratchet-shaped furrows cut around its surface, substantially as and for the purpose specified. 2nd. In a grinding mill, a revolving roller having longitudinal ratchet-shaped furrows cut around its surface, in combination with a grooved or corrugated roller B, substantially as and for the purpose specified. 3rd. In a grinding mill, a revolving roller having longitudinal ratchet-shaped furrows cut around its surface, in combination with a grooved or corrugated roller B and a stationary grooved or corrugated plate D, substantially as and for the purpose specified. 4th. In a grinding mill, a revolving roller having longitudinal ratchet-shaped furrows cut around its surface, in combination with a grooved or corrugated roller B, a stationary grooved or corrugated plate D, and a perforated skirt E, substantially as and for the purpose specified. 5th. In a grinding mill, a revolving roller having longitudinal ratchet-shaped furrows cut around its surface, in combination with a grooved or corrugated roller B, a stationary grooved or corrugated plate D, a perforated skirt E and a spout F having a perforated side a, substantially as and for the purpose specified. 6th. In a grinding mill, a stationary grooved or corrugated roller A, in combination with a revolving roller having longitudinal ratchet-shaped furrows cut in its surface, and the revolving roller C having longitudinal grooves or corrugations cut in its surface, substantially as and for the purpose specified.

No. 33,615. Wheel Barrow Wheel.*(Roue de brouette.)*

David K. Strachan, Goderich, Ont., 7th February, 1890; 5 years.

Claim.—A wheel-barrow wheel consisting of a hub made in two corresponding parts, spokes and rim, all formed and combined as shown and described.

No. 33,616. Carbureting Gas Lamp.*(Lampe-carburateur à gaz.)*

Arthur Kitson, Philadelphia, Penn., U. S., 7th February, 1890; 5 years.

Claim.—1st. In a gas lamp, a carbureting vessel sectionally constructed in two parts, the lower part being connected to the upper part by a swinging yoke pivotally attached to the upper part, said yoke containing a screw or similar device arranged to bear against the lower part of the lamp, and force the parts together and form a gas tight joint between them, substantially as described. 2nd. In a carbureting gas lamp, a hydrocarbon reservoir or vessel containing an absorbent wick, in combination with the vaporizing and carbureting chamber placed above the reservoir, said wick communicating with said vaporizing chamber by means of which the liquified hydrocarbon is conveyed by capillarity from the reservoir to the chamber, and means for admitting gas into the vaporizing chamber and conducting it therefrom to the burners, as described. 3rd. In a carbureting gas lamp constructed in two parts, the shell of the vessel having in its upper edge a ring of soft metal, in combination with the upper part or lid of the vessel containing a groove adapted to receive the edges of the shell and having at its bottom a sharp edged rib for bearing upon the lead ring to form a tight joint, as described. 4th. In a carbureting gas lamp, the shell of the vessel having a thickened upper edge containing a ring of metal, in combination with the lid having a groove cut in its rim, and an annular sharp edged rib formed in the bottom thereof, whereby the thickened edge of the shell may be fitted in the groove of the lid, and the sharp edge of the rib made to bear upon the ring of soft metal for making a tight joint, as described. 5th. The carbureting vessel having a ring of soft metal or its equivalent in its top, in combination with the cover having an annular sharp rib or bead for making a tight joint, as described. 6th. In combination with a gas lamp, a cartridge for containing the charge of hydrocarbon material having a tube extending from bottom to top thereof and perforated at the lower end, a shallow pan and perforated cover forming a vaporizing chamber arranged at the top of the cartridge and its tube, and an absorbent wick extending through the tube and over-tapping into the vaporizing chamber, as and for the purpose described. 7th. In a carbureting gas lamp, the combination of a gas supply pipe and a gas burner with burner support containing a compound valve, arranged to open and close the passage ways leading respectively from the supply pipe to the carbureting vessel, and from the vessel to the burners, simultaneously. 8th. In a carbureting gas lamp, the combination of a supply pipe, a gas burner, a carbureting vessel and a burner support containing passage ways leading respectively from the supply pipe to the vessel from the supply pipe to the burners and from the vessel to the burners, with a compound valve arranged to open and close all three passage ways simultaneously, and with the operating devices, substantially as described. 9th. In a carbureting gas lamp, a burner support having a conical valve seat near its top, and having at its lower edge formed as a valve seat, in combination with an internal pipe 17 having a conical valve and openings at its top, and having a disc valve secured to it below the burner support, and means for raising and lowering such tube and its valves for admitting gas to the carbureting chamber and burners, or shutting it off therefrom, as described. 10th. In a carbureting gas lamp, the burner support containing a valve seat near its top and having its lower end formed as a valve seat, in combination with a movable pipe having a valve and openings at its top, a disc secured to it below the burner support and a lug at its lower end, and an eccentric arranged between the disc and lug and having an operating shaft extending out through the rim of the lid, whereby the pipe with its valves may be raised or lowered, as described. 11th. In a carbureting gas lamp, the burner support having two conical valve seats in its upper portion, the burners connected below the lower valve seat and having its lower end formed as a valve seat, in combination with the movable tube arranged in the burner support and having the double conical bearing surfaces at its top so that it may be seated on both of the conical valve seats, and having a disc secured to it below the burner support, and means for raising and lowering the tube and its valves, whereby the gas may be passed directly from the supply pipe to the carbureting vessel, and the burners and carbureted gas may be passed from the carbureting vessel to the burners, and whereby gas may be simultaneously shut off from the supply tube and the carbureting chamber, as described. 12th. In a carbureting gas lamp, a capillary hydrocarbon conductor leading from the carbureting vessel into the gas supply pipe to which the burner is connected. 13th. In combination with the carbureting vessel, a supply pipe delivering gas into it above the contained hydrocarbon, a burner pipe extending downward from the top of the vessel, a connected burner, and a capillary conductor leading from the vessel into the burner pipe. 14th. In combination with the carbureting vessel having a gas supply pipe, the burner pipe extending downward from the top of the vessel, the burner, and a diluting gas pipe connecting with its lower end, and a three-way valve placed at the junction of the two pipes and burner. 15th. In combination with the carbureting vessel, the gas supply pipe extending up through it and having its upper end screw threaded, and a clamping screw extending through the cover of the vessel and engaging with the upper end of the supply pipe for securing the cover to its seat. 16th. In a carbureting gas lamp, the combination of the carbureting reservoir with a carbureting and vaporizing chamber situated directly over the burner and communicating therewith, and containing a wick or absorbent which extends from said chamber into the reservoir, whereby the naphthaline is conducted from the reservoir into the chamber, substantially as described. 17th. The combination of the tube T, pipe 16^r, three-way valve 18, pipe 16, burner pipe 11 and capillary conductor L, with the reservoir 4, substantially as described. 18th. The combination of the supply pipe 14 with the surrounding casing 26, bell-mouthed shade holder 24, tripods 25 and 27, upper bell 28, locking-nut 30 and spiral ribbon z.

No. 33,617. Apparatus and Connection for Charging and discharging Storage Batteries. (*Appareil et raccordement pour charger et décharger les accumulateurs.*)

William P. Kookogey, Brooklyn, N.Y., U.S., 7th February, 1890; 5 years.

Claim.—1st. The combination of the following elements: An electric generator and charging circuit, a storage cell or battery, a working circuit, an electro-magnet forming part of such working circuit, and commutating mechanism controlled by such electro-magnet and operating a series of circuit closers and breakers, whereby the storage cell or battery is alternately connected in circuit with the charging circuit and with the working circuit, substantially as described. 2nd. The combination of the following elements: An electric generator and charging circuit, a storage cell or battery, a working circuit, an electro-magnet forming part of the working circuit, a local battery and circuit of which the working circuit forms a part, and commutating mechanism controlled by such electro-magnet and operating a series of circuit closers and breakers, whereby the storage cell or battery is alternately connected in circuit with the charging circuit and with the working circuit, substantially as described. 3rd. The combination of the following elements: An electric generator and charging circuit, a storage cell or battery, a working circuit, an electro magnet forming part of such working circuit, commutating mechanism controlled by such electro-magnet during the period of discharge and operating a series of circuit closers and breakers, whereby the storage cell or battery is alternately connected in circuit with the charging circuit and with the working circuit, a local battery and circuit of which the working circuit forms a part, and a second electro-magnet in the local circuit controlling the change of the commutating mechanism from the position of charge to that of discharge, and thereby also breaking the local circuit, substantially as described. 4th. The combination of the following elements: An electric generator and charging circuit, a storage battery consisting of a number of cells, a working circuit and commutating mechanism operating a series of circuit closers and breakers, whereby the storage battery may be alternately connected in parallel in the charging circuit and in tension series with the working circuit, substantially as described. 5th. The combination of the following elements: A primary galvanic battery and charging circuit, a storage battery consisting of a number of cells, a working circuit and commutating mechanism operating a series of circuit closers and breakers, whereby the storage battery may be alternately connected in parallel in the charging circuit and in tension series with the working circuit, substantially as described. 6th. The combination of the following elements: An electric generator and charging circuit, a storage battery consisting of a number of cells, a working circuit, an electro-magnet forming part of such working circuit, commutating mechanism controlled by such electro-magnet and operating a series of circuit closers and breakers, and circuit connections between the various cells, whereby the storage battery is alternately connected in parallel with the charging circuit and in tension series with the working circuit, substantially as described. 7th. The combination of the following elements: An electric generator and charging circuit, a storage battery consisting of a number of cells, a working circuit, an electro-magnet forming part of such working circuit, a local battery and circuit of which the working circuit forms a part, commutating mechanism controlled by such electro-magnet and operating a series of circuit closers and breakers, and circuit connections between the various cells, whereby the storage battery is alternately connected in parallel in the charging circuit and in tension series with the working circuit, substantially as described. 8th. The combination of the following elements: An electric generator and charging circuit, a storage battery consisting of a number of cells, a working circuit, an electro-magnet forming part of such working circuit, commutating mechanism controlled by such electro-magnet during the period of discharge and operating a series of circuit closers and breakers, with circuit connections between the various cells, whereby the storage battery may be alternately connected in parallel in the charging circuit and in tension series with the working circuit, a local battery and circuit of which the working circuit forms a part, and a second electro-magnet in the local circuit controlling the change of the commutating mechanism from the position of charge to that of discharge, and thereby also breaking the local circuit, substantially as described. 9th. The combination of insulating piece G having attached to it conducting strips D and E and conducting arms c, d, e, etc., and pivoted at its ends at such a point that gravity will hold the arms d, c, etc., within their respective cups, with the lever m carrying an armature, and the electro-magnet f forming part of the working circuit, substantially as and for the purpose described.

No. 33,618. Lubricant and Paint Oil.

(*Huile lubrifiante et à peinture.*)

Adolph Sommer, Berkeley, Cal., U.S., 7th February, 1890; 5 years.

Claim.—1st. The herein described process for increasing the lubricating power of lubricants that by themselves do not readily unite oil capable of readily combining with chloride of sulphur and an amount of chloride of sulphur varying with the degree of viscosity herein desired and in neutralizing the combination. 2nd. The lubricant described process for increasing the lubricating power of chlorinated oil or fat varying with the degree of viscosity of lubricity desired. 3rd. The herein described process for converting the oils of marine animals into readily drying compounds, which consists in combining them with chloride of sulphur. 4th. The herein described process for converting the compounds of chloride of sulphur which consists in incorporating with them either before or after the addition of the chloride of sulphur to the natural oil an appropri-

ate manganese compound. 5th. The herein described process for manufacturing paint oils from marine animal-oils, which consists in combining the marine animal oil with chloride of sulphur if need be also with a manganese preparation and diluting the compound with a volatile hydrocarbon. 6th. The herein described paint oils and lubricants, consisting in solutions of sulpho-chlorinated fatty bodies, in ethereal or empyreumatic oils, in fluid or solid fatty bodies, in light or heavy hydrocarbons, or in mixtures of such substances.

No. 33,619. Waterproofing and Preserving Leather. (*Imperméabilisation et conservation du cuir.*)

Adolph Sommer, Berkeley, Cal., U.S., 7th February, 1890; 5 years.

Claim.—1st. The improvement in waterproofing and preserving leather and hide, consisting in impregnating the leather and hide with sulphur-chlorinated fatty bodies, substantially as described. 2nd. The improvement in waterproofing and preserving leather and hide, consisting in impregnating the leather and hide with a solution of the sulpho-chlorinated fatty bodies in oils, fats, resinous substances or hydrocarbons, substantially as described. 3rd. Leather and hide impregnated with sulpho-chlorinated fatty bodies, as set forth.

No. 33,620. Change Tray.

(*Plateau à monnaie.*)

John F. Clarke, Essex Centre, Ont., 7th February, 1890; 5 years.

Claim.—1st. A change tray, arranged to have a tilting or rocking movement, substantially as set forth. 3rd. A change tray, consisting of the combination, with a support, of a tray engaged thereupon, said tray having a tilting movement, substantially as set forth. 3rd. A change tray, consisting of the combination, with a support, of a tray engaged thereupon and having a tilting movement, said tray provided with a contracted mouth, substantially as set forth. 4th. A change tray arranged to have a tilting or rocking movement and provided with a lip A, substantially as set forth. 5th. A change tray, consisting of the combination, with the support, of a tray A arranged to have a tilting or rocking movement and a base tray, substantially as and for the purpose described.

No. 33,621. Process for Producing Ornaments of Different Colours.

(*Procédé de production des ornements de couleurs variées.*)

Robert Himmel, Berlin, Germany, 7th February, 1890; 5 years.

Claim.—The improved method of manufacturing many coloured ornaments, figures, etc., from layers or veneers of different coloured materials, or plates of either wood, metal, or other suitable material or materials, of several different colours, laid one over the other, and removing portions of the successive layers to expose those underneath, substantially as described.

No. 33,622. Carriage Axle. (*Essieu de voiture.*)

Felix Mercier, Montréal, Que., 7th February, 1890; 5 years.

Résumé.—Un nouvel article de manufacture. Un essieu métallique pour voitures de toute nature, composé d'une boîte C, en combinaison avec la taraudage D, percé d'un trou E, le tout maintenu ensemble au moyen de l'érou de recouvrement spécial E, b, c, d, e, H, l, m, n, et de la goupille à ressort C, f, g, h, le tout tel que plus haut décrit et pour les fins sus-mentionnées.

No. 33,623. Cover for Cooking Utensils.

(*Couvercle pour les ustensiles de cuisine.*)

William Henry and Charles Stuart, Dunganon, Ont. (assignees of Archibald D. Cooper, Bay, Mich., U.S.), 8th February, 1890; 5 years.

Claim.—1st. A cover A for cooking utensils, having formed in it a number of perforations B, fitted with a lid D suitably secured to a number of perforations B, fitted with a lid D suitably secured to the cover A, and a lip C fitted to the rim a of the said cover, substantially as and for the purpose set forth.

No. 33,624. Rope Clamp or Buckle.

(*Serre-câble ou boucle.*)

Jesse Kinney and Julian G. Dickinson, Detroit, Mich., U.S., 8th February, 1890; 5 years.

Claim.—1st. In a buckle for fastening ropes, strings, straps, etc., the combination of the loop a and hinged jaw B, substantially as described. 2nd. In a buckle for fastening ropes, strings, straps, etc., the combination of the loop a, hinged jaw B having a notch f, substantially as described. 3rd. In a buckle for fastening ropes, strings, straps, etc., the combination of the frame A, having loops a and B, of the jaw B hinged thereto and having the notches f and h, substantially as described.

No. 33,625. Bench Vice. (*Etau d'établi*)

Charles Wies and James M. Lockey, Faulkton, S. D., U.S., 8th February, 1890; 5 years.

Claim.—1st. The combination of the tubular body A, having a fixed jaw B and channeled shank C, the movable jaw D having a shank E provided with notches F on the upper face, the lever H, having a cam projection K engaging with the notches, said lever fulcrumed to the body A, substantially as set forth. 2nd. The cutter M, applied as set forth.

No. 33,626. Signalling Apparatus for Railway Crossings. (*Appareil à signaux pour les passages de chemins de fer.*)

Henry C. Ward (assignee of Amos Barnes), Pontiac, 8th February, 1890; 5 years.

Claim.—1st. A signalling apparatus for railway crossings, consisting of suitable semaphores placed at the desired distance from the crossing cables extending from the said semaphores to the crossings, and mechanism for operating the said semaphores simultaneously, consisting of two levers, to which the semaphores cables are attached, said levers engaged together, so as to move simultaneously, and means for moving the levers and thus operating the semaphores, substantially as described. 2nd. In a signalling apparatus for railway crossings, the combination, with suitable semaphores placed at the desired distance and suitable cables extending therefrom to the crossing, and mechanism for operating said semaphores, consisting of suitable horizontal levers engaged together, to which the semaphores cables are attached, means for engaging said levers adjustably together, and mechanism for operating the levers simultaneously, substantially as described.

No. 33,627. Farm Gate. (*Barrière de ferme*)

William C. Clow, Yonge, and Chas. N. Clow, Caintown, Ont., 8th February, 1890; 5 years.

Claim.—A farm gate, constructed substantially as herein shown and described, having the rails G, G¹, the hinge loops F, H, E, the loop or staple X and the pivoted pickets or parts D D, D D, combined as set forth.

No. 33,628. Tricycle. (*Triciclé*.)

The Gendron Manufacturing Company, Toronto, Ont. (assignee of Peter Gendron, Toledo, Ohio, U.S.), 8th February, 1890; 5 years.

Claim.—1st. In a tricycle, the bifurcated back-bone secured at its forward end to the standard and at its rear end to the axle boxes, of a central seat support between the bifurcations of said back bone, carrying an adjustable seat spring supporting cross-bar, substantially as described. 2nd. In a tricycle, a bifurcated back-bone secured at its forward end to the standard and at its rear end to the axle boxes, of a central seat support carrying an adjustable seat spring supporting cross-bar, of S-shaped springs in the ends of said cross-bar, and the seat supported on said spring, substantially as described. 3rd. In a tricycle, the back bone D having the pin b at its forward end, the bifurcated arms c having the bends d engaging into the axle boxes of the crank axle, and the vertical seat-supporting stand J, substantially as described. 4th. In a tricycle, in combination with the back-bone having the pin b, the standards C¹ having the socket a, and the handle m pivoted above said socket, substantially as described. 5th. In a tricycle, the combination, with the crank axle, having a ring secured at the bend of the pedal levers secured to the crank axle by means of two part bearings having a groove h adapted to engage upon the ring, substantially as described. 6th. In a tricycle, the combination of the back-bone secured at its forward end to the standard and at its rear end to the axle boxes e, of lugs k, k¹ cast therein, having receptive horizontal and vertical apertures to receive the fender l, l¹, substantially as described. 7th. In a tricycle, a seat formed of two independent bars, one bent to form the arms and back and the other to form a brace for the back, substantially as described. 8th. In a tricycle, a drive wheel connected with the axle by means of a clamp secured upon the axle and engaging with the spokes, substantially as described. 9th. In a tricycle, a wheel A secured upon the axle B, by means of a clamp g, having the forwardly-projecting arms g¹ extending between the spokes, and the nut r, substantially as described. 10th. In a tricycle having a bifurcated back-bone secured at its forward end to the standard, and at its rear end to the axle boxes, of a vertical seat support I, having the cross-bar J adjustably secured thereto by means of a set screw i, of an elongation t¹ and the aperture in the cross-bar adapted to fit thereon, of the bearings J, the S-shaped spring K supporting the seat, of the pedal levers F, crank axle B, drive wheels A and guide wheels C, the parts being arranged to operate substantially as and for the purpose described.

No. 33,629. Process for the Manufacture of Wood Pulp. (*Procédé de fabrication de la pâte de bois.*)

John F. Ellis (assignee of William Brodie), Toronto, Ont., 8th February, 1890; 5 years.

Claim.—1st. The within described process for preparing wood stock suitable for the manufacture of paper, cloth, cordage, or any other textile fabric, which consists in crushing freshly-cut or green wood and washing it while being crushed, and then boiling it in a weak solution of caustic alkali, substantially as specified. 2nd. The within described process for preparing wood stock suitable for the manufacture of paper, cloth, cordage, or any other textile fabric, which consists in crushing freshly-cut or green wood, and washing it while being crushed, and then boiling it in a weak solution of caustic alkali with a small proportion of an alkaline sulphite added, substantially as specified.

No. 33,630. Stove. (*Poêle*.)

Lyman P. Converse, Chicago, Ill., U.S., 8th February, 1890; 5 years.

Claim.—1st. In a stove, the combination, of the argand burner B, an annular flaring deflector o, a water-receptacle D surrounding the burner and provided with a cover i, an annular air-passage r between the burner and water receptacle, and an annular outlet opening i¹ from the water receptacle to the air-passage near the cover,

whereby the flame is deflected over the cover i to heat water in the receptacle and the vapor thus produced enters the passage r to mix with the air and be carried by the current to the flame, substantially as and for the purpose set forth. 2nd. In a stove, substantially as described, an argand burner B, having, in combination with its wick chamber s an air inlet r¹ and ring h about the wick tube, air passage p surmounted by a spreader o, and air-passage q within the wick-tube, the wick engaging sleeve a within the wick chamber, rack m in the passage q connected with the sleeve n through a slot in the wall s¹, and pinion l on the shaft l¹ engaging the rack, substantially as set forth. 3rd. In a heating stove, substantially as described, the air-heater F upon the combustion chamber comprising a chamber d¹, having a base d², series of upward projecting fingers d² on the base, a top d², inlet openings c¹ and outlet c, substantially as set forth.

No. 33,631. Steam Pump. (*Pompe à vapeur.*)

John Maslin, Jersey, N.J., U.S., 8th February, 1890; 5 years.

Claim.—1st. The combination, in a pump and with the casing A thereof, having an aperture in a division between the valve chamber and the main chamber of the casing, of a valve seat set in said aperture from the valve chamber, and a fastening device, as the bolt G and nut H, for securing said valve seat, one end of said fastening device bearing on the underside of the valve seat, and the other on the inside of the casing, substantially as described. 2nd. The combination, in a pump and with the casing A thereof, having a horizontal diaphragm, provided with an aperture therein, of a valve seat casting set in said aperture, and a fastening device, as the bolt G and nut H, for securing said valve seat, one end of said fastening device bearing on the centre of the valve seat casting, and the other end having a bearing in an imperforate seat on the inside of the base of the valve chamber in line with said centre, substantially as described. 3rd. The combination, with a pump, of a casing A having two horizontal diaphragms, and a vertical partition dividing that part above the upper diaphragm into two chambers, an opening into each chamber, an opening in the lower diaphragm, valve seat castings set in all three openings and in parallel planes, and three substantially perpendicular fastening devices, each having a bearing at one end on the centre of valve seat casting, and another bearing on the casing directly in line with said centre, substantially as described. 4th. The combination, in a pump, of a diaphragm dividing said pump into two chambers and having openings for the inlet valves, with an inlet into the lower chamber, and three valve seats, one being on the inlet into said chamber, and the others secured to the under side of the diaphragm, substantially as described. 5th. The combination, in a pump, of a diaphragm dividing said pump into two chambers and having openings through the same for the inlet valves, with an inlet into the lower chamber, and three valve seats, one being on the inlet into said chamber, and the others secured to the under side of the diaphragm, and a single hand-hole constructed to give access to all of said valves, substantially as described. 6th. The combination, in a pump, of a valve chamber having opposite inlets with two movable valve seats facing each other, and a fastening device, as the bolt X and nut or sleeve Y, pressing the said seats in opposite directions, substantially as described. 7th. The combination, in a pump, of a valve chamber having opposite inlets and a ball valve therein, with two movable valve seats facing each other, and fastening devices, as bolts X and sleeves Y, Y¹, arranged above and below said valve, and the lower sleeve provided with a projection y¹, substantially as and for the purpose specified. 8th. The combination, with the neck B, of a valve seat a of soft metal, having two faces and adapted to co-act with a valve acting alternately on each face, substantially as described. 9th. In a steam pump and in combination with a removable valve seat, as D, set on the under side of the inlet port, a cross bar resting on a stationary portion of the shell, and a screw passing through said cross bar, substantially as described.

No. 33,632. Disintegrating Fibrous Material. (*Désagrégation des matières fibreuses.*)

John H. Brown, New York, N. Y., U.S., 8th February, 1890; 15 years.

Claim.—1st. The within described process of disintegrating fibrous material, which consists in exposing the material to the action of an electrical current, substantially as herein described. 2nd. The within described process of disintegrating fibrous material, which consists in first treating the material with a suitable liquid, then washing the same, and finally exposing it to the action of an electrical current, substantially as herein described.

No. 33,633. Process of Purifying the Anhydrous Double Chloride Compounds of Aluminum. (*Procédé d'épuration des compositions d'aluminium anhydre à double chlore.*)

Hamilton Y. Castner, London, Eng., 8th February, 1890; 5 years.

Claim.—1st. The process of purifying the anhydrous double chloride compounds of aluminum containing iron, which consists in treating such compounds, when in motion and in a fused condition, to the action of an electric current, substantially as set forth. 2nd. The process of purifying the anhydrous double chloride compounds of aluminum containing iron, which consists in first melting the crude material, and then causing it to pass through a series of receptacles in which it is subjected, while in motion, to the action of electric currents, substantially as set forth, by which the iron chlorides are decomposed and the metallic iron deposited. 3rd. The process of purifying the anhydrous double chloride compounds of aluminum containing iron, which consists in treating the crude material, when in motion and in fused condition, to an electric current of gradually decreasing quantity proportioned to the gradually decreasing quantity of iron contained in the material, substantially as and for the purpose set forth.

No. 33,634. Grain Harvester. (Moissonneuse.)

The Massey Manufacturing Company, Toronto, Ont. (assignee of William N. Whately and William Bayley, Springfield, Ohio, U.S.), 8th February, 1890; 5 years.

Claim.—In the main driving gearing, of a harvester, the transverse counter shaft *d* having upon it the main pinion *D*, the two boxes *F, d*, one on each side of said pinion which engages the main gear-wheel fixed to the main driving and supporting wheel, the said boxes being formed on one piece of cast metal fixed to the main frame and projecting inwardly therefrom, said inwardly-projecting part being provided with a seat adapted to be secured to, and supported by diagonal brace *d'* fixed to the side and rear sills of the main frame, substantially in the manner and for the purposes shown and described.

No. 33,635. Grain Binder. (Lieuse à grain)

The Massey Manufacturing Company, Toronto, Ont. (assignee of William N. Whately, Springfield, Ohio, U.S.), 8th February, 1890; 5 years.

Claim.—1st. In the knotting mechanism of an automatic grain binder, the combination of a tyer-wheel, a cam-track thereon having a cut-away portion, a tyer-bill, a tyer-bill pinion having a flattened portion adapted to engage with said cam-track, a projection on the tyer-bill gear, and another cam-track on said tyer-wheel with which said projection engages, said parts operating, substantially as set forth, to permit backward rotation of the tyer-bill within proper limits for the purpose of facilitating the shedding of the knot. 2nd. In the knotting mechanism of an automatic grain-binder, the combination, with the tyer-bill revolving backward to allow the force of the discharging bundle to strip the knot from said tyer-bill, of a projecting lug carried by the tyer-bill shaft, a tyer-wheel, and a suitable cam against which said lug rests for the purpose of confining the backward revolving movement of the tyer-bill within proper limits. 3rd. In the knotting mechanism of an automatic grain binder, a spring-cam for closing the tongue of the tyer-bill, provided with a front extension inclined to act as a guide for assisting in guiding the cord to its proper position across the tyer-bill, for the purpose of facilitating in tying of the knot. 4th. In the knotting mechanism of an automatic grain binder, a vibrating knife-arm and cord-guide having a downward-projecting ridge formed upon its under side, in combination with a tucker-finger, substantially as and for the purpose set forth.

No. 33,636. Car Wheel. (Roue de char.)

James N. Weikly, Jersey, N.J., U.S., 8th February, 1890; 5 years.

Claim.—1st. A car wheel consisting of the combination of a wrought metal hub *C*, a cast felloe *D* and a tire *E*, constructed and combined, substantially as set forth. 2nd. The combination of a car wheel with its cast metal felloe *D* formed with a radially-corrugated web of sinuous contour, having its greatest sinuosity at its junction with the rim, substantially as described. 3rd. The combination of a car wheel *B* and axle *A*, united in substantially the manner set forth. 4th. The combination, with axle *A* and wheel *B*, of a thrust-washer *G*, united to the wheel in substantially the manner specified. 5th. The combination, with the wheel having its separate tire *E* fastened by screws *a*, of locking plates *N* embracing the heads of the screws and prevented from turning by a shoulder *t* and spring-washer *u* for holding said plates, substantially as set forth.

No. 33,637. Process of Loosening and Softening the Texture of Wood and other Ligneous Material. (Procédé pour relâcher et amollir les fibres du bois et autres matières ligneuses.)

Hermann Schulte, Vienna, Austria, 8th February, 1890; 5 years.

Claim.—1st. A process of loosening the cellular tissue of wood and other ligneous materials, this process consisting in impregnating the wood or other ligneous material with solutions of sulphites of hyposulphites, more especially of sulphite or hyposulphite of soda, or of caustic soda, or basic soda-salts, or with mixtures of the said solutions, and in afterwards heating the wood or other ligneous material during several hours to a temperature of from 230 deg. to 290 deg. Fahr. with that portion of the solution only which has penetrated into the cellular tissue, in consequence of the impregnation or in boiling the impregnated wood or other ligneous material with the aforesaid solutions in a closed vessel during several hours, substantially as and for the purposes set forth.

No. 33,638. Ink Bottle and Attachment.

(Encrier et accessoire)

Nelson Johnson, Knoxville, Penn., U.S., 8th February, 1890; 5 years.

Claim.—1st. In combination with an ink bottle, two or more transverse ribs or projections formed radially across the head or shoulders of the bottle for supporting a pen, substantially as herein described. 2nd. The combination, with an ink bottle having two or more transverse projections or ribs formed on its head, of a hinged cap having corresponding grooves or depressions, whereby the same is adapted to close tightly upon said head, as shown, the said ribs and depressions serving for the support of the pen-holder when the bottle is open, as herein set forth. 3rd. An ink bottle having a number of upwardly-extending pins or projections on its shoulder, substantially as and for the purpose set forth. 4th. An ink bottle having on its shoulder a number of upwardly-extending perforated pins or projections arranged circumferentially, as and for the purposes set forth. 5th. An ink bottle having a number of pins or projections on its shoulder extending upwardly and inclined inwardly, as and for the purpose set forth. 6th. The combination, with an ink

bottle, of a horizontal annular flange or collar surrounding the same, said flange having perforations for the insertion of pins, for the purpose set forth. 7th. The combination, with an ink bottle, of a collar thereon having a number of upwardly-extending projections, for the purpose herein set forth. 8th. The combination, with an ink bottle, of a collar having a horizontal portion and an upturned portion or flange, said upturned portion being serrated or notched, and the said horizontal portion being secured to the neck or shoulder of a bottle. 9th. The combination, with an ink bottle, of a collar 4 consisting of horizontal portion 4a, upturned serrated portion 4b, as set projections 15 for supporting it on the neck of the bottle, as set forth. 10th. In combination with an ink bottle, a collar 4 consisting of the horizontal portion 4a, upturned serrated portion 4b, and projections 15 for supporting the collar on the bottle, said projections being secured around the neck of the bottle by a wire 16, as set forth. 11th. In combination with an ink bottle, a collar 4 consisting of the horizontal portion 4a, serrated portion 4b, and spring projections 15 for supporting the collar on the bottle, substantially as set forth. 12th. An ink bottle having formed integrally therewith a circumferentially-arranged series of substantially vertical projections, substantially as described. 13th. A dipping attachment for ink bottles, consisting of the tube 18 fitting to said bottle and having overlapping edges, whereby the same is rendered collapsible, substantially as described. 14th. In combination with an ink bottle, a tube 18 fitting in said bottle, and having a spring 18b coiled on it and confined between the flange 18c and mouth of the bottle, as herein set forth. 15th. In a dipping attachment for ink bottles, the combination of the conical thumb 18 and the springs 19 secured thereto, substantially as and for the purpose set forth.

No. 33,639. Medical Compound and Aid and Hasten Digestion and Prevent and Cure Dyspepsia. (Préparation médicale pour favoriser et activer la digestion et prévenir et guérir la dyspepsie.)

Pierre L. Brault, St. Jean, Qué., 8th February, 1890; 5 years.

Résumé.—Le mélange de bi-carbonate de soude, d'extrait de taraxaques, de teinture de gèniane et d'eau, dans les proportions et pour les fins décrites.

No. 33,640. Receptacle for Packing for Car Axle Boxes. (Réceptacle à étoupe pour les boîtes à graisse.)

Hamilton Rogers, Toledo, Ohio, U.S., 8th February, 1890; 5 years.

Claim.—1st. In combination with a car axle box, a sectional receptacle for packing, as and for the purpose set forth. 2nd. A receptacle for packing for car axle boxes, formed of sections having a central channel and wings at an angle thereto, as and for the purpose set forth. 3rd. A receptacle for packing for car axle boxes formed of sections, each section having an end portion provided with means for preventing the sections from telescoping, as and for the purpose set forth.

No. 33,641. Apparatus for and Method of Preserving and Purifying Milk.

(Appareil et mode de conservation et de purification du lait.)

John T. Appleberg, Knoxville, Tenn., U.S., 10th February, 1890; 5 years.

Claim.—1st. The herein-described apparatus for purifying and preserving milk by heating the same, consisting of a series of boxes which are adapted to contain a movable milk receptacle, said boxes having hinged tightly fitting doors and covers, and provided near the bottom with a coil of pipe adapted to support the milk can or the receptacle, and having a packed aperture in the hinged cover for the insertion of a thermometer or indicator, the several coils or supports of pipe, one for each box, communicating with one another to permit the flow of steam through the entire series, substantially as and for the purpose set forth. 2nd. The herein-described method of purifying and preserving milk by sterilizing the same while in its natural state, by subjecting it within an air-tight closed receptacle to a steam heat commencing at or about 160 deg. Fahrenheit and to a steam heat gradually raising the heat to 185 deg. more or less, the slowly or gradually raising the heat to 185 deg. more or less, the initial point of 160 deg. being started very rapidly in the first instance to prevent separation of the milk, and then increased gradually until the maximum point has been reached, said maximum point being always below the boiling point of milk, substantially as and for the purpose set forth. 3rd. The hereinbefore-described process of purifying and preserving milk by sterilizing the same while in its fresh or natural state, which consists in, first, placing the milk in suitable open cans or vessels, secondly, placing these cans within closed and air-tight boxes or receptacles, thirdly, rapidly raising the temperature of the cans or receptacles, fourthly, slowly air tight receptacles to about 160 deg. Fahrenheit, fourthly, slowly increasing the temperature to about 185 deg., and maintaining it at that point or at a point below the boiling point of milk 212 deg. Fahrenheit for a sufficient length of time, and lastly, removing and sealing the cans and slowly cooling their contents, substantially as and for the purpose set forth.

No. 33,642. Steam Engine. (Machine à vapeur.)

Jerome Wheelock, Worcester, Mass., U.S., 10th February, 1890; 5 years.

Claim.—1st. In valves for steam engines, a shell containing the seats for both out off and exhaust-valves, substantially as described. 2nd. In valves for steam engines, the combination, with a sliding valve and its operating-shaft, of a bent link, substantially as described and for the purpose set forth. 3rd. The combination,

with the cut-off valve and its connecting link, of a spring attached to the valve and acting on said link, substantially as and for the purpose set forth. 4th. The combination, with a shell having both cut off and exhaust valve-seats, of a reinforcing rod, substantially as described. 5th. The combination, with the sliding valve, driving shaft, and crank supported on said shaft, of a stiffening rod, substantially as described. 6th. The combination, with a shell containing a sliding valve and its driving-shaft and crank, of a bushing supporting said shaft within the head of the shell, and a collar on said shaft whereby an air tight joint is formed between collar and bushing, substantially as described and for the purpose set forth. 7th. The combination, with the driving-shaft or stem and cranks, of means, substantially as described, to secure said cranks on said shaft, as and for the purpose set forth. 8th. The combination of a shell containing seats for cut-off and exhaust valves, with a channel formed within the head of said shell and registering at its outlet with the end of a drip-pipe, substantially as described. 9th. The combination, with a shell containing the cut-off and exhaust-valves, of shafts for operating said valves, said shafts being provided in the bearings with a mantle of babbitt or other anti-friction metal, substantially as described and for the purpose set forth. 10th. The combination, with the exhaust-valve arm, and a latch-link for operating the cut-off valve arm, of an eccentric bolt supported within an eccentric bushing which is adapted to be firmly held in the exhaust-valve arm, substantially as described. 11th. The combination of a slide valve with a spring acting directly against said valve, substantially as and for the purpose set forth. 12th. The combination, with a slide-valve, a rock shaft provided with a crank and a link connecting said crank and valve of a taper pin firmly secured within the lugs of the valve, substantially as and for the purpose set forth. 13th. The combination, with a slide valve, a rocker-shaft provided with a crank and a link connecting said crank and link, and a pin firmly secured within the lugs of the valve with a removable bushing, constructed substantially as described and held upon said pin, substantially as set forth. 14th. In a slide-valve, as above described, the combination of a link having a tapering bushing held stationary by means of a pin and the lug upon the valve, as described, and adapted to be removed therefrom, as and for the purpose set forth. 15th. A latch-block with two holes through it at right angles, in combination with a bolt firmly fastened to the operating of the cut-off valve and the link, substantially as described and for the purpose set forth. 16th. The combination of a slide-valve link and rocker-arm with a crank, the travel of which is on the side opposite the lugs on the valve, substantially down to a line passing through the rock-shaft and center of lugs, as and for the purpose set forth. 17th. The combination with one or more trip-cams completing one forward and backward movement during the revolution of the main shaft, and means for operating said cams of the governor, whereby the path of the travel of said cams is controlled, substantially as described. 18th. The combination of one or more trip-cams making a complete forward and backward movement during each revolution of the crank-shaft, with a governor whereby the path of such movement is controlled, substantially as and for the purpose set forth. 19th. The combination of one or more trip-cams with means, substantially as described, for imparting to the trip-cams a complete forward and backward movement during one revolution of the crank-shaft, and a movable fulcrum controlled by a governor, whereby the path of travel of the said cams is controlled, as and for the purpose set forth. 20th. The combination of one or more trip-cams, an eccentric for imparting to the same a complete forward and backward movement during one revolution of the crank-shaft, and a governor whereby the path of such movement is controlled, substantially as and for the purpose specified.

No. 33,643. Drill Hoe and Seeder Tooth Attachment for Grain Drills and Broad Cast Seeders. (*Couvre et tube semeur pour les semoirs en ligne et à la volée.*)

Walter Bristow, Ottawa, Ont., 10th February, 1890; 5 years.

Claim.—1st. A drill hoe and seeder tooth attachment for single drag bar grain drills and broad cast seeders, constructed substantially as hereinbefore shown and described and as and for the purposes set forth. 2nd. The combination, in a drill hoe and seeder tooth attachment for single drag bar grain drills and broad cast seeders, with the head block K having the pin c and the slotted hole L, of the herein described catch A having the spring D, and the point F to engage with the recessed of the lug G, substantially as set forth.

No. 33,644. Wire Rope Machine.

(*Machine à câble de fil de fer.*)

James Wilson, Merriton, Ont., 10th February, 1890; 5 years.

Claim.—1st. In a compound wire rope strand machine, the combination of a rotary plate A having a series of apertures P and i, and an opening a in its center, the longitudinal rods B, i, the adjustable guide c provided with apertured flange J, with cone F having tapered aperture G, and the adjustable die support D' provided in before set forth. 2nd. In a compound wire rope strand machine an apertured rotary plate A, guide c with apertured flange and cone die D in its support, the rotary plate E having apertures S, and a tapered cone n secured in position by the studs n', and having a tapered apertured end a to conform to diameter of cable, all substantially combined by the longitudinal rods B, B, as specified and set forth.

No. 33,645. Attachment for Bedsteads for Invalids. (*Disposition aux lits des invalides.*)

George G. Rambo, Easton, Penn., U. S., 10th February, 1890; 5 years.

Claim.—1st. An attachment for bedsteads comprising the rod 15, having the vertical arm 6 and the swinging arm 16, the table swiveled to the end of the swinging arm, the bracket having a bearing to receive the vertical arm 6 and provided with a horizontal plate, to engage the upper face of the side rail, and having a depending rack bar, the slide vertically movable on the rack bar and arranged to engage the lower face of the slide rail, substantially as described. 2nd. In an attachment for bedsteads, the combination of the rod 15 having the vertical arm and provided with a table or tray swiveled thereto, the bracket having the tubular bearing and provided with a horizontal plate and the depending curved rack bar, and the slide teeth of said bar and having a thumb screw, substantially as described. 3rd. In an attachment for bedsteads, the combination of the rod 15 having a table or tray swiveled thereto, the collar 17 provided with a set screw 18, the bracket having the tubular bearing and provided with the horizontal plate having the corrugated rubber secured to its lower face, said bracket being provided with the depending curved rack bar, and the slide arranged upon the rack bar and provided with lugs engaging the teeth thereof and having a thumb screw, substantially as described. 4th. In an attachment for bedsteads, the combination of the rod, the table or tray swiveled thereto, the bracket having a tubular bearing and provided with a clamp composed of sections hinged together and provided with oppositely disposed curved portions, one of said sections being formed integral with the bracket, and a bolt adapted to secure the sections of the clamp together, substantially as described. 5th. In an attachment for bedsteads, the combination of the rod 15, the table or tray swiveled thereto, and the bracket having the tubular bearing the horizontal plate, and the L-shaped arm having a perforation and provided with a thumb screw, substantially as described.

No. 33,646. Combustible Substance.

(*Corps combustible.*)

Moses H. Day, Brookline, Mass., U.S., 10th February, 1890; 5 years.

Claim.—A combustible substance consisting of a base of ordinary merchantable fuel impregnated with a chemical salt in a crystalline or anhydrous state, which, when acted upon by fire in the destruction of the base by fire, will give a distinctive color to the flame produced, substantially as set forth.

No. 33,647. Wheel. (*Roue.*)

John B. Lott, Kittaning, Penn., U.S., 10th February, 1890; 5 years.

Claim.—1st. The combination, with the axle and the sleeve, of the hub formed with spoke sockets, and a yielding bearing between the end of the spokes and the sleeve, substantially as described. 2nd. The combination, with the hub and the spoke fitted in a socket therein, of the felly, a cap arranged to bear upon the spoke, and a fastening device for securing the parts together, substantially as specified. 3rd. The combination, with the sleeve having annular flanges B¹ and B², of the hub formed with an interior annular flange C² between the flanges B¹ and B² being of different lengths with the longer ones innermost, and the flanges on the hub being of different lengths with the longer ones outermost, substantially as shown and described and for the purpose specified. 4th. The combination, with the axle sleeve and hub, of the spring E surrounding the sleeve and confined between the flanges thereon, the said hub being formed with interior flange arranged opposite said spring, substantially as described. 5th. The combination with the hub formed with interior spoke receiving sockets, of the spokes fitted in said sockets and having slight endwise play thereon, and the transverse bolts passed through the walls of the sockets within the hub and through elongated slots in the spokes, and serving to limit the play of the spokes, substantially as described. 6th. The combination, with the hub formed with interior spoke receiving sockets, of the spokes fitted in said sockets and having slight endwise play therein, and the transverse bolts passed through the walls of the sockets and through elongated slots in the spokes, and the spring within the sockets between the bottom thereof and the lower ends of the spokes, substantially as described. 7th. The combination, with the substantially U-shaped felly, of the filling block of substantially reverse shape to that of the felly, and secured therein between the said spoke sockets, and having inwardly curved sides, substantially as and for the purpose specified. 8th. The combination, with the axle and the sleeve formed with flanges B¹, B², B³ and B⁴, of the hub formed with interior flange C², the spring E between the flanges B¹, B², the spring between the flanges B³, B⁴, and the springs at the end of the sleeve, substantially as shown and described. 9th. The combination with the hollow spoke, the plug fitted therein the substantially U-shaped felly and the tire of the transverse bolt passed through the felly, spoke and plug, and the screw passed through the tire and into the plug at right angles to said bolt, substantially as shown and described. 10th. The combination, with the axle the sleeve and the hub formed with inwardly extending spoke sockets, of the spokes, the springs within the sockets behind the inner ends of the spokes, and the springs encircling the sleeve between the same and the spoke sockets, substantially as shown and described.

No. 33,648. Combined Strawberry - Vine Cutter and Cultivator. (*Cisailles de framboisier et cultivateur combinés.*)

George W. Love, Grayling, Mich., U.S., 10th February, 1890; 5 years.

Claim.—1st. In combination with the frame A, the transporting wheel, the stationary forked cutting blade H', the double edged cutting blade H, the pinions and intermediate parts coupling the pinions to the double edged cutting blade, and handles attached to the rails of the two-part frame, as and for the purpose specified. 2nd. In a device for the purposes specified, the combination of the frames A, the rods D for adjusting said frames, the transporting wheels, the pinions mounted on said frames, the forked cutting blades H', the double edged cutting blades H, the mechanism coupling the blades H to the pinions P, the cultivators attached to the frame A, and handles for a guiding the machine, as and for the purposes specified.

No. 33,649. Bolt. (*Boulon.*)

Charles J. Langenbach, Dorchester, Iowa, U.S., 10th February, 1890; 5 years.

Claim.—The combination, with the operating cord or wire having its ends connected to the oppositely arranged spring locks or bolts, of the operating device consisting of the knob plate, guide studs, spindle and recessed and apertured knob disk and knob, constructed and combined to operate in the manner and for the purpose substantially as herein shown and set forth.

No. 33,650. Spindle Driving Device for Spinning Machines. (*Appareil de commande des bobines de machines à filer.*)

James Clark and Frederick Thornton, Bullock's Corners, Ont., 10th February, 1890; 5 years.

Claim.—In a spindle driving device for spinning machines, an elongated driving cylinder G an endless band I, the series of spindles F, in combination with the adjustable spiral tension spring A, tension guard B, spring tension runners c and c' guard support D and the band support E, substantially as and for the purpose hereinbefore set forth.

No. 33,651. Axe. (*Hache.*)

John M. Holladay, Holladay, Va., U.S., 10th February, 1890; 5 years.

Claim.—1st. The combination, with an axe-head terminating in a web and opposite semi-circular dovetailed recesses, of a bit terminating in opposite diverging semi-circular dovetailed plates adapted to enter the recesses and forming an intermediate space for the web of the head, and a securing pin inserted through openings in the plates and webs, substantially as specified. 2nd. The combination, with an axe-head having a central web and opposite curved recesses, of a removable reversible bit, the rear ends of which terminate in opposite curved divergent plates mounted in the recesses and having an intermediate opening for the reception of the web perforations formed through the plates and web, and a removable rivet inserted in the openings, substantially as specified. 3rd. The combination, with an axe-head having a central web and laterally-opposite dovetailed semi-circular recesses terminating in shoulders, of a removable reversible bit, the rear end of which is bifurcated to receive a web and to form opposite semi-circular bevel edged plates for inserting in the recesses, said plates terminating at their opposite ends in recesses having abutting ends for the reception of the shoulders of the head openings formed in the plates and web, and a rivet inserted through the openings, substantially as specified.

No. 33,652. Wheel. (*Roue.*)

George W. Howell, Covington, Ky., U.S., 10th February, 1890; 5 years.

Claim.—1st. The hub of a wheel composed of the solid sleeve 3 and split sleeve 4, and disks 5 to which the spokes of the wheel are screwed, substantially as specified. 2nd. The hub of a wheel composed of the split sleeve 4, the solid sleeve 3 provided with lugs 7, for spreading the split sleeve and abutting against the disk to hold the wheel in the strained position, substantially as specified. 3rd. A wheel composed substantially of the hub formed of the solid sleeve 3, the split sleeve 4, and the disks 5 provided with slots into which the spokes 2 are hooked, and the parts secured together by the detachable sleeve 3 having lugs 7, substantially as specified.

No. 33,653. Manufacture of Buckets and Tubs. (*Fabrication des seaux et cuvettes.*)

John L. Krauser, Leeper, Penn., U.S., 10th February, 1890; 5 years.

Claim.—1st. A stave for a tub or bucket made of wood and having the grain running crosswise or in the direction of the width of the stave, substantially as specified. 2nd. A bucket or tub composed of a number of staves made of wood, said staves having the grain of the wood extending crosswise thereof, and in the direction of their width, substantially as specified.

No. 33,654. Electrically Controlled Elevator. (*Monte-charge contrôlé par l'électricité.*)

Otis Brothers & Company, (assignees of Charles E. Ongley), New York, N. Y., U.S., 10th February, 1890; 5 years.

Claim.—1st. The combination, with an elevator-car and the mechanism for controlling its movements, of an electro-magnet for actuating said controlling mechanism, a circuit closer 14 or 15 in circuit with said magnet, and a circuit closer 19 operated by a moving part of the elevator mechanism, to close the circuit through said magnet when the car is in motion, and to break the circuit through said magnet when the car is at rest, substantially as described. 2nd. The combination, with an elevator-car and the mechanism for controlling its movements, of electro-magnets I, J, for actuating said controlling mechanism, to cause the car to move in opposite directions, a circuit closer 14 on the car which is in circuit with both of said magnets, and a circuit closer 19 operated by a moving part of the elevator mechanism to close the circuit through one of said magnets when the car is in motion, and to break the circuits through both of said magnets when the car is at rest, substantially as described. 3rd. The combination, with an elevator-car and the mechanism for controlling its movements, of electro-magnets I, J, for actuating said controlling mechanism to cause the car to move in opposite directions, circuit closers 15 located at the landings and in circuit with both of said magnets, a circuit closer 19 operated by a moving part of the elevator mechanism to close the circuit through one of said magnets when the car is in motion, and to break the circuits through both of said magnets when the car is at rest, substantially as described. 4th. The combination, with an elevator-car and mechanism for controlling its movements, of electro-magnets I, J, for actuating said controlling mechanism to cause the car to move in opposite directions, circuit closers 10, 11, upon the car, one of which is in circuit with each magnet, a third circuit closer 14 which is in circuit with both of said magnets, and a circuit closer 19 operated by a moving part of the elevator mechanism to close the circuit through one of said magnets when the car is in motion, and to break the circuits through both of said magnets when the car is at rest, substantially as described. 5th. The combination, with the mechanism for controlling the movement of an elevator, of the cylinder F² and piston F¹ for actuating said mechanism an auxiliary valve apparatus controlling said piston and normally maintained in an open position to allow the water to flow out of the cylinder from either side of the piston, an electro-magnet for actuating the said auxiliary valve apparatus, an electric circuit including said magnet, and a circuit closer upon the car, and a rope or its equivalent connected to operate said controlling mechanism from the elevator-car, substantially as described. 6th. The combination, with the mechanism for controlling the movement of an elevator-car, of a cylinder and piston for actuating said mechanism, an auxiliary valve apparatus controlling said piston, and normally maintained in an open position to allow the water to flow out of the cylinder from either side of the piston, two electro-magnets for actuating said auxiliary valve apparatus to cause the car to move in opposite directions, two electric circuits including said magnets, and circuit closers upon the car, and a rope or its equivalent connected to operate said controlling mechanism from the elevator-car, substantially as described. 7th. The combination, with the mechanism for controlling the movements of an elevator-car, of a cylinder and piston for actuating said mechanism, an auxiliary valve apparatus controlling said piston and normally maintained in an open position to allow the water to flow out of the cylinder from either side of the piston, two electro-magnets for actuating said auxiliary valve apparatus to cause the car to move in opposite directions, two electric circuits including said magnets, and circuit closers upon the car, a rope connected to operate said controlling mechanism from the elevator-car, and stops 23 upon said rope, arranged to be engaged by the movement in either direction, substantially as described. 8th. The combination, with the mechanism for controlling the movements of an elevator, of the cylinder F² and piston F¹, for actuating said mechanism, an auxiliary valve apparatus controlling said piston and normally maintained in an open position to allow the water to flow out of said cylinder from both sides of said piston, an electro-magnet for actuating said auxiliary valve apparatus, and an electric circuit including said magnet and a circuit-closer upon the car, substantially as described. 9th. The combination, with the mechanism for controlling the movements of an elevator, of the cylinder F² and piston F¹ for actuating said mechanism, an auxiliary valve apparatus for controlling said piston and normally maintained in an open position to allow the water to flow out of said cylinder from both sides of said piston, two-electro-magnets for actuating said auxiliary valve apparatus to cause the car to move in opposite directions, and two electric circuits including said magnets and circuit closers upon the car, substantially as described.

No. 33,655. Elevator. (*Monte-charge.*)

Otis Brothers & Company, (assignees of Charles E. Ongley), New York, N. Y., U.S., 10th February, 1890; 5 years.

Claim.—1st. The combination, with the mechanism for controlling the movements of an elevator, of the cylinder F² and piston F¹ for operating said mechanism, an auxiliary valve for controlling said piston, which is normally maintained in position to allow the water to flow out of the cylinder, a piston for operating said auxiliary valve, and a primary valve for controlling said last piston, substantially as described. 2nd. The combination, with the mechanism for controlling the movements of an elevator, of the cylinder F² and piston F¹, for operating said mechanism, and auxiliary valve for controlling said piston, which is normally maintained in position to allow the water to flow out of the cylinder, a piston for operating said auxiliary valve, a primary valve for controlling said last piston and a permanently open exhaust between said last piston and said primary valve, substantially as described. 3rd. The combination, with the mechanism for controlling the movements of an elevator,

of the cylinder F² and piston F¹ for actuating said mechanism, an auxiliary valve apparatus controlling said piston, and normally maintained in an open position to allow the water to flow out of the cylinder from either side of the piston, pistons for operating said auxiliary valve apparatus, primary valves for controlling said last pistons, and a rope connected to operate said controlling mechanism from the elevator, substantially as described.

No. 33,656. Electrically Controlled Elevator. (*Monte-charge contrôlé par l'électricité.*)

Otis Brothers & Company, (assignees of Charles E. Ongley), New York N. Y., U.S., 10th February, 1890; 5 years.

Claim.—1st. The combination, with an elevator car, its motor and the main valve, of an electro-magnet for actuating said main valve, a circuit closer upon the car which is in circuit with said magnet, and circuit closers at the landings also in circuit with said magnet, substantially as described. 2nd. The combination, with an elevator car, its motor and main valve for controlling its movements, of an electro-magnet for actuating said main valve, and circuit closers located at the landings which are in circuit with said magnet, substantially as described. 3rd. The combination, with an elevator car, its motor and main valve for controlling its movements, of electro-magnets for actuating said main valve to cause the car to move in opposite directions, circuit closers upon the car which are in circuit with said respective magnets, and corresponding circuit closers at the landings also in circuit with said respective magnets, substantially as described. 4th. The combination, with an elevator car, its motor and main valve for controlling its movements, of electro-magnets for actuating said main valve to cause the car to move in opposite directions, and circuit closers at the landings which are in circuit with said respective magnets, substantially as described. 5th. The combination, with an elevator car, its motor and main valve for controlling its movements, of an auxiliary valve, an electro-magnet for actuating said auxiliary valve, and an electric circuit including circuit closers at the landings, substantially as described. 6th. The combination, with an elevator car its motor and main valve for controlling its movements, of auxiliary valves for controlling the movements of the main valve in opposite directions, electro-magnets for actuating said auxiliary valves, and circuit closers at the landings in circuit with said respective magnets, substantially as described.

No. 33,657. Electrically Controlled Elevator. (*Monte-charge contrôlé par l'électricité.*)

Otis Brothers and Company (assignees of Charles E. Ongley), New York, N.Y., U.S., 10th February, 1890; 5 years.

Claim.—1st. The combination, with an elevator car and the mechanism for controlling its movements, of an electro-magnet for operating said controlling mechanism, a circuit-closer 15 or 19 in circuit with the magnet, and a circuit-closer operated by the car to close the circuit through the magnet shortly before the car arrives at a landing, substantially as described. 2nd. The combination, with an elevator car and the mechanism for controlling its movements, of an electro-magnet for operating said controlling mechanism, a circuit-closer 15 or 19 in circuit with the magnet, and a circuit-closer operated by the car to close the circuit through the magnet shortly before the car arrives at a landing, substantially as described. 3rd. The combination, with an elevator car and the mechanism for controlling its movements, of an electro-magnet for operating said controlling mechanism, a circuit-closer 15 or 19 in circuit with said magnet, a circuit-closer R or R' operated by a moving part of the elevator mechanism to close the circuit through the magnet when the car is in motion, and to break the circuit when the car is at rest, and a circuit-closer operated by the car to close the circuit through the magnet shortly before the car arrives at a landing, substantially as described. 4th. The combination, with an elevator car and the mechanism for controlling its movements, of electro-magnets for operating said controlling mechanism to cause the car to move in opposite directions, a circuit-closer 15 or 19 in circuit with both the said magnets, and a circuit-closer operated by the car to close the circuit through one of said magnets shortly before the car arrives at a landing going down, and through the other of said magnets shortly before the car arrives at the landing going up, substantially as described. 5th. The combination, with an elevator car and the mechanism for controlling its movements, of electro-magnets for operating said controlling mechanism to cause the car to move in opposite directions a circuit-closer 15 or 19 in circuit with both the said magnets, a circuit-closer operated by the car to close the circuit through one of said magnets shortly before the car arrives at a landing going down, and through the other of said magnets shortly before the car arrives at the landing going up, and circuit-closers R, R', operated by a moving part of the elevator mechanism to close the circuit through one of said magnets when the car is in motion, and to break the circuits through both of said magnets when the car is at rest, substantially as described. 6th. The combination, with an elevator car and the mechanism for controlling its movements of an auxiliary cylinder and piston for operating said controlling mechanism, an electro-magnet for actuating the auxiliary valve, an electric circuit including said magnet and a circuit-closer on the car and a circulating passage having a check valve for permitting the water to circulate from one side to the other of the auxiliary piston, substantially as described.

No. 33,658. Electrically Controlled Elevator. (*Monte-charge contrôlé par l'électricité.*)

Otis Brothers and Company (assignees of Charles E. Ongley), New York, N.Y., U.S., 10th February, 1890; 5 years.

Claim.—1st. The combination, with an elevator car its motor and the main valve for controlling the movements of the motor, of an

electro-magnet for controlling the movement of the main valve, an electric circuit for energizing said magnet, and a circuit-closer operated by a moving part of the mechanism to break the circuit through the magnet as the main valve reaches the limit of its working movement, substantially as described. 2nd. The combination, with an elevator car, its motor and the main valve for controlling the movements of the motor, of electro-magnets for controlling the movements of the main valve in opposite directions, electric circuits for energizing said magnets, and circuit-closers operated by a moving part of the mechanism to break the circuit through the respective magnets as the main valve reaches the limit of its working movements in opposite directions, substantially as described.

No. 33,659. Table Knife for Green Corn.

(*Couteau de table à blé d'inde*)

Jehiel F. Wyncoop and Alonzo L. Wilcox, Bradford, Penn., U.S., 10th February, 1890; 5 years.

Claim.—1st. The table knife for green corn, consisting of the handle A and the body C, the body being concave on its under side and having at its end the forwardly extending tines a, b, and the continuous cutting edge d, f, substantially as shown and described. 2nd. The table knife for green corn, consisting of the handle A and body C, the latter having the concave under surface and oppositely beveled upper surface, and having also at its end the forwardly extending tines a, b and cutting edges d, e, f, substantially as shown and described.

No. 33,660. Railway Gate.

(*Barrière de voie de fer.*)

The Edmonson Railway Gate Company, Richmond (assignee of Edwin L. Edmonson, Staunton), Va., U.S., 10th February, 1890; 5 years.

Claim.—1st. A cattle guard gate comprising a frame located on the track, a rock shaft journaled in the same beneath the rails, a series of vertical pickets carried by the shaft, a block secured to the shaft and adapted to be engaged by a locomotive, stops upon opposite sides of the shaft to limit the downward movement of the gate, and one or more weights longitudinally formed on the lower side of the shaft, substantially as described. 2nd. A rocking railroad gate consisting in the combination of a frame beneath the track, a counterbalanced rock shaft transversely journaled in the frame, a series of vertical pickets secured to, and extending up from the shaft, and an oppositely inclined block carried by one or more of the pickets and adapted to be engaged by a locomotive coming in either direction, substantially as described.

No. 33,661. Apparatus for Indicating the Progress of Races and Games.

(*Appareil pour indiquer la marche des courses et des jeux.*)

George H. Chappell and Francisco Lavandeyra, New York, N.Y., U.S., 10th February, 1890; 5 years.

Claim.—1st. An apparatus for indicating or portraying the progress of a race or game, comprising one or more imitation horses or other figures D, means, substantially as described, for actuating the same, and means, substantially as described, for starting and stopping, or retarding the movement of said figure or figures, substantially as specified. 2nd. In an apparatus for indicating or portraying the progress of a race or game, one or more miniature horses or figures D, and means, substantially as described, for actuating the same and for starting and stopping, or retarding the movement of said figure, in combination with a similar apparatus at a suitable distance from said first mentioned apparatus, and with wires or conductors connecting the stopping or starting devices of one apparatus with the corresponding devices in the other apparatus, whereby the corresponding devices in both said apparatus will be actuated simultaneously and in unison, substantially as specified. 3rd. In an apparatus for indicating or portraying the progress of a race or game, one or more figures D, and means, substantially as described, for supporting the same, a motor for actuating the same, and frictional connections between said motor and said figure, and means, substantially as described, for stopping and starting said motor, and for stopping or retarding the movement of any figure D, substantially as specified. 4th. In an apparatus for indicating the progress of a race or game, figure D, and means, substantially as described, for actuating the same, combined with a brake for stopping or retarding said figure, and an electro-magnet and connections for actuating said brake, substantially as described. 5th. In an apparatus for indicating the progress of a race or game, a figure D, a motor for actuating the same, and connections between said figure and motor, in combination with a rod, finger or the like, for stopping said train of gearing, and the magnet and connections for actuating said rod or finger to stop or release said train of gearing, substantially as described. 6th. A figure D, a motor for actuating the same, a brake for stopping or retarding said figure, and a magnet and connections for actuating said brake, combined with a rod or finger for stopping the motor, and a magnet, and connections for actuating said rod or finger to stop or release the motor, substantially as described. 7th. The figure D, support B, plate or arm F, friction disk or projection e, and a motor for actuating the same, combined with means, substantially as described, for stopping or retarding the figure D, substantially as specified. 8th. The figure D, support B, plate or arm F, friction disk e and a motor for actuating the same, combined with a rod or finger for stopping and holding in check the motor, and a magnet and connections for actuating said rod or finger, substantially as described. 9th. The figure D, support B, plate or arm F, friction disk e and a motor for actuating the same, combined with means, substantially as described, for stopping or retarding the figure D and for stopping or holding in check the motor, substantially as described. 10th. The combination of the figures D, supports, B, plates or arm F, G, friction disks or projec-

tions *e, f*, a motor for actuating them, and means, substantially as described, for stopping or retarding each of said supports independently, substantially as specified. 11th. The rotating supports *B, B* in the shape of tracks or circles, adapted to rotate, combined with means, substantially as described, for actuating them, substantially as specified. 12th. The support *B*, and means, substantially as described, for actuating the same, combined with the brake *H₂*, pivoted as at *a²* and adapted to bear upon the support *B*, armature *g²* adapted to actuate the brake *H₂*, magnet *h²* and connections, substantially as described. 14th. The support *B*, plate or arm *F*, disk or projection *e*, spindle *E* carrying the same, gear wheel *a* on said spindle, and a train of gearing or motor, combined with a rod or finger for stopping said train of gearing or motor, and a magnet and connections for actuating said rod, substantially as specified. 15th. The support *B*, plate or arm *F*, disk or projection *e*, spindle *E* carrying the same, gear wheel *a* on said spindle, and a train of gearing or motor having a wheel *J* meshing with the wheel *a*, combined with a brake *H*, armature *g* for actuating the same and a magnet and connections for actuating said armature, substantially as described.

No. 33,662. Safety Device for Railway Cars.

(Appareil de sûreté pour les chars.)

Alexander A. Cameron, Cobville, Ga., U.S., 11th February, 1890; 5 years.

Claim.—1st. The combination, with a car and rail, of a frame loosely connected to the car and provided with opposite rods depending from the frame and terminating in heads embracing the rail, substantially as specified. 2nd. The combination, with a car and a rail, of a frame depending from the car and loosely connected therewith, and vertical parallel rods terminating in rotatable heads fitting under the head of the rail, substantially as specified. 3rd. The combination, with a car and rails, of hangers depending from opposite sides of the car and terminating in threaded studs, a rectangular frame having slots in its upper end to receive the studs, and a pair of rods mounted on the studs for the retention of the frame, and a pair of rods mounted in the frame in vertical bearings, and terminating in rotatable heads fitting at either side of the supplemental rail and against withdrawal in a vertical direction therefrom, substantially as specified. 4th. The combination, with a car and rails, of a rectangular frame provided with opposite slots for the reception of the studs, nuts mounted on the studs for the retention of the frame, a transverse bar mounted in the frame, the transverse bar, all in vertical line with each other, and a pair of threaded rods having journals for the bearings and depending below the frame and terminating in rotatable heads conforming to the shape of the head and web of the rails, and provided with opposite nuts embracing the sides of its bearings, and rear vertical braces secured to the body of the car and extending forwardly and bolted to the lower transverse rail of the frame, substantially as specified. 5th. The combination, with opposite rods terminating in heads, their supporting frame and rail embraced by the heads, of a bearing located between the rods, and a loose wheel journaled upon the same and bearing on the rail, substantially as specified. 6th. The combination, with the rectangular frame having the bearing at its centre and formed upon the lower transverse bar thereof, of the opposite depending rods mounted in the frame and provided with revolving heads, and a rail embraced by the heads and supporting the wheel, substantially as specified.

No. 33,663. Digester. (Marmite.)

William O. Crocker and William P. Crocker, Turner's Falls, Mass., U.S., 11th February, 1890; 5 years.

Claim.—1st. A digester composed of an outer shell substantially cylindrical through the main portion of its length, combined with a lining composed of longitudinal strips of lining, combined with a radial strips of lining, material united along their edges by longitudinal seams, substantially as and for the purpose described. 2nd. The main outer shell of a digester, and longitudinal strips of lining material extending from one to the other end of the side pieces of said shell and meeting at their edges, combined with stay strips overlapping the meeting edges of the two adjacent lining material and being fastened to the meeting edges of the lining material over the said stay pieces united at their edges with the of the head or end piece as described. 3rd. The combination of a lining sleeve extending through a central opening, with a flange at its lower edge that engages the edge of the lining around the opening in the end piece, and a lining for said sleeve extending over the flange thereof and being united with the lining of the end piece, substantially as described.

No. 33,664. Wedge Buckle. (Boucle à clavette.)

Anton Tehnik, Hronow, Bohemia, 11th February, 1890; 5 years.

Claim.—In an improved buckle suitable for the automatic connection of belts, bands, or similar articles, also applicable to articles of clothing, to harnessing or yoking, to vehicles and for other analogous purposes, the combination of the wedge-shaped sheath *A* with the corresponding locking device *a*, the one capable of sliding within or upon the other, substantially as described.

No. 33,665. Metal Shearing Machine. (Machine à cisailier le métal.)

La Verne W. Noyes, Chicago, Ill., U.S., 11th February, 1890; 5 years.

Claim.—1st. In a shearing machine, in combination with a pair of shearing wheels, a bracket having the bearings for said wheels respectively, the portion of said brackets which connects said bearings being located on the discharge side of the wheels and extending transversely to the plane of their shearing faces, and completely transversely by said plane produced so that the severance of the bracket in that plane would sever from each other the bearings of the wheels respectively, substantially as set forth. 2nd. In a shearing machine, in combination with the shearing wheels, the train of gearing by which they are both revolved, said train being continuous by means of its contracting parts from one wheel to another and extending across and being traversed by both the plane of the sheet to be cut, and the plane of the cutting edges of the shearing wheels, substantially as set forth. 3rd. In a shearing machine, in combination with the shearing wheels, the frame in which they are journaled having the portion which connects the journal bearings of the shearing wheels located beyond the cutting point of the wheels toward the discharge side, and having two faces one upon each side of the plane of the cutting edges sloped to divert the severed edges of the metal in opposite directions, substantially as set forth. 4th. In a shearing machine, in combination with the shearing wheels and the train of gears by which they both are revolved, said train being continuous in and by means of its successively contacting parts from one shearing wheel to the other, and crossing and being transversely by both the plane of the sheet to be cut and the plane of the cutting edges of the shearing wheels, and the frame in which the shafts of said train obtain bearings located beyond the shearing wheels in the direction of discharge and extending through the rift in the severed sheet, substantially as set forth. 5th. In a shearing machine, in combination with the shearing wheels, the frame in which said wheels are journaled having the part which connects the bearings of said wheels crossing the plane of the cutting edges of the wheels at the rift in the severed sheet, two counter-shafts journaled in said connecting part, and the gear wheels on them respectively, and the gear wheels rigid with each of the shearing wheels and intermeshing respectively with the gear wheels on the counter-shafts, one of said counter-shafts extending across the plane of the cutting edges of the shearing wheels through the rift in the severed sheet, substantially as set forth. 6th. In a metal shearing machine, in combination with the shearing wheels, a bed to support the sheet to be cut, a gauge upon said bed, and inter-fitting ways and guides on the bed and gauge respectively parallel to the plane of the shearing faces of the wheels, and a clamp to bind the sheet to the gauge, substantially as set forth. 7th. In combination, substantially as set forth, the frame, the shearing wheel shaft *b²* journaled on said frame, the bed rigid with the frame, the gauge sliding on the bed and having a clamp lever to bind the sheet which is to be cut, said lever extending far enough from the bed to collide with the shaft *b²*, whereby the feeding action of the shearing wheels causes the shaft to unlock the sheet at the end of the cut, substantially as set forth. 8th. In a metal shearing machine, in combination with the shearing wheels, the center point adjustable laterally with respect to the plane of the cutting edges and located in a line at right angles to that plane and passing through the cutting point, substantially as set forth.

No. 33,666. Automatic Car-Coupling. (Attelage automatique de chars.)

Arthur L. Stover, Hamilton, Ohio, U.S., 11th February, 1890; 5 years.

Claim.—1st. The draw-bar *A* having enlarged head *A¹* provided with vertical groove *a²* and ridge *a¹*, and coupling-bar *D* pivoted to the draw-head, and provided with the hook *d* and yoke *d²* and spring *d¹*, substantially as and for the purposes specified. 2nd. The draw-bar *A* having enlarged head *A¹* provided with vertical groove *a²* and ridge *a¹*, and coupling-bar *D* pivoted to the draw-head and provided with hook *d* and yoke *d²* and spring *d¹*, and means for moving the bar *D* laterally, substantially as and for the purposes specified. 3rd. The combination of a car-body box *B* provided with shoulders *b, b¹*, draw-bar having shank *A²* provided with pins *a²* and *a¹* projecting through the box *B* and rod *A³*, the latter having head *a³*, collars *a, a¹* on rod *A³*, and spring *B¹* between collars *a, a¹*, substantially as and for the purposes specified. 4th. The combination of a car-body box *B* provided with shoulders *b, b¹*, draw-bar having vertically enlarged head *A¹*, provided with groove *a²* and ridge *a¹*, having shank *A²* and rod *A³*, the latter having head *a³*, collars *a, a¹* on rod *A³*, and spring *B¹* between collars *a, a¹*, and coupling-link *D* pivoted to the draw-bar and having hook *d*, substantially as and for the purposes specified. 5th. The combination of a car draw-bar, coupling-bar, lever *E* attached to the coupling-bar, and lever *F* for operating lever *E*, substantially as and for the purposes specified. 6th. The combination of a car draw-bar, coupling-bar, lever *E* attached to the coupling-bar, and rod *J* and levers *J¹* for operating lever *E*, substantially as and for the purposes specified. 7th. The combination of a car draw-bar, coupling-bar, lever *E* having tooth *e*, and lever *F* for operating lever *E*, substantially as and for the purposes specified. 8th. The combination of a car draw-bar, coupling-bar, and lever *F* for operating lever *E*, substantially as and for the purposes specified. 9th. The combination of a car draw-bar, coupling-bar, lever *E* attached to the coupling-bar, and lever *F* for operating lever *E*, and bar *H* having inclined plane *h²* and handles *h¹*, substantially as and for the purposes specified. 10th. The combination of a car draw-bar, coupling-bar, lever *E* attached to the coupling-bar, and lever *F* for operating lever *E*, bar *H* having inclined plane *h²* and handles *h¹*, and lever *I* having hook *i* catching behind the inclined plane *h²*, substantially as and for the purposes specified. 11th. The combination of a car draw-bar, coupling-bar, yoke *d²* and spring *d¹*, lever *E* attached to

the coupling-bar, and lever F for operating lever E, and bar H having inclined plane h^2 and handles h^1 , substantially as and for the purposes specified. 12th. The combination of a car draw-bar, coupling-bar D, yoke d^2 , spring d^1 , lever E attached to the coupling-bar, lever F, rod J, levers J¹, bar H having inclined plane h^2 and handles h^1 , and lever I having hook i , substantially as and for the purposes specified. 13th. The combination of a car draw-bar, coupling-bar, lever E attached to the coupling-bar, and rod J and levers J¹ for operating lever E, and bar H having inclined plane h^2 and handles h^1 , substantially as and for the purposes specified. 14th. The combination of a car draw-bar, coupling-bar, lever E attached to the coupling-bar, and rod J and levers J¹ for operating lever E, bar H having inclined plane h^2 and handles h^1 , and lever I and hook i , catching behind the inclined plane h^2 , substantially as and for the purposes specified. 15th. The combination of a car draw-bar, coupling-bar, yoke d^2 and spring d^1 , lever E attached to the coupling-bar, and rod J and levers J¹ for operating lever E, and bar H having inclined plane h^2 and handles h^1 , substantially as and for the purposes specified. 16th. The combination of a car draw-bar, coupling-bar, lever E attached to the coupling-bar and having a spring bolt L, the projecting segment N, the bar h having an inclined plate P for disengaging the spring bolt, substantially as and for the purposes specified.

No. 33,667. Halter. (*Licou*.)

James Lally and Edmund Bowman, Tokamah, Neb., U.S., 11th February, 1890; 5 years.

Claim.—An improved halter comprising a strap No. 1, having a ring fixed to its top end, and adjustably connected at its lower end with a metal coupling device composed of a frame a that has an integral arched T-shaped bar b , a strap No. 2 extended through and around the said frame a and the bar b and connected with a double ring c , a strap No. 3 adapted so encircle a horses neck fixed to the ring at the top end of strap No. 1, and a metal connecting-bar d having an integral frame f at one end, and an integral frame g at the other end, provided with a cross-bar h , arranged and combined substantially as shown and described.

No. 33,668. Stilt. (*Echâsse*.)

William Harrison, (assignee of Henry Temple), Grand Rapids, Mich., U.S., 11th February, 1890; 5 years.

Claim.—1st. The combination, in a stilt, of the step bracket divided vertically into two separate and similar sections, each of which is provided with a semi-circular part of a clasp for embracing a staff, and an oscillating step plate having end journals arranged and held between divided upwardly projecting lugs of the two sections of the bracket, substantially as described. 2nd. In a stilt and adjustable step bracket provided with lugs, which receive the journals of an oscillating step plate, said lugs being provided with cross-heads forming fastenings for a detachable strap, substantially as described. 3rd. In a stilt and adjustable step bracket formed in two separate similar sections, each section having one member of the clasps, one part of each of the bearings for the oscillating step plate and part of the cross-heads forming fastenings for a strap, each section being formed in a single integral piece and the two being united after the step plate is inserted by suitable fastenings, substantially as described. 4th. In a stilt, the combination, with the staff, of an adjustable foot plate having two-part clasps engaging said staff, one of said clasps being provided with engaging points and having lugs receiving a headed bolt having a tightening nut, an oscillating step plate having journals lying in lugs formed on said step bracket, said step plate being provided with a covering of suitable material, and a strap having slitted ends which engage T-shaped cross-heads formed upon the lugs which support the journals of the step plate, substantially as described.

No. 33,669. Oil Can. (*Bidon à huile*.)

The Rau Novelty Company, (assignee of John Rau), Chicago, Ill., U.S., 11th February, 1890; 5 years.

Claim.—1st. In an oil can, the combination, with the body and the nozzle, of a valve for controlling the discharge of oil, a push-rod for operating said valve, said rod having an internal longitudinal bore and two lateral bores or perforations communicating therewith, said perforations being so situated that, when the push-rod is depressed and the discharge valve unseated, one of said perforations will be in communication with the interior of the can and the other with the external atmosphere, and when said discharge valve is seated and the push-rod in normal position communicating with the interior of the can and the atmosphere is cut off, substantially as and for the purpose set forth. 2nd. In an oil can, the combination, with the body and the nozzle, of a valve for controlling the discharge of oil, a push-rod for operating said valve having an internal longitudinal bore and two lateral bores or perforations communicating therewith, and an air-tight packing surrounding said rod, said perforations being so situated that, when the push-rod is depressed and the discharge valve unseated, one of the perforations will be on each side of said packing, and when said valve is seated and the push-rod in normal position both of said perforations will be on the same side of said packing, substantially as set forth. 3rd. In an oil can, the combination, with the body and the nozzle, of a valve for controlling the discharge of oil, a push-rod for operating said valve having an internal bore and two lateral bores or perforations communicating therewith, and a stuffing-box surrounding said rod, said perforations being so situated that when the parts are in their normal positions and the discharge valve seated, neither of said perforations will be below the stuffing box, and when the push-rod is depressed and said discharge valve unseated one of said perforations will be below and the other above said stuffing-box, substantially as set forth. 4th. In an oil can, the combination, with the body A and the nozzle C, of the valve I for controlling the discharge of oil, the push-rod M for operating said valve having the internal longitudinal bore X and the lateral bores or perforations x and x' communicating therewith, the external screw-threaded projection n secured to the can, the in-

verted cup-shaped nut or follower S having internal threads screwed onto said projection n , and the packing s interposed between said projection and follower, substantially as and for the purpose set forth. 5th. In an oil can, the combination, with the body and the nozzle, of a valve for controlling the discharge of oil, and the sleeve N extending through the top of the can and having its projecting upper end n screw-threaded, the perforated cup shaped nut or follower S having threads in its interior screwed onto the projecting upper end of said sleeve, the packing s interposed between the upper extremity of said sleeve and said nut or follower, and the rod M passing through said sleeve and nut and having the internal bore X and the two perforations communicating therewith, substantially as and for the purpose set forth. 6th. In an oil can, the combination, with the body and the nozzle, of a rod passing through the top of the can and having an internal longitudinal bore and two lateral bores or perforations communicating therewith, and packing surrounding said rod, said perforations being so situated that one may be placed on each side or both on the same side of said packing, substantially as set forth.

No. 33,670. Band Cutter and Feeder.

(*Coupe-hart et alimentateur*.)

Victor C. Bailey, Battle Creek, Mich., U.S., 11th February, 1890; 5 years.

Claim.—1st. The combination of the movable grain-table, the rotating band-cutters, the vibrating grain-delivery pan at the inner end of the grain-table, the fingers or rods extending in the direction of their length from the grain-pan toward the cylinder of the grain separator, and serving to support and carry the grain after it leaves the grain-delivery pan and to conduct such grain to the cylinder, and devices under the fingers or rods for supporting and raising the latter to different heights, substantially as described. 2nd. The combination of the movable grain-table, the rotating band cutters, the vibrating grain-delivery pan at the inner end of the grain-table, the fingers or rods extending in the direction of their length from the grain-pan toward the cylinder of the grain-separator, and serving to support and carry the grain after it leaves the grain-delivery pan and to conduct such grain to the cylinder, a hinged feed-board located under and supporting the fingers or rods between the grain delivery pan, and the cylinder and devices beneath the feed-board for lifting the latter and correspondingly raising the fingers or rods, substantially as described. 3rd. The combination of the movable grain-table, the vibrating grain-delivery pan provided at its discharge end with fingers or rods, which extend in the direction of their length toward the cylinder of the grain-separator and serve to support the grain leaving the pan, and devices below the fingers or rods for raising the latter with the grain-delivery pan, substantially as described. 4th. The combination of the movable grain-table, the vibrating grain-delivery pan located at the inner end of the table and provided with attached fingers or rods, which extend lengthwise toward the cylinder of the grain-separator and serve to support and carry the grain which leaves the grain-pan, a vertically-movable feed-board located under and supporting the fingers or rods and grain-pan, and a cam-shaft arranged under the feed-board to raise the latter and correspondingly raise the fingers or rods and grain pan, substantially as described. 5th. The combination, with a grain thrasher and a roller supported at the feed end thereof, of a band cutter and feeder-frame having a pivoted leg and provided with forked arms at its inner and outer ends, adapted to rest on the roller to support the band-cutter and feeder frame on the thrasher, either in operative position for feeding or for transportation, substantially as described. 6th. The combination, with a grain-thrasher, of the side arms thereof, the bracket on the side arms, the transverse rollers carried by the bracket, and the band-cutter and feeder frame having an adjustable leg and provided with pendent forked arms at both its inner and outer ends adapted to embrace and rest upon the roller, substantially as described.

No. 33,671. Butter for Self Binding Harvesters. (*Bulitoir pour les moissonneuses-lieuses*.)

Festus Chapin, Portage La Prairie, Man., 11th February, 1890; 5 years.

Claim.—1st. In a harvester, the combination, with the table and elevator roller shaft, of the board A, flaps B hinged to said board and supported on one side at a right angle by brackets b , forked and doubly inclined frame D d pivoted to elevator board at the rear end and supported by a foot rest at the front end, guide brackets E secured to the back of the board and slidingly engaged by the frame D d , pitman F, the board A supported by a bracket, and adjusting rod by engaging the frame D d , substantially as set forth. 2nd. In a butter for harvesters, the combination of the board A, flaps B hinged to said board, brackets b secured to said board and supporting the flaps B on one side at a right angle, substantially as set forth. 3rd. In a butter for harvesters, the combination of the board A, flaps B hinged to said board, brackets b supporting said flaps on one side at a right angle to said board, forked and doubly inclined frame D d , pivotally secured at the rear end, foot rest D¹ supporting said frame at the front end, and guide brackets E secured to said board and engaging said frame, substantially as set forth. 4th. In a butter for harvesters, the frame D of uniform thickness, forked to form parallel tines d and being bent in a plane at a right angle to the plane of the fork, to form an incline or angle in the tines, and a similar incline or angle in the tang on which inclined guides are adapted to slide, substantially as set forth.

No. 33,672. Safety Shipping Bag.

(*Sac de sûreté*.)

Gustave H. Magee, New Orleans, La., U.S., 11th February, 1890; 5 years.

Claim.—1st. A safety shipping bag of the kind described, consisting of an inner envelope A and an outer envelope B, each formed of a single piece and united along two of their edges by the stitching C,

substantially as described. 2nd. A safety shipping bag of the kind described, consisting of the inner envelope A and the outer envelope B united by the edge stitching C, the edges of said envelopes beyond the stitching C being included between the two envelopes, substantially as described.

No. 33,673. Plow. (*Charrue.*)

Jacob Brinkerhoff, Auburn, N.Y., U.S., 11th February, 1890; 5 years.

Claim.—1st. A plow-point provided with one downwardly extending rigid wall, whose lowest earth engaging portion lies below the horizontal plane of all earth engaging parts between it and the edge of the plow point opposite to it, for the purpose of guiding the plow, substantially as described. 2nd. A plow point provided with a single rigid wall, which extends downwardly below the bottom or sole of the plow, for the purpose of guiding the same, substantially as described. 3rd. A plow point provided with one downwardly extending rigid wall, whose greater portion in a vertical direction lies below the horizontal plane of all earth engaging parts between it and the edge of the plow point opposite to it, for the purpose of guiding the plow, substantially as described. 4th. A plow point having on its under side a substantially-horizontal and a substantially-vertical rigid wall, one of said walls extending forward of the other, the vertical wall extending downwardly below the bottom or sole of the point forming a guide for keeping the plow in the line of draft, substantially as described. 5th. A plow point provided with a downwardly extending rigid wall for guiding the plow, said wall being located beneath the landside edge of the plow point and having its lowest earth-engaging portion lying below the horizontal plane of all earth-engaging parts between it and the opposite edge of the plow point, substantially as described. 6th. A plow point provided with a recess or seat, and a guide secured therein and extending below the bottom or sole of the point for guiding the plow, substantially as described.

No. 33,674. Vehicle Wheel. (*Roue de voiture.*)

John E. Fisher, Boston, Mass., U.S., 11th February, 1890; 5 years.

Claim.—1st. In a vehicle wheel, the truss adapted to be placed within a recess in the felley of the wheel, and having the bearing plates e^1, e^1 made at or near the extreme ends of said truss, as and the truss e adapted to be placed within a recess in the felley of the wheel, having the bearing plates e^1, e^1 made at or near the extreme ends of said truss, and the side projections e^{11}, e^{11} forming central to clasp the same, as and for the purpose set forth and described. 3rd. In a vehicle wheel, the combination of truss e , bearing plates e^1, e^1 made at or near the extreme ends of said truss, and one or more rivets on bolts c^{11}, c^{11} , as and for the purpose set forth. 4th. In a vehicle wheel, the truss e having bearing plates e^1, e^1 made at or recess in the felley of the wheel, in combination with the clasp g and bolts g^1, g^1 as and for the purpose set forth. 5th. In a vehicle wheel, plates e^1, e^1 made at or near the extreme ends of said truss, and all combined and arranged in a manner and for the purpose set forth.

No. 33,675. Wire Fence Machine. (*Machine à clôture de fil de fer.*)

John W. Page, and Charles W. Lamb, Adrian, Mich., U.S., 11th February, 1890; 5 years.

Claim.—1st. In a machine for use in the manufacture of wire fence, comprising wires crossing each other and secured together where they cross, the combination, with a frame A, of a feed device G to which the warp wires are guided from the wire supply and upon normally held against movement clamps on the feed device for holding the warp wires against slipping, and a take-up C to which are secured the warp wires leading from the device G and turning with the movement of the feed device to wind upon it the finished fencing, substantially as described. 2nd. In a machine for use in the manufacture of wire fence, comprising wires crossing each other and secured together where they cross, the combination, with a frame A, of a feed device G normally held against movement and supported at their peripheries and free to be revolved on bearings, and carrying the warp wires M guided thence to and upon the feed device G, and a take-up C to which are secured the warp wires against slipping, and a take-up C to which are secured the warp wires leading from the device G and turning with the movement of the feed device to wind upon it the finished fencing, substantially as described. 3rd. In a machine for use in the manufacture of wire fence, comprising wires crossing each other and secured together where they cross, the combination, with a frame A, of a feed device G normally held against movement and provided with spring clamps N, each slotted sleeve h^1 , a spindle h^2 carrying a finger extending through the slot, a cam h^3 on one end of the spindle and a spring h^4 , concave on which the warp wires M, guided thence to the drum G and held thereon by the clamps N, and a take-up C to which are secured the warp wires leading from the drum G and turning with the movement of the feed device to wind upon it the finished fencing, substantially as described. 4th. In a machine for use in the manufacture of wire fence, comprising sinuous wires crossed by other wires and secured together where they cross, the combination, with a frame A, of a tension device L loosely supported in its bearings, a feed device G on which the warp wires M are guided on the tension device are passed and clamped, and which is normally held against movement, a take-up C to which are secured the warp wires leading from the device G and turning with the movement of the feed device to wind upon it the finished fencing, substantially as described. 5th. In a machine for use in the manufacture of wire fence, comprising sinuous wires crossed by other wires and secured together where they cross, the combination, with a frame A, of a tension device L loosely supported in its bearings, a feed device G on which the warp wires M are guided on the tension device are passed and clamped, and which is normally held against movement, a take-up C to which are secured the warp wires leading from the device G and turning with the rotation of the coilers, and mechanism extending into the path of the rack and connected with the feed device and actuated by the rack to move the said feed device, substantially as described. 6th. In a machine for use in the manufacture of wire fence, comprising sinuous wires crossed by other wires and secured together where they cross, the combination, with a frame A, of a tension device L loosely supported in its bearings, a feed drum G on which the warp wires M are guided on the tension device are passed and clamped, and which is normally held against movement, a segmental rack G¹ pivotally supported near and adapted to engage with the drum G, a rotary shaft E¹ carrying a pinion E², and a belt pulley E³ geared to a driving shaft o^2 , a clutch I on the shaft E¹, a take-up C to which are secured the warp wires leading from the drum G and turning with rotation of the feed drum to wind upon it the finished fencing, rotatory coilers K supported near the front end of the machine, a rack B engaged and reciprocated by rotation of the coilers, and mechanism extending into the path of the rack and connected with the feed device and actuated by the rack to move the said feed device, substantially as described. 7th. In a machine for use in the manufacture of wire fence, comprising sinuous wires crossed by other wires and secured together where they cross, the combination, with a frame A, of a tension device L loosely supported in its bearings, a feed drum G on which the warp wires M are guided on the tension device are passed and clamped, and which is normally held against movement, a segmental rack G¹ pivotally supported near and adapted to engage with the drum G, a rotary shaft E¹ carrying a pinion E², and a belt pulley E³ geared to a driving shaft o^2 , a clutch I on the shaft E¹, a spring brake m^1 normally engaging with a stop m and controlled for its release through a rod L, a take-up C to which are secured the warp wires leading from the drum G and turning with rotation of the feed drum to wind upon it the finished fencing, rotatory coilers K supported near the front end of the machine, a rack B engaged and reciprocated by rotation of the coilers, and a rotatory clutch actuating rod k^2 having swiveled to one end a clutch fork and carrying a pinion k^3 in the path of the rack n^2 and extending into the path of the rack B, substantially as described. 8th. In a machine for use in the manufacture of wire fence, comprising sinuous wires crossed by other wires and secured together where they cross, the combination, with a frame A, of a tension device L loosely supported in its bearings, a feed drum G on which the warp wires M are guided on the tension device are passed and clamped, a segmental rack G¹ pivotally supported near and adapted to engage with the drum G, a rotary shaft E¹ carrying a pinion E², and a belt pulley E³ geared to a driving shaft o^2 , a clutch I on the shaft E¹, a spring brake m^1 normally engaging with a stop m and controlled for its release through a rod L, a take-up C to which are secured the warp wires leading from the drum G, a segmental rack D pivotally supported near and engaging with the take-up drum C, and operating to turn the latter with rotation of the feed drum to wind upon it the finished fencing, rotatory coilers K supported near the front end of the machine, a rack B engaged and reciprocated by rotation of the coilers, a rotatory clutch actuating rod k^2 having swiveled to one end a clutch fork and extending into the path of the rack B at one side of the machine, a rotatory shaft E supported above the take-up and carrying a pinion D² in the path of the rack D, and loosely at one end a cog-wheel F geared to a similar wheel on the shaft E¹, and a clutch F¹ on the shaft E near the wheel F, and controlled in one direction by the rack B through mechanism extending into the path of the said rack at the opposite side of the machine and in the contrary direction from the rack D, substantially as described. 9th. In a machine for use in the manufacture of wire fence, comprising wires crossing each other and secured together where they cross, the combination, with a frame A, of a feed device G to which the warp wires are guided from the wire supply, and upon which they are passed to the take-up tension forks O rigidly secured to the frame in the paths of the warp wires to the said feed device, which is normally held against movement, and a take-up C to which are secured the warp wires leading from the device G and turning with the movement of the feed device to wind upon it the finished fencing, substantially as described. 10th. In a machine for use in the manufacture of wire fence, comprising wires crossing each other and secured together where they cross, the combination, with a frame A, of a feed device G to which the warp wires are guided from the wire supply, and upon which they are passed to the take-up tension forks O rigidly secured to the frame in the paths of the warp wires to the said feed device, which is normally held against movement, and a take-up C to which are secured the warp wires leading from the device G and turning with the movement of the feed device to wind upon it the finished fencing, substantially as described. 11th. In a machine for use in the manufacture of wire fence, comprising wires crossing each other and secured together where they cross, the combination, with a frame A, of a feed device G to which the warp wires are guided from the wire supply, and upon which they are passed to the take-up tension forks O rigidly secured to the frame in the paths of the warp wires to the said feed device, which is normally held against movement, and a take-up C to which are secured the warp wires leading from the device G and turning with the movement of the feed device to wind upon it the finished fencing, substantially as described. 12th. In a machine for use in the manufacture of wire fence, comprising wires crossing each other and secured together where they cross, for winding and stringing a web of wire upon the warp wires, a longitudinally slotted needle S adapted to hold the web of wire and supported to rotate in its bearing, substantially as

finished fencing, and rotatory coilers K supported near the front end of the machine, substantially as described. 5th. In a machine for use in the manufacture of wire fence, comprising wires crossing each other and secured together where they cross, the combination, with a frame A, of a feed device G to which the warp wires are guided from the wire supply and upon which they are clamped and passed to the take-up, the feed device being normally held against movement, and a take-up drum C to which the warp wires leading from the device G are secured and turning with the movement of the feed device to wind upon it the finished fencing, and comprising heads q and q^1 having sockets q^2 on their opposite surfaces supporting the opposite ends of bars q^4 , and one of said heads having a threaded journal and bearing, whereby it may be adjusted with relation to the opposite head, substantially as described. 6th. In a machine for use in the manufacture of wire fence, comprising wires crossing each other and secured together where they cross, the combination, with a frame A, of a feed device G to which the warp wires are guided from the wire supply, and upon which they are clamped and passed to the take up, and a rotatory take-up C eccentrically weighted, having secured to it the warp wires leading from the feed device and actuated with movement of the feed device by the gravity of the eccentric weight to turn the take-up and wind upon it the finished fencing, substantially as described. 7th. In a machine for use in the manufacture of wire fence comprising sinuous wires crossed by other wires and secured together where they cross, the combination, with a frame A, of a tension device L loosely supported in its bearings, a feed device G on which the warp wires M are guided on the tension device are passed and clamped, and which is normally held against movement, a take-up C to which are secured the warp wires leading from the device G and turning with the movement of the feed device to wind upon it the finished fencing, rotatory coilers K supported near the front end of the machine, a rack B engaged and reciprocated by rotation of the coilers, and mechanism extending into the path of the rack and connected with the feed device and actuated by the rack to move the said feed device, substantially as described. 8th. In a machine for use in the manufacture of wire fence, comprising sinuous wires crossed by other wires and secured together where they cross, the combination, with a frame A, of a tension device L loosely supported in its bearings, a feed drum G on which the warp wires M are guided on the tension device are passed and clamped, and which is normally held against movement, a segmental rack G¹ pivotally supported near and adapted to engage with the drum G, a rotary shaft E¹ carrying a pinion E², and a belt pulley E³ geared to a driving shaft o^2 , a clutch I on the shaft E¹, a take-up C to which are secured the warp wires leading from the drum G and turning with rotation of the feed drum to wind upon it the finished fencing, rotatory coilers K supported near the front end of the machine, a rack B engaged and reciprocated by rotation of the coilers, and a clutch actuating rod k^2 extending from the clutch I into the path of the rack, substantially as and for the purpose set forth. 9th. In a machine for use in the manufacture of wire fence, comprising sinuous wires crossed by other wires and secured together where they cross, the combination, with a frame A, of a tension device L loosely supported in its bearings, a feed drum G on which the warp wires M are guided on the tension device are passed and clamped, a segmental rack G¹ pivotally supported near and adapted to engage with the drum G, a rotary shaft E¹ carrying a pinion E², and a belt pulley E³ geared to a driving shaft o^2 , a clutch I on the shaft E¹, a spring brake m^1 normally engaging with a stop m and controlled for its release through a rod L, a take-up C to which are secured the warp wires leading from the drum G and turning with rotation of the feed drum to wind upon it the finished fencing, rotatory coilers K supported near the front end of the machine, a rack B engaged and reciprocated by rotation of the coilers, and a rotatory clutch actuating rod k^2 having swiveled to one end a clutch fork and carrying a pinion k^3 in the path of the rack n^2 and extending into the path of the rack B, substantially as described. 10th. In a machine for use in the manufacture of wire fence, comprising sinuous wires crossed by other wires and secured together where they cross, the combination, with a frame A, of a tension device L loosely supported in its bearings, a feed drum G on which the warp wires M are guided on the tension device are passed and clamped, a segmental rack G¹ pivotally supported near and adapted to engage with the drum G, a rotary shaft E¹ carrying a pinion E², and a belt pulley E³ geared to a driving shaft o^2 , a clutch I on the shaft E¹, a spring brake m^1 normally engaging with a stop m and controlled for its release through a rod L, a take-up C to which are secured the warp wires leading from the drum G, a segmental rack D pivotally supported near and engaging with the take-up drum C, and operating to turn the latter with rotation of the feed drum to wind upon it the finished fencing, rotatory coilers K supported near the front end of the machine, a rack B engaged and reciprocated by rotation of the coilers, a rotatory clutch actuating rod k^2 having swiveled to one end a clutch fork and extending into the path of the rack B at one side of the machine, a rotatory shaft E supported above the take-up and carrying a pinion D² in the path of the rack D, and loosely at one end a cog-wheel F geared to a similar wheel on the shaft E¹, and a clutch F¹ on the shaft E near the wheel F, and controlled in one direction by the rack B through mechanism extending into the path of the said rack at the opposite side of the machine and in the contrary direction from the rack D, substantially as described. 11th. In a machine for use in the manufacture of wire fence, comprising wires crossing each other and secured together where they cross, the combination, with a frame A, of a feed device G to which the warp wires are guided from the wire supply, and upon which they are passed to the take-up tension forks O rigidly secured to the frame in the paths of the warp wires to the said feed device, which is normally held against movement, and a take-up C to which are secured the warp wires leading from the device G and turning with the movement of the feed device to wind upon it the finished fencing, substantially as described. 12th. In a machine for use in the manufacture of wire fence, comprising wires crossing each other and secured together where they cross, for winding and stringing a web of wire upon the warp wires, a longitudinally slotted needle S adapted to hold the web of wire and supported to rotate in its bearing, substantially as

and for the purpose set forth. 13th. In a device for use in the manufacture of wire fence, comprising wires crossing each other and secured together where they cross, for winding and stringing a wool wire upon the warp wires, a longitudinally slotted needle S having adjustably secured to it a bar 20 provided with eyes 28 through which to thread the needle with the wool wire, the said needle being supported to rotate in its bearing, substantially as and for the purpose set forth. 14th. In a device for use in the manufacture of wire fence, comprising wires crossing each other and secured together where they cross, for winding and stringing a wool wire upon the warp wires, a longitudinally slotted needle S adapted to hold the wool wire and supported to be rotated on its own axis and be reciprocated longitudinally in its bearing, substantially as and for the purpose set forth. 15th. In a device for use in the manufacture of wire fence, comprising wires crossing each other and secured together where they cross, for winding and stringing a wool wire upon the warp wires, the combination of a rotary shaft R' supported in suitable bearings, and carrying a beveled cog-wheel U having a cam U² on one side, a longitudinally slotted needle S supported to be rotated and reciprocated in its bearing which is pivotally supported from the shaft R' and provided with a pinion S¹, a pinion S² supported on one end of a rotary shaft F² to mesh with the pinion S¹, a beveled pinion U¹ at the opposite end of the shaft F² in mesh with the wheel U, and a reciprocating rod F³ supported to engage at one end with the needle and at its opposite end with the cam, substantially as and for the purpose set forth. 16th. In a device for use in the manufacture of wire fence, comprising wires crossing each other and secured together where they cross, for winding and stringing a wool wire upon the warp wires, the combination of a rotary shaft R' supported in suitable bearings, and carrying a beveled cog-wheel U having a cam U² on one side, a longitudinally slotted needle S supported to be rotated and reciprocated in its bearing, which is pivotally supported from the shaft R' and provided with a circumferentially grooved pinion S¹, a pinion S² having an enlarged cog S³ and supported on one end of a rotary shaft F² to mesh with the pinion S¹, a beveled pinion U¹ at the opposite end of the shaft F² in mesh with the wheel U, and a reciprocating rod F³ supported to engage at one end with the groove in the pinion S¹, and at its opposite end with the cam, substantially as and for the purpose set forth. 17th. In a machine for the manufacture of wire fence, comprising wires crossed by other wires and secured together where they cross, the combination, with a frame A on which are strung the warp wires M, of wool wire winding and stringing mechanism comprising an endless traveling belt R² supported to extend across the frame and reversible as to direction of its motion, and a device R comprising a rotary shaft R' journaled in the frame A and having hinged to it a lower jaw T, an upper jaw T' supported at one end on the shaft R', and at its opposite end on a track c² near the front end of the machine, a finder pin c¹ on the upper jaw, a recessed track Z, and a movable spring-controlled recessed track Z' behind the track c², a longitudinally slotted needle S on the lower jaw and adapted to rotate in its bearing and actuated from the shaft R', a yoke W¹ extending from the lower over the upper jaw, an eccentric V on the said shaft to engage with the hinged jaw T, through a lifting bar W pivoted to the jaw T, and actuated alternately with the needle actuating mechanism to raise the said lower jaw and clamp between it and the upper jaw the belt R², and a spring catch c³ on the jaw T' to engage the track Z', the whole being constructed and arranged to operate substantially as and for the purpose set forth. 18th. In a machine for the manufacture of wire fence, comprising wires crossed by other wires and secured together where they cross, the combination, with a frame A on which are strung the warp wires M, of wool wire winding and stringing mechanism comprising an endless traveling belt R² supported to extend across the frame and reversible as to direction of its motion, and a device R comprising a rotary shaft R' journaled in the frame A, and carrying to rotate with it an arm V provided near its opposite ends with rollers c¹, an eccentric V¹ loosely supported on the shaft at one side of the said arm, and a beveled cog-wheel U having a cam U² on one side and similarly supported on the shaft at the opposite side of the said arm, spring dogs d and d' pivoted respectively to the inner sides of the said cog-wheel, and eccentric stops b and b' normally extending respectively into the paths of the dogs d and d', a lower jaw T hinged to the shaft R' and an upper jaw T' supported at one end on the said shaft, and at its opposite end on a track c² near the front end of the machine, a finder pin c¹ on the upper jaw, a stationary recessed track Z, and a movable spring controlled recessed track Z' behind the track c², a catch c³ on the jaw T' to engage the track Z', a longitudinally slotted needle S on the lower jaw and adapted to rotate and reciprocate in its bearings and rotated from the cog-wheel U, a reciprocating rod F³ engaging from one end with the needle and from its opposite end with the cam U², a yoke W¹ extending from the lower over the upper jaw, a lifting bar W pivotedly supported at one end on the upper jaw, and extending at its opposite end into the path of the eccentric V¹, a pivotal hooked bar a extending from the lower jaw across the hooked end of the stop b, and means, substantially as described, for raising the stop b' out of the path of the spring dog d', the whole being constructed and arranged to operate substantially as and for

the purpose set forth. 20th. In a machine for manufacturing wire fence, comprising wires crossing each other and secured together where they cross, the combination, with a frame A, of a feed device G to which the warp wires are guided from the wire supply and upon which they are passed to the take-up, the feed device being normally held against movement, a take-up C to which are secured the warp wires leading from the device G and turning with the movement of the feed device to wind upon it the finished fencing, and wool wire winding and stringing mechanism comprising an endless traveling belt R² supported to extend across the frame A, means for controlling the movement of the belt and for reversing the direction of its movement controllable from opposite sides of the machine, and a device R comprising a rotary shaft R' journaled in the frame and having hinged to it a lower jaw T, an upper jaw T' supported at one end on the shaft R', and at its opposite end on a track c² near the front end of the machine, a finder pin c¹ on the upper jaw, a recessed track Z and a slotted needle S on the lower jaw and adapted to rotate in its bearing and actuated from the shaft R', means, substantially as described, for controlling the movement of the belt and for reversing the direction of its movement controllable from opposite sides of the machine, and a device R comprising a rotary shaft R' journaled in the frame and having hinged to it a lower jaw T, an upper jaw T' supported at one end on the shaft R', and at its opposite end on a track c² near the front end of the machine, a finder pin c¹ on the upper jaw, a recessed track Z and a movable spring controlled recessed track Z', a longitudinally slotted needle S on the lower jaw and adapted to rotate and reciprocate in its bearing and actuated from the shaft R', means, substantially as described, actuated from the said rotary shaft alternately with the needle actuating mechanism for raising the lower jaw and thereby clamping the belt R², and a catch c³ on the jaw T' to engage the track Z', the whole being constructed and arranged to operate substantially as and for the purpose set forth. 21st. In a machine for manufacturing wire fence, comprising sinuous wires crossed by other wires and secured together where they cross, the combination, with a frame A, of a tension device L loosely supported in bearings, with a frame A, of a tension device L loosely supported in bearings, with a feed device G on which the warp wires M guided on the tension device are passed and which is normally held against movement, a take-up C to which the warp wires leading from the device G are secured, and turning with the movement of the feed device to wind upon it the finished fencing, rotary coilers K supported near the front end of the machine, and wool wire winding and stringing mechanism comprising an endless traveling belt R² supported to extend across the frame A, means for controlling the movement of the belt and for reversing the direction of its movement controllable from opposite sides of the machine, and a device R comprising a rotary shaft R' journaled in the frame and having hinged to it a lower jaw T, an upper jaw T' supported at one end on the shaft R', and at its opposite end on a track c² near the front end of the machine, a finder pin c¹ on the upper jaw, a recessed track Z and a movable spring controlled recessed track Z', a longitudinally slotted needle S on the lower jaw and adapted to rotate and reciprocate in its bearing and actuated from the shaft R', means, substantially as described, actuated from the said rotary shaft alternately with the needle actuating mechanism for raising the lower jaw and thereby clamping the belt R², and a catch c³ on the jaw T' to engage the track Z', the whole being constructed and arranged to operate substantially as and for the purpose set forth.

No. 33,676. Crayon Rack for Black Boards.

(*Porte-crayon pour les tableaux noirs.*)

John S. Erwin, Kirksville, Mo., U.S., 11th February, 1890; 5 years.

Claim.—1st. A blackboard eraser support of substantially U-shape and having its front and rear walls provided with interior supporting projections below the top edge of the support, in combination with a removable screen frame resting on the projections, so that it may be removed without changing any of the parts, substantially as specified. 2nd. A blackboard eraser support formed of metal and of U-shape, and having its rear and front walls provided with inwardly turned corrugations forming supporting projections, in combination with a removable screen frame resting on the corrugations, substantially as specified. 3rd. A blackboard eraser support formed of sheet metal and being of U-shape in cross section, and having its front and rear walls bent to form longitudinal corrugations or beads, and a removable screen frame formed of woven wire, and opposite metal bindings adapted for resting on the beads, substantially as specified. 4th. The combination, with the screen, of a brush removably attached thereto, substantially as specified. 5th. In a crayon shelf for blackboards, a series of inverted brushes arranged thereon, and the removable screen to which the brushes are removably attached, said screen being supported within the shelf, substantially as specified. 6th. The screen 8 in combination with the brush 16, and clip or fastener 17 secured to the brush and passing around the screen, substantially as specified. 7th. In combination with a blackboard eraser support the screen supported thereon and the inverted brushes connected to and carried by the screen, as set forth.

No. 33,677. Burglar Alarm. (*Délateur de voleur.*)

Elmira Carter, Clio, Texas U.S., 11th February, 1890; 5 years.

Claim.—1st. The combination, with a suitable casing, of a shaft having a winding-drum, a rope connected to said drum and passing over a pulley, a weight attached to said rope, a crank at the outer end of the main shaft, a ratchet wheel at the inner end of said shaft, a pitman connected to said ratchet wheel and pivoted at its free end to a vibrating arm pivotally attached to the casing, a rope connecting the outer end of said arm with a bell hung in the top of the casing, and a latch adapted to engage the ratchet wheel, substantially as set forth. 2nd. The combination of the casing, the shaft having the winding-drum, a rope connected to the latter passing over a pulley and having a weight attached thereto, a ratchet wheel at one end of the shaft, a pitman connecting said ratchet wheel with the alarm-sounding mechanism, a spring latch engaging the ratchet wheel and having a cam-lever pivoted in a notch at its front end, the lamp having a scratch-plate attached to its burner, and the lamp chimney having a vertical slot in its lower end, substantially as set forth. 3rd. The combination of the casing, the main shaft having a ratchet wheel at its inner end, a pitman connecting said ratchet wheel with a vibrating arm, a cord connecting the latter with a suitably arranged bell, a weight adapted to be raised by means of the main shaft and to rotate the latter by its descent, a spring latch arranged to engage the ratchet wheel, a match holding device at the

front end of said latch, a lamp arranged in proximity thereto and having a scratch plate attached to its burner, and a prop adapted to support the outer end of the latch and connected by means of a suitably arranged cord with the entrance to be guarded, substantially as and for the purpose herein set forth.

No. 33,678. Ditching and Excavating Machine. (*Machine à fossoyer et déblayer.*)

Henry Carter, Albion, N.Y., U.S., 11th February, 1890; 5 years.

Claim.—1st. In a ditcher, the combination, with an elevating wheel provided with a series of buckets journaled thereon, of a brake consisting of a spring rod provided with a brake shoe at each end capable of contact with the pintles or shafts of two opposed buckets, substantially as shown and described. 2nd. In a ditcher, the combination, with an elevating wheel provided with a series of bearings upon its inner periphery extending partially from side to side, and buckets provided with a pintle or shaft journaled in said bearings, of a sleeve secured to each bucket pintle and a brake consisting of a spring rod and a brake shoe secured at each end of said rod, capable of contact with the sleeves of opposed bucket pintles, substantially as shown and described. 3rd. In a ditcher, the combination, with an elevating wheel provided with a series of bearings upon its inner face extending partially from side to side, and buckets provided with a pintle or shaft journaled in said bearings, of a sleeve secured upon one end of each bucket pintle, and a brake consisting of a curved spring bar threaded at one end, a brake shoe attached to each end of said rod capable of contact with the sleeves of opposed bucket pintles, and a lock nut screwed upon one end of the rod, substantially as shown and described and for the purpose specified. 4th. In a ditcher, the combination, with an elevating wheel and a series of buckets journaled thereon, comprising a body having a blade extending at one end at a right angle outward, and an arm or wing vertically projected from the opposite end of the horizontal stop lug, of a brake consisting of a spring bar, a brake shoe at each end of the bar, and means, substantially as described, for forcing the brake shoes apart as and for the purpose specified. 5th. In a ditching machine, the combination, with the elevating wheel, of a series of buckets journaled thereon, comprising a body, a blade extending at a right angle from one end of the same in contact with the wheel periphery, a vertical arm projected upward from the opposite end of the body provided with a curved outer edge, a stop lug extending from the top of the arm, and a pintle attached to the body near one end, substantially as shown and described. 6th. In a ditcher, the combination, with a frame, an elevating wheel journaled in the frame, and a series of angled buckets journaled upon the elevating wheel, the vertical member whereof is provided with a rear curved edge, and a stop lug integral with its top, of a delivery spout hinged to the frame, a trip pin secured to the frame, and a friction roller above said pin, both adapted for contact with scribed, whereby the load is delivered from the buckets to the chute when the former is near the latter, as set forth. 7th. In a ditcher, the combination, with a frame, an elevating wheel journaled in the wheel, the vertical member whereof is provided with a rear curved edge and a stop lug, and a spring brake contacting with two opposed bucket pintles, of a trip pin secured to the frame, and a friction roller above said pin, both adapted for contact with the curved member of the bucket, and a delivery chute hinged to the frame above the stop pin and roller, substantially as shown and described. 8th. In a ditching machine, the combination, with the frame, of a delivery chute hinged thereto, whereby the said chute will accommodate a series of various depths, substantially as specified. 9th. In a ditching machine, the combination, with the frame, an elevating wheel journaled in the frame, and buckets pivoted in the wheel, substantially as described, for tripping the buckets, as and for the purpose specified. 10th. The combination, with the elevating wheel of a series of angled buckets pivoted thereon, of a spring bar connecting said shoes, substantially as shown and described. 11th. In a ditcher, the combination, with a frame, an elevating wheel journaled therein, and buckets journaled upon said wheel, of a trip pin and friction roller adapted to engage with the buckets, in an extended sleeve projected from the frame, substantially as shown and described. 12th. In a ditcher, the combination, with the frame, of a long sleeve horizontally secured to the frame, a spindle journaled in said sleeve, and a friction trip pulley secured to said spindle, substantially as shown and described and for the purpose specified. 13th. In a ditcher, the combination, with a frame, an elevating wheel journaled in the frame, and a series of angled buckets journaled upon the said elevating wheel, of a trip pin and a friction roller secured to the frame adapted for contact with the outer edge of the vertical member of the buckets to dump the latter and a horizontal roller journaled in the frame adapted for contact with the inner edge of the vertical member of the buckets to restore the same to their normal position, substantially as set forth. 14th. In a ditcher, the combination, with an elevating wheel and a series of buckets journaled thereon, of a throat formed at the rear of the wheel provided with a yielding back, substantially as shown and described. 15th. In a ditcher, the combination, with a frame, an elevating wheel journaled in said frame and buckets journaled upon the wheel, of a throat constituting a portion of the frame at the rear sides, substantially as shown and described. 16th. In a ditcher, the combination, with a frame, an elevating wheel journaled in said frame, buckets journaled on said wheel, and a series of plow standards pivoted to the rear of the wheel having a spring back, said standards capable of telescoping upon the spring back of the wheel, substantially as shown and described. 17th. In a ditcher, the combination, with a frame, an elevating wheel journaled in said frame, angled buckets journaled in said wheel, means, substantially

as shown and described, for tripping and re-adjusting the buckets, and a throat formed at the rear of the elevating wheel having a spring back, of plow standards pivoted to the frame, a shoe grooved to receive said standards capable of telescoping upon the spring back of the throat, a two piece plow share attached to the shoe, and means, substantially as shown and described, for raising and lowering the said plow shoe, as and for the purpose specified. 18th. The combination, with the frame of a ditching machine, of two opposed standards secured to said frame, one standard being provided with an integral sleeve bearing capable of journaling a shaft, and an aperture in said sleeve capable of journaling a shaft at a right angle to the standard, the opposed standard being provided with apertures capable of journaling both said shafts, substantially as shown and described. 19th. A standard adapted to journal a shaft and having a sleeve integral with one face thereof, provided with an aperture capable of receiving a shaft at a right angle to the standard, substantially as shown and described. 20th. In a ditcher, the combination, with the frame and a bail secured transversely of the frame, of a tongue pivoted in the frame beneath the bail, a bail secured to the tongue beneath the frame bail, and a set screw passed through the frame bail to a contact with the tongue bail, substantially as shown and described, whereby the tongue may be raised or lowered, as set forth. 21st. In a ditcher, the combination, with the frame and a tongue pivoted in the same, of a clevis held to slide upon the tongue, and a whiffletree attached to the said clevis, substantially as shown and described. 22nd. In a ditcher, the combination, with a frame, plow standards pivoted to the central arch of the frame, and a tongue pivoted in the forward end of the frame, of a clevis having curved sides held to slide upon the tongue, a whiffletree attached to the clevis an evener attached to the whiffletree, and chains connecting the evener and plow standards, substantially as specified. 23rd. In a ditcher, the combination, with a frame having a central yoke, and a U shaped clevis fulcrumed upon said yoke, of a grooved U shaped carriage provided with friction rollers adapted for contact with the said clevis, axles projected from said yoke, and drive or guide wheels held to revolve upon the axles, substantially as shown and described, whereby the machine is guided by the carriage and drive wheels upon the ground, the elevating wheel of the machine permitted to sink to any desired depth, and the frame of the machine is given vertical movement when desired, as set forth.

No. 33,679. Shoe Pack. (*Oreille de soulier.*)

John Langmaid, Baysville, Ont., 12th February, 1890; 5 years.

Claim.—1st. A shoe pack comprising a seamless bottom or foot A, a crimped front and leg section B in one piece and seamed to the edge of the bottom A, and the back section C seamed to the leg section B at the sides, and to the bottom A, and soled and heeled or otherwise, and provided with an instep strap E, as set forth. 2nd. A shoe pack consisting of the seamless bottom A, crimped front section B and back section C seamed together, as set forth.

No. 33,680. Hinge. (*Penture.*)

Charles W. Dunbar, Toronto, Ont., 12th February, 1890 5 years.

Claim.—1st. The combination, with two parts to be hinged together, of a curved lip attached to one part and designed to fit into a curved recess made in the other part, substantially as and for the purpose specified. 2nd. The combination, with two parts to be hinged together, of a curved lip fixed to one part and designed to fit into a curved recess formed in the other part, means for preventing the withdrawal of the curved lip being provided, substantially as and for the purpose specified.

No. 33,681. Churn. (*Baratte.*)

Samuel D. Palmer, Rockford, Ill., U.S., 12th February, 1890; 5 years.

Claim.—1st. The combination of a churn ears 2, bails 4, head 6 and a fastening to the bails. 2nd. The combination of a churn ring 1, ears 2, bails 4, head 6 and a fastening to the bails. 3rd. The combination of a churn ring 1, ears 2, bails 4, head 6 and a cam fastening to the bails.

No. 33,682. Seed Drill. (*Semoir en ligne.*)

Robert Gatenby, Sr., Crystal, N. D., U.S., 12th February, 1890; 5 years.

Claim.—1st. The improved grain-drill herein described, consisting essentially of the main frame composed of parallel transverse and lateral beams, the hopper arranged transversely on the rear of said frame, the shaft C journaled in the lateral beams and having the clutch KM on one end thereof, the rollers D being solid as distinguishable from hollow rollers and having V-shaped peripheries, the clearing plate R secured beneath the hopper and the entire length thereof, and having its forward edge notched so as to match the combined surface of the rollers to clean same, the seed tubes leading from the base of the hopper through apertures in the clearing plate, and the covering rollers arranged one in rear of each seed tube and in a line with the teeth of the clearing plate, and the covering rollers arranged one in rear of each seed tube and in a line with the teeth of the clearing plate and notches of the rollers, substantially as specified. 2nd. The combination, in a grain drill, of a main frame A, a shaft journaled therein and having both fast and loose drill rollers on it, a hopper mounted upon transverse bars of the main frame, the perforated floor R² secured to said bars and receiving the drill tubes and the serrated clearing front extension R of said floor formed integral with it, as specified.

No. 33,683. Gas Stove. (*Cuisinière à gaz.*)

James H. Carrington, New York, N.Y., U.S., 12th February, 1890; 5 years.

Claim.—1st. As a new article of manufacture, a gas stove consisting of a base, a hollow body portion mounted on the base and hav-

ing small interstices or perforations extending substantially to its lower end, and a burner within the body portion and near the lower end thereof, substantially as set forth. 2nd. As a new article of manufacture, a gas stove consisting of a base, a burner, a hollow body portion enclosing the burner mounted on the base and having small interstices or perforations extending below the normal level of the flame of the burner, substantially as set forth. 3rd. As a new article of manufacture, a gas stove consisting of a base, a hollow body mounted on the base and having small perforations or interstices extending substantially to its upper and lower ends, a burner within the body portion near the lower end thereof, and a cap closing the upper end of the body, substantially as set forth. 4th. As a new article of manufacture, a gas stove consisting of a hollow body closely perforated or intersticed throughout its length, a supporting base, a perforated or intersticed bottom for the body, a burner within the body adjacent to the upper side of said bottom and a cap closing the upper end of the body, substantially as set forth. 5th. As a new article of manufacture, a gas stove consisting of a base, a hollow body portion mounted on the base and having small perforations or interstices extending substantially to its lower end, a burner within the body portion near the lower end thereof, and a transverse deflector within the body above the burner, substantially as set forth. 6th. In a gas stove, the combination, with a foraminated or woven wire casing and a subjacent burner, of an illuminating shell placed above the burner within the circumference of the casing, substantially as shown and described. 7th. A gas stove having above the burner an illuminating shell surrounded by an outer casing of foraminated sheet metal or woven wire, substantially as shown and described. 8th. In a gas stove, the combination, with a foraminated or woven wire casing and a subjacent burner, of a cone-shaped or converging shell having its larger end at the bottom and resting upon its outer casing at or near at its middle, substantially as shown and described.

No. 33,684. Horse Blanket Fastening.

(*Courroie de couverture de cheval.*)

Irwing W. Bates, Barre, Vt., U.S., 12th February, 1890; 5 years.

Claim.—1st. In combination with a hook having guards extending laterally therefrom, an eye having a forward extension, said guards and extension operating together to prevent the accidental separation of said hook and eye, substantially as set forth. 2nd. Hook A with guards *a*, and projections *e*, *e*, in combination with eye B and extension *b*, *b*, when arranged as shown and described.

No. 33,685. Mechanism for Operating Railroad Signals, Switches, etc.

(*Mécanisme pour actionner les signaux, aiguilles, etc., de chemin de fer.*)

Gustavus N. Reiff, Easton, Penn., U.S., 12th February, 1890; 5 years.

Claim.—1st. In apparatus for operating railway signals, switches and the like, the combination, with two or more independently movable pivoted arms adapted to be connected to the parts which are to be successively operated, of a longitudinally movable operating bar which, during its movement in either directions, engages and moves each arm in succession, quitting the one arm by the time it engages the other, and locking devices actuated by the operating bar to lock each arm in position whenever and so long as said arm is disengaged from said bar, whereby the part to be first operated is fully set before the succeeding part begins to move, and each part except the one which is being operated is locked immovably in position, substantially as and for the purposes hereinbefore set forth. 2nd. The combination, with the independently pivoted stems or axles and the segment gears, and lock blocks fixed to the same, of the operating bar provided with a rack to successively engage said segment gears and locking faces with an intermediate recess or slot carried by said operating bar and adapted to operate in connection with the lock blocks, substantially as and for the purposes hereinbefore set forth.

No. 33,686. Perforated Pie Plate.

(*Tourtière perforée.*)

W. James McNiece, Montreal, Que., 12th February, 1890; 5 years.

Claim.—1st. The adding of the rim to the bottom of the plate so as to remove the flat surface of the bottom of the plate from the bottom of the oven, substantially as described and set forth. 2nd. The air passages through the rim so as to admit of a current of air passing under the plate and through the perforations in the bottom of the plate to the pie or other article to be baked therein.

No. 33,687. Method of Manufacturing Hollow Rivets whereby they may be produced symmetrically or true in form and of such ductility that the Hollow Point of the Rivet may be spread out without breaking or splitting when being Set in Fabrics, Leather, etc.

(*Mode de fabrication des rivets creux par lequel ils peuvent être faits symétriquement ou justes de forme et de telle ductilité que la pointe creuse du rivet puisse être étendue sans casser ou fendre en le posant dans les tissus, le cuir, etc.*)

Henry H. Cummings, Malden, Mass., U.S., 12th February, 1890; 5 years.

Claim.—The method of forming headed hollow pointed rivets con-

sisting in cutting partially into the periphery of a metal blank to leave a portion thereof to form a head, and thereafter overturning another portion of the said blank to leave a hollow point, substantially as described.

No. 33,688. Door Spring. (*Ressort de porte.*)

Joseph Bussières, Quebec, Que., 12th February, 1890; 5 years.

Résumé.—La combinaison du bras E avec la coulisse A, pour faire mouvoir le ressort G, tel que ci-dessus décrit et pour les fins indiquées.

No. 33,689. Bicycle Support. (*Support de bicyclette.*)

George Mortson, Bridgeport, Conn., U.S., 13th February, 1890; 5 years.

Claim.—1st. The combination, with the wheels of a safety bicycle and the mud guard for the front wheel, of a pivoted rest carried by said mud guard and adapted to swing backward therefrom when in operative position so that, when the wheel is turned in either direction and the bicycle inclined in the opposite direction, three points of support are provided and the machine is retained in the upright position. 2nd. The combination, with front wheels of a safety bicycle and the mud guard therefor having a guide at the lower end, of a rest adapted to swing backward from the mud guard when in operative position and a curved operating rod pivoted to the upper end of the rest and passing through a slot in the guard so that, when the operating rod is lifted, the rest is drawn upward within the guard, and when the operating rod is forced down the rest is forced below the guard and the lower end swung outward, as and for the purpose set forth. 3rd. The combination, with the front wheel of a safety bicycle and the mud guard thereof having a guide at its lower end, of a rest adapted to slide in said guard, the upper end of which is inwardly curved to engage the tire of the wheel and which is pivoted near its upper end to a curved operating rod which passes outward through the guard, as and for the purpose set forth.

No. 33,690. Band Cutter and Self-Feeder.

(*Coupe-lien et alimentateur.*)

Isaac Plett, Hochstadt, Man., U.S., 13th February, 1890; 5 years.

Claim.—1st. The peculiar form and adjustment of the knives 24, 24, with the shaft 23 and handle 23, the blocks 25, 25 and the bearings 24, substantially as and for the purpose above set forth. 2nd. The combination of crank shaft 34 with the rack bars 32, 32, sloping bars 29, 29, head 37, bearings 35, 36, springs 31, 31, with hinges 36, 36 and fastenings 26, 26, and the rails 4, 5, 6, substantially as and for the purpose above set forth. 3rd. The combination of the driving wheel 39 with the shaft 34, the pulley 20, band or chain 21, pulley 20, shaft 19, pulleys 18, 18, shaft 19, rear pulleys 18, 18, endless bands 15, 15, slots 16, 16 and rear shaft 19, substantially as and for the purpose above set forth.

No. 33,691. Nut Lock. (*Arrête-écrou.*)

Charles E. Jenkins, Janesville, Wis., U.S., 13th February, 1890; 5 years.

Claim.—A nut lock consisting of a screw-threaded bolt, a nut having a bore through its side practically perpendicular to the axis of the bolt, and a hardened steel pin of slightly greater diameter than the diameter of the lateral bore driven into said bore until its point penetrates the bolt and left with its head protruding beyond the nut.

No. 33,692. Harrow Disk. (*Disque de herse.*)

John T. Bell, Dayton, Ohio, U.S., 13th February, 1890; 5 years.

Claim.—1st. A harrow disk having a polygonal outline, with cutting edges along the periphery. 2nd. A harrow disk having a polygonal outline with alternating reaches of varying length. 3rd. A harrow disk having a polygonal outline with alternating reaches touching radii of varying length. 4th. A harrow disk of a polygonal outline having straight reaches united at their intersection by curves. 5th. A harrow disk having a polygonal outline with alternating straight and curved reaches, the latter touching longer radii than the straight reaches. 6th. A harrow disk, substantially as described, having peripheral straight reaches perpendicular at their centres to short radii, and united by curved reaches described upon longer radii, both straight and curved reaches having cutting edges.

No. 33,693. Floor Jack. (*Serre-joint.*)

William W. Irwin, Chico, Cal., U.S., 13th February, 1890; 5 years.

Claim.—1st. In a floor jack, the combination, with a tongs like lever, the sections of which spread to form an opening as B, of clamping points carried by the lever sections, a rod or bolt passing through the lever sections, a presser foot loosely mounted on the rod or bolt, and a nail set also mounted on the rod or bolt, substantially as described. 2nd. In a floor jack, the combination, with a tongs like lever, the sections of which spread to form an opening as B, of clamping points carried by the lever sections, a presser foot 14 carried by the lever sections, said presser foot being formed with a flange as *d*, and a nail set mounted between the lever sections, substantially as described. 3rd. In a floor jack, the combination, with a tongs like lever provided with clamping points, of a presser foot connection between the presser foot and the lever sections, a block carried by the presser foot, a spring arranged in connection with the block, and spikes carried by the block, substantially as shown and described.

No. 33,694. Machine for Removing Clay or Earth from Among Beans.*(Machine à enlever la terre du milieu des fèves.)*

Ninian M. New Kirk, Raleigh, Ont., 13th February, 1890; 5 years.

Claim.—The combination of the movable rollers C, C with adjustable bearings operated with a crank or other device, for the purpose substantially as and for the purposes hereinbefore set forth.

No. 33,695. Cultivator. (Cultivateur.)

Robert Wilson, Allen, Penn., U.S., 13th February, 1890; 5 years.

Claim.—The combination, with the beam and the oppositely-pivoted bell-crank standard 2, of a pair of links 8*, pivotally connected to the rear end of the standard, a pair of bell-cranks 10 pivoted to the beam and having their lower ends pivotally connected to the upper end of the links, a pair of horizontal links 13 pivoted at their rear ends to the upper ends of the bell-cranks and embracing the beam, and a pair of bell cranks 13* pivoted at their rear ends to the front ends of said links and at their forward ends to the beam, a bolt 16 passed through said bell-crank, a threaded rod 16*, having its rear end pivoted to the bolt, and its opposite end passed through and supported by a perforated bracket 17, a spring 19 mounted on the bolt, a plate 20 mounted on the spring, and an adjusting nut 21 mounted over the rod and bearing upon the plate, substantially as specified.

No. 33,696. Rotary Snow Plough.*(Charrue à neige rotative.)*

The Cyclone Steam Snow Plough Company (assignee of Edward P. Caldwell), Minneapolis, Minn., U.S., 13th February, 1890; 5 years.

Claim.—1st. The combination, with a casing, having an open front, of a shaft extending through said casing, a conical cutter secured upon said shaft and having an open rear end in front of said casing, and a rotating fan located in said casing in the rear of said cutter. 2nd. The combination, in a rotary snow plough, with a casing having an open front, of a conical cutter formed of a series of spirally arranged knives, located in front of said casing, and a revolving fan located in said casing in the rear of said cutter. 3rd. The combination, in a rotary snow plough, with a casing having an open front, of a revolving conical cutter, formed of a series of spirally arranged knives located in front of said casing, and an independently revolving fan located in said casing in the rear of said cutter. 4th. A snow plough, comprising, in combination, a conical cutter, consisting of spirally-arranged knives tapering from the base of the cutter to its apex, and with open spaces between the rear ends of the knives and the base of the cutter, a fan casing located in the rear of said cutter and having an open front, and a revolving fan located in said casing. 5th. A snow plough cutter, consisting of a revolving shaft, having secured thereto a series of spirally arranged knives tapering from the base of the cutter to its apex, with open spaces between the rear ends of the knives at the base of the cutter. 6th. The combination, with the rotating cutter, of the independently rotating fan adapted to be driven in either direction, the double discharge spout extending in opposite directions, and the pivoted cut-off arranged in said spout. 7th. The combination, with a rotating shaft provided with a suitable cutter, of a hollow shaft arranged upon said cutter, a fan upon said hollow shaft and a steam pipe connecting with the combination, with the said cutter shaft and said hollow shaft. 8th. The combination, with the said cutter shaft, of the hollow fan shaft mounted upon said cutter shaft, and the bearing arranged in front of said fan pipe connecting with said cutter shaft, and provided with a steam pipe connecting with the space between said bearing and said cutter shaft. 9th. The combination, with the revolving shaft, provided with a cutter at its forward end, of the hollow shaft arranged upon said cutter shaft, independent shafts located upon opposite sides of said hollow shafts, gear wheels upon said shafts meshing with the gear wheel upon said hollow shaft, and independent means for driving said cutter shaft and said independent shafts, substantially as described.

No. 33,697. Axle or Shaft Lubricator.*(Graisseur d'essieu ou d'arbre de couche.)*

Joseph L. House and Peter B. Christian, Minneapolis, Minn., U.S., 13th February, 1890; 5 years.

Claim.—1st. The combination, with a shaft or axle, of a drilled and plugged oil reservoir in the end of said shaft or axle, one or more transverse countersunk holes communicating between said reservoir and the bearing surface of said shaft or axle, and screw-threads in said transverse holes, whereby the wicks for conveying the oil through said holes may be adjusted and securely held in any desired position, substantially as and for the purpose set forth. 2nd. In combination, a shaft or axle, the drilled and plugged hole D in the end of said shaft or axle, the smaller hole d extending beyond the end of D, the oil hole d₁ drilled in the body of the shaft or axle back of the bearing and communicating with d, the countersunk holes c, the wicks c, c, and screw threads in said holes c, substantially as and for the purpose set forth. 3rd. The combination of a tubular shaft, or axle A, having tapped and countersunk holes c, an internal can or oil reservoir a, having holes to correspond with holes c for the double purpose of holding said oil can in place and conveying the oil from said can to the interior of the hub of the wheel by the capillary action of said wicks, all substantially as and for the purpose specified. 4th. The combination of a tubular shaft or axle A, having countersunk and tapped holes c₁ in the bearing of said shaft or axle, and an oil-hole d₁ back of said bearing, an internal oil can a₁ and d₁ in said shaft or axle, and wicks screwed into said holes c₁ and extending down into said oil can, substantially as and for the purpose specified.

No. 33,698. Water Heater. (Calorifère à eau.)

John H. Wells (assignee of George Wells), Montreal, Que., 13th February, 1890; 5 years.

Claim.—1st. The combination, in a water heater, of the fire-pot or furnace having ports 2, with sections f and g, having openings 3 and 4, with an upper section or top h, having openings 18, the whole substantially as described. 2nd. The combination, in a water heater, of the fire-pot or furnace a, having ports 2, with sections f and sections g, having flanges 8, having openings 15, upper section or top h having openings 18, the whole substantially as described.

No. 33,699. Combined Flour Bin and Sifter.*(Farinière et tamis combinés.)*

John A. McLellan and F. H. Snider, Hico, Texas, U. S., 13th February, 1890; 5 years.

Claim.—1st. A bin, provided with a door or lid, and having sleeves secured to said bin at opposite sides, and screening and sifting mechanism provided with similar sleeves, and two pronged pins for connecting the sifting and screening mechanism to the bin, substantially as specified. 2nd. A bin, having sleeves secured thereto at opposite sides, and removable sifting and screening mechanism provided with similar sleeves, and two pronged pins engaging said sleeves for connecting the sifting and screening mechanism to the bin, the said pins being arranged with their heads in opposite directions, substantially as and for the purpose specified. 3rd. A screen frame, having recessed and curved end walls and quarto-cylindrical doors hinged thereto upon opposite sides thereof, with their adjacent edges overlapping, substantially as specified. 4th. A screen frame, provided with recessed end walls, connected by side walls having sleeves thereon, quarto-cylindrical doors hinged to said frame, and sifting and screening mechanism arranged within the screen, combined with a bin having like sleeves, and removable prongs engaging said sleeves to detachably hold the screen frame to the bin, substantially as specified. 5th. A bin, provided with screening devices, and an inclined rear wall combined with a sliding cut-off above the screening devices in said sloping wall, as and for the purpose specified. 6th. A bin, having a sloping rear wall and a removable screen frame, having recessed and curved end walls, and quarto-cylindrical doors hinged thereto upon opposite sides with their adjacent edges overlapping, and a sliding cut-off above the screen frame, and sifting and screening mechanism arranged within the screen, substantially as specified.

No. 33,700. Process relating to the Extraction of Gold, Silver and Lead from Substances containing the same. (Procédé pour extraire l'or, l'argent et le plomb des substances qui les contiennent.)

Albert B Cunningham, London, Eng., and Charles H. T. Havemann, Paris, France, 14th February, 1890; 5 years.

Claim.—1st. The described process for the reduction and extraction of gold, silver and lead from substances containing the same, consisting in treating such substances with caustic alkali, substantially as set forth. 2nd. In the reduction and extraction of gold and silver from ores or substances containing the same, the mixture therewith of compounds containing lead, and then treating such mixture with caustic alkali, substantially as set forth. 3rd. The described process for the reduction and extraction of gold, silver and lead from substances containing the same, consisting in, first, treating to reduce the pot or vessel in which such substances are placed, next, mixing these substances with caustic alkali in the proportion next, substantially as set forth, and whereby, because of the extreme fusibility of the caustic alkali, an active ebullition quickly follows and the lead, gold or silver fall to the bottom and become solidified into an ingot, and the slag rests therein.

No. 33,701. Machinery or Apparatus for the Manufacture of Boats. (Machinerie ou appareil pour la fabrication des bateaux.)

William Heslop, Leeds, Eng., 14th February, 1890; 5 years.

Claim.—1st. The herein described method of manufacturing seamless metallic boats, consisting in cutting a metal plate to a suitable form, and subjecting the same to one or more operations of heating and to the action or successive actions of preparatory and final pressing dies, such dies being constructed and arranged and heated, as required, before or during operation, substantially as herein described, whereby the required form of boat is produced, with bow and stern, and, in some cases, with keel complete, as desired, all substantially as set forth. 2nd. In seamless metallic boats, the arrangement, construction and application thereto of water-tight or air chambers of the kind hereinbefore described and shown. 3rd. The construction and arrangement of machinery or apparatus for the manufacture of seamless metallic boats, substantially as described and illustrated. 4th. The herein described method of manufacturing transverse water-tight or air chambers, consisting in cutting the metal plate to a suitable form, and subjecting same to one or more operations of heating and to the action of pressing dies, such dies being constructed and arranged and heated, as required, before or during operation, substantially as herein described, whereby the required form of water-tight or air chambers are produced, substantially as set forth. 5th. In the manufacture of seamless metallic boats, I claim the use and application of preparatory and finishing boats, I claim the use and application of preparatory and finishing boats of dies made in sections, whereby complete seamless metallic boats of varying sizes can be produced, such boats being provided with bow or stern and stern, and manufactured from one and the same metallic plate, all substantially as hereinbefore described, with reference to the accompanying drawings.

No. 33,702. Gun. (Fusil.)

Paul Giffard, Paris, France, 14th February, 1890; 5 years.

Claim.—1st. In a gun, a charge reservoir or cartridge for containing liquified gas, and means whereby a part or the whole of said gas can be liberated, so as to dilate and enter the rear of the barrel and thereby drive out the projectile, substantially as set forth. 2nd. In a gun, a removable charge reservoir or cartridge for containing liquified gas and adapted to be fitted to a gun, an outlet to said reservoir and a closing device to said outlet, adapted to be opened by the mechanism of the gun, substantially as and for the purpose set forth. 3rd. In a gun, a charge reservoir or cartridge for containing liquified gas, an outlet to said reservoir, a closing device to said outlet, a passage from said outlet to the rear of the barrel, and means for opening said closing device, whereby, when said device is opened, liquified gas escapes from the reservoir, dilates and passes to the rear of the barrel, so as to drive out the projectile, substantially as set forth. 4th. In a gun, having a removable charge reservoir or cartridge for containing liquified gas and fitted to the gun, the combination, with the tube *f* of said reservoir, closed at the one end *f'*, of a valve *g* at the other end and a stopper *k* having a passage for a striking pin which operates said valve, substantially as set forth. 5th. In a gun having a charge reservoir or cartridge for containing and liberating liquid gas to serve as the power for propelling the projectiles, the combination, with striking pin *j* for liberating said gas, of the hammer *b*, trigger *g*, a spring tending to move said hammer against said striking pin, and a spring for preventing the movement of the hammer until the trigger is pulled, substantially as set forth. 6th. In a gun, having a charge reservoir or cartridge for containing and liberating liquid gas to serve as the power for propelling the projectiles, the combination, with a striking pin *j* for liberating said gas, and with the hammer *b* for operating said striking pin, of the adjustable screw *e* for regulating the movement of the hammer and consequently of the striking pin, substantially as set forth. 7th. In a gun, the combination, with the barrel *a*, the breech piece *b* and the charge reservoir or cartridge *f* for containing liquified gas, of the striking pin *j*, the hammer *b*, the trigger *g*, the spring *a'*, the spring *s*² and the passage *c*, substantially as and for the purpose set forth.

No. 33,703. Razor Cleaning Device.*(Machine à nettoyer les rasoirs.)*

William Otto, Newark, N.J., U.S., 14th February, 1890; 5 years.

Claim.—1st. In a razor cleaner, the combination, with a suitable base of a series of longitudinally disposed yielding rolls or bodies, substantially as specified. 2nd. In a razor cleaner, the combination, with a base, of a series of yielding rolls or bodies arranged in juxtaposition and parallel to each other and cut away at their lower adjacent edges to adapt them for the interposition of the razor blade, substantially as specified. 3rd. In a razor cleaner, the combination, with a base, of opposite side rolls or bodies and a centre roll or body, all of which are formed of soft rubber and each cut away at their adjoining sides to form intermediate recesses for the reception of the razor, substantially as specified. 4th. The combination, with a box formed of rubber, of opposite soft rubber rolls or bodies formed integral with the sides and bottom of the box, and having their inner lower edges cut away and their upper faces convexed, and a central soft integral rubber roll or body impinging against the opposite rolls or bodies and having an upper convexed face and lower cut away sides agreeing with those of the side rolls, substantially as specified.

No. 33,704. Separating Machine.*(Machine à séparer.)*

Noah W. Holt, Manchester, Mich., U.S., 14th February, 1890; 5 years.

Claim.—1st. The combination, with a dust separating chamber, means whereby the air is caused to rotate within said separating chamber, a shaker arranged over the air outlet of said separating chamber, and an exhaust chamber arranged above said shaker, substantially as set forth. 2nd. The combination, with a dust separating chamber, a shaker arranged over the air outlet of said separating chamber, and a fan having its eye connected with said exhaust chamber, and its blast spout connected tangentially with the dust separating chamber substantially as set forth. 3rd. The combination, with a dust separating chamber, a shaker arranged over the air outlet of said separating chamber, an exhaust chamber arranged over said shaker, a fan having its eye connected with said exhaust chamber, and its blast spout connected tangentially with the dust separating chamber, and a shield arranged within said dust separating chamber between the blast spout and the shaker, substantially as set forth. 4th. The combination, with a dust separating chamber, means whereby the air is caused to rotate within said separating chamber, a shaker arranged over the air outlet of said separating chamber, an exhaust chamber arranged over said shaker, and a feeder arranged over the shaker outside of the exhaust chamber, substantially as set forth. 5th. The combination, with a dust separating chamber, means whereby the air is caused to rotate within said separating chamber, a shaker arranged over the air outlet of said separating chamber, and provided with a series of shelves having air passages between them, and an exhaust chamber arranged over said shaker, substantially as set forth. 6th. The combination, with a dust separating chamber, means whereby the air is caused to rotate within said separating chamber, a shaker arranged over the air outlet of said separating chamber, an exhaust chamber arranged over said shaker, and throat plates and valves arranged in the exhaust chamber, substantially as set forth. 7th. The combination, with a dust separating chamber, means whereby the air is caused to rotate within said separating chamber, a shaker arranged over the air outlet of said separating chamber, an exhaust chamber arranged over said shaker, throat plates and valves secured in the exhaust chamber, and extensions of the throat plates secured to the shaker, substantially

as set forth. 8th. The combination, with a dust separating chamber, means whereby the air is caused to rotate in the same, a shaker arranged over the air outlet of said separating chamber and provided with two series of shelves, an exhaust chamber arranged over the shaker, feeders arranged at opposite ends of the shaker, and separate discharge spouts for the specified material, substantially as set forth. 9th. The combination, with the dust separating chamber, means whereby the air is caused to rotate in the same, a provided with two series of shelves, an exhaust chamber arranged over the shaker, feeders arranged at opposite ends of the shaker, two series of throat plates and valves arranged in the exhaust chamber over the two series of shelves, a central discharge spout for the discharge of the material deposited in the exhaust chamber, and separate discharge spouts for the material passing over the two series of shelves, substantially as set forth.

No. 33,705. Wire Nail Machine.*(Machine à clou de fil de fer.)*

John B. Hastings, Jackson, Ohio, U.S., 14th February, 1890; 5 years.

Claim.—1st. A wire nail machine having the combination of the following elements, to wit: Straightening rollers 8, 9, 10, 11, feeding rollers 12 and 13, grippers 23 and 24, pointers 25 and 26, cleaner 33 and the header 83, and the cutting mechanism consisting of the crank 60, cutter stock 61, cutting blade 62 and rod or pitman 69a, all constructed and operating substantially as described and for the purposes set forth. 2nd. In a wire nail machine, a bed plate having standards 2, 2, and the die seat 5 attached rigidly to the said bed plate, and the standards 33 and 4, and sliding block seat 6 cast integrally with said bed plate, as set forth. 3rd. In a wire nail machine, a feeding mechanism consisting of the rollers 12 and 13, to one end one of which rollers is attached a cog-wheel, the roller being provided with a cog wheel 15 gearing with the aforesaid cog wheel, a ratchet wheel 16, a vibrating arm 17 loosely fulcruming upon said roller and carrying at its upper end the ratchet 19, and the annular groove 19 upon the roller, for the purposes set forth. 4th. In a wire nail machine, a die seat 5 having in its upper surface excavations, 31, 31, in which rest and operate the grippers 23 and 24, the pointers 25 and 26, the steel blocks 33 and 40, the levers 28 and 29 and the liner 27, the excavated projection 57 in which is inserted the steel anvil at die 30, standards 49, 49, cast integrally with the bed plate, and the set screws 34, 41, 42 and 48, for taking up the wear of the steel liner, the grippers and the pointer respectively, and the steel blocks 33 and 40, and the steel die 30, as substantially as described and for the purposes set forth. 5th. In a wire nail machine, the grippers 23 and 24, both having the surfaces 33, 33, inclined slightly to a vertical longitudinal plane of the machine, and the lugs 49 and 50 to which are attached the springs 43 and 44 while the gripper 23 is provided with the groove 95, for the purposes set forth. 6th. In a wire nail machine, the pointers 25 and 26 having the inclined surface 33, 33 parallel with the inclined surfaces of the grippers, and the lugs 55 and 56 to which are attached the springs 45 and 56, said springs being secured to lugs 53 and 54 on the plates 32, 32, and operating to keep the pointers within near proximity to the cam pins upon the levers 28 and 29, for the purposes set forth. 7th. In a wire nail machine, the levers 28 and 29 fulcruming in sockets in the steel blocks 33 and 40, having at one end the friction or wearing pins 35 and 36 and the friction or cam pins 37 and 38, and in the other end the cone-shaped wheels, for the purposes set forth. 8th. In a wire nail machine, the combination of the following elements, to wit: The header block 80 sliding in a channel 79, provided for it in the upper surface of the said sliding block seat 6, a steel header 83 in an excavation in the forward part of the said header block, a plate placed over the header and screwed to the header block, set screws 82, 84 and 86, a wedge 85, liner 81, and the cam yoke 72 operated by the cam 87, and having the tongue or projection 74 adapted for playing in a tunnel 88, in the standard 4, and the standard 70 projecting from said tongue, for the purposes set forth. 9th. In a wire nail machine, a cutting or shearing mechanism consisting of a crank 60, the cutter stock 61 with a cutting knife or blade 62, the standard 70 of the tongue 71, and the rod or pitman 69a connecting the said standard with the said crank, all operating as described and for the purposes set forth. 10th. In a wire nail machine, a cutting mechanism having the following means of adjustment, the crank 60 fulcruming upon the shaft 59 (which journals in the standards 58, 58) having the identically-similar arms (bifurcations) between whose upper ends is secured a block 67, which receives a set screw 68, and between which arms also slides a movable block 66, said movable block having the rod or pitman 69 attached thereto, and also receiving the set screw 68, whereby said sliding block may be raised or lowered, for the purposes set forth. 11th. In a wire nail machine, a cleaner 93 fulcruming upon a rod 94, which journals in the standards 58, 58, and whose forward end is adapted for playing in the groove 95 in the gripper 23, and to whose rear end is attached the knuckle joint 96, which is also attached to the cam yoke 72, so that when the cam yoke travels rear-ward, the said knuckle joints will operate to force the rear end of the said cleaner up, thereby causing the forward end to be depressed and thereby forcing out the nail, as set forth.

No. 33,706. Fabric for Belting.*(Tissu pour les courroies.)*

Joshua P. Maddox, Portland, Me., U.S., 14th February, 1890; 5 years.

Claim.—The herein-described fabric for machine belting and for other like purposes, having an inner ply composed of a wire warp and a fibrous weft, and one or more plies of facing material of fibrous material on each side of said inner ply and bound thereto by binders extending from said facing plies to the said inner ply, and back through said facing plies and interlocking with the weft of said inner ply, substantially as shown.

No. 33,707. Holder for Christmas Trees.*(Porte-arbre de Noël.)*

Henry W. Dick, Baltimore, Md., U.S., 14th February, 1890; 5 years.

Claim.—1st. The holder for Christmas trees consisting of a body or socket having clamping devices to hold the tree and a chamber or receptacle to hold water. 2nd. A holder for Christmas trees consisting of a body adapted to receive the tree and to hold a fluid around the base of a tree, clamping devices to hold the tree therein, and means for securing the body to a floor or other support. 3rd. The cup-like holder cast complete in one piece, the tree clamping device at its top, and a fastening device at its base.

No. 33,708. Wire Chain. *(Chaîne de fil de fer.)*

Franklin P. Hinds, Spencer, Mass., U.S., 14th February, 1890; 5 years.

Claim.—A chain composed of interlinked coils of wire having flattened sides *b* and beveled ends *f*, substantially as specified.

No. 33,709. Bottle. *(Bouteille.)*

James Canan, Port Colborne, Ont., 14th February, 1890; 5 years.

Claim.—1st. A tube in combination with a valve fitting the said tube, and connected to a valve designed to close the bottom of the said tube, and an air passage being left between the two valves to permit air to pass the valve fitting against the bottom of the tube, substantially as and for the purpose specified. 2nd. A tube in combination with a valve fitting the said tube, and connected by a spindle having fitted upon it, a sliding weight to a valve designed to close the bottom of the said tube, substantially as and for the purpose specified. 3rd. A tube fitted into the neck of a bottle and having attached to it a skirt to fit over the top and outside of the bottle, in combination with a valve fitting the said tube, and connected by a spindle to a valve designed to close the bottom of the said tube, substantially as and for the purpose specified. 4th. A valve designed to close the end of the tube, and connected by a spindle to a valve designed to fit the tube and connected by a spindle to a valve designed to close the end of the tube, in combination with the said tube having a row of perforations made in it at a point below where the valve fitting it will be when its end is closed by the other valve, substantially as and for the purpose specified. 5th. A valve designed to fit the end of the tube, in combination with the said tube having a row of perforations made in it at a point below where the valve fitting it will be when its end is closed by the other valve, and a shield *G* surrounding the said perforations, substantially as and for the purpose specified. 6th. A valve designed to fit the tube and connected by a spindle to a valve designed to close the end of the tube, in combination with the said tube having a row of perforations made in it closed by the other valve, and a shield *H* loosely fitted upon the tube, substantially as and for the purpose specified. 7th. The hollow spindle *F* connecting the valves *D* and *E* together, in combination with the stopper *d* attached to the cap *K*, substantially as and for the purpose specified.

No. 33,710. Watch Bow Fastener.*(Ajustage des queues de montres.)*

Ezra C. Fitch, Newton, Mass., U.S., 14th February 1890; 5 years.

Claim.—A watch case pendant having orifices in its sides, combined with the smooth surfaced or unthreaded bow securing pins inserted in said orifices, and having heads within the pendant larger than the orifices, the collar *g* inserted within the pendant and provided with recesses or seats *g'* formed to support the heads of the pins and prevent inward movement thereof, and the bow having socketed ends formed to receive the projecting portions of the pins, as set forth.

No. 33,711. Clasp. *(Agrafe.)*

Charles H. Crossette, Hinsdale, Ill., U.S., 14th February, 1890; 5 years.

Claim.—The combination, to form a clasp for buckles, of the slip plate and its button, the socket plate having an opening to permit the passage of the button-head, and a slot leading therefrom to receive the button-shank, and a stop plate normally closing the opening having a slot in continuation of the passage of the button-head, but the button may be run up into the slot in the socket plate, whereby latter depressed or raised to release or admit the head of the button, substantially as described.

No. 33,712. Indicator for Slotting Gear Cutting Machines. *(Indicateur pour encocher les machines à découper les engrenages.)*

Michael Schirk, Plattsmouth, Neb., U.S., 14th February, 1890; 5 years.

Claim.—The combination, with the two adjustable markers and the revolving shaft bearing an index hand or pointer, of an indicator plate having its face divided into a series of circles of different radii, sectors, and the sectors of any one circle graduated with different spacings from the other sectors of the same circle, substantially as shown and described.

No. 33,713. Wire Cleaner for Brick Moulding Machines. *(Nettoyeur des fils de fer pour les machines à mouler les briques.)*

Gustave Kukenthal, Brunswick, Germany, 14th February, 1890; 5 years.

Claim.—A wire cleaning apparatus for the cutting device of brick presses being provided with ductors being guided in a vertical, or nearly vertical, direction by the motion of the cutting frame in such manner that, during the circular motion of the wires and the vertical motion of the ductors, every point of the surface of the wires is brought in contact with the ductors and thereby cleaned, substantially as described.

No. 33,714. Ware Exhibitor.*(Montre à marchandises.)*

David G. MacWaters, Hamilton, Ont., 14th February, 1890; 5 years.

Claim.—1st. The combination, with the support provided with lateral rods, of spring-pressed holding wires upon said rods, as set forth. 2nd. The combination, with the support provided with lateral rods in pairs, of the cross-plates sleeved upon said rods, springs acting on said plates, and holders upon the rods for clamping the articles between them, substantially as described. 3rd. The combination, with the support provided with lateral rods, of the spring-pressed cross-plates on said rods, the holders on the rods between the plates and the support, and a catch on each cross-plate, substantially as and for the purpose specified. 4th. The combination, with the support carried by a swiveled suspension device and provided with lateral rods, of the cross-plates loosely sleeved on the rods, the springs around the rods and acting against the outer face of the plates, and the wires loosely held on the rods between the plates and the support, substantially as shown and described.

No. 33,715. Regenerative Heating Furnace.*(Calorifère régénérateur.)*

Alexander Younger and Wilson B. Chisholm, Cleveland, Ohio, U.S., 14th February, 1890; 5 years.

Claim.—1st. In a regenerative heating furnace, the combination, with a regenerator and a heating chamber, of an enclosed gas pocket provided with independent ports, respectively connecting with said regenerator and heating chamber, whereby a portion of the heated gases issuing from said regenerator is caused to pass through said enclosed gas pocket, substantially as set forth. 2nd. In a regenerative heating furnace, the combination, with a regenerator and a heating chamber, of an enclosed gas pocket located intermediately of the two, and provided with openings located in different walls of said pocket, and respectively connecting with said regenerator and heating chamber, substantially as set forth. 3rd. In a regenerative heating furnace, the combination of a regenerator, a bridge wall projecting into the neck of the furnace, and thereby contracting the same, and an enclosed gas pocket provided with a series of ports respectively connecting with said gas pocket and furnace neck, an opening also connecting said regenerator and neck independently, whereby a portion of the heated gases issuing from the regenerator, passes through the said gas pocket, and another portion passes directly to the bridge wall, substantially as set forth. 4th. In a regenerative heating furnace, the combination, with an enclosed gas pocket, of a primary and secondary regenerator, having flue connection with each other, said secondary regenerator provided with a series of flues opening directly into the neck of the furnace, and also provided with a series of ports opening directly into said gas pocket, said pocket provided with a series of ports opening directly into the neck of the furnace, whereby the body of gases issuing from the regenerator is divided, a part passing directly to the furnace neck, another part passing through the gas pocket and thence to the furnace neck where they mingle with the former portion, substantially as set forth. 5th. In a regenerative heating furnace, the combination of a regenerator, a bridge wall projecting into and contracting the neck of the furnace, and a gas pocket extending transversely of the furnace and provided with ports connecting respectively with said regenerator, and opening toward the said bridge wall, said gas pocket of less width than the body of the furnace, whereby the gases passing through the same are contracted laterally, substantially as set forth.

No. 33,716. Machine for Numbering Paper.*(Machine à numéroter le papier.)*

James L. Morrison, in trust, (assignee of John R. Carter), Toronto, Ont., 14th February, 1890; 5 years.

Claim.—1st. Two sets of stationary platens, having their faces in substantially the same plane and facing in opposite directions, and substantially the same plane and facing in opposite directions, in combination with two sets of intermittently-changing printing types, in combination with mechanism arranged to impart a reciprocating action to the two sets of type, so as to bring each set of type against its respective platen, substantially as and for the purpose hereinbefore described. 2nd. The combination of two sets of intermittently-changing printing types, supported in reciprocating bearings, two sets of stationary platens, having their faces in substantially the same plane and facing in opposite directions, and mechanism arranged to impart a reciprocating motion to the two sets of type against its respective platen, to bring each set of type against its respective platen, substantially as and for the purpose specified. 3rd. The pitman *I*, connected at one end to the pivoted printing head, which derives a rocking movement through the pitman *H*, from the revolving spur-wheel *G*, and at its other end to the coupling link *J*, in combination with the spindles *L* and *M*, and the type-rollers carried thereby, and the bars *K* arranged to connect the spindles *L* and *M* to the coupling-link *J*, substantially as and for the purpose specified. 4th. The coupling link *J* provided with guide-recesses *b*, which fit into their respective slots *c*, made in the frame *N*, and the bars *K* connecting the spindles *L* and *M* to the coupling link *J*, in combination with the spindles *L*, *M*, type rollers

O, P, and the bearing boxes *d*, supporting the spindles L and M and fitting into the vertical slots *e*, arranged substantially as and for the purpose specified. 5th. The combination, with the press-head W, coupling link J and pitman I connecting said head and link, of the spur-wheels T, dogs *m* on said link and arranged to engage with said spur-wheels, the upper roller S and connections between said roller and the coupling-link, whereby the spur wheels T and roller S are rotated simultaneously, as set forth. 6th. The combination, with the press-head W, coupling-link J, pitman I connecting said head and link, the spur-wheels T, and the dogs *m* pivoted on said link and arranged to engage said spur-wheels, of the upper and lower rollers S and connections between said rollers and between said upper roller, and the link J, whereby said spur wheels and rollers are all operated simultaneously, as set forth. 7th. The coupling-link J, spur wheels T and dogs *m* pivoted on the coupling link J and arranged to engage with the spur-wheels T, as specified, in combination with the rollers Q and R, intermittently-changing printing type-wheels, the upper roller S, the rod *h* connected at one end to the coupling link J, and at its other end to the arm *g*, which is loosely journaled upon the spindle of the upper roller S, the dog *k* pivoted on the arm *g* and arranged to engage with the ratchet-wheel I secured to the spindle of the said roller S, and means for reciprocating said link at stated intervals. 8th. The dogs *m* pivoted on the coupling-link J and arranged to engage with the spur-wheels T, as specified, the rod *h* connected at one end to the coupling-link J, and at its other end to the arm *g*, which is loosely journaled upon the spindle of the upper roller S, and the dog *k* pivoted on the arm *g* and arranged to engage with the ratchet-wheel I, secured to the spindle of the said roller S, in combination with the rollers Q and R, intermittently-changing printing type wheels, the upper and lower rollers S, the rod *j* connected at its upper end to the arm *g*, and at its lower end to the arm *i*, which is loosely journaled on the spindle of the lower roller S, and has a dog *k* pivoted on it and arranged to engage with the ratchet I, secured to the spindle of the lower roller S, and means for reciprocating said link J at stated intervals, substantially as and for the purpose specified. 9th. The platens C, adjustably connected upon bars secured to the frame of the machine, so that the faces of the platens shall face in the opposite direction, but will be in substantially the same plane, in combination with the type-rollers O and P adjustably connected to their spindles, which derive a reciprocating action, so as to bring the faces of the type rollers simultaneously against their respective platens.

No. 33,717. Smoke Stack. (*Cheminée.*)

John W. Brown and William W. Sutcliffe, New Orleans, La., U. S., 14th February, 1890; 5 years.

Claim.—1st. In a smoke stack, such as described, a smoke flue with an inlet or feed water pipe placed therein, said pipe extending from the boiler and connected with a filtered water chamber, as set forth. 2nd. In a smoke stack, such as described, a smoke flue with an inlet or feed water pipe placed therein, said pipe extending from the boiler, and the shell of said smoke flue being enclosed within a cylindrical shell or water jacket, as set forth. 3rd. In a smoke stack, such as described, a smoke flue with an inlet or feed water pipe placed therein, said pipe extending from the boiler and through which pipe water is fed to boiler and heated in transit by hot gases escaping through the smoke flue, as set forth. 4th. In a smoke stack, such as described, the combination of a smoke flue with filtering and water chambers, said water and filtering chambers being provided with feed and blow off pipes, and an inlet or overflow pipe leading from water chamber and passing through smoke flue and connected to boiler, as set forth.

No. 33,718. Car Coupling. (*Attelage de chars.*)

Damon D. Shaw and James T. McLoud, Big Bend, Kan., U. S., 14th February, 1890; 5 years.

Claim.—1st. The combination of the supports C, C, having the curved grooves E, and the draw-head members having the curved ribs E engaging said grooves, as set forth. 2nd. The combination of the members of the draw-head pivoted together, the plate L on one of the members, the lever fulcrumed on one member connected to the other member and passing under the plate L, and the pin inserted through the plate L and the lever, as set forth.

No. 33,719. Burial Casket. (*Cercueil.*)

The Powers and Walker Casket Company (assignee of Joseph H. Walker), Grand Rapids, Mich., U. S., 14th February, 1890; 5 years.

Claim.—1st. The combination, with a casket top, of a stationary panel in form substantially segmental in cross-section, a relatively sliding panel, which is in form and exterior finish a counterpart of the fixed panel, and adapted to be slid underneath the fixed panel, a catch for locking the same, and a cord or cable for operating said latch, arranged substantially as described. 2nd. The combination, with a casket top, of a stationary panel in form, substantially segmental in cross-section, a relatively sliding panel which is in form and exterior finish a counterpart of the fixed panel, and adapted to be slid underneath the same, ways arranged along the inside edge of the top adapted to support the sliding panel, and guides arranged secured to the sides of the sliding panel adapted to engage the face of the ways for limiting the lateral movement of the sliding panel, substantially as described. 3rd. The combination, with a casket top, of a fixed or stationary panel, substantially segmental in cross-section, a relatively sliding panel which is in form and exterior finish a counterpart of the fixed panel and adapted to be slid underneath the same, guide strips, as D, secured to the top, and arranged underneath the panels for supporting the sliding panel and forming raceways, substantially as described, guides, as G, secured to the sliding panel adapted to engage the face of the guide strips for limiting the

lateral movement of the sliding panel, a catch for locking the same, and a cord for operating said catch, arranged substantially as and for the purposes set forth. 4th. The combination, with a casket top, of a sliding face, lid or panel provided with front and rear guides, substantially as and for the purpose described, a latch for locking the same, and a cord attached to said latch for operating the same, arranged underneath said sliding panel and having its end projecting from the head of said panel and provided with a suitable handle, substantially as and for the purpose set forth. 5th. The combination, with a casket top, of a fixed panel in concave convex form, a cross bar B arranged near the middle of said top, a sliding panel which is in form and exterior finish a counterpart of said fixed panel, raceways adapted to said sliding panel, a latch secured to said sliding panel and adapted to lock the same, and a cord or cable for operating said latch, substantially as described.

No. 33,720. Caster. (*Roulette de meuble.*)

Albert B. Diss, Brooklyn, N. Y., U. S., 14th February, 1890; 15 years.

Claim.—1st. The combination, with the caster roller A, jaw B and pintle C, of a sheet metal socket formed in one piece having a flat centre with a hole 2 through it, and the end portions bent into semi-circular tapering troughs and brought together at the upper ends for receiving and supporting the pintle C, substantially as set forth. 2nd. The sheet metal socket for a caster pintle formed of sheet metal in one piece, having a central hole 2 notched at 3, bent to form semi-circular troughs at 4, and having the contracted semi-circular bearings at 6, with the edge portions of the sheet metal projecting outside the semi-circular bearings and adapted to be received within the hole in the bedstead or other leg, substantially as set forth.

No. 33,721. Medicine Called Magic Oil or Anti-Venereal Oil. (*Médecine appelée huile magique ou huile anti-vénéérienne.*)

Antoine Racicot, Montreal, Que., 15th February, 1890; 5 years.

Claim.—A medical compound composed of rectified spirits of turpentine, raw linseed oil, castor oil, balsam, copaiva and Canada balsam, the whole mixed together in the proportions and for the purpose set forth.

No. 33,722. Wire for the Manufacture of Nails, etc. (*Fil de fer pour la fabrication des clous, &c.*)

Thos. B. Norgate and Alexander H. Milne, Victoria, B. C., 15th February, 1890; 5 years.

Claim.—The formation of a continuous spiral thread or threads at a quick pitch along a wire or rod, by passing it between a pair of rollers suitably grooved and geared together, substantially as and for the purpose hereinbefore set forth.

No. 33,723. Seal Locking Device.

(*Appareil de fermeture scellé.*)

Orrin T. Welch, Topeka, Kan., U. S., 15th February, 1890; 5 years.

Claim.—1st. In a seal locking device, a hasp having a longitudinal slot adapted to embrace a loop or staple for the seal, and having a series of lugs on the face thereof adjacent to said slot, to support the seal and maintain it in position between the face of the hasp and beneath the loop, substantially as described. 2nd. In a seal locking device, the combination, with a hasp having projections on the face thereof for holding the seal between the hasp and projection, of a locking device arranged at the side of the hasp and adapted to hold the seal in position on the face of the hasp, substantially as described. 3rd. In a seal locking device, the combination, with a hasp having a longitudinal slot, of a loop projecting through said slot, a breakable seal secured upon the hasp and passing through the loop, and a locking device arranged at the side of the hasp to secure the seal, substantially as described. 4th. In a seal locking device, the combination, with a hasp supporting a breakable seal, of a locking device arranged at the side thereof, the said device being provided with a bolt, and projections to engage with the hasp, substantially as described. 5th. In a seal locking device, the combination, with a hasp carrying a seal, of a locking device arranged at the side thereof and adapted to engage with the hasp, and provided with a blind bolt to engage with a fixed seat, substantially as described. 6th. In a seal locking device, the combination, with a hasp carrying a seal, of a locking device having a recess in the base thereof, a spring bolt supported in said recess, and a fixed block provided with a seat for said bolt and adapted to be embraced by the locking device, substantially as described. 7th. In a seal locking device, the combination, with a hasp, carrying a seal, and having recesses in the under side, of a seal locking device provided with projections O adapted to engage the said recesses and to be held in locking position thereby, substantially as described.

No. 33,724. Flooring. (*Parqueterie.*)

James D. Finlay, Chicago, Ill., U. S., 15th February, 1890; 5 years.

Claim.—1st. A flooring or wall formed of planks, each having a semi-circular tongue on one edge, and a semi-circular groove in the other edge, and secured edge to edge upon a suitable support, the grooves being somewhat larger than the tongues and having a yielding packing held between the meeting edges, substantially as set forth. 2nd. A flooring or wall formed of planks, each having a semi-circular tongue on one edge, and a semi-circular groove in the other edge, and secured edge to edge upon a suitable support, the grooves being somewhat larger than the tongues and having a yielding packing held between the meeting edges, and keys passing through the butts or joints, substantially as set forth. 3rd. A floor-

ing or wall formed of tongue and groove planks secured edge to edge upon a suitable support, the grooves being somewhat larger than the tongues and having yielding packing held between the meeting edges, the planks on one side of the tongues and grooves being beveled, and keys passing through the butts or joints, substantially as set forth.

No. 33,725. Harness Mounting.

(*Montage de harnais.*)

Henry H. Robertson, St. Thomas, Que., 15th February, 1890; 5 years.

Claim.—1st. The link plate A provided with the buckle B, to connect with the saddle or back band, and having in it the openings C, D and E, for receiving attachments of the tug strap, breeching strap and draught bolt respectively substantially as herein shown and described. 2nd. The link plate A having the openings C, D and E, for connection with the tug and breeching straps, and with the draught bolt I, and the opening J for connection with the back chain K, substantially as shown and described. 3rd. The combination of the link plate A having the openings C, D and E, with the draught bolt I connected with the link plate by the hook H, all substantially as shown and for the purpose set forth.

No. 33,726. Button for Tagging Cattle.

(*Bouton pour marquer les bestiaux.*)

Daniel H. Talbot, Sioux, Iowa, U.S., 15th February, 1890; 5 years.

Claim.—A cattle tag formed in two sections, each having an integral tube or sleeve, one tube or sleeve having a reduced portion adapted to enter and be upset in the other sleeve or tube and formed at the inner end of said reduced portion, with an annular stop shoulder for the inner end of said second or outer sleeve to abut the joint between the two sleeves, being at about the centre of the button when the two sections are secured in place on the animal, substantially as set forth.

No. 33,727. Auxiliary Floor for Railway Cars.

(*Plancher additionnel pour les chars de chemins de fer.*)

Daniel H. Talbot, Sioux, Iowa, U.S., 15th February, 1890; 5 years.

Claim.—1st. An auxiliary floor for railway cars, consisting of a series of spaced slats, springs interposed between the said slats, and springs attached to the bottom of the slats, substantially as shown and described. 2nd. An auxiliary floor for cars, comprising a series of spaced and connected slats, springs intervening each of the slats, and springs attached to the bottom of the slats and at the ends thereof, substantially as shown and described. 3rd. The combination, with an auxiliary floor for cars, comprising a series of spaced connected slats provided with springs intervening the several slats, and springs secured to the bottom and ends thereof, of a cross bar attached to the outer slats extending transversely of the ends of the same in contact with the end springs, and a platform held upon each of the cross bars, covering the space intervening the said cross bars and the slats, substantially as shown and described. 4th. The combination, with an auxiliary floor for cars, comprising a series of spaced and connected slats, springs intervening the several slats, and springs secured to the bottom and extremities of the slats, of cross bars attached to the outer slats, a cross bar extending across each extremity of the said slats in contact with the end springs and adjustably held to the slats, a platform hinged to each cross bar covering the space between the said cross bar and the slats, and pendent beams or bars attached to the outer slats and contacting with the springs secured to the under face of the several slats, all combined for operation substantially as shown and described.

No. 33,728. Car Coupler. (*Attelage de chars.*)

Andrew Drengson, Thompson, N.D., U.S., 15th February, 1890; 5 years.

Claim.—In a car coupler, the combination, with a draw head formed with recesses 11 and 13a, of a coupling hook pivotally mounted within the recess 13a, a transverse block which extends beneath the coupling hook and into the recesses 11 and 13a, a stem extending upward from the block, a chain connected to the stem, and a shaft upon which the chain is wound, substantially as described.

No. 33,729. Mowing and Reaping Machine.

(*Faucheuse-moissonneuse.*)

Samuel Collinson, St. Catharines, Ont., 15th February, 1890; 5 years.

Claim.—The manufacture of mowing and reaping machine knife guards out of sheet steel in one solid piece, with the edges a, a, across or over which the knife passes when in use, sharpened so as to form the cutting edge without the use of a ledger plate fastened upon the guard.

No. 33,730. Blasting Compound.

(*Composition explosive.*)

Rudolf Sjoberg, Stockholm, Sweden, 15th February, 1890; 5 years.

Claim.—1st. A blasting compound consisting of nitrate or oxalate of ammonia, a non-nitrated hydro-carbon as naphthaline, and chlorate of potash, substantially as set forth. 2nd. A blasting compound consisting of nitrate or oxalate of ammonia, a liquid non-volatile hydro-carbon as astral-oil, a solid hydro-carbon as naphthaline, and chlorate of potash, substantially as hereinbefore set forth.

No. 33,731. Mouse Proof Attachment for Upright Piano Forte Pedals.

(*Appareil à l'épreuve des souris pour les pédales des pianos droits.*)

Lorenz Kusner, Terre Haute, Ind., U.S., 15th February, 1890; 5 years.

Claim.—1st. The combination, with the pedals and the support therefor, of plates below the pedals adapted to slide in grooves in the pedal support, and springs bearing against said plates to hold them against the underside of the pedals to close the spaces below the same, substantially as described. 2nd. The combination, with the pedal and the support therefor, of the sliding plate below the pedal, and means for holding the said plate against the underside of the pedal, substantially as described. 3rd. The combination, with the pedal and the plate secured at the front of the piano, and provided with a vertical slot for the free front end of said pedal to project through, of a plate supported under the said pedal and moving therewith, whereby the open portion of the said slot is always kept covered, substantially as set forth.

No. 33,732. Nut Lock or Nut Fastener.

(*Arrête-écrou.*)

George Deeks, Morrisburgh, Ont., 15th February, 1890; 5 years.

Claim.—The combination nut E D on a bolt and made of metal and any elastic material, the elastic part being on the side of the nut away from the thing screwed against, as hereinbefore set forth. 2nd. The nut E on bolt F G made separate from the metal nut D and of elastic material, substantially as and for the purpose hereinbefore set forth.

No. 33,733. Saw Stretching Machine.

(*Machine à tendre les scies.*)

Noah W. Mortoff, Jennings, Mich., U.S., 15th February, 1890; 5 years.

Claim.—1st. In a saw stretching machine, the combination of the frame bearing the lower roll and the arm bearing the upper roll, said arm being hinged to tilt vertically and pivoted to swing laterally, substantially as set forth. 2nd. In a saw stretching machine, the combination of the frame bearing the lower roll, the arm bearing the upper roll and having the open slot in one end, the other end of said arm being hinged to tilt vertically and pivoted to swing laterally, the latch pivoted to said frame and adapted to engage the slot in said arm, and the lever screwed onto the top of said latch for clamping the rolls against the saw, substantially as set forth. 3rd. In a saw stretching machine, the combination of the frame bearing the lower roll, the rocking block hinged to said frame and having the upper projecting bolt, the spring on said bolt and the arm pivoted on the bolt above said spring, and a detachable latch for engaging a slot in said arm, substantially as set forth. 4th. In a saw stretching machine, the combination of the frame having the latch, the laterally swinging arm adapted to be held by said latch, the threaded collar on the upper end of the latch, and the clamping lever attached to the collar by the set screw, substantially as set forth.

No. 33,734. Tuyere Iron. (*Buse de tuyère.*)

Bernard McGroder, Cleveland, Ohio, U.S., 15th February, 1890; 5 years.

Claim.—1st. A tuyere iron, consisting of the valves B and C and levers D and E, in combination with the air chamber constructed, as described, with the said valve B adapted to the air chamber, and the opening c in the crown thereof, of the valve C having a seat in the base of said chamber and sliding upon the tubular stem of the valve B, arranged substantially as set forth for the purpose described. 2nd. In combination with the levers D and E, a hollow valve B, having a tubular stem, and valve C of the air-chamber arranged as shown in relation to said valve B, of the guide I secured to the lever D and inclosing the lever E, with projections i at the inside thereof, forming stops to arrest and hold said lever E at divers points within the guide, as set forth. 3rd. In a tuyere iron, the combination of the air chamber, a hollow valve B with a tubular stem, and having one or more air passages in the apex of said valve, of the valve C surrounding the tubular stem, and the levers D and E arranged in conjoint and operative relation with said valves, in the manner and for the purpose substantially as set forth.

No. 33,735. Telemeter or Range Finder.

(*Télémetre.*)

Edmund L. W. H. Smith, Westminster, Eng., 17th February, 1890; 5 years.

Claim.—1st. In telemeters or range finders, the combination, with a base, as described, of two telescopes arranged so that the two eyes of an observer can be applied thereto, one telescope receiving an image from one end of the base, and the other telescope having direct vision from the other end of the base, one of the telescopes being adjustable and provided with means for indicating its angular position, substantially as hereinbefore described. 2nd. In telemeters or range finders, the means for adjusting the telescopes and for measuring the angle of adjustment, substantially as hereinbefore described. 3rd. The device for adjusting and measuring the angle, consisting of a disc, cone or cylinder for, first adjusting and measuring approximately, and an inclined plane for making the second or finer adjustments and measurements, the said inclined plane being caused to have a greater or lesser inclination as the position of the first adjustment is altered, substantially as hereinbefore described. 4th. In telemeters or range finders, the combination, with a movable telescope, of a lever arm or girder connected to or acted upon by an ad-

justing arrangement, substantially as hereinbefore described, whether on the single adjustment plan or on the double adjustment plan, as herein shown and described. 5th. The combination of the spirally grooved disc, cone or cylinder, and an inclined plane for finer measurement, the said inclined plane being automatically altered in degree of incline, substantially as and for the purposes hereinbefore described. 6th. The arrangement and combination of parts constituting the telemeter or range finder, substantially as hereinbefore described and illustrated in the accompanying drawings, including the modifications hereinbefore described and illustrated.

No. 33,736. Medicinal Compound, called Royal Drops. (*Composition médicinale appelée gouttes royales.*)

Antoine Racicot, Montreal, Que., 17th February, 1890; 5 years.

Claim.—A medical compound, composed of Ceylon cinnamon, prickly ash berries, Jamaica ginger, cloves, capsicum pods, Canada blood root, nutmeg, white pepper, camphor, Canada balsam, oil of cajuput, alcohol at 65°, the whole macerated and mixed together in the manner described, substantially in the proportions and for the purpose set forth.

No. 33,737. Tension Regulating Device for Shuttles. (*Régulateur de la tension pour les navettes.*)

John P. Kelly, Saco, and Harold Kelly, Biddeford, Me., U. S., 17th February, 1890; 5 years.

Claim.—1st. The combination, with a shuttle body, of a tension weight having more or less nearly the form of a hemisphere and a flat base, the outer edge of which is beveled and for the purposes set forth. 2nd. The combination, with a shuttle body, of a tension weight having more or less nearly the form of a hemisphere, its under outer edge beveled, and a central bore and an attaching post, as and for the purposes set forth. 3rd. The combination, with a shuttle body, of a tension weight having more or less nearly the form of a hemisphere, its under outer edge beveled, and a central bore and an attaching post, one end of which extends down into or through said bore and the other to the wall of the shuttle body, as and for the purposes set forth. 4th. The combination, with a shuttle body, of a tension weight having more or less nearly the form of a hemisphere and a flat base, the outer edge of which is beveled, and a flat seat for said base to rest upon, as and for the purposes set forth. 5th. The combination, with a shuttle body having a tension weight, substantially as set forth, of a base plate and eye tube, combined as and for the purposes set forth.

No. 33,738. Medicine called Magic Pill.

(*Médecine appelée pilule magique.*)

Antoine Racicot, Montreal, Que., 17th February, 1890; 5 years.

Claim.—A medical compound of powdered jalop, powdered mandrakes, powdered licorice, laudanum, croton oil, Canada balsam, wheat flour and molasses, substantially in the proportions and for the purpose set forth.

No. 33,739. Medicine called Pectoral Syrup.

(*Médecine appelée sirop pectoral.*)

Antoine Racicot, Montreal, Que., 17th February, 1890; 5 years.

Claim.—A medical compound, composed of Canada balsam, pine balsam, red spruce gum, balsam of tolu, oil of cassia, alcohol, syrup or molasses and cold water, substantially in the proportions and for the purpose set forth.

No. 33,740. Medicine called Tonic Powder.

(*Médecine appelée poudre tonique.*)

Antoine Racicot, Montreal, Que., 17th February, 1890; 5 years.

Claim.—A medical compound, composed of peroxide of iron, powdered licorice, Ceylon cinnamon, powdered cloves and powdered valerian, substantially in the proportions and for the purpose set forth.

No. 33,741. Method of Knitting and Apparatus therefor. (*Mode de tricoter et appareil pour cet objet.*)

Frank Wilcomb, Providence, R. I., U. S., 17th February, 1890; 5 years.

Claim.—1st. An improved method of knitting, consisting of feeding continuously the yarn to the needles, measuring off the yarn by retracting the needles in succession between sinkers, and to draw sufficient yarn for the new loops, while the old loop is on the needle, casting off the old loop independently, but in succession, after the new loop has been formed and feeding the yarn to the other needles simultaneously, substantially as described. 2nd. An improved method of knitting, consisting of feeding the yarn continuously to the needles, measuring off the yarn by retracting the needles in succession between sinkers, to draw sufficient yarn for the new loops while the old loop is on the needle, retaining such sinkers in their backward position to allow for the operation of fashioning, casting off the old loop independently, but in succession, after the new loop has been formed, and feeding the yarn to the other needles simultaneously. 3rd. Means for carrying out the described method of knitting, consisting of movable sinkers *c*, devices for operating them independently and successively, knock-over bits *g*, and means for operating them independently and successively. 4th. In combination with movable sinkers *c* and devices for operating them independently and successively, knock-over bits supported in an inclined position and having inclined upper faces, and means for operating same, for the purpose described.

No. 33,742. Stop Index for Prepayment Gas Meters. (*Index d'arrêt pour les compteurs à gaz à paiement d'avance.*)

William A. M. Valon, Ramsgate, Eng., 17th February, 1890; 5 years.

Claim.—1st. Constructing dry gas meter indices, each having a dial plate *B* with holes *A* and pin *C*, arranged as herein described and shown on the drawings. 2nd. Constructing dry gas meter indices, each having a concentric slit *F*, with straps *G*, or plate, or nut *I*, as herein described and shown on the drawings. 3rd. Constructing dry gas meter indices, each having an adjustable arm *K* or an adjustable pointer *Q*, as herein described and shown on the drawings. 4th. Constructing dry gas meter indices, each having a toothed revolving plate *L* with worm *T*, pin or stop *M*, bolt *N*, ring plate *P*, or stop *O* on its periphery to receive the bolt *N*, as herein described and shown on the drawings. 5th. Constructing dry gas meter indices, each having a ring plate *P*, with holes *O* on its periphery to receive the bolt *N*, as herein described and shown on the drawings. 6th. Constructing dry gas meter indices, each having an arbor *W* and disc *X*, with pin *Y*, as herein described and shown in the drawings. 7th. Constructing dry gas meter indices, each having an arm *c* and pin *d*, with spring *e*, as herein described and shown on the drawings. 8th. Constructing dry gas meter indices, each having a worm *j*, worm wheel *k*, with disc *Z*, and notch *f* and spring *b*, as herein described and shown on the drawings. 9th. Constructing wet gas meter indices, each having a ratchet wheel *m* to receive the pin of the upright spindle, in combination with any of the parts set forth in the previous claims, and as herein described and shown on the drawings.

No. 33,743. Wire and Cable Tightener.

(*Cric tendeur des fils et des câbles.*)

William Mason, Hamilton, Victoria, 17th February, 1890; 5 years.

Claim.—1st. The combination, in a wire or cable tightener, of a stock, a lever fulcrumed thereto, a movable block having a cross shaped longitudinal slot and connected to the lever, a chain in the block slot, a pawl on the block engaging the chain, and a detent for the chain at the stock, substantially as herein set forth. 2nd. The combination, in a wire or cable tightener, of a stock, a lever fulcrumed thereto, a movable block having a cross shaped longitudinal slot and connected to the lever, a chain in the block slot, a pawl on the block engaging the chain, a detent for the chain at the stock and a wire or cable clamp on the stock, substantially as herein set forth. 3rd. The combination, in a wire or cable tightener, of a stock provided at its rear end with a fixed chain clamping device, and provided at its forward end with a lever fulcrumed to the stock, a movable block connected to the lever and provided with a pawl, and a cross shaped longitudinal slot and a chain passed through the fixed box and movable block, and adapted for engagement by the pawl of the movable block, substantially as herein set forth. 4th. The combination, in a wire or cable tightener, of a stock provided at its rear end with a fixed chain clamping device, and provided at its forward end with a lever fulcrumed to the stock, a movable block connected to the lever and having a cross shaped longitudinal slot, a chain passed through the fixed box and movable block and pawls on said box and block adapted to engage the chain, substantially as herein set forth. 5th. The combination, in a wire or cable tightener, of a stock provided with an opening *a* and notch *a*², a lever fulcrumed on the stock, a movable block having a cross shaped longitudinal slot and connected to the lever, a chain in the block slot, adapted to underlock at the stock notch *a*², and a pawl operating the chain from the lever, substantially as herein set forth. 6th. The combination, in a wire or cable tightener, of a stock, a lever fulcrumed thereto, a movable block having a cross shaped longitudinal slot and connected to the lever, a chain in the block slot, and a pawl operating the chain from the lever, said stock provided with an opening *a*, a notch *a*², and an inclined face *a*³, for guidance and locking of the chain, substantially as herein set forth. 7th. The combination, in a wire or cable tightener, of a stock provided with an opening *a* and notch *a*², a lever fulcrumed on the stock, a movable block having a cross shaped longitudinal slot and connected to the lever, a chain in the block slot adapted to underlock the stock at its notch *a*², a pawl operating the chain from the lever, and a wire or cable clamp on the stock substantially as herein set forth. 8th. The combination, in a wire or cable tightener, of a stock provided at its forward end with a wire clamping device and also with an opening *a* and notch *a*², and provided at its rear end with a fixed chain guide box having a cross shaped longitudinal slot, a lever fulcrumed to the stock, a movable block connected to the lever, a chain passed through the fixed box and movable block, and pawls on the box, and block adapted to engage the chain, substantially as herein set forth. 9th. In a wire or cable tightener, the combination, with a stock, a lever fulcrumed thereto, a movable block having a cross shaped longitudinal slot and connected to the lever, a chain in the block slot, a pawl operating the chain from the lever, a detent for the chain, and a wire or cable clamp consisting of a fixed jaw on the stock, an eccentric bearing journaled to the stock opposite said jaw, and a movable jaw on the eccentric bearing, substantially as herein set forth. 10th. In a wire or cable tightener, the combination, with a stock, a lever fulcrumed thereto, a movable block having a cross shaped longitudinal slot, a chain in the block slot, a pawl operating the chain from the lever, a detent at the stock for the chain, a wire or cable clamp on the stock, and an auxiliary wire clamp adapted for connection to the chain, substantially as described, whereby both ends of a wire or cable may be drawn toward each other to be joined or spliced, as set forth. 11th. In a wire or cable tightener, the combination, with a stock, a lever fulcrumed thereto, a movable block having a cross shaped longitudinal slot and connected to the lever, a chain in the block slot, a pawl operating the chain from the lever, a detent at the stock for the chain, a wire or cable clamp on the stock, and an auxiliary wire or cable clamp on the stock, and an auxiliary wire clamp con-

sisting of a plate adapted for connection to the chain and provided with a fixed jaw, an eccentric bearing journaled to the plate opposite said fixed jaw, and a movable jaw on the eccentric bearing, substantially as described for the purposes set forth.

No. 33,744. Printing Press Attachment.

(Disposition aux presses d'imprimerie.)

Allen Ditson, Larned, Kan., U.S., 17th February, 1890; 5 years.

Claim.—1st. In a printing press attachment, an arm having an attaching clamp at its inner end and a second arm provided with a curved type-holding outer end and adjustable longitudinally on the first arm, substantially as set forth. 2nd. In a printing press, an attachment comprising a shaft, an arm, secured adjustably thereon, a type carrying arm K adjustable longitudinally thereon and provided with a threaded lug K', the screw Q and the nut Q', substantially as set forth. 3rd. In a printing press attachment, the combination, with a shaft mounted to turn, of an arm adapted to be clamped on the said shaft, a second arm held adjustably on the said first-named arm, type secured on the segmental periphery of the said second arm, and means, substantially as described, for holding the said type in place, as set forth.

No. 33,745. Art or Process of Dyeing Black and Tanning Sheep Skins and Furs.

(Art ou mode de teindre en noir et de tanner les peaux de mouton et les fourures.)

Pacifique M. Daigneault, Montreal, Que., 18th February, 1890; 5 years.

Claim.—1st. The dye composed of forty ounces of dried extract of logwood, four ounces of sulphate of copper, one ounce and a half of bi-chromate of potash, two ounces of carbonate of soda and four and one half ounces of extract of fustic, the whole combined as described in the proportions given for the purposes set forth. 2nd. The tanning mordant composed of one pound of hydro-chlorate of aniline, one pound and a quarter of bi-chromate of potash and one pound of sulphuric acid in water, as described for the purposes set forth.

No. 33,746. Exercising Machine.

(Appareil gymnastique.)

George S. Sanborn, Lynn, Mass. U.S., 18th February, 1890; 5 years.

Claim.—1st. The combination of the base, a representation of a human figure mounted thereon, a spring acting to revolve said figure in a forward direction, and a spring acting to restrain said revolution when said figure approaches an upright position, substantially as set forth. 2nd. The springs α and cross piece g , and the arm f , substantially as shown and for the purposes specified. 3rd. The combination of a base, a movable rod, a representation of a human figure rigidly attached thereto, a spring acting to revolve said rod, a short arm carried by said rod, and a graduated arc, substantially as set forth. 4th. The combination of a base, a movable rod, a representation of a human figure rigidly attached thereto, a spring acting to revolve said rod, a short arm carried by said rod, a graduated arc and an indicator connected therewith, substantially as set forth. 5th. The combination of a base, a movable rod, a representation of a human figure rigidly attached thereto, a spring acting to revolve said rod, a spring acting to restrain said revolution as said figure approaches an upright position, a short arm carried by said rod, a graduated arc and an indicator attached thereto, substantially as set forth.

No. 33,747. Ventilator.

(Ventilateur.)

Peter Abrahamson, San Francisco, Cal., U.S., 18th February, 1890; 5 years.

Claim.—1st. A ventilator having separate passages for the incoming and outgoing currents, and having the inlets for said currents reversely placed and of greater capacity than the outlets, substantially as described. 2nd. A ventilator consisting of a box or frame divided into independent passages, each of which has an inlet on the same side as the outlet of the adjacent passage, the inlet and outlet of each passage being perforated with holes of different sizes, whereby one end has a greater capacity than the other, substantially as described. 3rd. A ventilator having separate passages for the incoming and outgoing currents, the inlets and outlets being reversely placed so that the inlet of one passage on one side is adjacent to the outlet of the other passage on the same side, said inlets and outlets having perforations of different sizes, whereby incoming and outgoing currents travel in opposite directions. 4th. A ventilator consisting of a box having an opening on each side, and a partition dividing it into separate passages communicating at each end with said openings, a perforated or screen plate controlling one opening opposite the other passage, and a perforated or screen plate controlling the other opening and having its perforations opposite said other opening larger than those opposite said first named passage, substantially as described. 5th. A ventilator consisting of a box having an opening at the top of one side, and an opening at the bottom of the other side, and a vertical partition dividing it into separate passages communicating at their ends with said openings, and a graduated series of screens in said passages, the mesh of said screens in one passage being graduated in a direction opposite to the mesh of the screens in the other passage, substantially as described. 6th. A ventilator consisting of the box having the top opening on one side, and the bottom opening on the other side, and the central vertical partition dividing it into separate passages communicating at each end with the openings, the perforated plates C, C', controlling the other halves, the screens E, e, e', in one passage having gradually diminishing meshes, and the screens F, f, f', f'', in the other passage having gradually increasing meshes, substantially as described.

No. 33,748. Fare Collector.

(Tronc de billets de passage.)

Arthur W. Berne, New Orleans, La., U.S., 18th February, 1890; 5 years.

Claim.—1st. In an automatic passenger fare collector, such as described, the metal fare case with a funnel or bin shaped opening E, in combination with gravity traps 1 and 2, lever plate C and glass B, as set forth. 2nd. In an automatic passenger fare collector, such as described, the metal fare case with a funnel or bin shaped opening E, in combination with gravity traps 1, 2, 3 and 4, lever plate C, slide or case I, with an automatic trap placed therein, for locking bag or receptacle instantaneously upon removal of the bag or receptacle from the fare case, substantially as described and set forth.

No. 33,749. Electrode for Storage Batteries.

(Electrode pour les accumulateurs.)

Charles Sorley, New York, N.Y., U.S., 18th February, 1890; 5 years.

Claim.—1st. A secondary or storage battery electrode containing active material consisting of massicot. 2nd. A secondary or storage battery electrode comprising a support of lead or lead alloy, and an active material consisting of massicot applied to, or packed in said support. 3rd. The method of treating storage battery electrodes by first applying active material to or packing said material in a support, and then slowly and gradually immersing said support in an electrolyte. 4th. The method of treating storage battery electrodes by first applying active material in a dry pulverulent state to or packing said material in a support, then gradually and slowly immersing said electrode in an electrolyte, and then charging said electrode in said electrolyte.

No. 33,750. Paper Clip.

(Serre-papier.)

Frank A. Ruggles, Three Rivers, Mass., U.S., 18th February, 1890; 5 years.

Claim.—1st. As a new article of manufacture, a paper clip comprising an essentially inverted U-shaped front frame having a loop or handle in its transverse member, and a back frame having parallel side members provided with eyes at their upper ends, said frames being united at their lower ends by coiled springs, substantially as shown and described. 2nd. As a new article of manufacture, a paper clip constructed of a single piece of spring wire and comprising an essentially inverted U-shaped front frame having a horizontal loop or handle in its transverse member, and a back frame having parallel side members provided with eyes at their upper ends, said frames being united at their lower ends by coiled springs, substantially as shown and described.

No. 33,751. Mixer.

(Agitateur.)

Herman Boemermann, Brooklyn, N.Y., U.S., 18th February, 1890; 5 years.

Claim.—1st. The combination of the flared cap a , the strainer c , the pouring lip d , the agitator g and its stem f , substantially as and for the purposes set forth. 2nd. The combination, with the cap a , the soft lining b thereof, the strainer c , the pouring lip d , the agitator g and its stem f , substantially as and for the purposes set forth. 3rd. The combination, with the cap a , the pouring lip d , the agitator g and its stem f , substantially as and for the purposes set forth. 4th. The combination, with the cap a , and for the purposes set forth, the spoon-like blades l, l' thereon, substantially as and for the purposes set forth. 5th. The combination, with the stem f of the agitator, of the lateral blades l and the central blade 2, substantially as and for the purposes set forth.

No. 33,752. Pen-Holder.

(Porte-plume.)

Jacob H. Spigener, Talladega, Ala., U.S., 18th February, 1890; 5 years.

Claim.—1st. A pen holder, consisting of a handle, a series of concentric U-shaped pen-holding plates, secured to and projecting beyond the end of the handle, the said plates decreasing in length from the inner to the outer plate of the series, whereby the ends of all the plates are exposed, a sleeve secured to the handle and extending over the inner ends of the plates, and a collar mounted on the sleeve and adapted to compress the same around the plates, as set forth. 2nd. The improved pen-holder, consisting of a handle, a divided sleeve secured thereto, a series of U-shaped plates of various diameters and of varying lengths secured within the said sleeve, and a collar sliding on the sleeve and adapted to compress the end of the same and provided with an internal pin engaging the longitudinal opening in the sleeve, as set forth.

No. 33,753. Cigar Bunching Machine.

(Machine à lier les cigares.)

John W. Coughtry, Cicarville, N.Y., U.S., 21st February, 1890; 5 years.

Claim.—1st. The combination, with a stationary hopper H, having an inclined side H' and revolving side D, of a charge gauge G' and a cut-off F, substantially as and for the purpose set forth. 2nd. The combination of a feed hopper H, having an inclined side H', with a charge gauge G', a revolving plate D, having stirrers s , and a cut-off F, substantially as and for the purpose set forth. 3rd. In a cigar bunching machine, the combination of a feed hopper H, a charge gauge G', having a cut-off F and slot F', substantially as and for the purpose specified. 4th. In a cigar bunching machine, the combination of a feed hopper H, an inclined side D having a cut-off F and a slot F', with a charge gauge G', substantially as and for the purpose

described. 5th. In combination, a feed hopper H, an inclined hopper side II¹, a revolving hopper side having stirrers s, a cut-off F and a slot F¹, the shaft 2 and charge gauge G¹, substantially as and for the purpose set forth. 6th. In a cigar bunching machine, the combination of a feed hopper, a revolving hopper side having a cut-off F, a charge gauge G¹, an oscillating spreader tube N, a plunger K, a receiving apron h, and means, substantially as described, for rolling the charge into a bunch, substantially as and for the purpose set forth. 7th. In a cigar bunching machine, the combination of a feed hopper H, a charge gauge G¹, a cut-off between said hopper and gage, an oscillating receptacle M, a discharge passage N and a plunger K, with a forming device for forming the bunch, all constructed and operating substantially as and for the purpose set forth. 8th. In a cigar bunching machine, the combination of a receptacle M, a tube N having a spring discharge gate m, a plunger K and operating levers I and J, substantially as and for the purpose described. 9th. In a cigar bunching machine, the combination of a table T, the independent journal bearings or levers U, the bunching rollers r, r, a rocking table having a recess E, an apron h and adjusting means, substantially as described, for varying the plane of the rollers r, r, all constructed and operating substantially as and for the purpose described. 10th. In a cigar bunching machine, the combination of the apron h, having ribs r¹, r¹, and a rocking table having a recess E, with bunching rollers r, r, the independent journal bearings U, and means, substantially as described, for varying the plane of the rollers r, r, all constructed and operating substantially as and for the purpose described. 11th. In a cigar bunching machine, the combination of the independent journal bearings U, bunching rollers r, r, the apron h, a rocking table carrying the recess E, means, substantially as described, for varying the plane of the rollers r, r, the clamp O, the bracket h¹ and the adjusting screw v¹, all constructed and operating substantially as and for the purpose set forth. 12th. In a cigar bunching machine, the combination of the table T having a beveled edge, independent journal bearings or levers U, bunching rollers r, r, the apron h, a rocking table having a recess E, and means substantially as described, for varying the plane of the bunching rollers r, r, all constructed and operating substantially as and for the purpose set forth.

No. 33,754. Cutting Stick for Paper Cutting Machines. (*Réglet tranchant pour les machines à trancher le papier.*)

James E. Hamilton, Two Rivers, Wis., U. S., 21st February, 1890; 5 years.

Claim.—1st. In a paper cutting machine, the combination, with a cutting stick, having a recess formed in its upper face, of a removable section fitted in said recess, and a clamping plate secured directly to the side of the said stick for retaining said removable section in place, substantially as described. 2nd. In a paper cutting machine, the combination, with a cutting stick, having a recess formed in its upper face, of a removable section fitted in said recess, and a clamping plate secured directly to the side of the said stick, and having one end bent around the end thereof for retaining said removable section in place and preventing its endwise ejection, substantially as described. 3rd. In a paper cutting machine, the combination, with a cutting stick having a recessed upper face and a saw kerf formed therein below the recess, of a removable section fitted in said recess, a bent clamping plate located directly against one side and end of the said stick, and a series of transverse screw-bolts passing through said stick and plate, and having tightening nuts on their ends, substantially as described.

No. 33,755. Pail and like Receptacle.

(*Seau et réceptacle semblable.*)

Ralph Warner, Watertown, Mass., U. S., 21st February, 1890; 5 years.

Claim.—1st. A pail or other receptacle, provided along the top and bottom edges with grooves, in combination with hoops or rings concealed within said grooves, substantially as and for the purposes described. 2nd. A pail or other receptacle, provided along its top and bottom edges with inclined grooves in combination with hoops fitting said grooves, whereby, when the hoops are pressed in place, the material of the pail body is drawn firmly together, and the hoops are concealed, substantially as described. 3rd. A pail or other receptacle, provided with a hoop let edgewise into the end of the pail body substantially as described.

No. 33,756. Machine for Soldering Cans.

(*Machine à souder les bidons.*)

George A. Marsh, Dixfield, Me., U. S., 21st February, 1890; 5 years.

Claim.—1st. The soldering tool, having a double recess, the outer recess being provided with a bevelled edge and a cup at the lowest part of the recess, substantially as described. 2nd. In a machine for soldering can tops, the combination of a tool with a plate adapted to fit a stove or furnace, a solder receptacle opening upon the face of the tool, and a rest, substantially as described. 3rd. The combination of the tool A, plate B, receptacle O opening on the soldering face of the tool, and the rest p, substantially as described. 4th. The combination of the soldering tool A, plate B, receptacle o enclosing plates f and z and rest p, substantially as described.

No. 33,757. Pencil Sharpener.

(*Taille-crayon.*)

Adelbert Ames, Highlands, N.J., U. S., 21st February, 1890; 5 years.

Claim.—1st. A pencil sharpener, consisting of a thin tube having an opening in one side large enough to pass the pencil point, the metal at one side of this opening being sharpened to present an edge in the plane of the surface of the tube, substantially as described.

2nd. A pencil sharpener, consisting of a metallic tube, with an opening in one side large enough to pass the end of the pencil having a cutting in the plane of the inner surface of the tube, and having the side of the tube opposite this opening scarfed away, substantially as described. 3rd. A pencil sharpener, consisting of a split tube having an opening at one side large enough to pass the point of the pencil, and having a cutting edge in the plane of the inner surface of the tube, the split side being scarfed or cut away, as described, opposite the opening aforesaid, and the inner surface of the tube next the scarf roughened, all substantially as described.

No. 33,758. Distillation of Mineral Oils and like Products and Apparatus for that Purpose. (*Distillation des huiles minérales et autres produits semblables et appareil pour cet objet.*)

James Dewar, Cambridge, and Boverton Redwood, Finchley, Eng., 21st February, 1890; 5 years.

Claim.—1st. The herein described method of distilling mineral oils and like products, by vaporizing them and condensing the vapor generated under a regulated pressure of air or gas. 2nd. For operating in the manner referred to, the combination of a retort or boiler, a condenser, an oil pump and an air or gas pump with their communicating pipes, substantially as described.

No. 33,759. Hog Scraper. (*Grattoir de cochons.*)

Hiram Agan, Rome, N.Y., U. S., 21st February, 1890; 5 years.

Claim.—1st. The improved hog scraper, consisting of a concavo-convex metal plate, the edge of the main portion of which is oval in contour, and the edge of the remainder thereof curved reverse from that of the main portion, and the handle projecting from the convex side of the main portion of said plate, substantially as described and shown. 2nd. The described hog scraper, consisting of the concavo-convex metal plate A, the main portion of which is oval in contour, the remainder a having its edge curved reverse from that of the main portion and joined therewith by angular portions c, c, substantially as described and shown.

No. 33,760. Electric Signal.

(*Signal électrique.*)

John D. Taylor, Piketon, Ohio, U. S., 21st February, 1890; 5 years.

Claim.—1st. In electric signaling apparatus, the combination of the electro magnets M, M¹, the armature levers L, N, adapted to be operated by the said magnets, the shaft A, the ratchet-wheel G and wheel D mounted upon the said shaft, the pawl a carried by the armature lever L, the contact screw e¹ inserted in the armature lever N, and the line and local connections, substantially as specified. 2nd. In electric signalling apparatus, the combination of the electro-magnets M, M¹, the armature lever L, pawl a carried thereby, the armature lever N provided with the contact screw e¹, the shaft A, ratchet wheel G, spur-wheel F and wheel C carried by the said shaft, the segmental wheel E, provided with the stop pin h² and contact pin c, the spring l and the line and local connections, substantially as specified. 3rd. In electric signaling apparatus, the combination of the electro-magnets M, M¹, the armature levers L, N, adapted to be operated by the said magnets, the shaft A, the ratchet wheel G and wheel D mounted upon the said shaft, the pawl a carried by the armature lever L, the contact screw e¹ inserted in the armature lever N, the pawl e² carried by the armature lever N, the ratchet wheel C provided with the studs n², t, the spring m contact screw s, the electric signal S and the line and local connections, substantially as specified. 4th. In an electric signaling apparatus, the combination, with the armature lever N, of a pivoted and weighted angle lever, and a link connecting the lever to the armature, substantially as described. 5th. In electric signaling apparatus, the combination of the magnets M, M¹, the armature levers L, N, the pawl e¹ carried by the lever N, the pawl a carried by the lever L, the ratchet-wheel G, spur wheel F, wheel D, shaft A supporting the said wheels G, F, D, the retaining pawl f engaging the ratchet wheel G, the magnet M², armature P, the shaft H supporting the said armature, the lever h, the segmental wheel E supported thereby and provided with the pins h², q, the spring l, lever n, levers c, z, the wires v¹, u, y and the electrical connections, substantially as specified. 6th. In an electric signaling apparatus, the combination, with the gear wheel F and the armature lever N, of the spring-pressed lever h, the segmental gear-wheel E carried by the lever, the lever x¹ connecting the levers h, x², substantially as described. 7th. In electric signaling apparatus, the combination of the electro-magnets M, M¹, the armature levers L, N, adapted to be operated by the said magnets, the shaft A, the ratchet-wheel G and wheel D mounted upon the said shaft, the pawl a carried by the armature lever L, the contact screw e¹ inserted in the armature lever N, the pawl e² carried by the armature lever N, the ratchet-wheel C provided with the studs n², t, the spring m, contact screw s, the screw c, the electric signal S and the line and local connections, substantially as specified.

No. 33,761. Construction and Manufacture of Tin and other Metal Cans, Canisters, Boxes, Cases and other similar Articles. (*Construction et fabrication des bidons, boîtes, étuis et autres articles semblables en fer blanc.*)

Archibald W. Maconochie, Lowestoft, Eng., 21st February, 1890; 5 years.

Claim.—1st. As a new article of manufacture, a tin or other metal can, canister, case, box, tin or other similar article, made in two pieces, one whereof forms the body and bottom of such tin, and is

furnished with a flange *a*, while the other forms the lid or top thereof and is furnished with a groove *c*, wherein said flange fits, and a rim *b* fitting over said flange, and which rim is turned under and flattened down on the said flange, and the seam or joint closed with solder, all substantially in the manner and for the purposes hereinbefore set forth. 2nd. Making a tin or other metal can, canister, case, box, tin or other similar article with a single soldered joint or seam, substantially as and for the purposes hereinbefore set forth.

No. 33,762. Hand Tacking Implement. (*Outil à main pour clouer.*)

Charles A. Millener and William D. McRae, Deseronto, Ont., 21st February, 1890; 5 years.

Claim.—1st. In a tacking implement, the combination, with a tubular body having a branch projecting from one side thereof, and a plunger held to reciprocate in the tubular body of a tack receptacle, a slotted and curved runway leading from the receptacle to the branch of the body and supporting the receptacle above the body and adjacent to the upper end of the plunger, a gate at the lower end of the runway for changing the position of the tacks from a horizontal to a vertical position, and a gate in the lower end of the body for supporting the tack in the same after being delivered thereto from the runway, the said gates being operated by the plunger, substantially as herein shown and described. 2nd. The combination, with a tubular body and a spring-actuated weighted plunger held to reciprocate therein, of a tack receptacle provided with a slot in the bottom, a curved tube connecting one end of the receptacle with the tubular body, and provided with a slot in its inner face connecting with the slot in the receptacle, and a gate partially surrounding the slotted tube reciprocated by the plunger, and provided with a spiral slot extending from top to bottom, located at the slotted side of the tube, 3rd. The combination, with a tubular body, a spring-actuated weighted plunger adapted to reciprocate in the body, and a spring attached to the body having a bow-section projecting within the body, of a tack receptacle having a slot in the bottom thereof, a curved tube connecting the said receptacle, and the tubular body provided with a slot in one side connecting with the slot in the receptacle, and a gate surrounding the tube connected with the said spring, and provided with a spiral slot extending from top to bottom and registering with the slot in the curved tube, all combined for operation, substantially as and for the purpose specified. 4th. The combination, with a tubular body provided with a diametrical opening near its lower end, and a longitudinal opening at or near its centre, a spring secured to the upper portion of the said body having a bow section extending inward through the longitudinal slot, and a gate integral with the lower end adapted to project inward through the diametrical slot, and a spring-actuated weighted plunger held to reciprocate in the body and to contact with the bow section of the spring of a tack receptacle, provided with a slot in the bottom, a curved tube connecting the said receptacle and the body provided with a slot in the inner face, connecting with the slot in the receptacle, and a gate connected with the said spring surrounding the therein a spiral slot extending from top to bottom and registering with the slot in the tube, substantially as specified. 5th. The combination, with a tubular body, comprising a sleeve open at top and bottom, and a branch extending at an angle from one side of the sleeve, the said sleeve being provided with a diametrical slot near its lower end, and a longitudinal slot at or near its centre, a spring extending through the upper end of the sleeve having a bow-section projecting through the diametrical slot, and an attached gate plunger held to reciprocate in the sleeve and held to contact with the bow-section of the spring, of a tack receptacle provided with a longitudinal slot in the bottom thereof, a curved tube connecting one end of the said receptacle with the branch of the sleeve, and provided with a slot in its inner face connecting with the slot in the receptacle, and a gate surrounding the slotted tube above the sleeve slot extending from top to bottom and registering with the slot in the curved tube, all combined to operate substantially as shown and described.

No. 33,763. Hose Signal. (*Signal de pompier.*)

The Crosby Electric Company, New York, N. Y. (assignee of Edward H. Crosby, Boston, Mass.), U.S., 21st February, 1890; 5 years.

Claim.—1st. The signaling apparatus for hose men, or others herein described, comprising the hose, its couplings, the electric wires contained in the hose, and the electric couplings combined with the bell or other signal receiving instrument on the engine, and the generator at the remote end of the hose, as on the hose pipe, sub or bracket as described. 2nd. The hose pipe or nozzle and a support said support secured to it, combined with an electric generator held by signaling apparatus as described. 3rd. The herein described hose coupling apparatus for hose men or others, comprising the hose, a hose coupling, electric conductors, and electric couplings concealed within the hose couplings, one member of each coupling being attached to each half of the hose coupling, combined with the signaling receiving instrument at one end of the line of hose, and the electric generator at the opposite end of the line of hose, substantially as described.

No. 33,764. Machine for Picking Fur Skins. (*Machine à piquer les fourrures*)

William A. Connolly, Bernard Altman, Victor Altman and Julius Altman, New York, N. Y., U.S., 21st February, 1890; 5 years.

Claim.—1st. In a fur picking machine, the combination, with a horse, of retaining or clamping bars journaled one at each side of said horse, capable of vertical movement, substantially as shown and described. 2nd. In a fur picking machine, the combination, with a vertically adjustable horse, of retaining or clamping bars, journaled one at each side of said horse, having beveled inner flanges and

capable of a vertical rocking movement, substantially as shown and described. 3rd. In a fur picking machine, the combination, with a horse, of retaining or clamping bars, journaled one at each side of the said horse, capable of a vertical rocking movement, and a bellows arranged to direct a blast of air upon the horse, substantially as shown and described. 4th. In a machine for picking fur, the combination, with a horse and retaining or clamping bars, journaled one at each side of the same, capable of a vertical rocking movement, of a bellows arranged to direct an air blast upon the upper side of the horse, a drive shaft, and a connection, substantially as shown and described, between the drive shaft, the bellows and the retaining bars, whereby the bellows is depressed before the retaining bars are in their closed position, as and for the purpose specified. 5th. In a fur picking machine, the combination, with a horse, a main or drive shaft, retaining or clamping bars journaled one at each side of the horse, and crank arms attached to one end of said retaining bars, of links pivotally attached to said crank arms, at one end and to one another, and a spring-actuated sliding block at the other end, a lever fulcrumed at one extremity and attached near its centre to the sliding block, a counter-shaft, a cam carried by said counter-shaft, contracting with the free end of the lever, and a connection between the counter and drive shafts, substantially as shown and described. 6th. In a fur picking machine, the combination, with a horse, and rocking, retaining or clamping bars, journaled one at each side of the same, of a series of knives held to slide upon said bars, capable of moving forward over the horse when the retaining bars are in their locked position, substantially as shown and described. 7th. In a fur picking machine, the combination, with a horse, and rocking, retaining or clamping bars, journaled one at each side of the same, of a series of connected knives held to slide upon one of the retaining bars, and a single knife arranged to slide upon the other retaining bar, substantially as shown and described. 8th. In a fur picking machine, the combination, with a horse, and rocking, retaining or clamping bars, journaled one at each side of the same, of a series of knives held to slide upon one of the rocking bars, provided with a diagonally beveled cutting edge, and a lip projected from one end of the said edge, and a single blade arranged to slide upon the opposite retaining bar, substantially as shown and described. 9th. In a fur picking machine, the combination, with a horse, and rocking, retaining or clamping bars journaled one at each side of the horse, of a series of connected knives held to slide upon one of the retaining bars, each provided with a diagonally beveled cutting edge, and a lip extending from one end of said edge, overlapping the contracting edge of the next knife, a single knife held to slide upon the opposite retaining bar, and means, substantially as shown and described, for moving the multiple knives over the single knife, as and for the purpose specified. 10th. In a fur-picking machine, the combination, with a horse, and rocking, retaining or clamping bars, journaled one at each side of the same, a brass wear plate being secured upon the upper surface of one of the said retaining bars, of a series of knives held to slide upon the said wear plate, each provided with a diagonally beveled cutting edge, and a lip extending from one end of said edge, capable of overlapping the next knife, a single adjustable knife held to slide upon the opposite retaining bar, and means, substantially as described, for moving the opposed knives inward over the horse and the multiple knives over the single knife, as and for the purpose specified. 11th. In a fur picking machine, a cutting blade comprising a body bar and a series of knives attached to the same, each knife being provided with a diagonally beveled cutting edge, and a lip projected from one end of the said edge, the lip of one knife extending over and upon the cutting edge of the next knife, substantially as and for the purpose specified. 12th. In a fur picking machine, a knife provided with a diagonally beveled cutting edge, and a lip at one end forming a continuation of said cutting edge, substantially as and for the purpose specified. 13th. In a fur picking machine, the combination, with a horse, and rocking, retaining or clamping bars, journaled at each side of the same, and knives movably supported by said retaining bars, of curved levers attached to the body bar of one knife, toggle arms pivoted to the body bar of the opposed knife or knives, trip levers, a link connection between the trip levers and toggle arms, a counter-shaft provided with a cam contracting with the curved levers, and a crank arm contracting with the trip levers, a drive shaft and a connection, substantially as described, between the counter shaft and drive shaft, as and for the purpose specified. 14th. In a fur picking machine, the combination, with a horse, and rocking, retaining or clamping bars, journaled one at each side of the horse, of bellows arranged to direct a blast of air upon the retaining bars and horse, a drive shaft and connections between said drive shaft, the retaining bars and the bellows and bellows, which connections are so situated that the bellows will be depressed before the retaining bars are in their closed position, substantially as and for the purpose specified. 15th. In a fur picking machine, the combination, with a horse, and a guide roller journaled beneath the same, of a friction roller located at each side of the guide roller, and means, substantially as shown and described, for actuating the guide roller, the combination, with an adjustable horse, and a guide roller journaled beneath the same, of an adjustable friction roller, journaled at each side of the guide roller, a ratchet wheel connected with the guide roller, a drive shaft, a counter-shaft connected with the drive shaft, and a dog actuated from the counter-shaft, adapted for contact with the ratchet wheel, substantially as shown and described. 17th. In a fur picking machine, the combination, with a horse, a rocking, retaining or clamping bar, journaled at each side of the horse, and knives held to slide upon the said retaining bars, of a bellows arranged to direct a blast of air upon the horse, a guide roller journaled beneath the horse in a vertical alignment therewith, and adjustable friction rollers at each side of the guide roller in horizontal alignment therewith; a drive shaft and a connection between the said drive shaft, the retaining bars, the knives, the bellows and the guide rollers, substantially as shown and described, whereby the skin is first shifted upon the horse, subjected to a blast from the bellows, clamped to the retaining bars, and then the objectional hairs removed therefrom by the knives, as herein set forth.

No. 33,765. Door Mat. (*Paillason.*)

George Coxon and Edwin M. Shelton, Toronto, Ont., 21st February, 1890; 5 years.

Claim.—1st. A mat, composed of a series of crimped bars set on edge and arranged parallel with each other within a rigid frame to which they are secured, substantially as specified. 2nd. A mat, composed of a series of crimped bars, set on edge and arranged parallel with each other, the straight bar also on edge being placed between each pair of the crimped bars, the said crimped and straight bars being secured within a rigid frame by rods extending through them, substantially as specified.

No. 33,766. Machine for Covering wire Cables. (*Machine à couvrir les câbles de fil de fer.*)

The New England Butt Co., (assignee of John McCahey,) Providence R.I., U.S., 21st February, 1890; 5 years.

Claim.—1st. This guide tube *h* having a longitudinal slot in one side and recessed out at its lower end to fit on the hub of plate *a*, and provided with a set screw to hold it in place, in combination with said plate *a*, a reel attached to said plate, and mechanism to revolve the plate, substantially as and for the purpose specified. 2nd. The collar *n* furnished with a pin *o* and set screw, substantially as described, in combination with the tube *h* and plate *a* having a reel attached to its face, for the purpose set forth. 3rd. A reel composed of a plate *v* having a hollow hub on its face, the plate *t* provided with a hub having a hole through it fitted to slide on the hub of the plate *v*, washer *s*, spring *n* and screw *t*, in combination with the stud *d*, knee plate *r* and plate *a*, substantially as and for the purpose set forth. 4th. The combination of plate *a*, gear wheel *e* made adjustable to and from said plate by means of a slot made in the table for its stud, substantially as described, with gear wheels *g* and *c*, upright shaft *s*, and means for rotating said shaft, for the purpose set forth.

No. 33,767. Gas Engine. (*Machine à gaz.*)

Hiram C. Covert, New York, (assignee of William E. Crist, Brooklyn) N.Y., U.S., 21st February, 1890; 5 years.

Claim.—1st. The combination, in a gas engine, of a working piston vibrating in a sectoral working chamber, a compressing piston vibrating in a separate sectoral compression chamber and operating to compress and carry an explosive gaseous charge towards the working piston as it advances, a spring controlled valve governing a port or passage connecting the supply and working chambers and opening towards the latter, an igniting device communicating with the working chamber, and operating to fire the charge compressed therein at the end of the stroke of the piston towards said charge, and means for discharging the burnt gases, all substantially in the manner and for the purpose herein set forth. 2nd. The combination in a gas engine, of sectoral working and compressing chambers, constructed and arranged substantially as described, oscillating pistons vibrating in each chamber, valves disposed to govern supply ports opening into the opposite ends of the compression chamber to admit an explosive gaseous compound thereto alternately on opposite sides of its piston, delivery ports or passages connecting appropriately each end of said chamber with the working chamber and governed by a valve opening towards said working chamber, an igniting device operating to fire the charge compressed into the working chamber at the end of the stroke of the piston towards said charge, and means for the discharge of the burnt gases, all substantially in the manner and for the purpose herein set forth. 3rd. The combination, in a gas engine, of a central rock shaft, sectoral working chambers formed on opposite sides thereof and provided with exhaust valves at their inner ends, oscillating pistons fixed to the shaft to vibrate in said working chambers, a parallel driving shaft, a crank upon said shaft coupled to one of said pistons, a sectoral compression chamber intermediate the working chambers having supply valves at each end thereof, a second rock shaft mounted parallel with the first in the inner angle of said compression chamber, a compressing piston fixed therein to vibrate in the compression chamber, coupling devices connecting the driving shaft and second rock shaft, in manner to cause the compressing piston to advance towards the working pistons as they move inward and recede therefrom as they move outward, means as described for opening each exhaust valve as the piston begins its inward stroke, and closing it immediately before the stroke is completed and igniting devices, whereby the charge compressed under each working piston at the end of its inward stroke is fired, substantially in the manner and for the purpose herein set forth. 4th. The combination, with the supply port for gas and air in a gas engine, and with a cylindrical valve chamber communicating with said supply port, of a tubular valve piece fitting in said valve chamber and which is longitudinally divided by a flat septum into two longitudinal spaces communicating with each other by means of a longitudinal aperture in the septum, one of said spaces being left open peripherally and closed at its ends by transverse end plates, and the other left open at its ends only to communicate freely with the outer air, said valve piece having also a separate cylindrical bore formed longitudinally in an enlargement of its wall in one of the angles of the open ended space, this bore being closed at one end and made to communicate through an aperture in the septum with the valve space whose ends are closed, a gas supply pipe fitted to the open end of the bore, and a valve fitted upon the septum to close down upon the apertures therein, substantially in the manner and for the purpose herein set forth. 5th. The combination, in an igniting device for gas engines, constructed substantially as having a concentric passage formed longitudinally within it communicating at one end with an aperture flaring outwardly to the periphery thereof, and at the other end with radial passages extending likewise to its periphery, a flame port communicating through the casing with the annular flaring aperture, a second port connecting the ex-

plosion chamber of the engine with the radial passages, and a burner placed adjacent to the flame port to supply an igniting flame therefor, substantially in the manner and for the purpose herein set forth. 6th. An igniting device for gas engines, constructed substantially as herein described, of a suitable casing having a longitudinal passage way through it communicating by transverse passages at different points in its length with a flame port and with a port to communicate with the explosion chamber of the engine, a controlling piston playing in said passage way, said piston being formed in two sections adjustable upon its longitudinal axis to and from each other leaving a circumferential recess between them adapted to register with the flame port, and having also a second peripheral recess upon one of the sections adapted to register with the port from the explosion chamber, and a connecting passage extending from the one recess to the other, substantially in the manner and for the purpose herein set forth.

No. 33,768. Vamp for Button Boots For Females. (*Empeigne de chaussure bouton-née pour femmes.*)

Cyrille Rouette, Yamachiche, Que., 25th February, 1890; 5 years.

Résumé.—1er. L'empeigne marqué A, telle qu'elle est décrite. 2ème. Le petit morceau marqué D, tel que ci-dessus décrit et pour les fins indiquées.

No. 33,769. Railroad Signal.

(*Signal de chemin de fer.*)

Charles A. Finlay, Holton, Kan., U.S., 25th February, 1890; 5 years.

Claim.—In a railroad signal, the combination of bells supported above the track, horizontal rods connected thereto which extend across the track, cranks upon each end at opposite sides of the track levers journaled to supporters below the cranks at each side of the track and having their upper ends engaged thereby, and intermediate levers on each side of the track which are operated by devices upon the locomotive, with supporting poles placed upon opposite sides of the track, two lines of wires—one on each side of the track—which connect the said levers, and a device upon the locomotive for operating the levers, substantially as shown and described.

No. 33,770. Insulating Material.

(*Matériel isolant.*)

Alfred Gartner, Newark, N.J., U.S., 25th February, 1890; 5 years.

Claim.—The herein described composition of matter consisting of gum, sand and sulphate of lime, substantially in the proportions specified.

No. 33,771. Art or Process of Ventilating School Rooms, Churches, Halls or other Public or Private Rooms. (*Art ou procédé de ventilation des écoles, églises, corridors ou autres salles publiques ou privées.*)

James Wright, Joseph Morris, Henry Rath and Samuel Morris, North Dorchester, Ont., 25th February, 1890; 5 years.

Claim.—The art or process of removing foul air from a room or hall and of introducing fresh warm air by means of two drums, H and B, connected with their respective ducts C C and F F, through each of which drums the smoke pipe A A passes, H the nearer drum to the heater S with its duct C C for establishing a current of fresh warm air into the room, and B the one more remote from the heater with its duct F F for establishing a current of foul air out of the room, substantially as set forth.

No. 33,772. Fire Board and Damper.

(*Rideau de cheminée.*)

John Wisdom, Chicago, Ill., U.S., 25th February, 1890; 5 years.

Claim.—1st. An improvement in adjustable fire boards, the side ways *v* at each jamb of the fire place, provided with a number of vertical grooves corresponding to the number of sections of the fire board running therein, the sectional boards provided with hooks at their connections, and the lower section provided with clips for raising the sections, in combination with connecting cords, and a double pulley having on its hollow shaft, a lever for operating the pulley, substantially as hereinbefore shown and specified. 2nd. A damper frame *7* having a pivoted damper and set in the throat of the chimney in combination with a damper rod having its bearing in the hollow shaft of the double pulley, substantially as hereinbefore specified and shown.

No. 33,773. Medicated Plaster.

(*Tufetas médical.*)

Julie Ouellette, Ottawa, Ont., 25th February, 1890; 5 years.

Claim.—1st. The above described composition for medicated plasters consisting of pitch gum, burgundy pitch, rosin, bees wax and tartaremetic powder, in the proportions specified. 2nd. The herein described composition consisting of pitch gum, burgundy pitch, rosin, bees wax and tartaremetic powder, compounded as above stated and spread on a backing of tough and pliable material, substantially as described.

No. 33,774. Handle. (*Manche d'ustensile.*)

Levi M. Devore, Freeport, Ill., U.S., 25th February, 1890; 5 years.

Claim.—1st. In a handle of the class described, the combination, with a spiral coil and an integrally formed rod lying within the same, of a suitable boss adapted to receive the free end of the spiral

and an elongated bearing attached to the boss and receiving and supporting the free end of said rod, substantially as and for the purpose set forth. 2nd. The combination of the boss A' and the clasp a, a', a¹¹, a¹², a¹³, formed integrally therewith and making up a socket, the coil B abutting against the boss A', and the rod B seated in the socket and having its end E' bent to prevent withdrawal of the rod from the socket, substantially as and for the purpose set forth.

No. 33,775. Alarm Clock.

(*Horloge à réveille-matin.*)

James Gwackin and William W. Flanagan, (assignees of Robert F. Gaylord,) New York, N.Y., U.S., 25th February, 1890; 5 years.

Claim.—1st. In an alarm clock, the combination of the time mechanism, the alarm mechanism and a spring pawl carried upon or attached to the alarm mechanism and arranged to engage an oppositely revolving part of the time train, substantially as set forth, whereby the alarm is alternately arrested and released as it runs down. 2nd. In an alarm clock, the combination of the arbor E carrying the detent wheel M, and the arbor G connected with, and revolving the spring pawl L, the said pawl being arranged to engage the said detent wheel, as and for the purpose set forth. 3rd. In combination, the arbors E and G, the gears J and K, the spring pawl L and the detent wheel, arranged substantially as and for the purpose set forth.

No. 33,776. Automatic Fire Extinguisher.

(*Extincteur d'incendie automatique.*)

Daniel C. Stillson, Somerville, Mass., U.S., 25th February, 1890; 5 years.

Claim.—1st. An automatic fire extinguisher consisting of a valve normally held by fusible metal against its seat, and a supply pipe leading to the extinguisher combined with an automatic air vent provided with two longitudinal passages and having a plug soldered to its open end by fusible metal, substantially as and for the purpose set forth. 2nd. In an automatic fire extinguisher system, as described, the herein described automatic air vent consisting of a nipple *a* secured to the supply pipe, its connections said nipple having two longitudinal passages *d*¹, *d*² and a detachable plug *e* united to said nipple by fusible metal, substantially as and for the purpose set forth.

No. 33,777. Ointment for Goitre.

(*Onguent pour le goitre.*)

Henry H. Hayssen, New Holstein, Wis., U.S., 25th February, 1890; 5 years.

Claim.—The herein described composition of matter to be used for the treatment of goitre and other tumours consisting of iodide of potash, vaseline, carbolic acid, oil of lavender, oil of hemlock, cologne spirits and oil of bergamot, in the proportions specified.

No. 33,778. Heating Furnace. (*Calorifere.*)

Justin Lawyer, Coldwater, Mich., U.S., 25th February, 1890; 5 years.

Claim.—1st. The combination of the furnace casing, the cylindrical radiators arranged in a circumferential series around the same, and having openings near their lower ends connected by tubular flanges or collars, with corresponding openings in the furnace casing, and the segmental lining sections arranged within the casing, having their lower ends fitted in, and annular groove in the hearth plate, and provided with openings near their upper ends, registering with the openings in the furnace casing that communicate with the radiators, as herein set forth. 2nd. The combination of the base, the hearth plate, the furnace casing mounted upon the latter, the pedestal mounted upon the cylindrical radiators supported upon said pedestal, substantially as herein set forth. 3rd. The combination of the base, the furnace casing supported thereon, the hearth plate, the chimney mounted upon the latter, an annular plate or diaphragm casing at some distance from the said pedestals and surrounding the radiators arranged upon the latter, and the cylindrical radiators having openings near their lower ends connected to the furnace casing, substantially as set forth. 4th. The combination of the furnace casing, the cylindrical radiators arranged around the same and annular radiator mounted upon and connected with the casing and of the cylindrical radiators, and a central cylindrical radiator arranged above and connected with the furnace casing and pipes connecting the said central radiator respectively, with the surrounding annular radiator and with the chimney, substantially as set forth. 5th. The combination of the furnace casing, the cylindrical radiators arranged around and connected therewith, the annular radiator mounted upon and connected with the upper ends of the cylindrical furnace casing, a damper arranged between the furnace casing, and the said central radiator and pipes connecting the central radiator with the annular radiator and with the chimney, substantially as set forth.

No. 33,779. Dry Gas Meter.

(*Compteur sec à gaz.*)

John T. Wynne and Alexander T. Morrison, Melbourne, Victoria, 25th February, 1890; 5 years.

Claim.—1st. In a dry gas meter wherein the gas is measured by alternately expanding and contracting chambers, the employment of slide valves having two ports, such as *a* and *a'*, in each one, a being placed transversely in the centre of the valve as ordinarily, and the other *a'* being arranged around three sides of the former, substantially as and for the purpose specified and as illustrated in figure 6

of our drawings. 2nd. In a dry gas meter in which the gas is measured by alternately expanding and contracting chambers, the employment of a slide valve grating, having four ports, such as *d*, *d'*, *d''*, *d'''*, arranged substantially as and for the purpose specified and as illustrated in figure 4. 3rd. In a dry gas meter in which the gas is measured by alternately expanding and contracting chambers, the combination, with a pair of slide valves, such as *a*, *b*, of a radius or crank arm, such as *c* and a pair of crank arms, such as *c*, *c'*, connected to said radius arm by a pair of links, the whole being arranged, constructed and operated substantially as and for the purpose specified and as illustrated in figures 1, 2, 3 of our drawings. 4th. In a dry gas meter, wherein the gas is measured by alternately expanding and contracting chambers, the employment of a pair of slide valves, such as *a*, *b*, together with the gratings upon which they are arranged to slide, in combination with a series of suitably arranged passages, such as are herein described, for connecting the ports in the slide valve on one side of the meter, with the measuring chambers on the opposite side thereof, substantially as and for the purposes herein described and explained and as illustrated in our drawings.

No. 33,780. Track Cleaner.

(*Grattoir de voie de fer.*)

Augustus F. Priest, West Superior, Wis., U.S., 25th February, 1890; 5 years.

Claim.—1st. Railway track clearers, consisting of knife plates held at the sides of the engine pilot and supported therefrom at their forward ends, and supported at their rear ends from the equalizer bars of the forward truck of the engine, substantially as herein set forth. 2nd. Railway track clearers, consisting of knife plates held at the sides of the engine pilot and extending to the nose or front thereof, clear across the track, and supported at their front ends from the pilot, and at their rear ends from the equalizer bars of the forward truck of the engine, substantially as herein set forth. 3rd. Railway track clearers, consisting of knife plates hung at the sides of the engine pilot and supported therefrom at their forward ends, and supported at their rear ends from the equalizer bars of the forward truck of the engine, and said clearer plates made vertically adjustable, substantially as herein set forth. 4th. Railway track clearers, consisting of knife plates hung at the sides of the engine pilot and supported therefrom at their forward ends, and supported at their rear ends from the equalizer bars of the forward truck of the engine, and said clearer plates extending to the nose of the pilot or clear across the track and made vertically adjustable, substantially as herein set forth. 5th. Railway track clearers, consisting of knife plates held at the sides of the engine pilot, and guide bars or plates connected to the clearer plate supports and overlapping the sides of the pilot truck wheels or the ends of their axle, substantially as described, whereby the lateral position of the clearer plates will be controlled by the forward truck of the engine, as set forth. 6th. Railway track clearers, consisting of knife plates held at the sides of the engine pilot and supported therefrom at their forward ends, and supported at their rear ends from the equalizer bars of the forward truck of the engine, and guide bars or plates connected to the clearer plate supports and overlapping the sides of the pilot truck wheels or the ends of their axles, substantially as described for the purposes set forth. 7th. Railway track clearer knife plates, consisting of re-enforcing bars held to the sides of the engine pilot, and brittle or hard metal sectional plates secured to the re-enforcing bars, substantially as herein set forth. 8th. The combination, in railway track clearers, as with the engine pilot, of bars 10, 10, having front slots 8, bolts 7, and passing through said slots into the pilot or a plate thereon, a shaft 14 on the engine chains 12 connecting the bars 10 to said shaft or 14 on the engine chains 12 connecting the bars 10 to the equalizers thereon, a frame 21 supported on front extensions of the equalizer bars of the forward truck of the engine and entering slots at the rear ends of the bars 10, detents preventing lateral disengagement of the parts 10, 21, chains 12 connecting the frame 21 with the shaft 14 or its arms, and clearer knives held to the bars 10, 10, and adapted when down to clear the track, substantially as herein set forth. 9th. In railway track clearers, the combination, with clearer knife bars 10, 10, hung at the front of a frame, as 21, supported on front with looped rear end parts 23, of the pilot truck, and entering slots in the ends of the bars 10, and bolts or pins 29 passed into the loops in 28 and into the frame 21, substantially as herein set forth. 10th. In railway track clearers, the combination, with the clearer knives or railway track clearers, and a frame suspending the rear ends of their re-enforcing bars, and a frame suspending the rear ends of the clearers from front extensions of the equalizer bars of the forward truck of the engine, of a wear plate or plates, as 25, 26, held to the equalizer bar or clearer frame, one or both, and acting also to allow vertical adjustment of the back ends of the clearers relatively to the track to accommodate wear of the boxes of the pilot wheel bearings of the engine, substantially as herein set forth. 11th. In railway track clearers, the combination, with the clearer knife supporting bars, and a frame, as 21, hung from the equalizer bars of the front bars, and a frame, as 21, hung from the rear ends of the clearers as supported, of arms 30, 30, held to the frame 21 and provided with depending lugs 34, substantially as described, for the purposes set forth. 12th. In railway track clearers, the combination, with the engine pilot and vertically-adjustable clearer knives or their supporting bars hung therefrom, of safety chains or devices, as 19, connected to the clearers and to the pilot, substantially as herein set forth. 13th. In railway track clearers, the combination, with the engine pilot, of vertically-adjustable clearer knives or their supports having slots 8, bolts or pins 7 entering the slots into the pilot or a plate thereon, and said slots having beveled or inclined lower end walls, substantially as herein set forth.

No. 33,781. Construction of Backing Blocks for Stereotype and Electrotpe Plates. (*Fabrication des blocs pour les planches stéréotypes et électrotypes.*)

Harvey Dalziel, London, Eng., 25th February, 1890; 5 years.

Claim.—For the backing of stereotype plates and like printing sur-

faces, the divided backing blocks, with fixed clips or catches, which blocks are capable of expansion longitudinally and laterally by means of suitably shaped filling pieces to receive and hold printing plates of various sizes, as described.

No. 33,782. Manufacture of Butter and Apparatus therefor. (*Fabrication du beurre et appareil pour cet objet.*)

Frederick R. C. Struver, Pine Creek, Queensland, 25th February, 1890; 5 years.

Claim.—1st. My improved method of manufacturing butter, consisting essentially in subjecting cream to pressure while enclosed in a material, such as moleskin, which will admit of the escape of the buttermilk, but not of the cream, substantially as herein described and explained and as illustrated in my drawings. 2nd. In an apparatus for manufacturing butter, the combination of perforated discs or plates, such as E, E', a weight or weights, such as B, and a perforated cylinder, such as C, with an outer containing vessel or cylinder, such as D, the whole being constructed, arranged and operating substantially as and for the purpose specified and as illustrated in figures 1 to 4 of my drawings. 3rd. In a butter worker, the combination of a cylinder, such as P, having inwardly-projecting bars P', perforated discs, such as E, E', a central hollow spindle, such as O, having radial bars, such as p, projecting from it, and some suitably constructed framing, such, for instance, as M, m', with an outer containing vessel or cylinder, such as D, the whole being constructed, arranged and operating substantially as and for the purpose specified and as illustrated in figures 5 and 6 of my drawings. 4th. In a butter worker, the combination, with a spindle having either the whole or else a portion of its length made hollow, of a slide valve, such as Q, having a wire or rod, such as q, attached thereto, said valve being adapted to close a port or opening in the side of said spindle, substantially as and for the purposes herein described and explained, and as illustrated in figures 5, 10 and 11 of my drawings. 5th. In a butter worker, the combination, with a sheet or bag, such as A, of moleskin or other similar material, of a jointed metal clasp or ring, such as R, figures 12 and 13, having ratchet teeth in its outer edge near one end thereof, together with a lever, such as S, figure 14, having a hook, such as s, pivotally connected thereto and adapted to draw said clasp tightly around the neck of said sheet or bag, substantially as and for the purpose herein described and explained and as illustrated in figures 12 to 15 of my drawings.

No. 33,783. Store Service Apparatus.

(*Chien de magasin.*)

William H. E. Whiting, London, Ont., 25th February, 1890; 5 years.

Claim.—In a store service apparatus, the above described arrangements of balance wire D, propelling wire E and stationary track wire F, controlled by levers C and handles G, and so arranged as to secure the continuous wedge-like propelling action of the wire E in relation to the stationary track wire F, throughout the entire length of the said wires, substantially as shown and specified.

No. 33,784. Air Moistening and Cooling Apparatus. (*Appareil pour humecter et rafraichir l'atmosphère.*)

William V. Wallace, Pittsfield, and John D. Gilman, Boston, Mass., U.S., 25th February, 1890; 5 years.

Claim.—1st. In an air moistening apparatus, the combination, substantially as set forth, of a pipe connected with a source of water supply and having an outlet and a valve therein, said valve or its seat having spray forming grooves, a drip receptacle below said outlet, a pivoted weighted lever having a cup arranged to receive water from said drip receptacle, a weighted cord connected with said weighted lever, and valve opening devices arranged to be operated by said cord, the arrangement being such that the cord is moved in one direction and set for action by its weight when the cup is depressed by the accumulation of water therein, and is moved in the opposite direction and caused to operate the valve opening devices when the weighted end of the lever falls. 2nd. In an air moistening apparatus, the combination, substantially as hereinbefore set forth, of a pipe connected with a source of water supply, and having an outlet and a valve therein, said valve or seat having spray forming grooves, a pivoted valve opening lever adapted to open said valve, a drip receptacle below said outlet, a pivoted weighted lever having a cup arranged to receive water from said drip receptacle, and a weighted cord connected with said weighted lever and with the valve opening lever, the arrangement being such that the movement of the weighted lever caused by the gravitation of the cup allows the cord to set for action the valve opening lever connected thereto, while the movement of said weighted lever by the gravitation of its weighted end causes the cord to operate said valve opening lever. 3rd. The combination, in an air moistening apparatus, of a pipe connected with a source of water supply and having an outlet and a valve therein, said valve or its seat having spray forming grooves, a pivoted arm or finger adapted to open said valve, a lever A connected with said finger, a drip receptacle below said outlet and provided with an escape pipe, a pivoted lever having a toe piece adapted to engage the lever A, a weighted cord connected with the lever p, and a weighted lever having a drip receiving cup and engaged with said cord, as set forth. 4th. The combination of the pipe d, having the outlet c and the grooved valve d, the rim, the arm or finger t adapted to displace said valve and provided with the water receiving cavity r', and the drip receptacle arranged to receive water from said cavity, as set forth. 5th. The combination of the pipe a, having the outlet c and the grooved valve therein, the arm or finger t adapted to displace the valve, the drip receptacle below the said outlet, the casing h enclosing the outlet and the arm t, and provided with an opening h', and the plate g partly covering the said opening and arranged to collect a portion of the water discharged from

the valve and direct the same into the drip receptacle, as set forth. 6th. The vertical pipe a, having the outlet c located above its lower end, and provided with a grooved valve or valve seat, the portion of the pipe below said outlet constituting a receptacle for sediment, and a valve D, whereby said portion may be opened to permit of the removal of the sediment accumulated therein, as set forth. 7th. The combination, with a water discharging nozzle, of a deflecting plate formed of or surfaced with mica, or its equivalent, as set forth.

No. 33,785. Manufacture of Electrodes for Storage Batteries. (*Fabrication des électrodes pour les accumulateurs.*)

Edward J. Mason, Frank B. Allan, Elias E. Slaght and John W. Thompson, Waterford, Ont., 25th February, 1890; 5 years.

Claim.—1st. An electrode supporting plate composed of lead, tin and mercury. 2nd. An active material composed of litharge, peroxide of lead minium or sub-oxide of lead mixed with ammonium sulphite, or sulphate, or sodium-sulphite or sulphate, substantially as explained.

No. 33,786. Car Brake. (*Frein de char.*)

Benjamin G. Harris, (assignee of Simon Fairman,) Baltimore, Md., U.S., 25th February, 1890; 5 years.

Claim.—1st. In combination with car brakes and the operating chain therefor, a cam wheel fixed upon the axle having double inclined faces, a lever operated by a cam wheel, a bar arranged to bear against the brake chain, and connections between the bar and the oscillating lever, whereby the oscillations of the lever push the bar against the chain, substantially as described. 2nd. In combination with the brakes and chain of a car, a cam having double inclined lateral faces, a lever operated by the cam, and a laterally sliding rack-bar operated by a pawl on the lever and arranged to bear against the chain of the brake, substantially as described. 3rd. In combination with the brakes and chain of a car, the sliding rack-bar arranged to bear against the chain, the holding and the working pawls, the latter carried upon a lever, the said lever and the cam wheel on the axle, substantially as described. 4th. In combination with the brakes and chain of a car, the sliding rack-bar arranged to bear against the chain, the holding and the working pawls, the latter carried upon a weighted lever, the said lever and the cam wheel having double inclined faces, substantially as described. 5th. In combination with the brakes and chain of a car, laterally sliding rack-bar, working pawl carried upon an oscillating lever and worked by a cam on the axle, an arm on said pawl, a plate arranged to operate said arm and connections between the plate and the working shaft, substantially as described. 6th. In combination, a cam wheel on the axle having double inclined faces, a weighted oscillating lever carrying a working pawl, a sliding rack-bar worked by a pawl, a holding pawl and a stud on the rack-bar arranged to operate against the chain of the brake with mechanism for releasing the brake, substantially as described. 7th. In combination with a brake, applying apparatus having pawls by which it is operated and held, a sliding rack, a shaft carrying a pinion engaged with the rack, and connection between them and the pawls, whereby the turning of the shaft is communicated to the pawls to release the brakes, substantially as described. 8th. The operating rod carrying a pinion engaging with a sliding rack-bar, which releases the working and holding pawl of the brake applying mechanism, the rack on said bar being arranged in relation to its pinion to cease action when the brakes are released and to allow the pinion to continue to turn, substantially as described. 9th. In combination, the operating shaft carrying a pinion, the sliding rack-bar engaging therewith, an inclined extension of the rack-bar, a weighted lever operated by the inclined extension and an arm on the working pawl of the brake applying apparatus operated by the weighted lever to release the brake mechanism, all substantially as described. 10th. In combination with the brakes of a car and with the chain and hand-wheel shaft thereof, a laterally moving bar carrying a friction pulley arranged to press the chain aside and apply the brake, substantially as described. 11th. In a combination, the cam-wheel, the weighted lever carrying a pawl with an arm thereon, and having also an arm on its upper end above the pawls, and a weighted lever carrying a plate arranged to press down the arms and to throw the weighted lever and pawl out of connection with their working parts, substantially as described. 12th. In combination with the operating rod of a railway car brake, a shell q on the end of each rod hemispherical in shape with a cylindrical extension provided with a slot q, the slots being arranged on opposite sides, as explained, in combination with a dumb-bell coupling having a pin r fitted to the slots, the pin on one ball of the dumb-bell being on the upper side and on the other ball on the lower side, substantially as described.

No. 33,787. Device for Giving Notice of the Approach of a Railroad Train to a Station or Crossing, Automatically. (*Appareil pour avertir automatiquement de l'approche d'un train de chemin de fer à une station ou une traverse.*)

Irvin W. Loy, Richard O'Toole, Mechanicstown, and John E. Mathews, Baltimore, Md., U.S., 25th February, 1890; 5 years.

Claim.—1st. In an apparatus for giving an automatic signal of the approach of a railroad train, the combination of a truck bar mounted upon rocking supports, a circuit closing device connected to and operated by the motion of the truck bar, springs operating upon said truck bar so as to maintain it at its highest elevation, and an electric circuit including the circuit closing device and an electro magnet, the armature of which is secured to a rock shaft to which is also secured a detent hook, which engages a notch in a detent wheel, which is a member of a train, operated by the vibrating armature of a magneto-electric bell, the circuit of which is closed when the arma-

ture of the electro magnet in the main line is attracted and the detent hook raised releasing the train, and which is broken by the armature of the main line magnet when the detent hook falls back into its notch. 2nd. In an apparatus for giving an automatic signal of the approach of a railroad train, the combination of a track bar mounted upon rocking supports, a circuit closing device connected to and operated by the motion of the track bar springs co-operating with said track bar to maintain it at its point of highest elevation, and an electric circuit including the circuit closing devices and an electro magnet, a shunt circuit, an electro-magnet included in said circuit for breaking the circuit when attracted, and closing it again when released by the magnet, one end of said armature being provided with a hammer which engages a bell and the other end being provided with a detent hook which engages a ratchet wheel and operates a train, one member of which is a detent wheel having a detent notch which is engaged by a detent hook secured to a rock shaft to circuit closing device included in the armature of the main line magnet, a circuit closing device included in the shunt circuit and operated by the armature is attracted, and break it when the armature is released, substantially as described. 3rd. In an apparatus for giving an automatic signal of the approach of a railroad train at a station, the combination of a track bar mounted upon rocking supports, a circuit bar, springs co-operating and operated by the motion of the track point of highest elevation, with said track bar to maintain it at its circuit closing devices and an electro magnet, a shunt circuit, an electro-magnet included in said shunt circuit, and a pivoted armature provided with mechanism for breaking the circuit when attracted, and closing it again when released by the magnet, one end of said armature being provided with a hammer, which engages a bell and the other end being provided with a detent hook which engages members of which are a pinion keyed to the same shaft as the ratchet shaft to which is also keyed a gear wheel, which is mounted upon a shaft to which is also keyed a detent wheel having a notch, which is engaged by a detent hook secured to a rock shaft, to which is also secured the armature of the main line magnet, a circuit closing device included in the shunt circuit and operated by the main line armature to close the shunt circuit when the said armature is attracted and break it when the armature is released provided the detent wheel has turned sufficiently to permit the detent hook to fall into its notch, substantially as described. 4th. In a train of gearing for a signaling device, the combination of the detent hook, a detent wheel, and a gear wheel keyed to the same shaft as the detent wheel, side and being mutilated by the removal of several teeth from one side and being provided with a weight attached to it on the side opposite to the mutilated portion, substantially as described.

No. 33,788. Device for Covering Grain.

(Appareil pour couvrir le grain.)

The Van Brunt and Davis Company, (assignees of Willard A. Brunt), Horicon, Wis., U.S., 25th February, 1890; 5 years.

Claim.—1st. The combination, with feed spouts and shares or hoes, of covering wheels connected therewith and springs for retaining the shares in the ground at the uniform depth and transferring the pressure to the wheels the moment the shares tend to sink into the ground beyond this uniform depth, substantially as set forth. 2nd. The combination, with drag-bars, hoes or shares connected thereto, and feed spouts located on the shares or hoes, of straps or bales pivotally secured to the drag-bars, covering wheels journaled in the covering wheels, and springs adapted to transfer pressure upon depth, substantially as set forth. 3rd. The combination, with drag bars, shares or hoes secured thereto, and feed spouts located on the extending upward from the share, and a spring mounted thereon, a rod adapted to exert a constant pressure upon the share and transfer its pressure to the wheels when the share has reached a certain depth, substantially as set forth. 4th. The combination, with drag bars, hoes and having covering wheels journaled in their rear ends, of a drag-rocker shaft, arms thereon, rods pivotally secured to the shares and thereon, and springs mounted on the rods, said rods having washers and transfer this pressure to the wheels when the share has reached a certain depth, substantially as set forth.

No. 33,789. Coin Controlled Test Lifting Machine. (Machine d'épreuve à hisser actionnée par une pièce de monnaie.)

John Lighton, (assignee of Bernhard Fuchter, Syracuse, N.Y., U.S., 25th February, 1890; 5 years.

Claim.—1st. In a test lifting machine, the combination, with the pair of spring actuated locking studs and a coin chute, of a coin chute and provided in their upper ends with a curved seat for coins, both above and below the notches, substantially as and for the purpose set forth. 2nd. In a test lifting machine, the combination, with the lift bar and its springs, the bar being formed with holding, the indicator and provided with a rack bar and an adjustable hand with a pinion and a bent arm of a coin chute for delivering the coin to the locking dogs, a pair of spring actuated locking dogs engaging end and a second coin chute for delivering the coin to the receiver, purpose set forth.

No. 33,790. Planer Attachment for Saw Mills. (Appareil de planage pour les scieries.)

Hiram N. Berry and Micajah F. Berry, Meridian, Miss., U.S., 25th February, 1890; 5 years.

Claim.—1st. The combination, with a bed or support, of a longitudinally sliding shaft journaled thereon and vertically adjustable at its front end, and the planer head on said front end, substantially as set forth. 2nd. The combination, with a bed or support, of the longitudinally sliding and yielding shaft vertically adjustable at its front end, and the planer head at said front end, substantially as set forth. 3rd. The combination, with the bed or support, of the longitudinally sliding shaft vertically adjustable at its front end, a planer head on said front end, gearing for sliding the shaft longitudinally in its bearings, a weight exerting its force to hold the planer head to its work, substantially as set forth. 4th. The combination, with the vertically rocking bar having bearings and a shaft journaled therein and provided with a planer head at its front end, of a yoke through which said bar passes at its front end, rods passing from the bar up through the yoke, a screw swiveled in the yoke between the rods and provided with a nut or cross head engaged by said rods, substantially as set forth. 5th. The combination, with the planer shaft having a rack loose thereon, stops or collars on the shaft at the ends of the rack, and a shaft provided with a pinion engaging said loose rack to slide the shaft in its bearings, substantially as set forth. 6th. The combination, with the planer head shaft having two collars thereon, a rack loose on the shaft between said collars, of a crank shaft having a pinion engaging said rack, and a weight tending to turn the crank shaft and throw the planer shaft forward, substantially as set forth. 7th. The combination, with a longitudinally adjustable planer shaft having a loose tubular circumferentially grooved rack, of a shaft having a pinion engaging said rack to move the shaft longitudinally without affecting its rotation, substantially as set forth. 8th. The combination, with the bed and the bar thereon, a round fulcrum between the two, and bolts extending through the bed, bar and fulcrum of the yoke on the bed, the screw swiveled on the yoke and having a nut connected with the forward end of said bar, the planer shaft journaled longitudinally on said bar to slide thereon, and mechanism for sliding said shaft, substantially as set forth. 9th. The combination, with the saw mill frame and its transverse shaft having a saw thereon of an auxiliary frame secured transversely on the front end of the saw frame in advance of the saw, and consisting in a bed, a rocking bar or piece thereon, a sliding shaft journaled on said bar and having a planer head at its front end, mechanism for raising and lowering the front end of the said bar to incline the planer head and gearing for sliding the planer shaft in its bearings, substantially as set forth.

No. 33,791. Harrow. (Herse.)

John T. Bell (assignee of Sebastian Ritty), Dayton, Ohio, U.S., 25th February, 1890; 5 years.

Claim.—1st. The combination, substantially as hereinbefore set forth, of a harrow-head, the pivotal bearing secured to the outer end thereof, the gang beam, the bridle piece secured to the outer end thereof and open at the end adjacent to said bearing, and the vibratable pivot bolt passing through the ends of said bridle-piece and the bearing on the harrow-head. 2nd. The combination, substantially as hereinbefore set forth, of the harrow-head, the wear plates secured at the outer end thereof to the top and bottom surfaces, the pivotal bearing secured to an edge thereof opposite the wear plates, the gang beam, the bridle piece secured to the outer end of said gang beam, with its arms adapted to embrace the harrow-head and its wear plates, and the bolt passing through the ends of said bridle piece and the pivotal bearing on the harrow-head. 3rd. The combination, substantially as hereinbefore set forth, of the harrow-head, the gang beam, the bridle piece, the pivotal cap piece, the sleeve and the bolt. 4th. The combination, substantially as hereinbefore set forth, with a harrow disk and the overhead gang beam of the scraper pivoted to said gang beam, and adapted to move laterally on its pivot and transversely thereof, and means for controlling and inducing such lateral movement. 5th. The combination, substantially as hereinbefore set forth, with a harrow-head and an overhead gang beam, of the scraper pivoted to said gang beam and adapted to move laterally on its pivot and to transversely thereof, a spring normally resisting such lateral movement to hold the scraper out of action and a rod pivoted to said scraper between its pivot and the periphery of the harrow disk to draw the scraper into action. 6th. The combination, substantially as hereinbefore set forth, of a harrow disk, an overhead gang beam, a scraper having its shank resting against the rear edge of such overhead gang beam and transversely slotted, the pivot bolt normally at the inner end of said slot, confining the scraper to the gang beam, a spring resting at its outer end against the shank of the scraper and at its inner end against the pivot bolt and a draw rod for said scraper pivoted thereto between the harrow disk and the gang beam. 7th. The combination, substantially as hereinbefore set forth, of a gang of harrow disks, a gang beam, a series of scrapers, one for each harrow disk pivoted to said gang beam and adapted to move laterally thereon transversely of their pivots, a spring or springs resisting such lateral movement, a rod or bar pivoted to each scraper between the gang beam and the periphery of the harrow disks, and means for moving said rod or bar endwise. 8th. The combination, substantially as hereinbefore set forth, of a gang of harrow-disks, a gang beam, a series of scrapers, one for each harrow disk, pivoted to said gang beam and adapted to move laterally thereon transversely of their pivots, springs for each scraper resisting such lateral movement, a rod or bar pivoted to each scraper between the gang beam and the periphery of the harrow disks, and means for moving said bar or rod endwise. 9th. The combination, substantially as hereinbefore set forth, of the gang of harrow disks, a gang beam, a series of scrapers, one for each harrow disk, a common controlling rod for said scrapers, a treadle or foot-lever pivoted to the rear edge of the gang beam at its inner end beneath the driver's seat, and a link connecting said treadle or foot-

lever with the controlling rod. 10th. The combination, substantially as hereinbefore set forth, of a gang of harrow disks, the gang beam, the series of scrapers pivoted to said gang beam and arranged to move laterally on their pivots and transversely thereof against spring pressure, the treadle or foot-lever pivoted at the rear inner edge of the gang beam, the controlling rod pivoted to each of said scrapers between the gang beam and the periphery of the harrow disks, and the link connecting said rod with the treadle.

No. 33,792. Low Water Alarm.

(Indicateur du niveau d'eau.)

Andrew Wildman, East Saginaw (assignee of William F. Hand, Bay), Mich., U.S., 25th February, 1890; 5 years.

Claim.—1st. In a low water alarm, the combination of a casing *c* inclosing a chamber above the boiler, and a pipe *e* with its upper end portion *i* passed through the said casing, and extending to the upper portion of the chamber, and provided with an opening, as *g*, and having its lower portion *d* passed through the boiler shell and reaching into the water, and a pipe *k*, having its lower end portion *l* passed through the upper head of the said casing and extending to the bottom portion of the chamber, and having, as described, its upper end opening closed with a plug of metal fusible at the temperature of the steam in the boiler, substantially as set forth. 2nd. The combination, in a low water alarm, of the casing inclosing a chamber, with the upper and lower vertical pipes, having their adjacent end portions passed through the opposite heads of the said casing and overlapping each other, and with the lower portion of the lower pipes passed through the boiler shell and reaching into the water, a valve secured to the upper end of the said upper pipe and provided with devices, as described, for locking the valve in an open position, and a plug of metal fusible at the temperature of the steam in the boiler for closing the end opening of said upper pipe, substantially as set forth. 3rd. The combination, in a low water alarm, of a casing inclosing a chamber, a pipe passed through the lower head of the casing and with its upper end portion extending into the said chamber and provided with a side opening, as *g*, and with its lower end passed through the boiler shell and into the water, a pipe connected to the upper head of the casing and with its lower end portion extending into the chamber and having the opening in its upper end closed by a fusible plug, as described, and the screw-threaded plug *f* passed through the said casing and with its inner end *f* fitted to pass into and partially close the said opening *g*, substantially as and for the purpose set forth.

No. 33,793. Portable Dam.

(Batardeau portatif.)

Gustav H. Lummer, Cairo, Ill., U.S., 25th February, 1890; 5 years.

Claim.—1st. A portable dam for regulating the banks and channels of rivers or water courses, consisting of a current deflecting main dam section A, having a concave face, and of auxiliary dam sections A', with concavo-convex faces placed adjacent to the main section, substantially as shown. 2nd. In a portable dam, the main and auxiliary dam sections A, A', having projecting prongs to fasten themselves to the river bed, substantially as shown and described. 3rd. A portable dam, consisting of main and auxiliary sections, having projecting prongs to fasten themselves to the river bed, and aprons hinged at the lower face portions of the sections, substantially as shown and described. 4th. The main section, made with a concave current deflecting face D, bottom prongs B, C, and hinged apron E, substantially as shown and described. 5th. The main dam section A, made increasing in depth from the shore to the channel end, and with a concave current deflecting face D, bottom prongs B, C, and hinged apron E, substantially as shown and described. 6th. The auxiliary dam section A', made of like width and height throughout, and provided with a concavo-convex current deflecting face and hinged apron E' below said face, substantially as shown and described. 7th. The dam sections, constructed with sill timbers *a*, vertical timbers *b* and brace timbers *c*, said timbers *b*, *c*, projecting to form the prongs B, C, substantially as shown and described. 8th. A portable dam for regulating the banks and channels of rivers or water courses, consisting of a main dam, section A placed at an angle to the current and having a concave current deflecting face D, an apron E, hinged below said face, the section A, increasing in depth from the shore to the channel end, and one or more series of auxiliary dams A', also provided with hinged aprons E', and having concavo-convex current deflecting faces, the sections A, A', having projecting prongs for hold on the river bed and placed relatively with each other, substantially as shown and described.

No. 33,794. Hay Press. (Presse à foin.)

Alphonse Dansereau, Verchères, Qué., 26th February, 1890; 5 years.

Résumé.—Dans une presse à foin le mécanisme moteur formé d'un bâti O, O', O'', d'une couronne P, d'une barre d'attelage Q, Q', Q'', d'une manivelle M avec tête spéciale R, R', r, r', s, s', s'', T, t, t', t'', en combinaison avec le collet F, la tige L, la chaîne c, c', c'', la poulie J et la presse proprement dite A, le tout tel que ci-dessus décrit et pour les fins sus-mentionnées.

No. 33,795. Apparatus for Charging Inclined Gas Retorts. (Appareil pour charger les cornues à gaz inclinées.)

Ludovico Van Vestrant, Southall, Eng., 26th February, 1890; 5 years.

Claim.—The use of a movable telescopic adjustable shoot, of a section suitable for the mouth pieces of retorts to be charged and for the purpose of charging the same, substantially as and for the purpose hereinbefore set forth and according to the accompanying drawings.

No. 33,796. Automatic Shut-off for Water Pipes. (Soupape d'arrêt automatique pour les tuyaux d'eau.)

Henry A. Skinner, Greenfield, Mass., U.S., 26th February, 1890; 5 years.

Claim.—1st. An automatic shut-off for water pipes, comprising a valve, a weight-actuated crank mechanism therefor, and an escapement for said mechanism released by an electric current, substantially as described. 2nd. In a device of the character described, an electric circuit, a magnet therein, a valve in the water pipe, a weight actuated crank mechanism for operating said valve, an escapement for said mechanism actuated by said magnet when the circuit is closed, substantially as described. 3rd. In a device of the character described, a valve in the water pipe, a drip pipe in the valve chamber, a crank mechanism for operating said valve, a cord for actuating said crank, having a weight at one end and a tank at the opposite end, adapted to receive the water from said drip, an escapement for the crank mechanism, and an electric circuit having a magnet for releasing said escapement when the circuit is closed, substantially as described. 4th. In a device of the character described, a valve, a crank mechanism actuated by a weight to close the valve, and a vessel to contain the waste water from the pipes to open said valve, and an escapement for said mechanism adapted to be released by closing an electric circuit, substantially as described. 5th. In an automatic shut-off for water pipes, a rotary crank disk, an escapement therefor adapted to be released by an electro-magnet, a cord for reciprocating said disk, provided with a weight at one end and a tank at the opposite end, a crank rod connecting the disk and a valve in the water pipe, and a flexible pipe connecting the disk of said valve with said tank, substantially as and for the purpose set forth. 6th. In an automatic shut-off for water pipes, a sliding valve, a drip therefor, a rotary crank disk, a rod connecting the disk and valve stem, a cord on the arbor of said disk for reciprocating the same, a weight on one end of said cord and a tank at the opposite end, a flexible tube connecting the valve drip with the tank, and a valve in the tank for emptying it when the pipe valve has been opened, substantially as described. 7th. A device for automatically operating the valve of a water pipe, comprising a rotary crank disk connected with the valve and provided with an escapement released by the closing of an electric circuit, and mechanism, substantially as described, for reciprocating said disk to open and close the valve. 8th. A device for automatically operating the valve of a water pipe, comprising a rotary crank disk connected with said valve, an escapement therefor adapted to be released by an electro-magnet, a cord for reciprocating the disk, said cord having a weight at one end and rotating the disk to close the valve, and a tank at the opposite end for receiving the waste water from the pipes and rotating the disk to open said valve, substantially as described. 9th. The valve A, provided with the drip *b*, in combination with the disk *a* fitted to rotate in the frame D, the barrel 16 on the disk shaft, the cord *h*, weight 33, tank 35 and tube 40, and an escapement for said disk actuated by an electro magnet, substantially as described. 10th. The valve A and crank disk *a*, in combination with an escapement for the disk mechanism, for automatically reciprocating said disk and the bar 29, rod *z*, and tube 12 connecting said disk with the valve stem, substantially as described. 11th. In an automatic shut-off for water pipes, a rotary crank disk connected with the valve, an escapement therefor released by an electro-magnet, a cord and weight for rotating the disk to close the water valve, a tank connected with the waste drip and a cord for rotating the disk in the opposite direction to open said valve, substantially as described.

No. 33,797. Car Wheel. (Roue de char.)

Patrick H. Griffin, Buffalo, N. Y., U.S., 26th February, 1890; 5 years.

Claim.—1st. A railway car wheel, having in its face radial projecting lugs, provided with transverse apertures, as described, whereby balancing weights may be secured to said lugs, as and for the purpose set forth. 2nd. A balanced car wheel, having in its face radial transversely perforated lugs and balancing weights secured to said ribs, as and for the purpose stated. 3rd. A railway car wheel, having in its face and adjoining the tread, transversely perforated ribs and balancing weights having apertures in their ends secured to said ribs by rivets passing through said apertures in the ribs and into the apertures in the weights, as set forth. 4th. A balanced car wheel having in its face and radially projecting from the tread, transversely perforated ribs and balancing weights provided with taper apertures in their ends, and rivets passing through said perforated ribs into said taper apertures, said rivets having the enlargements, as and for the purpose set forth. 5th. A balanced car wheel, having in its face projecting ribs and counter-weights secured to said ribs, as and for the purpose stated.

No. 33,798. Shavings for Vinegar Generators and for Clarifying Beer. (Ripes pour les générateurs de vinaigre et clarifier la bière.)

Rudolph H. Herder, Chicago, Ill., U.S., 26th February, 1890; 5 years.

Claim.—As an article of manufacture, shavings for vinegar production and beer clarification, corrugated or fluted on both sides in the direction of the grain of the wood, substantially as and for the purpose set forth.

No. 33,799. Machine for Making Nut Locks.

(Machine à faire les arrête-écrous.)

William Dunn, Philadelphia, Penn., U.S., 26th February, 1890; 5 years.

Claim.—1st. In a machine for making nut fasteners, in combination, a supporting table, a stud provided with a swinging lever means for holding a blank in such position that it lies in the path of

said stud fingers, each adapted to travel in an independent path and so situated as to each operate upon one of the respective ends of the blank, a link connecting said fingers and a handle adapted to operate said fingers, substantially as set forth. 2nd. In a machine for making nut fasteners, in combination, a supporting table stationary studs adapted to hold a blank between them, a lever, a stud mounted thereupon, swinging arms mounted upon independent axes, fingers attached to said arms, each adapted to, when the stud is in its innermost position, move partly around the same in planes inclined to the horizon, and in paths eccentric both with respect to said stud and to each other, a link connecting said swinging arms, and a handle mounted in connection therewith, substantially as set forth. 3rd. In a machine for making nut fasteners, in combination, a supporting table, stationary studs which lie on opposite sides of a blank fed to the machine, a movable stud adapted when in its outer position to lie adjacent to the free end of a straight blank fed to the machine, and when in its inner position to lie adjacent to the blank when said blank has been bent to a V-shape, a lever arm upon which said movable stud is mounted, and means for bending the extremities of the blank about said movable stud, substantially as set forth. 4th. In a machine for making nut fasteners, in combination, a supporting table, a stationary stud adapted to lie adjacent to one side and near the center of a blank fed to the machine, a retaining device adapted to lie adjacent to the opposite side of the blank, a movable stud, the path of travel of which intersects the blank fed to the machine, a lever arm upon which said movable stud is mounted, a pivot beneath the table for said lever arm, an opening in said bending the extremities of the blank about said movable stud, substantially as set forth. 5th. In a machine for making nut fasteners, in combination, a supporting table, a movable stud, a lever upon which said stud is mounted, projecting arms mounted said projecting arms, an arm and a finger depending from each of lever handle attached to one of said arms or its axis, substantially as set forth. 6th. In a machine for making nut fasteners, in combination, a supporting table, a movable stud, a lever arm upon which said stud is mounted, projecting arms mounted upon independent axes, an arm and a finger depending from each of said projecting arms, a link by which the projecting arms are coupled, and a lever by which they are rotated, substantially as set forth. 7th. In a machine for making nut locks, in combination, a supporting table, a movable stud, a lever arm upon which said stud is mounted, arms mounted upon independent inclined axes in such position that they overhang the point occupied by the stud when it is moved in to its innermost position, an arm and a finger depending from each projecting arm and a lever arm connected to the axis of one of said arms, substantially as set forth. 8th. In combination with the lever B and the stud mounted thereupon, the latch machine for making nut locks, in combination, a projecting arm mounted upon an inclined axis, a projecting arm mounted upon a separate inclined axis, depending arms and fingers attached to said arms, a link connecting said projecting arms, and a lever handle connected to one of said axes, substantially as set forth. 9th. In a machine for making nut locks, in combination, a projecting arm mounted upon an inclined axis, a projecting arm mounted upon a separate inclined axis, depending arms and fingers attached to said arms, a link connecting said projecting arms, a lever handle connecting to one of said axes, the arrangement being such that upon the throw of the handle said fingers are caused to describe arcs of circles in planes inclined to the horizon, substantially as set forth.

No. 33,800. Machine for Curving or Straightening Cold Steel Rails. (*Machine pour courber ou redresser les rails d'acier froids.*)

Max Roenspiess and Matthew Flynn, St. Joseph, Mo., U.S., 26th February, 1890; 5 years.

Claim.—1st. The combination of frame consisting of sills *d, d*, uprights *b, b*, horizontal posts *c, c, c*, caps *d, d*, with rollers *e, e* and *f*, channel-irons *o, o, o*, cog-wheels *g*, endless screw *k*, jack-screws *s*, rods *x, x* and *n, n, n*, bolts *p, r, y, v* and *z, z*, and cranks *h, h*, for the purpose specified substantially as described. 2nd. The combination of rollers *e, e*, turned out at *o, o*, cog-wheel *g*, cranks *h, h*, channel-irons *o, o, o*, boxes *i* and *j, j, j*, plates *m, m*, rods *n, n, n*, and *y, y*, horizontal posts *c, c, c*, *q* and *u, u, u*, bolts *r, r, z, z*, sills *d, d*, uprights *b, b* and caps *d, d*, substantially as described for the purpose specified.

No. 33,801. Hopper Bottom Freight Car.

(*Char à marchandises avec pavé à trémie.*)

Frank L. Joy, Chicago, Ill., U.S., 26th February, 1890; 5 years.

Claim.—1st. In a freight-car-structure, the combination therewith of the auxiliary doors *c, c'*, consisting of the upper half *a* and the lower half *a'*, said lower half being adapted to be turned down made to slide down to close the opening left by turning down the lower half, substantially as set forth. 2nd. In a freight car, the combination, with a hopper located in the bottom of the auxiliary *c, c'*, said lower half being adapted to be turned down to a horizontal position to cover the hopper and form a level floor while the upper half may be turned upward or slid down to take the place of the 3rd. In a freight car, the combination, with the inside auxiliary doors *c, c'*, consisting of the two parts *a, a'*, divided in a horizontal plane, of the cords *d, d'*, the sheaves *a¹¹* and the counter-weights *a¹²*, or slid downward as may be required, substantially as and for

the purpose set forth. 4th. In a freight car, the roof structure whereof is provided with one or more openings, the combination therewith, of a hopper bottom having a discharge opening whereby merchandise such as grain may be loaded into the car in bulk through the top and discharged from the hopper bottom in a like manner, as set forth. 5th. In a freight car, the combination, with the hopper bottom, of a number of trap doors *b*, which form a part of the bottom of the car and cover a part of the hopper surface, or may be turned back against the lining of the car when the hopper is to be uncovered, substantially as set forth. 6th. In a freight car, the roof having one or more openings, the adjustable cover for closing said openings, and the screens attached to said covers for the purpose of excluding dust and dirt, substantially as set forth. 7th. In a freight car, the combination, with the hopper bottom provided with a central discharge opening of a slide having a corresponding opening and adapted to close said opening in the hopper, and means, substantially as described, for moving slide, as set forth. 8th. In a freight car, the combination, with the hopper bottom having a discharge opening, of the grooved frame secured to the underside thereof, the slide moving in said frame, the friction-rollers, and the system of compound levers for moving said slide, as set forth.

No. 33,802. Steam Power Apparatus for Screwing Pipes together. (*Appareil à force de vapeur pour visser les tuyaux ensemble.*)

Lewis A. Stanford, Bradford, Penn., U.S., 26th February, 1890; 5 years.

Claim.—1st. The combination, with an engine, of a driving shaft secured thereto and provided with a driving pinion, the driven shaft provided with a wheel to gear with the said pinion, and a cap or clutching device which is to be applied to the pipe or pipe coupling and which is loosely connected to the driven shaft, substantially as shown. 2nd. The combination of a traction engine with the shaft E, which is made in two parts and provided with the collar G, a clutch and a lever for moving the clutch with a pinion, a driven shaft, a wheel applied to the said shaft, and a cap or clutching device loosely connected to the said driven shaft, the shaft E being adapted to both propel the engine and to operate the driven shaft, substantially as described. 3rd. The combination, with the driven shaft provided thereto and provided with a pinion, the driven shaft provided with arms at one end and which is adapted to have an endwise movement, the wheel applied to this driven shaft and provided with projections to engage with the arms, and a cap or clutching device which is loosely connected to said shaft, substantially as set forth. 4th. The combination of the engine, the shaft E provided with a pinion I, the wheel which meshes with the pinion, and the driven shaft which has an endwise movement through its boxes, and the wheel placed thereon, the projections secured to the wheel, the arms upon the end of the shaft, the collar upon the shaft, the spring for returning the shaft to position after having been moved, and the cap or clutching device which is loosely connected to the shaft, substantially as specified. 5th. The combination of the shaft M and its operating mechanism, the universal joint T, the shaft U, the extension rod V and the clutching device connected to its lower end, substantially as shown. 6th. The combination of a clutching device W connected by a universal joint, with the rod V, and a revolving shaft connected with the rod V for causing the clutch to revolve, substantially as described. 7th. The combination of the shaft M, the universal joint T, the hollow shaft U, the extension rod V, a universal joint at the lower end of the rod V, and a clutching device that passes over the end of a pipe or pipe coupling, substantially as set forth. 8th. The combination of the clutching device W, provided with dogs which engage with the pipe or coupling, the extension rod V, and a universal joint between the rod and the clutch, substantially as specified. 9th. The combination of the shaft M, a universal joint T, the shaft U, a connecting rod which loosely makes connection with the shaft U and which slides back and forth in the shaft, a universal joint at the end of the rod, and the clutching device, substantially as shown. 10th. The combination of the clutching device W, provided with recesses Y on its inner side, the automatically acting ratchets A', the operating rod for causing the clutching device to revolve, and the universal joint between the clutching device and the rod, substantially as described. 11th. The combination of the driving shaft E, a pinion applied thereto, the shaft M provided with the wheel L for meshing with the pinion, a universal joint T, the shaft U, the rod P, clutch W provided with ratchets A', a universal joint between the rod V and the clutch, substantially as set forth.

No. 33,803. Grinding Roll for Flour Mills.

(*Roller de moulin à blé.*)

Henry A. Huefner, Palmer, Ill., U.S., 26th February, 1890; 5 years.

Claim.—1st. As a new article of manufacture, a roll for flour mills provided with curved serpentine corrugations, substantially as set forth. 2nd. As a new article of manufacture, a roll for flour mills provided with serpentine corrugations arranged spirally upon the face of the roll, substantially as set forth. 3rd. The combination of two grinding rolls, each provided with serpentine spiral corrugations, and one of said rolls having a finer dress than the other, as herein set forth.

No. 33,804. Pump. (*Pompe.*)

George G. Patchel and Thomas T. Patchel, Darby, Penn., U.S., 27th February, 1890; 5 years.

Claim.—The combination, with the pump stock 1, having the transverse spout 2 and central bore 4, the inclosed bucket 5 and rod 6, of the cast metal collar 7x having perforated lugs 9x, cap 7, perforated as at 9, and having perforated lugs registering with those of the collar and bolted to the same as at 8, and having the air tight depending flange 10 forced into the stock, and having the opening 11

surrounded by the depending tube 12 terminating below the inner end of the spout 2, the standards 13 bolted to the cap and having bearings 14, the lever 15 pivoted in the bearings, the rod 16 broken as at 17, and having its upper end connected pivotally with the inner end of the lever, and the rod 19 connected at its lower end, as at 21, to the upper end of the rod 6, and the piston and packing 18 and 20 connecting the adjacent ends of the rods 16 and 19, and having the jamb nuts 23, said piston and packing being mounted within the tube 12, all combined and operated substantially as specified.

No. 33,805. Portable Sawing Machine.

(*Scierie portative.*)

William D. Gunn, Wesson, Miss., U.S., 27th February, 1890; 5 years.

Claim.—In combination with a sawing machine having a frame one side of which projects forwardly in such a manner as to form a support for the triangular groove C, the drive-wheel B having an adjustable section *b* for the purpose of increasing or diminishing the length of the stroke of the piston, and saw guide A composed of two parallel sides *a*, separated slightly from each other by means of the slotted head-blocks *a* and having on its side a triangular projection *d*, for the purpose of engaging in the correspondingly shaped groove C, all substantially as described and for the purpose named.

No. 33,806. Railroad Switch Appliance.

(*Appareil d'aiguille de chemin de fer.*)

John J. Hill, Chicago, Ill., U.S., 27th February, 1890; 5 years.

Claim.—1st. In a railroad switch appliance, a rotary switch-bar C having worms G and G¹ to engage the switch, and provided with stops F for the main rails, substantially as and for the purpose set forth. 2nd. In a railroad switch appliance, a rotary switch-bar C having worms G and G¹ to engage the switch, and provided with stops F for the main rails, and a switch-stand H having its spindle geared to the switch-bar, substantially as and for the purpose set forth. 3rd. In combination with the main rails B and B¹, switch rails A and A¹, a rotary switch-bar C supported to extend below and across the said main and switch rails, and provided with worms G and G¹ respectively engaging the rails A and A¹, and with stops F confining the main rails against spreading, substantially as and for the purpose set forth. 4th. In combination with the main rails B and B¹, switch rails A and A¹, a rotary switch bar C supported to extend below and across the said main and switch rails, and provided with worms G and G¹ respectively engaging the rails A and A¹, and with stops F confining the main rails against spreading, a gear wheel *p* on the bar C, and a switch stand H having a gear *p* on its spindle engaging with the gear *p*, the whole being constructed and arranged to operate substantially as described.

No. 33,807. Washing Machine.

(*Machine à blanchir.*)

Jacob F. Farr, Humberstone, Ont., 27th February, 1890; 5 years.

Claim.—Bars E having slots U and pins X, also pins W, levers D having slots V, bars G and F, and the rounds for holding the bars and levers in position, all formed, arranged and combined in a washing machine, substantially as and for the purpose hereinbefore set forth.

No. 33,808. Pianissimo Action or Device.

(*Pédale douce.*)

Freeman H. Toles, Syracuse, N.Y., U.S., 27th February, 1890; 5 years.

Claim.—1st. In a piano action, the combination, with the jack and hammer, of the pedal, a regulating rail connected to the pedal by rods connected to the ends of the rail, and a cross bar between the lower ends of the rod, whereby the let off button and rail are drawn down toward the jack by the pedal, as set forth. 2nd. In a piano action, the combination, with the jack and hammer, of the pedal, a regulating rail and let off button connected to and depressed toward the jack by the pedal, and a rocker regulating rail connected to the pedal and depressed toward the rocker simultaneously with the regulating rail, as set forth. 3rd. In a piano action, the combination, with the jack and hammer, of the pedal, a regulating rail and let off button connected to, and depressed toward the jack by the pedal, and a key regulating rail mounted upon a lever which is connected to the pedal, whereby the regulating rail and let off button are depressed toward the jack and the key rail is elevated towards the keys simultaneously, as set forth. 4th. In a piano action, the combination, with the jack and hammer, of the pedal, a regulating rail and let off button, connected to and depressed toward the jack by the pedal, a rocker regulating rail connected to the pedal and depressed toward the rocker by the pedal and a key regulating rail mounted upon a lever which is connected to the pedal, whereby this rail is elevated toward the keys simultaneous with the depression of the other rails, as set forth.

No. 33,809. Dust Pan. (*Pelle à main.*)

Benjamin Fletcher, Toronto, Ont., 27th February, 1890; 5 years.

Claim.—1st. A dust pan having a cover above and suitably curved to meet the bottom and form the closed sides around the greater portion of the periphery, said bottom having a beveled edge inclining at an angle of depression and securing a metal strip between the double of said beveled edge, and provided with a bale flexibly connected centrally to the sides and acting by gravity, substantially as shown and described and for the purpose specified. 2nd. In a dust pan provided with a hinging bale suitably attached to act by gravity the metallic strip secured between the double of the beveled edge of the bottom of the said pan, substantially as shown and described and for the purpose specified. 3rd. In a gravity acting dust pan, the bale flexibly connected centrally to the edges of the sides, substantially as shown and described and for the purpose specified.

No. 33,810. Sleeping Car. (*Char-dortoir.*)

Henry Caspar, New Orleans, La., U.S., 27th February, 1890; 5 years.

Claim.—1st. A car having a number of seats or sections arranged longitudinally in rows in the direction of length of the car and having a central and cross aisles, substantially as specified. 2nd. In a car, substantially as described, the combination, with a lower berth frame having its ends or arms provided with sockets, of the back provided with lugs fitting in said sockets, substantially as set forth. 3rd. A sleeping car having its sections or seats arranged facing the side of the car, having the side of the car in front of such section formed with a space or recess of approximately equal length therewith, and provided along the side and ends of such recess with cleats or ledges, substantially as set forth. 4th. In a sleeping car, the combination of the upper berth, the lower berth formed to provide a sofa like seat having a detachable back adapted for use as mattress for the upper berth, and provided with double cushions and supports arranged in front of such seat and adapted to receive one of the cushions, substantially as set forth. 5th. In a car having its sections or seats arranged facing the sides of the car, a foot rest or board extended along the inner side of the car hinged at one edge to the side of the car, whereby it may be lowered out of the way, and blocks or standards by which to support the said board when lowered, substantially as set forth. 6th. A car having a number of seats or sections arranged longitudinally in rows in the direction of length of the car, and having a central and cross aisles and also having spaces between the ends of the adjacent sections, and folding leaves in said spaces to form a dressing room, substantially as specified. 7th. A car having a number of seats or sections arranged longitudinally in the direction of the length of the car, and having a central and cross aisles, and also having spaces between the ends of the adjacent sections, and provided at the sides adapted when folded to form a closed straight closet, and when unfolded to close said spaces, substantially as specified. 8th. A car such as described, having spaces between the adjacent ends of the sections adapted to form a dressing room, in combination with the fixed side pieces *b*, *b*¹, the leaf *c* hinged to the side piece *b*, the leaf *c*¹ hinged to the outer edge of said leaf *c*, and the leaf *c*² hinged to the fixed side piece *b*¹, and the narrow leaf *c*³ hinged to the outer edge of the leaf *c*¹, whereby the whole may form a convertible closet and dressing room, substantially as specified. 9th. In a sleeping car having its sections formed with upper and lower berths, in combination with the framing of the lower berth adapted to form the body of a sofa, and the sofa having a removable back, said back being detachably connected with the frame, whereby the same may be lifted off and form a mattress for the upper berth, substantially as specified. 10th. A sleeping car having closets or dressing rooms arranged in spaces between the ends of the adjacent sections, said dressing rooms being composed of hinged leaves *e*, *e*¹ and *e*², and the narrow leaf *e*³, and having a hinged top or horizontally closing cover *z*, to close the said dressing room from the view of a person occupying the upper berth, substantially as specified. 11th. A sleeping car having a closet or dressing room arranged in a space between the ends of the adjacent sections, said dressing room being composed of folding leaves, and one of the leaves having a doorway adapted to be opened and closed by a leaf which forms one of the walls of the dressing room substantially as specified. 12th. A sleeping car having a closet or dressing room arranged at the end of a berth, said dressing room being composed of hinged leaves *e*, *e*¹ and *e*², and the narrow leaf *e*³, the leaf *c* having an opening or doorway, and the leaf *c*¹ being adapted to serve the two-fold function of closing the doorway and forming one of the walls of the cabinet, substantially as specified. 13th. In a sleeping car having its sections or seats arranged facing the sides of the car, the combination with the longitudinal seats, of a partition or division wall adapted to be placed in position upon said seats to divide the same transversely, substantially as specified. 14th. In a sleeping car having its sections or seats arranged facing the sides of the car, the combination, with the seats and sides of the car having vertical slots or recesses cut therein, of a removable partition or division wall adapted to be seated in the said slots or recesses to effect a division of the seat, substantially as specified.

No. 33,811. Child's Buggy. (*Voiture d'enfant.*)

Ernest A. Harris, Victoria, B.C., 27th February, 1890; 5 years.

Claim.—1st. The combination of the frame *c* and eyes *k*, together with the frame *D* and pivoted frame *E*, substantially as and for the purpose hereinbefore set forth. 2nd. The combination of the frame *c* and eyes *k*, together with the frames *D*, *E*, *L*, *P*, substantially as and for the purposes hereinbefore set forth. 3rd. The combination of the cot frames *c*, *D*, *E*, *L*, *P* and eyes *k*, together with the nets *T* and *T*, substantially as and for the purposes hereinbefore set forth. 4th. The combination of the cot frames *c*, *D*, *E*, *L*, *P* and the eyes *k*, together with the carriage and frames *A*, *B*, *G*, and suspended on pins *H*, substantially as and for the purpose hereinbefore set forth.

No. 33,812. Stove Pipe. (*Tuyau de poêle.*)

Charles J. Stuart, Montreal, Que., 27th February, 1890; 5 years.

Claim.—1st. A stove pipe having a number of heat ray reflecting planes in its interior surface, for the purpose set forth. 2nd. A stove pipe the surface of which is depressed or contains depressions, for the purposes set forth. 3rd. A length of stove pipe having an angular extension at one end adapted to guide such end into that of another length of pipe, as described.

No. 33,813. Steam Boiler. (*Chaudière à vapeur.*)

Harry A. R. Dietrich, South Bethlehem, Penn., U.S., 27th February, 1890; 5 years.

Claim.—1st. In a boiler, the combination, with a steam generating section, of an upwardly and then downwardly extending tube or tubes and a superheating section which communicates with said upwardly and then downwardly extending tubes, substantially as de-

scribed. 2nd. In a boiler, the combination, with a water front, of a tubular steam generating section arranged in connection therewith, a pipe or tube leading upward from the steam space of the water front, and then downward to a steam receiving chamber, and a superheating section communicating with said steam receiving chamber, substantially as described. 3rd. In a boiler, the combination, with a water front, of a tubular steam generating section, a pipe or pipes leading upward from the steam space of the water front, horizontal pipes connected to the upwardly extending pipes, arched connections which establish communication with the horizontal sections and downwardly extending sections, said downwardly extending sections and a superheating section with which the downwardly extending sections communicate, substantially as described. 4th. In a boiler, the combination, with a water front having compartments *a* and *b*, of upwardly and then downwardly extending pipes by which said compartments are placed in communication, a steam generating section arranged in connection with the water front, and a steam superheating section which communicates with the chamber *b* and with a steam distributing pipe *28*, substantially as described.

No. 33,814. Hame Fastener. (*Attache-attelles.*)

James Everett, Sault Ste Marie, Mich., U.S., 28th February, 1890; 5 years.

Claim.—A hame fastener consisting of lever *d*, spring hook *a*, adjustable hook *b* and lock *k*, all formed and combined substantially as and for the purpose hereinbefore set forth.

No. 33,815. Truss. (*Bandage herniaire.*)

Sherman R. Nye and Henry W. Nye, Chicopee Falls, Mass., U.S., 28th February, 1890; 5 years.

Claim.—In a truss, the combination, with a short hip-pad *a*, of a hernial supporting and *d* hinged or pivoted thereto, substantially as and for the purpose set forth.

No. 33,816. Wheel Pit and Mechanism for the Admission of Water Thereto. (*Coursier de roue avec mécanisme pour y faire arriver l'eau.*)

Charles M. Bartlett, Theodore Nelson and Charles T. Brown, Chicago, Ill., U.S., 28th February, 1890; 5 years.

Claim.—1st. The combination, in a wheel pit placed underneath the bed of a river, lake or pond, of a water tight deck or flooring underneath a series of girders located at or near the level of the bottom of the said river, lake or pond, whereby a pool is formed above said water tight deck or flooring, a second deck or flooring placed underneath extending through and above said water tight deck or flooring and through and below said second flooring and into the wheel pit below the same, substantially as described. 2nd. The combination, in a wheel pit placed underneath the bed of a river, lake or pond, of a water tight deck or flooring underneath a series of girders located at or near the level of the bottom of said river, lake or pond, whereby a pool is formed above said water tight deck or flooring and below said girders, a second deck or flooring placed underneath such and above said water tight deck or flooring and through and below said second flooring and into the wheel pit below the same, and valves or gates in said vertical pipes or cylinders by which the admission of water through said vertical pipes or cylinders may be controlled, substantially as described.

No. 33,817. Electric Battery.

(*Pile électrique.*)

The Crosby Electric Company, New York, N.Y. (assignee of Edward H. Crosby, Boston, Mass.), U.S., 28th February, 1890; 5 years.

Claim.—1st. In an electric battery, the combination of a zinc-containing jar, a carbon pencil disposed within said jar and insulated therefrom by hard rubber rings, and a packing disposed around said pencil, consisting of wool waste saturated with a solution of sal-ammoniac, substantially as described. 2nd. In an electric battery, the combination of a zinc-containing jar, a carbon pencil disposed in said jar and insulated therefrom, a packing around said pencil, consisting of wool waste impregnated with sal-ammoniac, and a wire connector on said pencil, composed of lead and tin, substantially as described. 3rd. In an electric battery, the combination of a zinc-containing jar, amalgamated on its inner face, an insulator in the bottom of said jar, a carbon pencil resting therein and provided with and tin, an excitant wire connector on said pencil composed of lead sponge like material, consisting of sal-ammoniac suspended in a said jar, substantially as described. 4th. In an electric battery, the combination of a zinc-containing jar *a* amalgamated at *x*, and provided with the insulator *b*, the pencil *B* having the insulating rings *d* disposed around, the pencil *B* being the insulating rings *d* waste saturated with sal-ammoniac, the wire connector *f* composed of a compound of tin and lead, and the insulating cap *g*, all being arranged substantially as described.

No. 33,818. Fishing Rod and Reel.

(*Canne et dévidoir de pêche.*)

Oliver P. Ross and Charles A. White, Oleau, N.Y. (assignees of Edward P. Follett, Duluth, Minn.), U.S., 28th February, 1890; 5 years.

Claim.—1st. The combination, with a fishing rod *A*, of a ferrule *B* attached to the butt, a spring or springs *G* located in its interior, serving as the motive power, and gearing connecting the spring with

a shaft *H* that extends to the outside of the ferrule to communicate motion to a winding spool, as specified. 2nd. In a fishing rod, the combination of a ferrule *B* attached to the butt, a spring or springs *G* located inside the ferrule, a spindle *E* by which the springs are wound up, a cross shaft *H* projecting through the ferrule, gearing connecting the spindle and cross shaft, and a spool *I* attached to the cross shaft, as and for the purpose specified. 3rd. In a fishing rod, the combination of a ferrule *B* attached to the butt, a spindle *E* located inside the ferrule, a set of rings *D*, *D'*, surrounding the spindle, the exterior ones attached respectively to the ferrule and the spindle and the intermediate ones running free of both the ferrule and spindle, and a set of springs *G*, *G*, between the rings, their ends attached respectively to the opposite rings, as shown and described and for the purpose specified. 4th. In a fishing rod, the combination of ferrule *B* attached to the butt, a spindle *E* located inside the ferrule, a set of rings *D*, *D'* surrounding the spindle, the extreme ones attached respectively to the ferrule and spindle, and the intermediate ones running free, a set of springs *G*, *G*, connected with the rings, a cross shaft *H* extending through the ferrule, gears *f*, *g*, connecting the spindle and cross shaft, and a spool *I* attached to the cross shaft, as herein shown and described. 5th. In a fishing rod, the combination of the ferrule *B*, the springs *G*, *G* located therein, the spindle *E*, the cross shaft *H*, the gearing *f*, *g* connecting the spindle and cross shaft, the spool *I* on the cross shaft, and the brake consisting of the plug *p* and spring pin *W* passing through the ferrule from the opposite side, and provided with a hole through which the line runs, and by which it is clamped against the end of the plug, as shown and described and for the purpose specified.

No. 33,819. Boiler Feeder.

(*Alimentateur de chaudière.*)

Thomas McAvity, John A. McAvity and George McAvity (assignees of William McShane), Saint John, N. B., 28th February, 1890; 5 years.

Claim.—The combination, in a boiler feeder, having the steam chamber *S*, combining chamber *J* and feed inlet *C*, connected by passage *B*, the outlet *D* to the atmospheric and spindle *K*, opening and closing the steam nozzle *c*, of the two-way hollow plug, of cock *A*, eccentric connection *H* and connecting rod *G* operating said spindle by turning the cock to regulate the feed to a boiler, as set forth.

No. 33,820. Type Writer Attachment.

(*Disposition aux graphotypes.*)

Aelaide H. Woodall, Eckington, D.C. (co inventor with William S. Romme, Brooklyn, N.Y.), U.S., 28th February, 1890; 5 years.

Claim.—1st. The combination, with the carriage and its advancing mechanism of a rack bar carried by the carriage and independent of the advancing mechanism thereof, and a spring of greater power than that which advances the rack bar and acting in opposition thereto, and a holder for said spring, which, when actuated to release the spring, actuates the rack bar to return the carriage to its normal position, substantially as described. 2nd. The combination, with the carriage and its advancing mechanism, of a rack bar carried by the carriage and independent of the advancing mechanism, and a normally inactive spring arranged to act in opposition to the power of the advancing mechanism and to be released by the rack bar at a predetermined period to retract said bar and carriage, substantially as described. 3rd. The combination, with the carriage and its advancing mechanism, of a rack bar independent of the advancing mechanism and a compound lever operated through the movement of the rack bar to release the spring, substantially as described. 4th. The combination, with the rack bar and its advancing mechanism, of the spring *K*, the compound lever connections between the spring and lever, the wheel *T* actuated by the rack bar, and connections between the lever and wheel, substantially as and for the purpose specified. 5th. The combination, with the carriage and its advancing mechanism, of the rack bar independent of the advancing mechanism and moving with the carriage, the spring *K*, the compound lever and connections between said spring and lever, whereby the movement of the rack bar actuates said lever to cause the spring to return the rack bar and carriage to their normal position, substantially as described. 6th. The combination, with the carriage and its advancing mechanism, of a rack bar independent of the advancing mechanism and moving with the carriage, the spring *K*, the wheel *T*, its shaft, the compound lever connections between said spring and shaft and the pawl on said wheel, substantially as and for the purpose specified. 7th. The combination, with the carriage and its advancing mechanism, of the rack bar independent of the advancing mechanism and moving with the carriage, the spring, the wheel *T*, the pawl thereon, the shaft of said wheel connections between said spring and shaft, and for lever and a detent *r* carried by the lever, substantially as and for the purpose specified. 8th. The combination, with the carriage and its advancing mechanism, of the spring, the wheel *T*, the pawl thereon, the shaft of said wheel connections between said spring and shaft, the disc fast on said shaft, the compound lever loose on said shaft, and a detent carried by said lever, substantially as and for the purpose specified. 9th. The combination, with the rack bar and its advancing mechanism, of the springs, the wheel *T*, its shaft, the disc fast on said shaft, the compound lever, and the apertured plate connections between said spring and shaft, and the apertured plate *W*, substantially as and for the purpose specified. 10th. The combination, with the rack bar and its advancing mechanism, as described, the wheel *T*, its shaft connections, substantially as described, between said spring and shaft, the fixed apertured plate *W*, the pawl on said wheel, the disc fast on the shaft, the collar loosely sleeved on said wheel, and the compound levers carried by said collar, substantially as and for the purpose specified. 11th. The combination, with the carriage and its advancing mechanism, of a rack bar on the carriage independent of the advancing mechanism, a normally inactive

spring arranged to act in opposition to the power of the advancing mechanism, and a holder for said spring and mechanism for releasing said spring, either at the end of a line or at any point intermediate of the ends of a line, to return the carriage and rack bar to their normal position, substantially as described. 12th. The combination, with the carriage and its advancing mechanism, of a rack bar carried by the carriage and independent of the advancing mechanism thereof, a spring of greater power than that which advances the rack bar and acting in opposition thereto, a holder for said spring, which, when actuated to release the spring, actuates the rack bar to return the carriage to its normal position, and a line spacing and carriage retarding mechanism, substantially as described. 13th. The combination, with the carriage and its advancing mechanism, of the retracting mechanism, the spring K thereof, and an alarm arranged to be actuated by the contact therewith, of the spring as it unwinds, substantially as shown and described. 14th. The combination, with the carriage, its advancing mechanism and the rack bar X on said carriage, of the spring K, the cog wheel fast on the shaft of said spring, of the shaft N, the cog wheel thereon, the wheel T on said shaft N and actuated by said rack bar, and the levers actuated by the rotation of said wheel, substantially as and for the purpose specified. 15th. The combination, with the carriage, its advancing mechanism, the rack bar on said carriage of the spring K, the cog wheel fast on the shaft of said spring, the shaft N, the smaller cog wheel thereon, the said cog wheels being geared down, as described, the wheel T on said shaft N and actuated by said rack bar, and the levers actuated by the rotation of the said wheel T, substantially as and for the purpose specified. 16th. The combination, with the carriage, its advancing mechanism, and the rack bar X on the carriage, of the spring K, the shaft N, the wheel T thereon meshing with the rack bar, the levers, the disc, the pawl on the wheel, the fixed apertured plate W, substantially as and for the purpose specified. 17th. The combination, with the carriage and its advancing mechanism, of a rack bar carried by the carriage and independent of the advancing mechanism, a spring of greater power than that which advances the rack bar and acting in opposition thereto, a holder for the spring which, when actuated to release the spring, actuates the rack bar to return the carriage, a lever for actuating said holder before the end of a line is reached, and connections between said lever and holder, substantially as described. 18th. The combination, with the retracting mechanism and its case formed with a slot V¹, through which the detent of the retracting mechanism normally projects, of the key lever Y, the lever y¹ arranged to engage said detent, and the rod y² connecting the levers Y and y¹, substantially as and for the purpose specified. 19th. The combination, with the case, the spring K, the casing and its attachment to the frame of the machine, of the carriage, its advancing mechanism, the rack bar X on the carriage, the wheel T actuated by said rack bar, connections between said spring and the shaft of the wheel, and the levers normally bearing on the casing to hold the spring inactive, substantially as described. 20th. The combination, with the rack bar X, its advancing mechanism and the shaft N, of the spring K arranged to actuate said shaft, the wheel

T on said shaft, actuated by the rack bar, the casing, the levers provided with a detent normally having a bearing on said casing, the pawl on the wheel and the disc on the shaft, substantially as and for the purpose specified. 21st. The combination, with the rack bar X, its advancing mechanism, of the shaft N, of the spring K arranged to actuate said shaft, the wheel T on said shaft and actuated by the rack bar, the casing, the levers provided with a detent, having an anti-friction roller, normally having a bearing against an anti-friction roller on the casing, the pawl on the wheel, and the disc on the shaft, substantially as described. 22nd. The combination, with the supporting frame, the casing and the advancing mechanism, of the rack bar, the disc, the spring, the shaft N to which one end of said spring is attached, the cog gearing between the shaft of the spring and said shaft N, the spring actuated pawl, the wheel T carrying said pawl and actuated by the rack bar, the levers and the detent normally bearing on the casing, substantially as described. 23rd. The combination, with the carriage and its advancing mechanism, of the retracting mechanism, the spring K thereof, the alarm, the lever X¹ connected with the hammer of the alarm and arranged to be engaged by said spring, as the latter unwinds, substantially as and for the purpose specified. 24th. The combination, with the carriage, the advancing mechanism thereof, the rack bar X on said carriage, of the spring K, the shaft N, connections, as described, between said spring and shaft, the collar Q loose on said shaft and formed with an arm q, the disc, the stops thereon, the wheel T, the apertured plate W, and the detent normally bearing on the casing of the retracting mechanism, and the levers carried by said collar and carrying said detent, substantially as shown and described.

No. 33,821. Drill Hoe. (*Dent de semoir.*)

The Patterson & Bro. Co., Woodstock (assignee of John Larsen, Toronto), Ont., 28th February, 1890; 5 years.

Claim.—1st. A projection A connected to a hoe or cultivator-tooth, and having a vertical flange or flanges C formed on it, in combination with the recessed head block F, having a flange G formed at the bottom of the recess, substantially as and for the purpose specified. 2nd. A projection A connected to a hoe or cultivator tooth, and having a vertical flange or flanges C and curved lug D formed on it, in combination with the recessed head-block F, having a flange G formed at the bottom of the recess, substantially as and for the purpose specified. 3rd. A projection A, connected to a hoe or cultivator tooth, and having a vertical flange or flanges C formed on it, in combination with the recessed head block F, having a flange G formed at the bottom of the recess, and a dog H pivoted in the said recess, substantially as and for the purpose specified. 4th. A projection A connected to a hoe or cultivator tooth, and having a vertical flange or flanges C and curved lug D formed on it, in combination with the recessed head block F, having a flange G formed at the bottom of the recess, and a dog H pivoted in the said recess, substantially as and for the purpose specified.

**CERTIFICATES OF THE PAYMENT OF FEES FOR FURTHER TERMS HAVE BEEN ATTACHED TO
THE FOLLOWING PATENTS.**

1694. THE BURDON SEAMLESS FILLED WIRE CO. (assignee), 2nd 5 years of No. 21,275, from the 16th day of March, 1890. Improvements in Ingots for Gold Plated Wire, February 1st, 1890.
1695. WM. B. PURVIS, 2nd 5 years of No. 21,084, from the 12th day of February 1891. Improvements in Paper Bag Machines, February 1st, 1890.
1696. HENRY MOODY, 2nd and 3rd 5 years of No. 23,151, from the 12th day of January, 1891. Improvements in Lag Irons for Horse Power, February 5th, 1890.
1697. JAMES LEVESEY, JOSHUA and JAS. KIDD, 3rd 5 years of No. 10,964, from the 26th day of February, 1890. Apparatus for Enriching Illuminating Gas, February 5th, 1890.
1698. CHARLES LANGDON DAVIS, 2nd and 3rd 5 years of No. 31,603, from the 17th day of June, 1894. Improvements in Telephony and Telegraphy, February 5th, 1890.
1699. DONALD McLELLAN, 2nd 5 years of No. 21,071, from the 11th day of February, 1890. Improvements in Mop Holders, February 7th, 1890.
1700. THE CONSOLIDATED BRAKE SHOE CO. (assignees), 2nd and 3rd 5 years of No. 21,085, from the 12th day of February, 1890. Improvements in Brake Shoes, February 8th, 1890.
1701. ALEX. ALLEN MURPHY, 2nd 5 years of No. 21,182, from the 27th day of February, 1890. Improved Device for displaying Textile Fabrics, February, 11th, 1890.
1702. THE CASE MANUFACTURING CO., 2nd 5 years of No. 21,448, from the 16th day of April, 1890. Improvements in Middlings Purifiers, 11th February, 1890.
1703. JAS. WALTER MANN, 2nd 5 years of No. 10,922, from the 14th day of February 1890. Improvements on Seeding Machines, February 12th, 1890.
1704. THOS. DOBBIE GALLOWAY, 2nd 5 years of No. 21,167, from the 26th day of February, 1890. Improvements in Sewing Machines, February 26th, 1890.
1705. HENRY ANDERSON MACDONALD, 2nd 5 years of No. 21,115, from the 19th day of February, 1890. Improvements on Water Closets, February 13th, 1890.
1706. CHARLES RODNEY HARRISON, and WM. D. CONKLIN, (assignees), 2nd 5 years of No. 11,000, from the 8th day of March, 1890. Improvements on Furniture and Apparatus for Railway Cars, February 14th, 1890.
1707. GOTTLIEB BETTSCHEN, 2nd 5 years of No. 21,343, from the 30th day of March, 1890. Improvements on Cultivators, February 15th, 1890.
1708. THE PENINSULAR NOVELTY CO., 2nd 5 years of No. 21,119, from the 19th day of February, 1890. Improvements in Setting Instruments for Attaching Buttons to Leather, February 17th 1890.
1709. FRANK LOOMIS PALMER, 2nd 5 years of No. 21,170, from the 26th day of February, 1890. Improvements in Machines for Sewing or Quilting Fabrics, February 18th, 1890.
1710. WM. A. BICKFORD, 2nd 5 years of No. 21,111, from the 19th day of February, 1890. Improvements on Force Pumps, February 18th, 1890.
1711. WM. SMITH and JOHN H. SMITH and HARRISON AMES, 2nd 5 years of No. 21,104, from the 19th day of February, 1890. Improvements in Stock Cars, February 19th, 1890.
1712. HUGH C. BAIRD (assignee), 2nd 5 years of No. 21,129, from the 23rd day of February, 1890. Improvements in Tile Machines, February 20th, 1890.
1713. FREDERICK ANDERSON and CHARLES FOX, 2nd 5 years of No. 21,168, from the 26th day of February, 1890. Improvements in the Manufacture of Barrels and Apparatus therefor, February 22nd, 1890.
1714. MATHEW THOS. WYATT and WM. FULLERTON RAMSAY, 2nd 5 years of No. 21,132, from the 23rd day of February, 1890. Improvements in Grappling or Holding Devices, February 22nd, 1890.
1715. JAMES SHEPHERD, 2nd 5 years of No. 21,172, from the 26th day of February, 1890. Improvements in Pulleys and Drums for Driving Purposes.
1716. ROBT. HEELY and JOHN DURAND (assignees), 2nd 5 years of No. 21,104, from the 25th day of February, 1890. Improvements in Hay Forks, February 24th 1890.
1717. FREDERICK THOMAS BROWNING, 2nd 5 years of No. 22,242, from the 13th day of August, 1890. Improvements in Spring Bed Bottoms, February 24th, 1890.
1718. STEPHEN MCKENZIE, 2nd 5 years of No. 21,162, from the 25th day of February, 1890. Improvements in Doubletrees for Proportioning the Draught of a loaded Waggon between a Team of Horses of Unequal Strength, February 25th, 1890.
1719. ADNA WILDERN, 2nd 5 years of No. 21,184, from the 28th day of February, 1890. Improvements on Rotary Steam Engines, February 26th, 1890.
1720. THE BRITISH AMERICAN MINING AND MILLING CO. (assignees), 2nd 5 years of No. 21,195, from the 28th day of February, 1890. Improvements in Machines for Crushing Ore, February 27th, 1890.
1721. SAMUEL VESSOT, 2nd 5 ans. de No. 21,208, à compter du 4th jour de Mars, 1886. Nouvelles et utiles, Améliorations au Machines à Moudre le Grain, February 27th, 1886.
1722. PETER BRADFORD BRAZAL, 2nd 5 years of No. 21,206 from the 4th day of March, 1890. Improvements in Snow Ploughs, February 28th, 1890.
1723. LAURA JANE GOTT, 2nd 5 years of No. 21,339, from the 30th day of March, 1890. Improvements in Fire Escapes, February 28th, 1890.

FEBRUARY LIST OF TRADE MARKS.

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3647. } Cigars, 6th February, 1890.
3648. THERON T. SOUTHWICK, of Rochester, N.Y., U.S.A., Lubricants, 6th February 1890.
3649. C. J. HEWLETT & SON, of London, England, Druggists' Supplies, 10th February, 1890.
3650. THE DARTMOUTH ROPEWORK COMPANY, of Halifax, N.S., Binder Twine, 11th February, 1890.
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3653. JOSEPH ET HENRI KIEFFER, de Montreal, Que., Savons, 15 Fevrier, 1890.
3654. S. DAVIS & SONS, of Montreal, Que., Cigars, 15th February, 1890.
3655. THE MILTON BRADLEY COMPANY, of Springfield, Massachusetts, U.S.A., Articles of Household Amusement and particularly for devices employed in playing games of skill, 15th February, 1890.
3656. J. S. HAMILTON, of Brantford, Ont., Canadian Wine, 17th February, 1890.
3657. JOHN LANGTON, of Sherbrooke, Que., Insulated Wires and Cables, 17th February, 1890.
3658. WILLIAM J. SCOTT, of Cornwall, Ont., Medical Compounds, 17th February, 1890.
3659. HENRY I. JOSEPH, trading under the name of THE MONTREAL SILK MILLS COMPANY, of Montreal, Que., Ladies' and Childrens' pure wool knitted Undervests, 17th February, 1890.
3660. THOMAS TODD, JOHN SCOTT and MARTIN NICHOL TODD, trading under the name TODD MILLING COMPANY, of Galt, Ont., Flour, 20th February, 1890.
3661. GEORGE ELIAS TUCKETT and GEORGE THOMAS TUCKETT, of Hamilton, Ont., Smoking Tobacco, 21st February, 1890.
3662. CHARLES ALBERT SMITH, of Montreal, Que., Cigars, 24th, February, 1890.
3663. MARY J. GOULDEN, of Montreal Que., A Poison for the extermination of Rats, Vermin, etc., 27th February, 1890.
3664. WALTER LAZENBY, of 18 Trinity street, Southwark, London, England, 28th February, 1890.
3665. ALFRED MYERS, of Toronto, Ont., Boiler Compound, 28th February, 1890.

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5227. THREE ALBUM LEAVES, by F. Hiller.
5228. SUITE Op. 197 (Gavotte, Chorale et Gigue)
by F. Hiller. } Arranged by Charles Halle.
5229. ANDANTINO and CAPRICCIETO, by S. Heller }
5230. THREE OLD FRENCH MELODIES. }
5231. SONATINA in F. Op. 196, by F. Hiller. }
5232. TWELVE FAVORITE AIRS.
Forsyth Bros., London, England, 1st February, 1890.
5233. HELPS TO BIBLE STUDY with Practical notes on the Books of Scripture, by Rev
A. Sims, Second Edition, Revised and enlarged, Rev. Albert
Sims, Otterville, Oxford County, Ont., 4th February, 1890.
5234. ACCOMPAGNEMENT DU NOUVEAU MANUEL DE CHANTS LITURGEQUES,
de M. l'Abbé Bourduas, par R. Octave Pelletier, Eusebe Senécal
et Fils, Montreal, Que., 4 Fevrier, 1890.
5235. THE CANADIAN LAW LIST, 1890. Edited by Henry Ryerson Hardy, Barrister-
at-Law, Toronto, Ont., 5th February, 1890.
5236. NO POSSIBLE DOUBT WHATEVER. Song from "The Gondoliers." Words by
W. S. Gilbert. Music by Arthur Sullivan. The Anglo-Can-
adian Music Publishers' Association, (L'd) London, England, 7th
February, 1890.
5237. MEMORY. Song by Homer Tourjee. Homer Tourjee, Belleville, and David F.
Cordingly Toronto, Ont., 7th February, 1890.
5238. BLIND GIRL'S DREAM. Song. Written and composed by Louisa Gray. Chappell
& Co., London, England, 10th February, 1890.
5239. KATHIE. Schottische, by Arthur M. Cohen. Whaley, Royce & Co., Toronto, Ont.,
12th February, 1890.
5240. { GERALDINE WALTZ. Introducing the popular melody by Boardman.
"Farewell Marguerite." Composed by J. E. Hutchins.
5241. { KIND SIR, YOU CANNOT HAVE THE HEART. } From "The Gondoliers."
5242. { TAKE A PAIR OF SPARKLING EYES. } Words by W. S. Gilbert,
Music by Arthur Sullivan.
- The Anglo-Canadian Music Publishers' Association, (L'd) London, England,
14th February, 1890.
5243. WHEN A MERRY MAIDEN MARRIES. Song from "The Gondoliers." Words
by S. Gilbert. Music by Arthur Sullivan. The Anglo-Canadian
Music Publishers' Association, (L'd) London, England, 15th Feb-
ruary, 1890.
5244. KINDERGARTEN DRAWING PRACTICE BOOK No. 1. Selby and Company,
Toronto, Ont., 17th February, 1890.
5245. ROSINA. Military Schottische, by Ben. Marcato. The Anglo-Canadian Music
Publishers' Association, (Limited) London, England, 17th Feb-
ruary, 1890.
5246. THE NATURAL HISTORY OF PRINCE EDWARD ISLAND, by Francis Bain.
George Herbert Hazzard, Charlottetown, P.E.I., 17th February,
1890.
5247. THERE IS JOY.
5248. THE POWER OF SONG.
5249. SEEK ME EARLY.
5250. MY NEEDS.
5251. LIFE OF CHRIST.
5252. JESUS CHANGETH NOT.
5253. I MUST DIE.
5254. I LOVE TO SING OF JESUS.
5255. HELP! BROTHERS, HELP!
5256. BRIGHT MORNING LAND. } Music by J. M. W.
- John M. Whyte, Fenwick, County of Monck, Ont., 24th February, 1890.
5257. A STARRY NIGHT. (Une Nuit Etoilée) Valse Reverie, by Emma Fraser Black-
stock. A. & S. Nordheimer, Toronto, Ont., 25th February, 1890.
5258. BELL TELEPHONE COMPANY OF CANADA, LONDON AND ST. THOMAS EX-
CHANGES, SUBSCRIBERS' DIRECTORY, Ontario Depart-
ment, February, 1890. The Bell Telephone Company of Canada,
Montreal, Que., 28th February, 1890.

5260. WEEKLY COLLECTIONS. The Presbyterian News Company, Toronto, Ont., 27th February, 1890.
5261. HERO OF PLEVNA. March for Cornet, by A. W. Hughes. }
5262. SOUNDS OF TORONTO. Waltz, by Charles Bohner. }
Whealey, Royce & Co., Toronto, Ont., 27th February, 1890.
5262. A DIGEST OF THE CRIMINAL LAW OF CANADA, by George Wheelock Burbridge, A. B., D. C. L., Judge of the Exchequer Court of Canada, Ottawa Ont., 27th February, 1890.
5263. THE HAUNTED FOUNTAIN, by Katharine S. Macquoid. William Bryce, Toronto, Ont., 28th February, 1890.
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THE

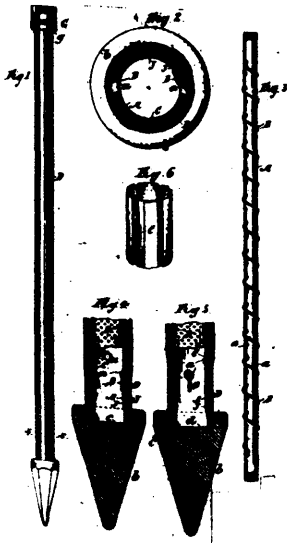
CANADIAN PATENT OFFICE RECORD

ILLUSTRATIONS.

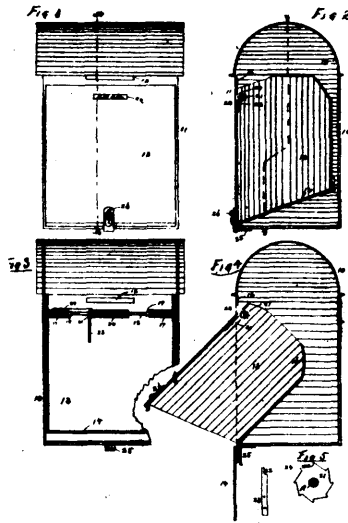
Vol. XVIII.

FEBRUARY, 1890.

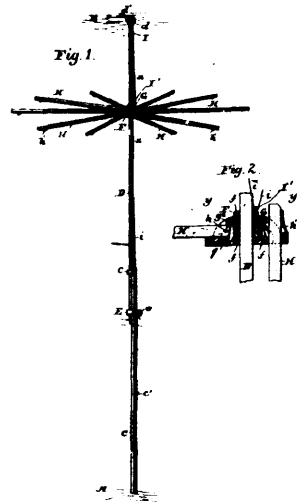
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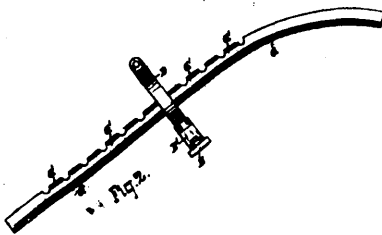
33548 Boyce's Drive Point.



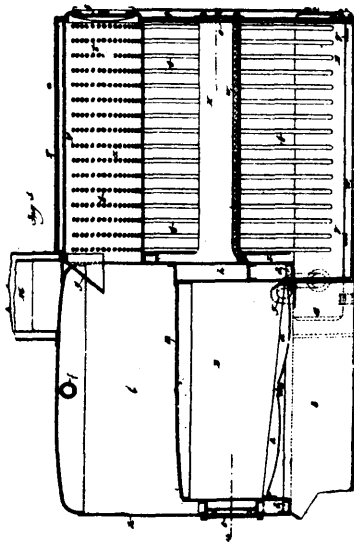
33549 Bliss' Street Letter Box.



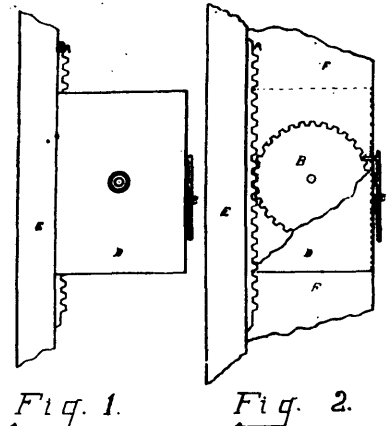
33550 Carr's Drying Rack.



33551 Brock's Check Rein Turret Guide.



33552 Cowles' Steam Boiler.



33553 Kirby's Sash Lock.

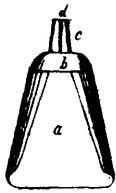


Fig. 1.

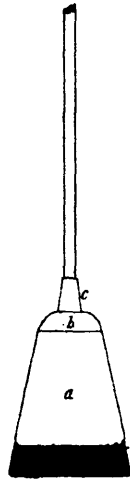
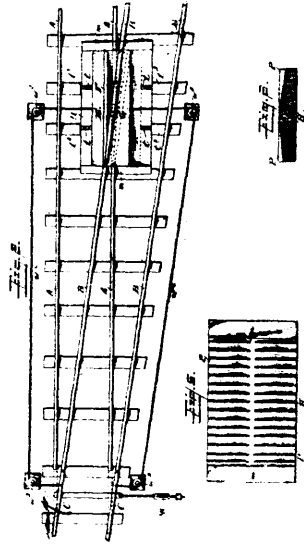
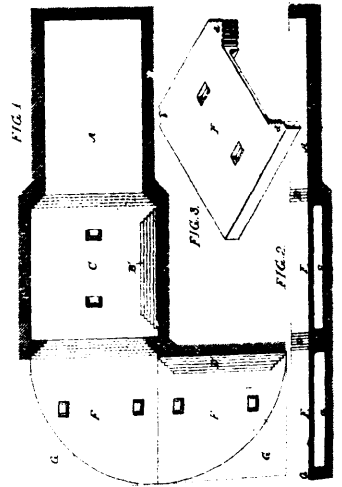


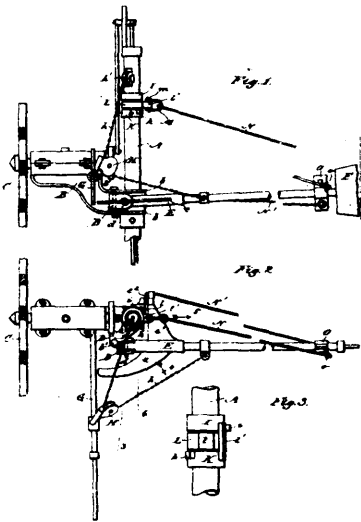
Fig. 2.



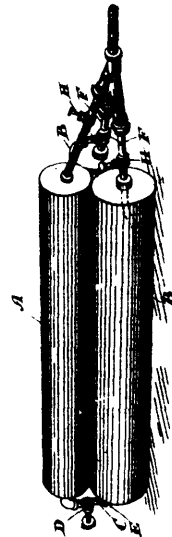
33555 Hoyt's Railroad Frog.



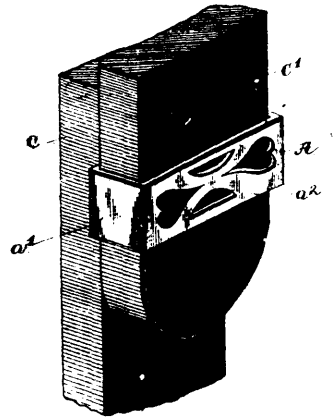
33556 Clark's Safety Vault, etc.



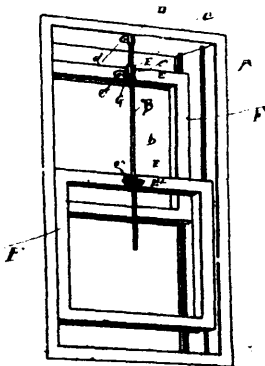
33557 McLennan's Wind Mill.



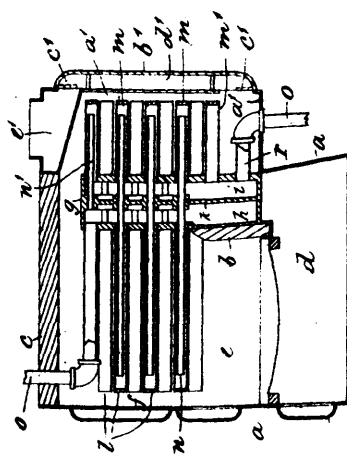
33558 Dickson & Jones' Apparatus for Extinguishing Fire.



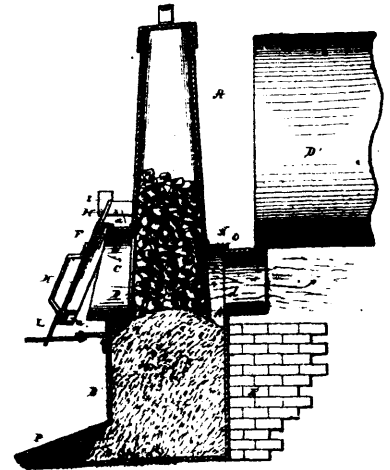
33559 Sherman's Keeper for the Loose Ends of Straps.



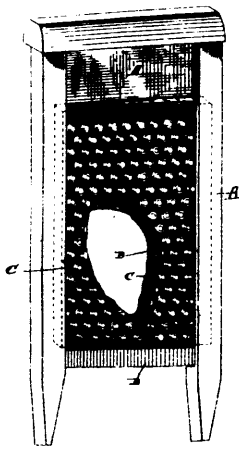
33560 Hodgkins' Sash Fastener.



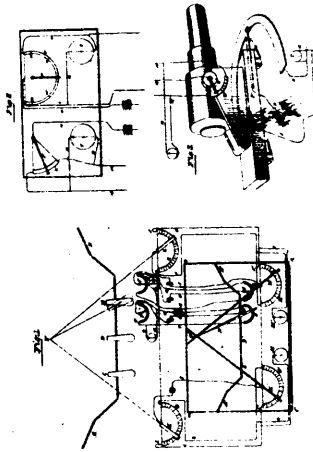
33561 Prowse's Water Heater.



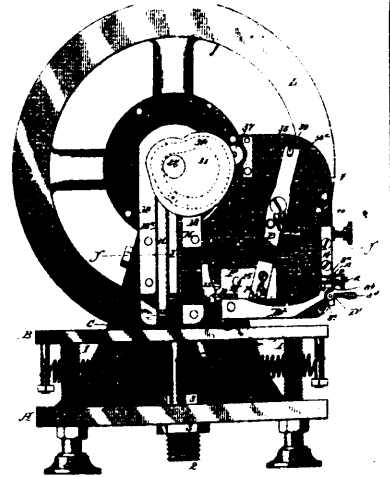
33562 Fales' Apparatus for Burning Coal, etc.



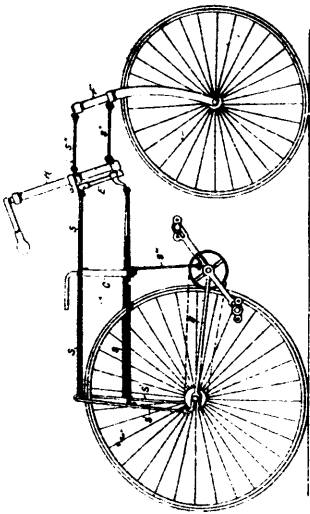
33563 Cluxton's Compound for the Scrubbing Surfaces of Wash Boards, etc.



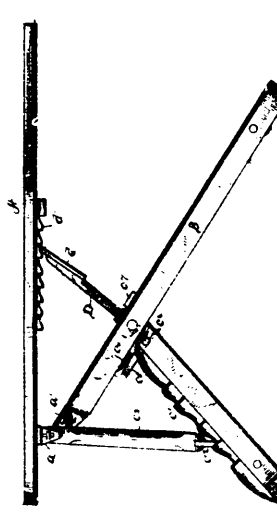
33564 Fiske's Position and Range Finder.



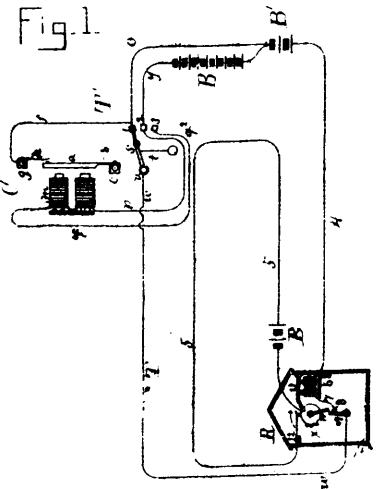
33565 Daggett's Machine for Stapling Books and Pamphlets.



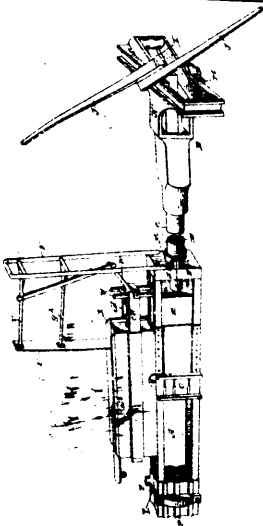
33566 Dunlop's Frame of Velocipede.



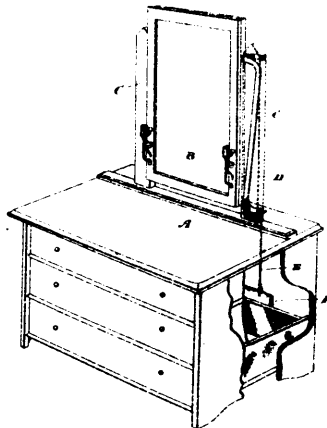
33567 Walters' Ironing Board.



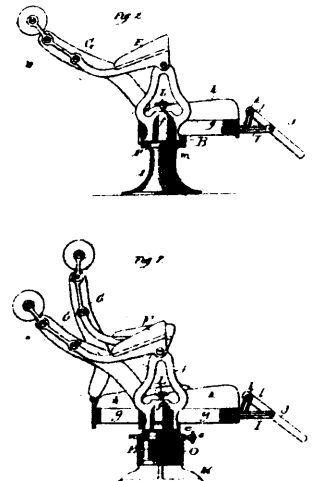
33569 Milliken's Electric Signalling Apparatus.



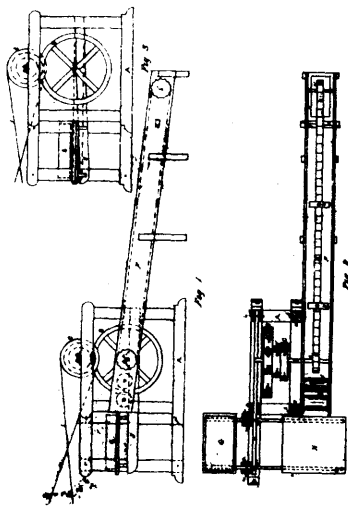
33570 Dederick's Baling Press.



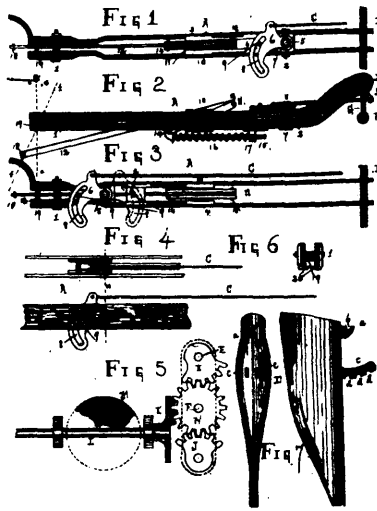
33571 Chapman's Mirror.



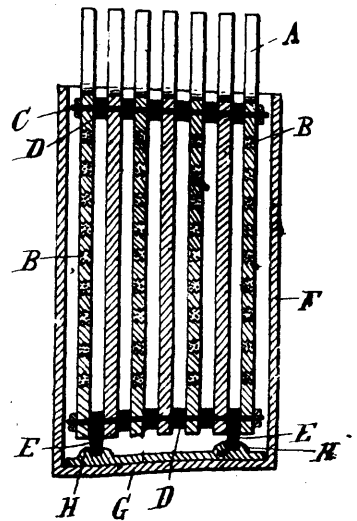
33572 Macklin's Car Chair.



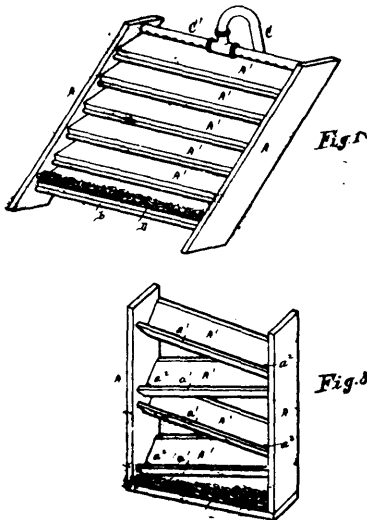
33573 Campbell's Conveyor Machine.



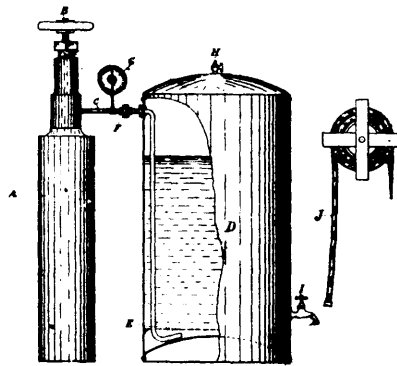
33574 Briston's Seeder.



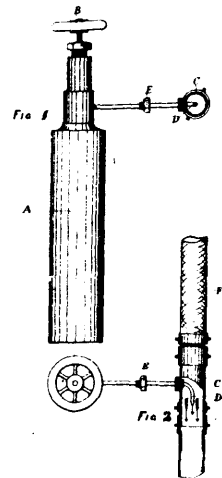
33575 Harris & Cameron's Secondary Battery, etc.



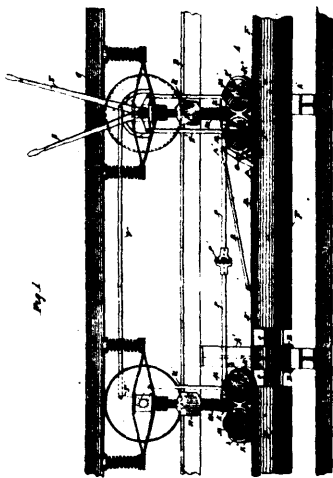
33577 Land's Process of Burning Liquid Fuel.



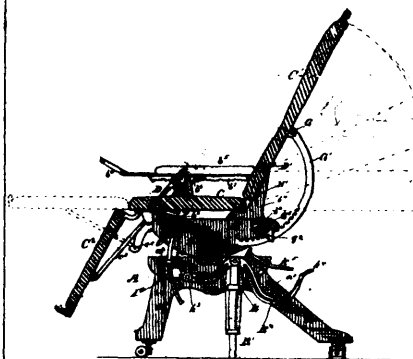
33578 Dickson & Jones' Portable Drinking Fountain.



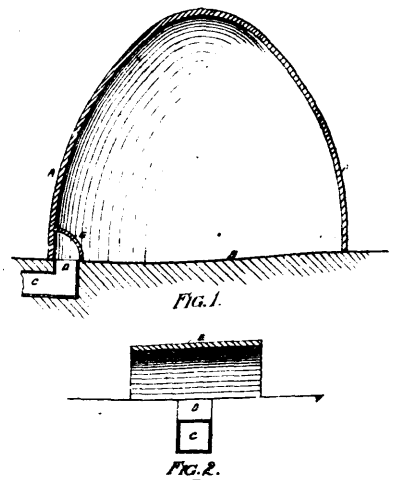
33579 Dickson & Jones' Hose for Extinguishing Fire.



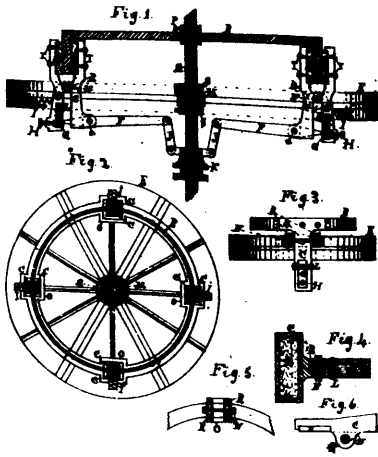
33580 Judson's Street Railway.



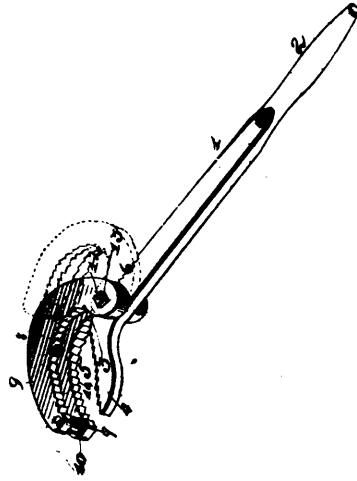
33582 Elbreg's Surgical Chair.



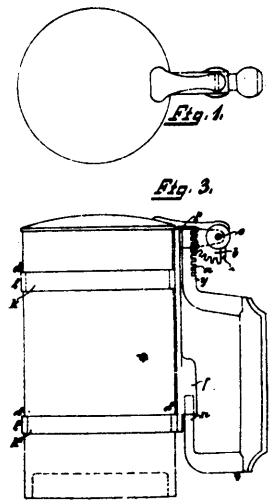
33583 Burrell's Charcoal Kiln.



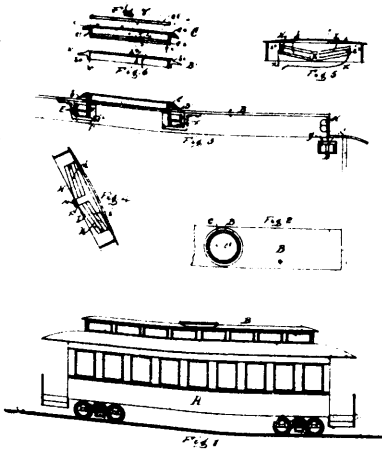
33584 Watrous & Peel's Clutch Pulley.



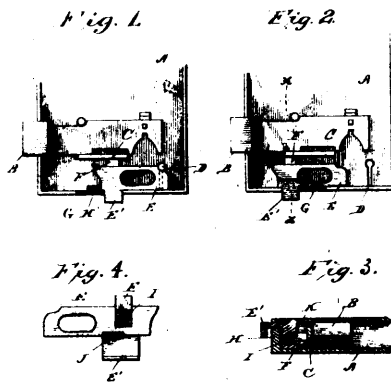
33585 Smith's Pipe Wrench.



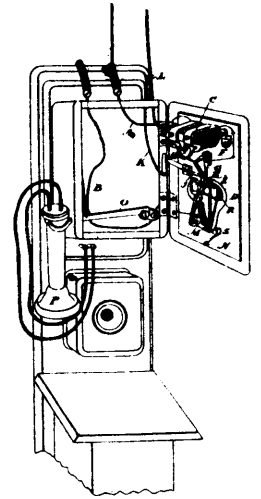
33586 Peters' Beer Glass.



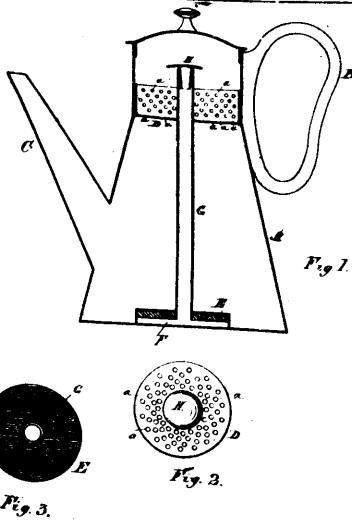
33587 Glüman's Railway Car.



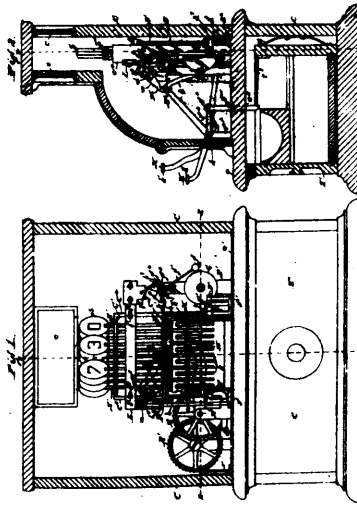
33589 Uhlman's Lock.



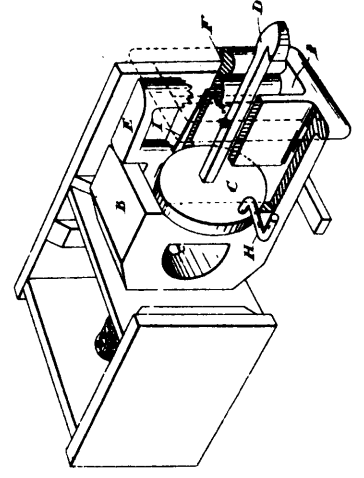
33590 Schneider's Electric Mechanism for Telephone Call Bell.



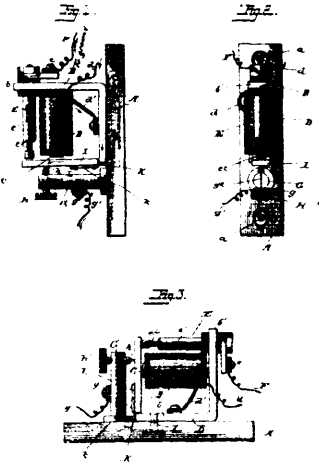
33591 Bayley's Tea and Coffee Pot.



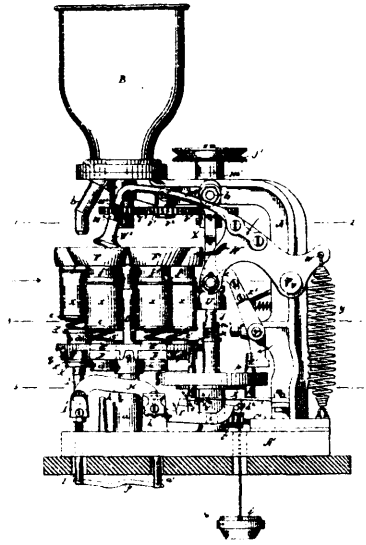
33592 Webster's Cash Register, etc.



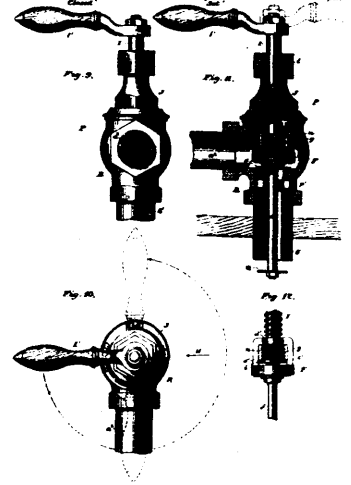
33593 Reed's Car Coupler.



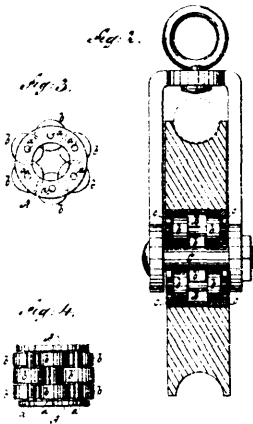
33594 Crandall's Protector for Electrical Instruments.



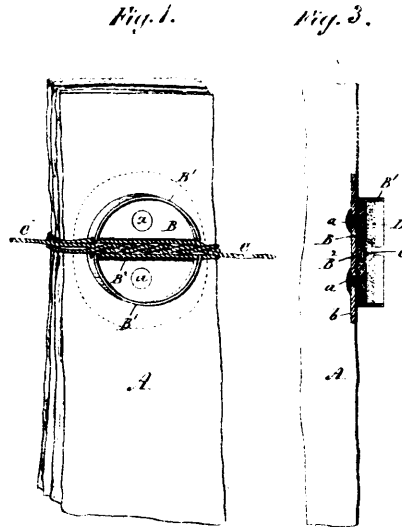
33595 Tuck's Filling and Weighing Machine.



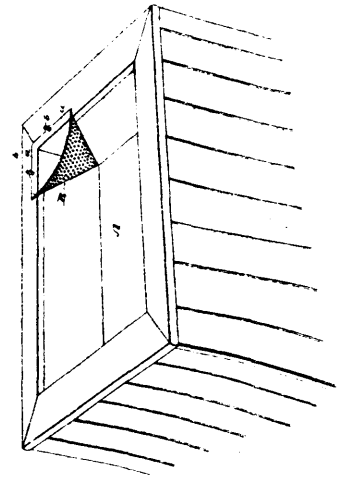
33596 Gold's Steam Trap, etc.



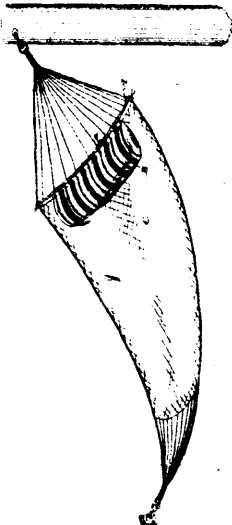
33597 Torry's Anti-Friction Bearing.



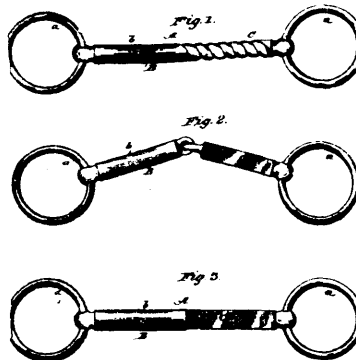
33598 Greenfield's Mail Bag Fastening.



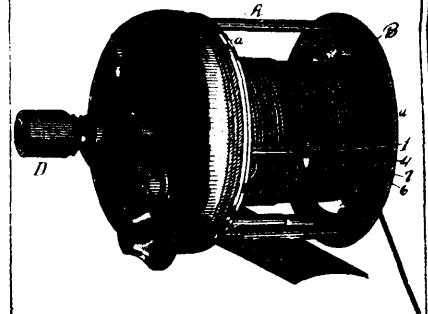
33599 Pickard's Detachable Strainer.



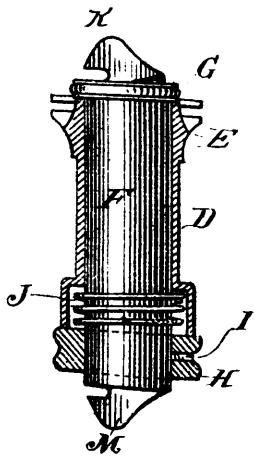
33600 Miller's Hammock Spreader and Cushion.



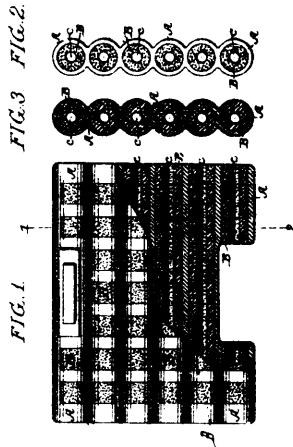
33601 Pond's Bridle Bit.



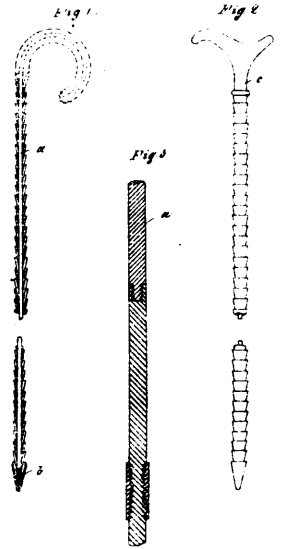
33602 Costigan's Fishing Reel.



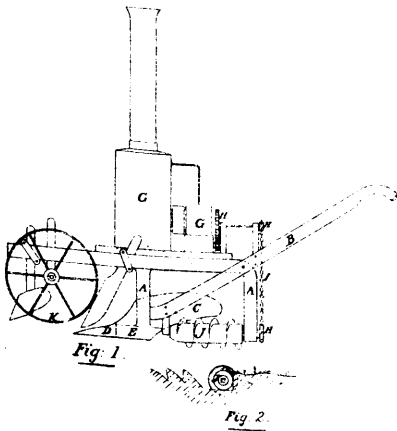
33603 Knubel's Umbrella.



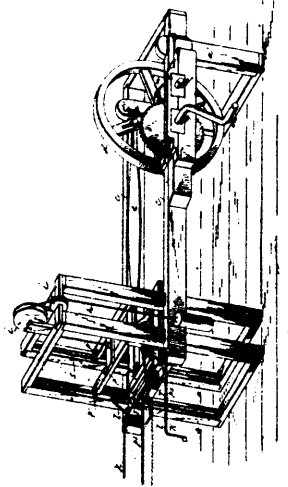
33604 Ernst's Secondary Battery Plate.



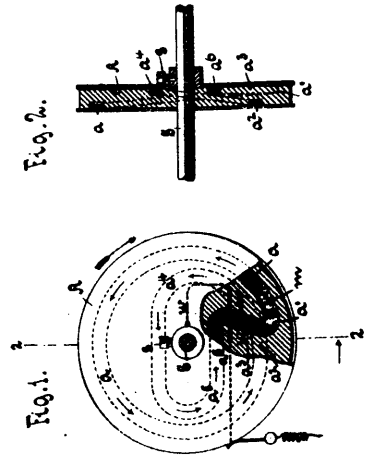
33605 Hofel's Walking Cane, etc.



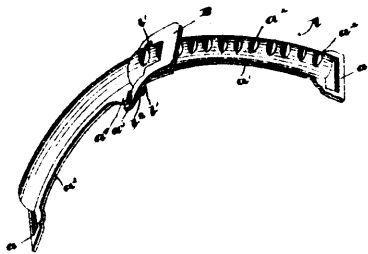
33606 Taylor's Plough.



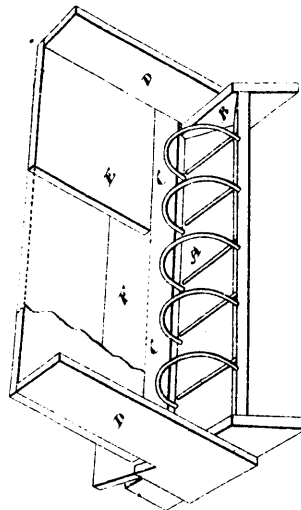
33607 Camp's Wood Sawing Machine.



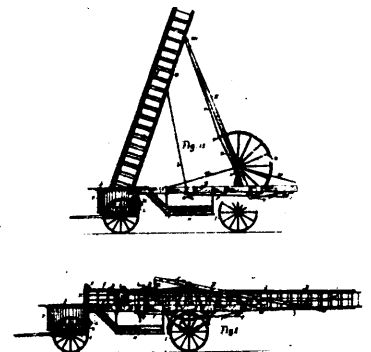
33609 Prentiss' Electric Cam.



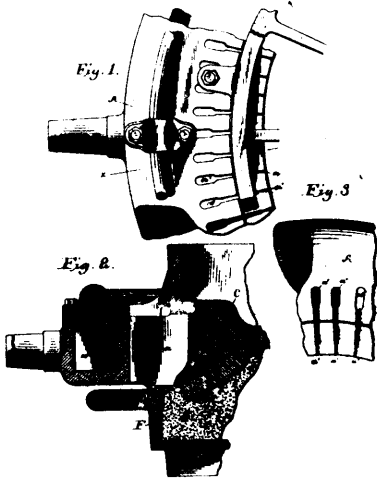
33610 Robinson's Shoe Buckle.



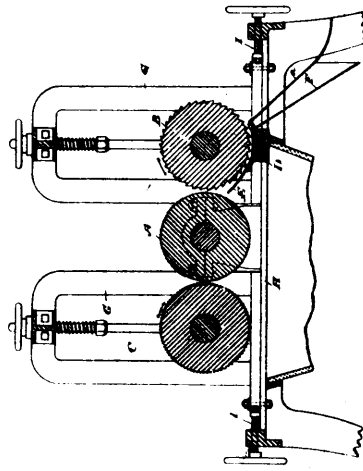
33611 Jackson's Trough for Figs.



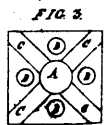
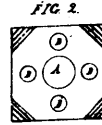
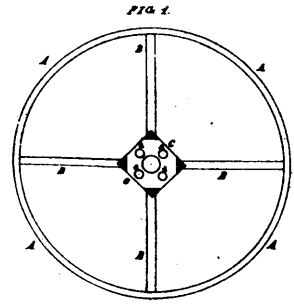
33612 Sutherland's Fire Ladder.



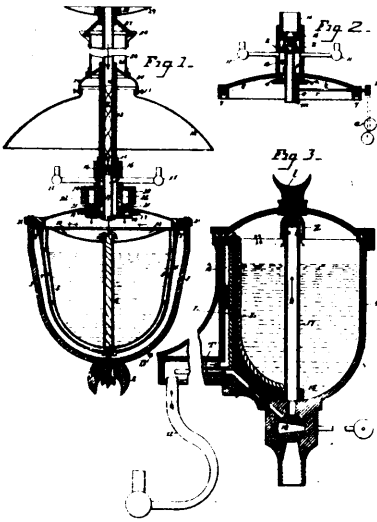
33613 Barr's Chill.



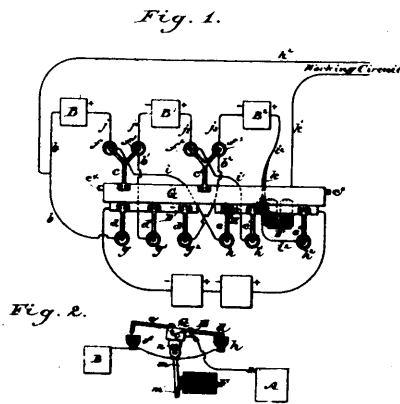
33614 Jones' Grinding Mill.



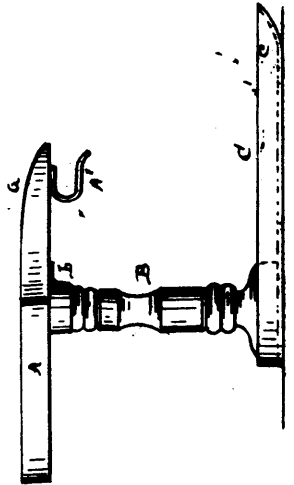
33615 Strachan's Wheel.



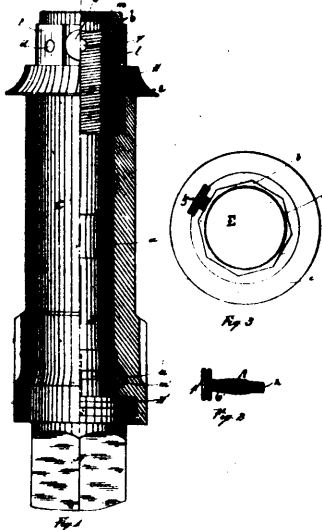
33616 Kitson's Gas Lamp



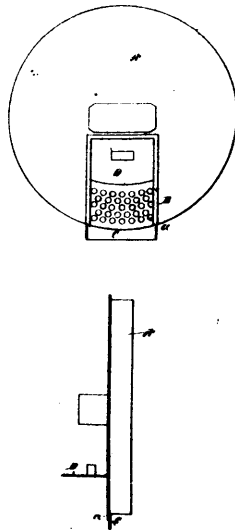
33617 Kookogey's Apparatus and Connection for Charging and Discharging Storage Batteries.



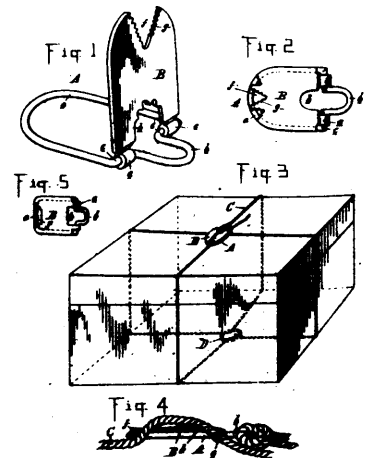
33620 Clarke's Change Tray.



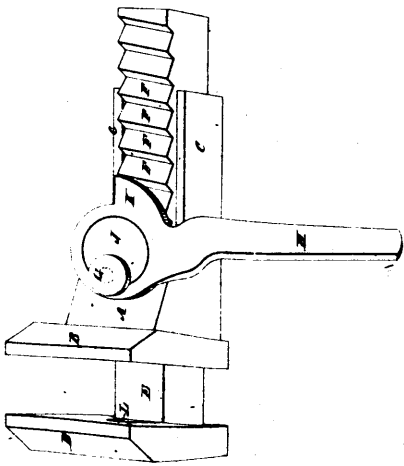
33622 Mercier's Essieu de Voiture.



33623 Cooper's Cover for Utensils.

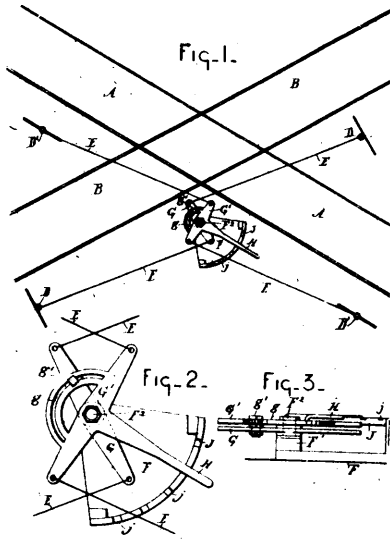


33624 Kinney's Rope Clamp.



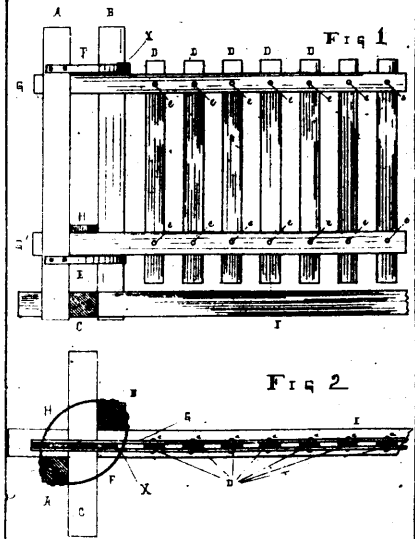
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Wies' Bench Vice.



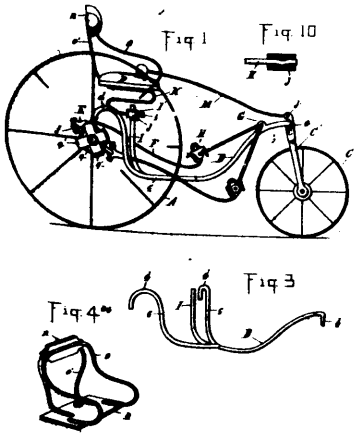
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Barnes' Signalling Apparatus.



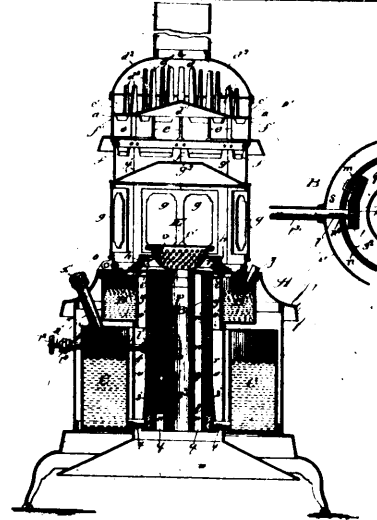
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Clow's Farm Gate.



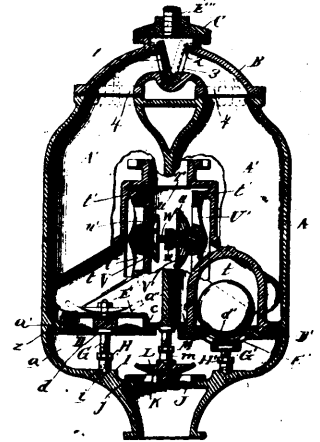
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Gendron's Tricycle.



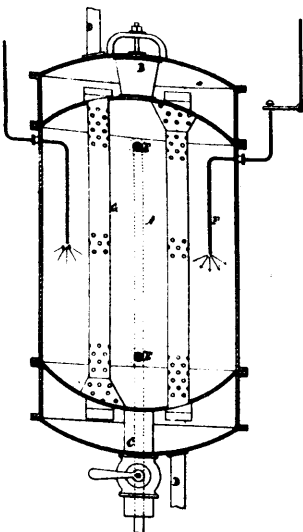
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Converse's Stove.



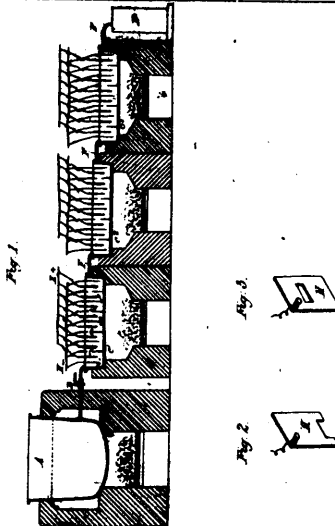
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Maslin's Steam Pump



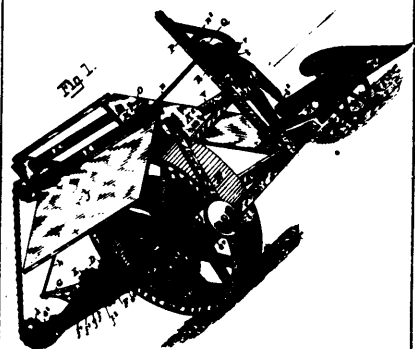
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Brown's Disintegrating Fibrous Material.



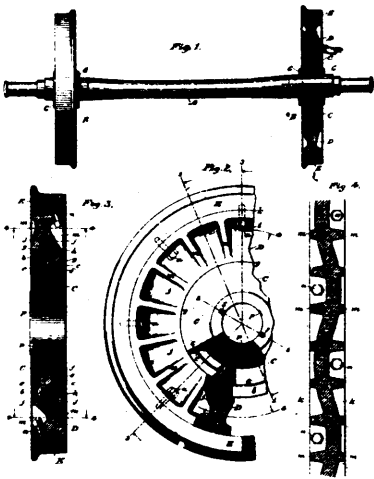
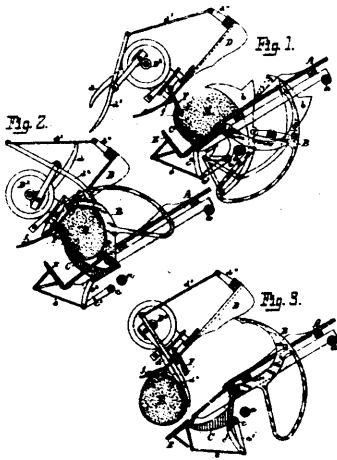
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Castner's Process of Purifying the Anhydrous Double Chloride Compounds of Aluminum.



33634

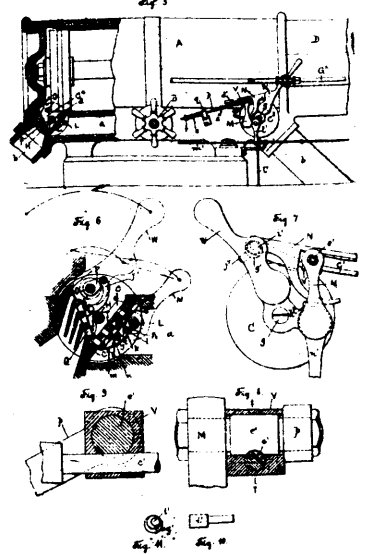
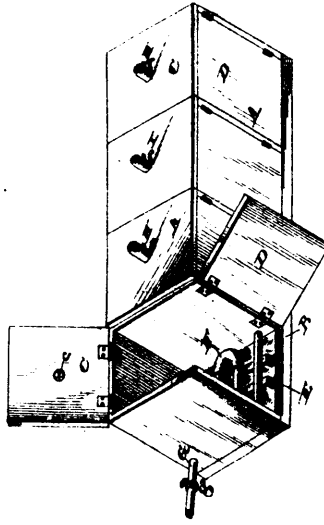
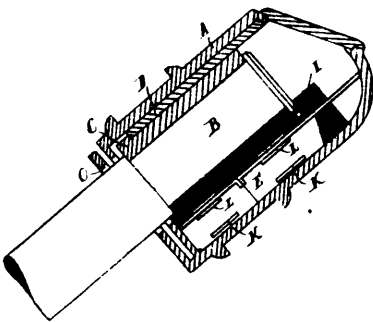
Whitely & Bayley's Grain Harvester.



33635 Whitely's Grain Bluder

33636 Welkly's Car Wheel

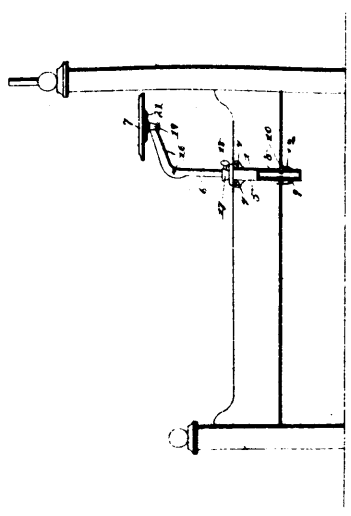
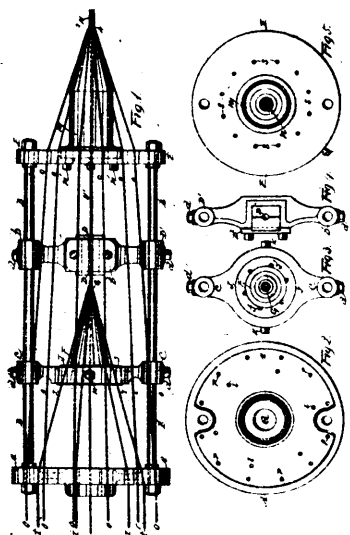
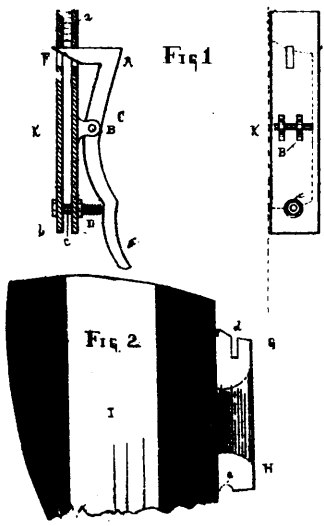
33638 Johnson's Ink Bottle, etc.



33640 Rogers' Receptacle for Packing for Car Axle Boxes.

33641 Appleberg's Apparatus for and Method of Preserving and Purifying Milk.

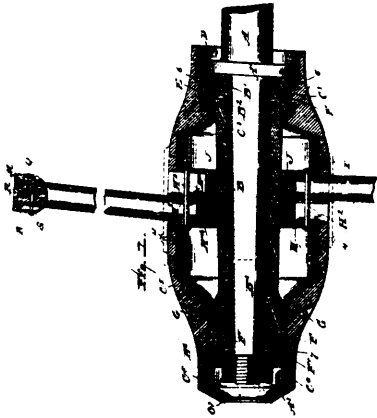
33642 Wheelock's Steam Engine.



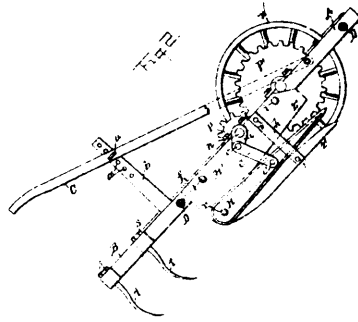
33643 Bristow's Drill Hoe and Seeder Tooth, etc.

33644 Wilson's Wire Rope Machine.

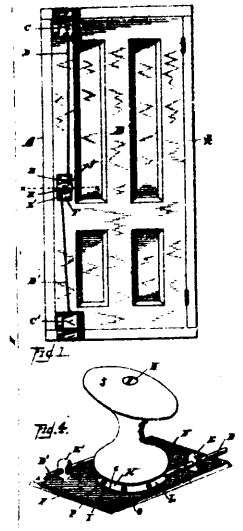
33645 Rambe' Bedstead.



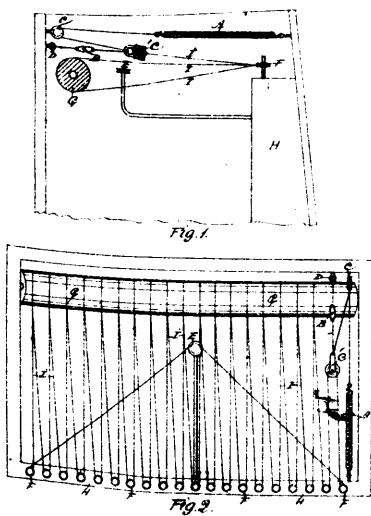
33647 Lott's Wheel.



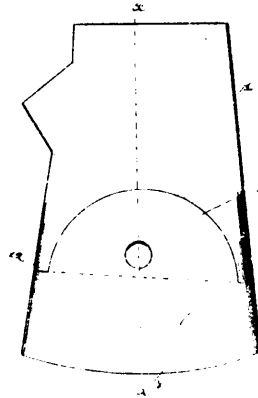
33648 Love's Strawberry Vins Cutter, etc.



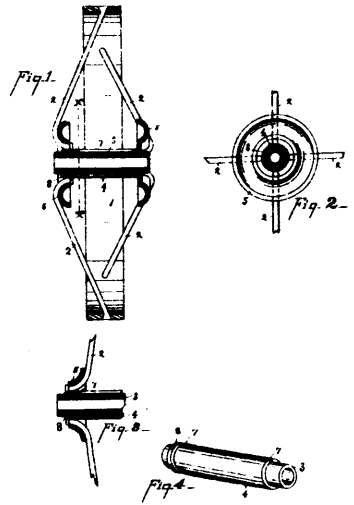
33649 Langenbach's Bolt.



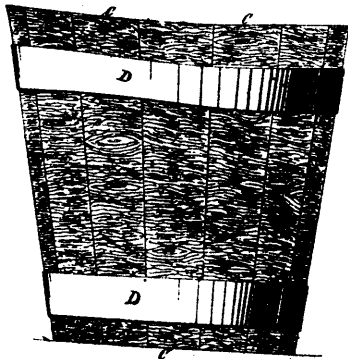
33650 Clark & Thornton's Spindle Driving Device.



33651 Holladay's Axle.



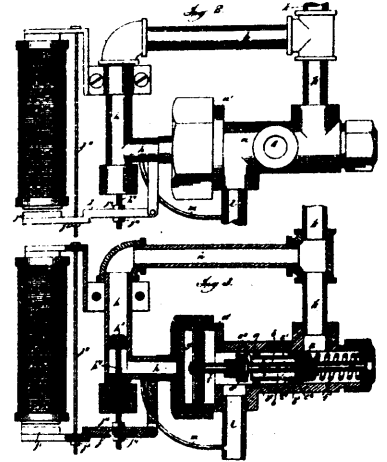
33652 Howell's Wheel.



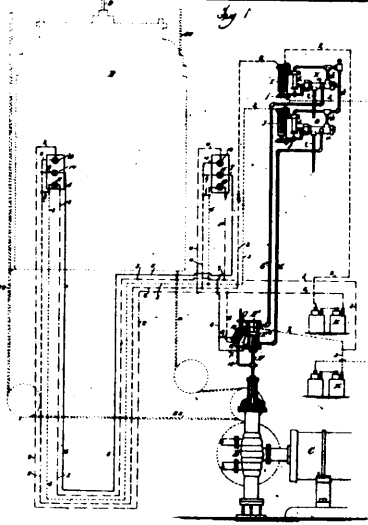
33653 Krauser's Manufacture of Buckets, etc.



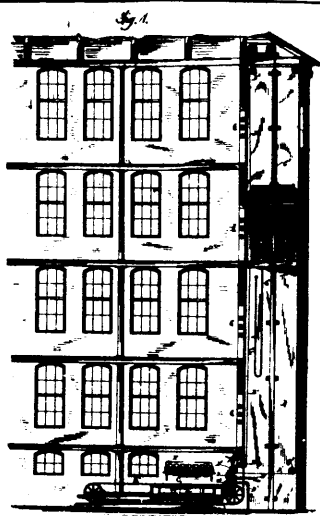
33654 Ongley's Elevator.



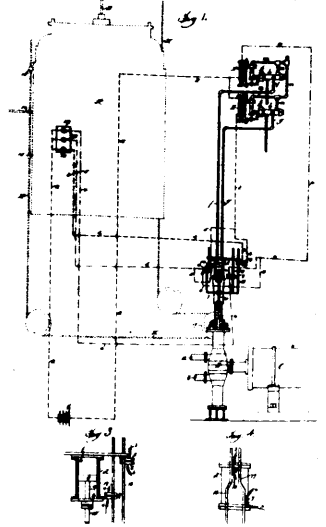
33655 Ongley's Elevator.



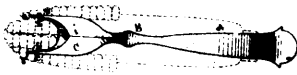
33656 Ongley's Elevator.



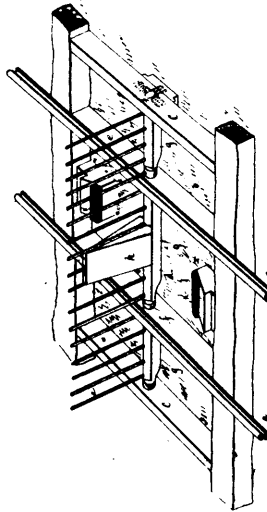
33657 Ongley's Elevator.



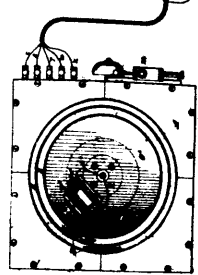
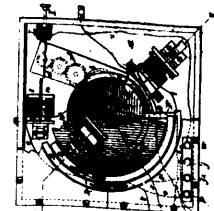
33658 Ongley's Elevator.



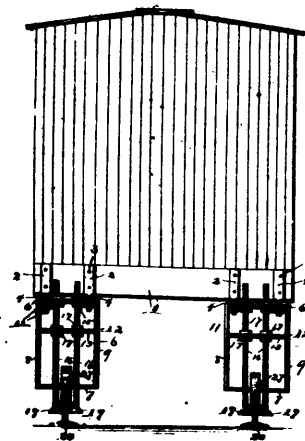
33659 Wynkoop's Table Knife for Green Corn.



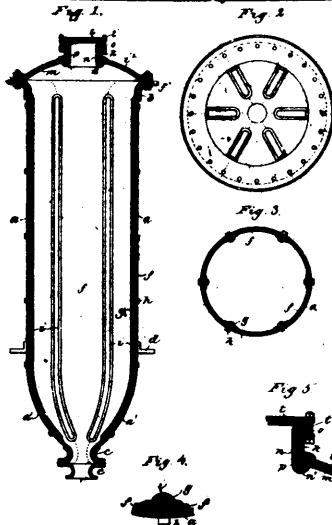
33660 Edmondson's Railway Gate.



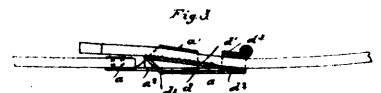
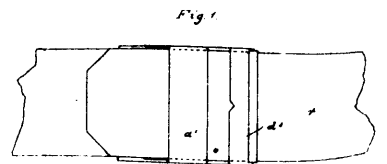
33661 Chappell's Apparatus for Indicating the Progress of Races, etc.



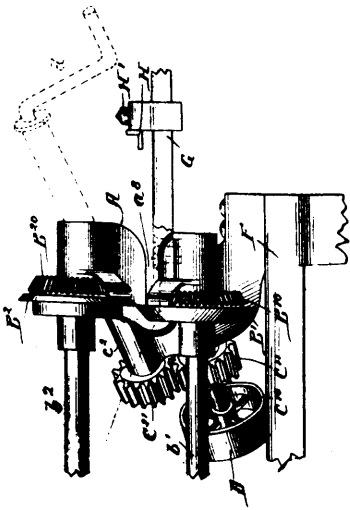
33662 Cameron's Safety Device for Railway Cars.



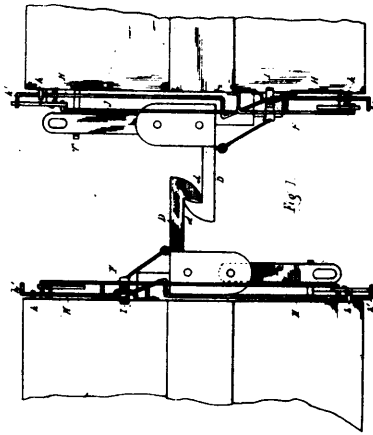
33663 Crocker's Digester.



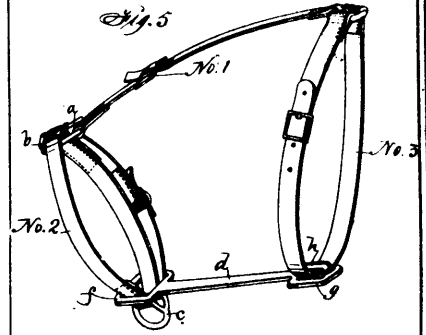
33664 Tehnik's Wedge Buckle.



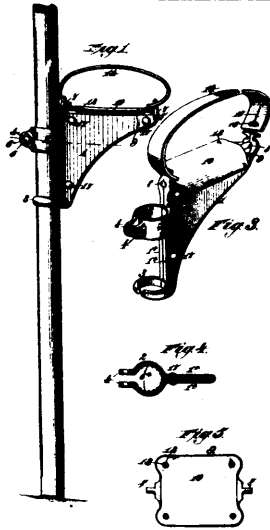
33665 Noye's Metal Shearing Machine.



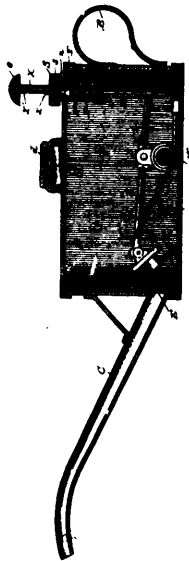
33666 Stover's Car Coupling.



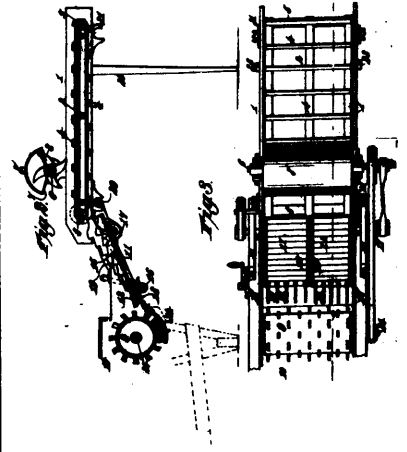
33667 Lally's Halter.



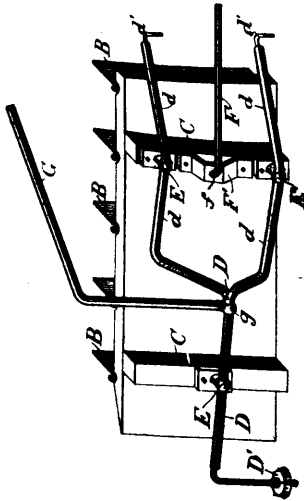
33668 Temple's Stilt.



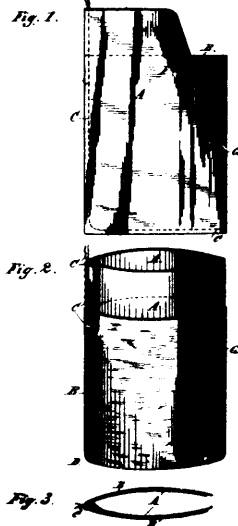
33669 Rau's Oil Can.



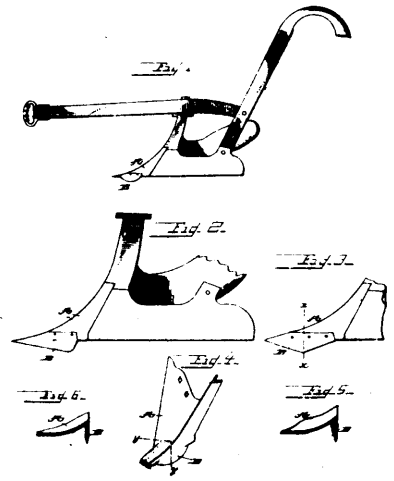
33670 Bailey's Band Cutter, etc.



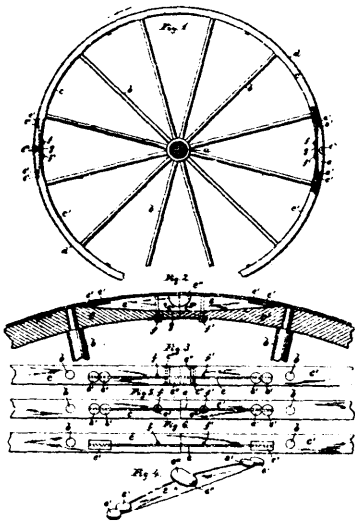
33671 Chapin's Butter for Self Binding Harvesters.



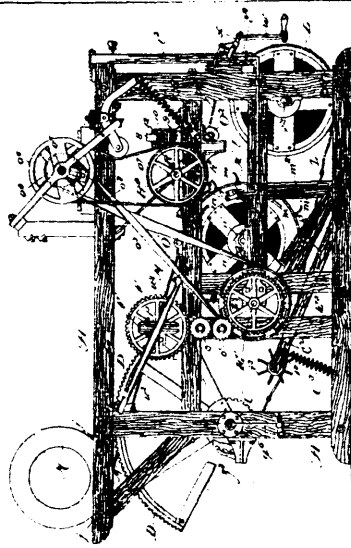
33672 Magee's Shipping Bag.



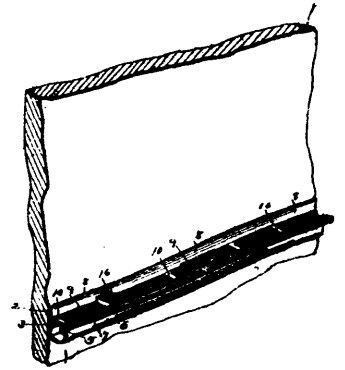
33673 Brinkerhoff's Plow.



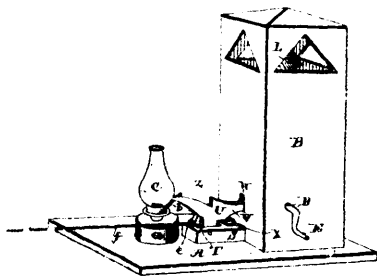
33674 Fisher's Vehicle Wheel.



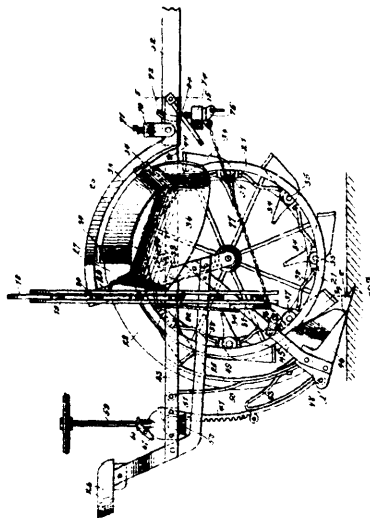
33675 Gage & Lamb's Wire Fence Machine.



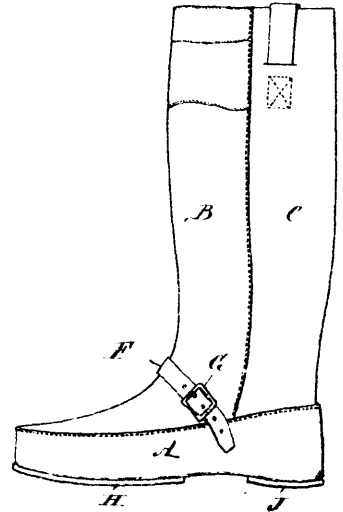
33676 Erwin's Crayon Rack.



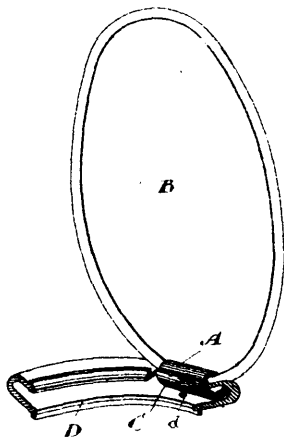
33677 Carter's Burglar Alarm.



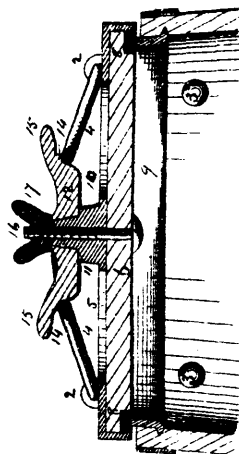
33678 Carter's Ditching and Excavating Machine.



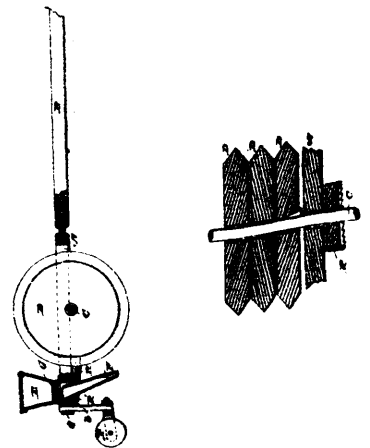
33679 Langmaid's Shoe Packs.



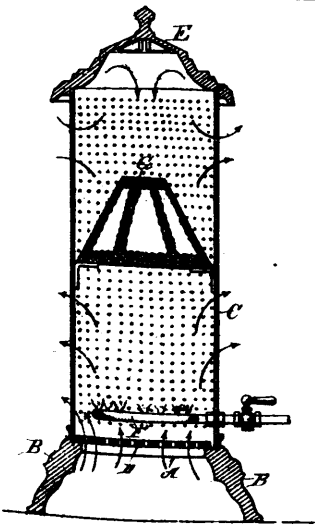
33680 Dunbar's Hinge.



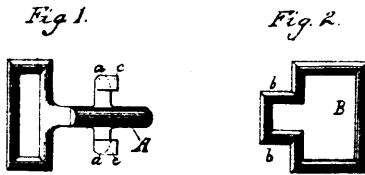
33681 Palmer's Churn.



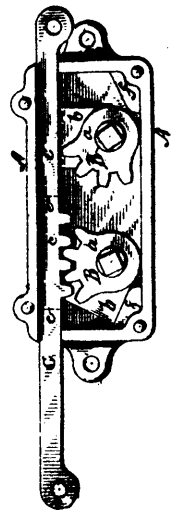
33682 Gatenby's Seed Drill.



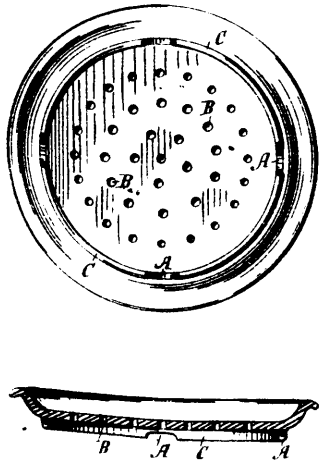
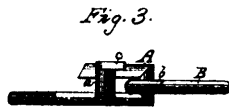
33683 Carrington's Gas Stove.



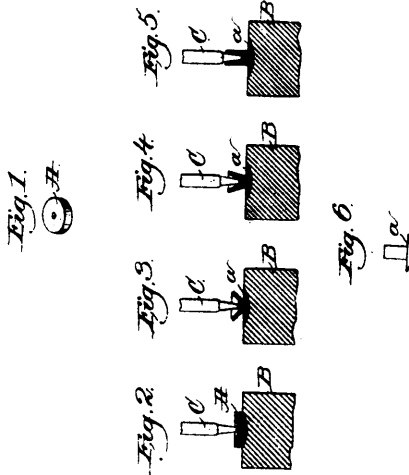
33684 Bates' Horse Blanket Fastening.



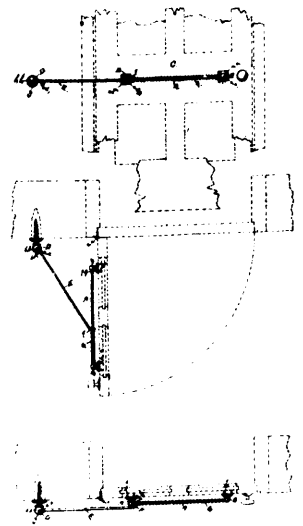
33685 Reiff's Mechanism for Operating Railroad Signals, etc.



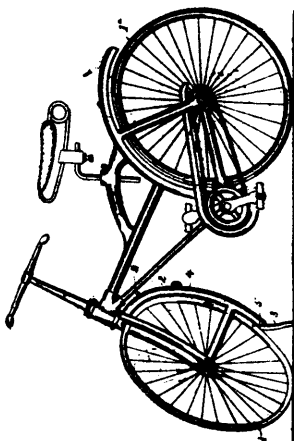
33686 McNiece's Pie Plate.



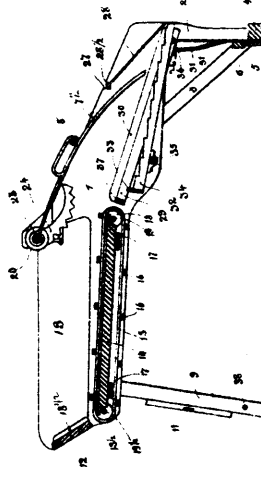
33687 Cummings' Method of Manufacturing Hollow Rivets.



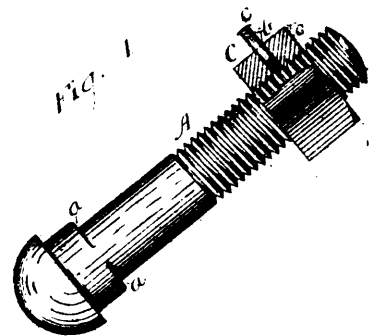
33688 Bussières' Ressort de Porte.



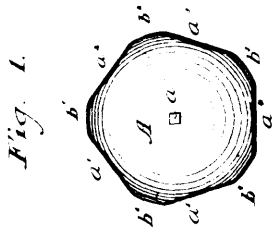
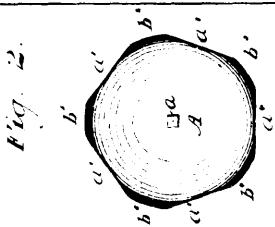
33689 Morton's Bicycle Support.



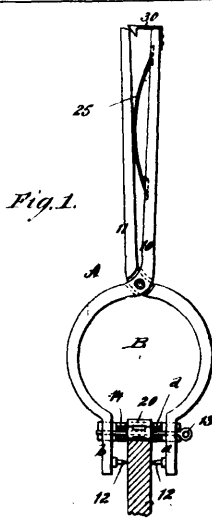
33690 Plett's Band Cutter, etc.



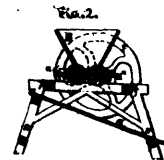
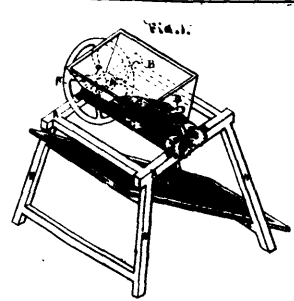
33691 Jenkins' Nut Lock.



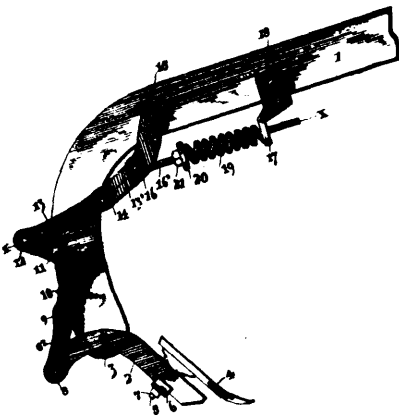
33692 Bell's Harrow Disk.



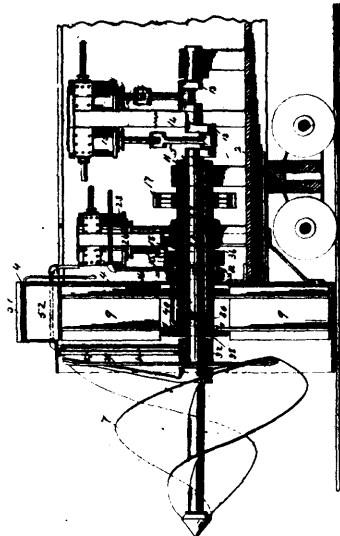
33693 Irwin's Floor Jack.



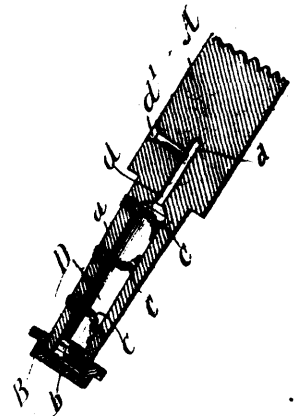
33694 Newkirk's Machine for Removing Clay or Earth from among Beans.



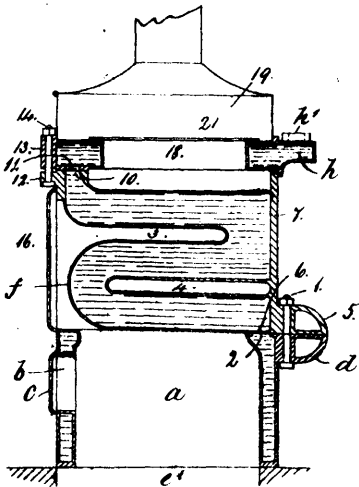
33695 Wilson's Cultivator.



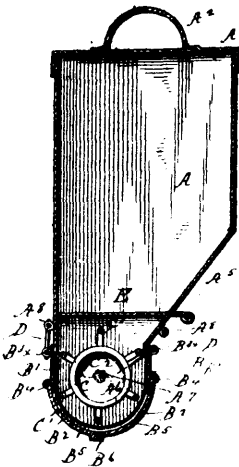
33696 Caldwell's Snow Plow.



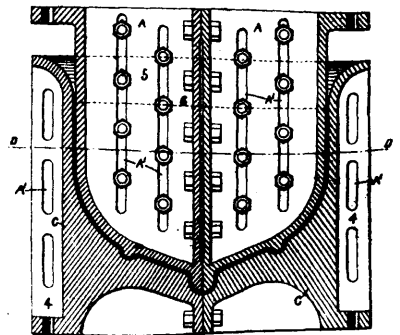
33697 House's Lubricator.



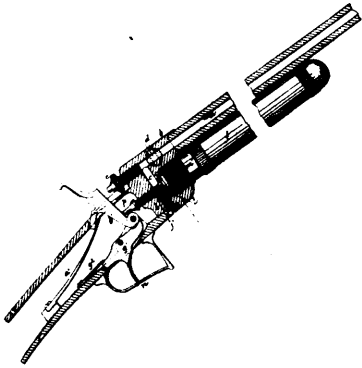
33698 Wells' Water Heater.



33699 McClellan's Flour Bin and Sifter.



33701 Heslop's Apparatus for the Manufacture of Boats.



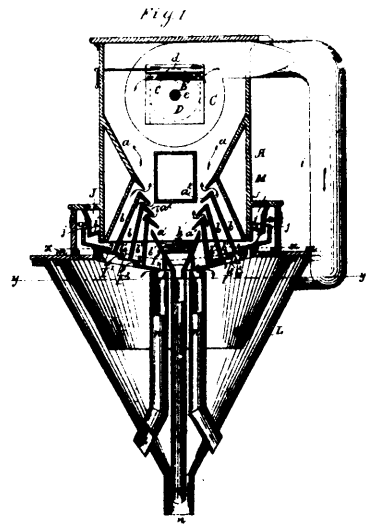
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Giffard's Gun.



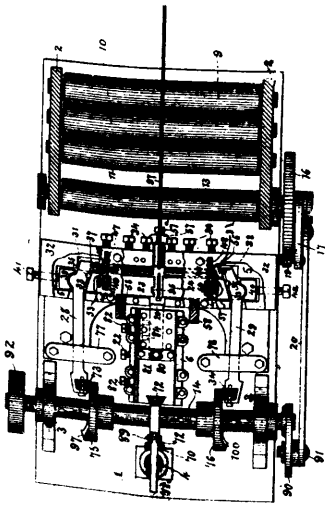
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Otto's Razor Cleaning Device.



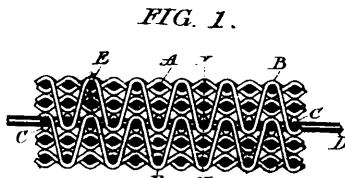
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Holt's Separating Machine.



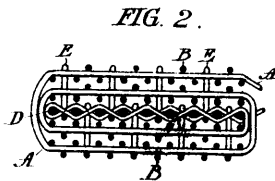
33705

Hastings' Wire Nail Machine.



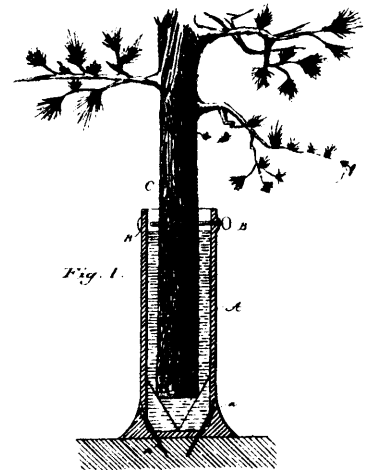
33706

Maddox's Fabric for Belting.



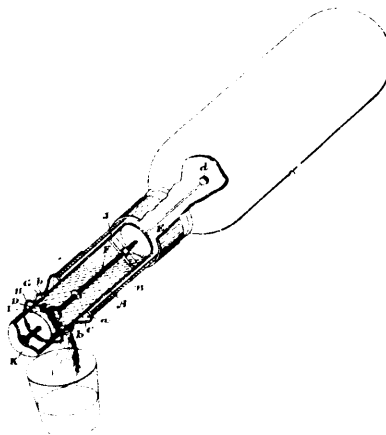
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Dick's Holder for Christmas Trees.



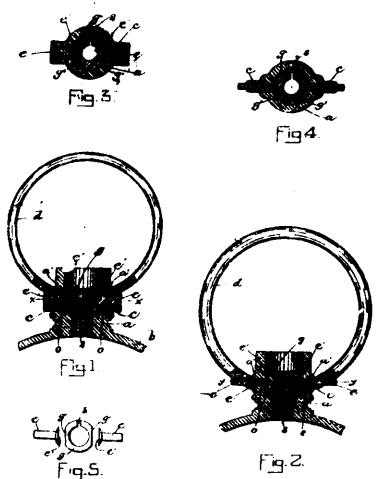
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Hind's Wire Chain.



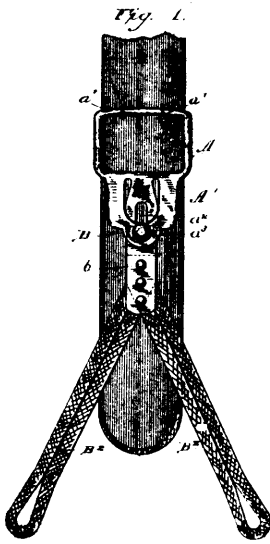
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Canan's Bottle.

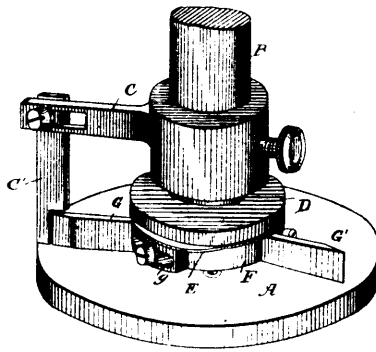


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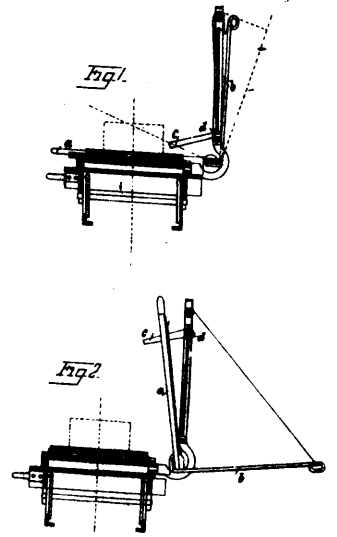
Fitch's Watch Bow Fastener.



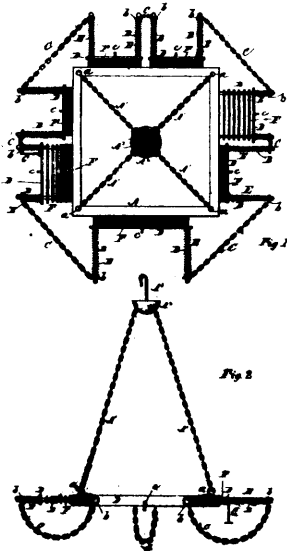
33711 Crossette's Clasp.



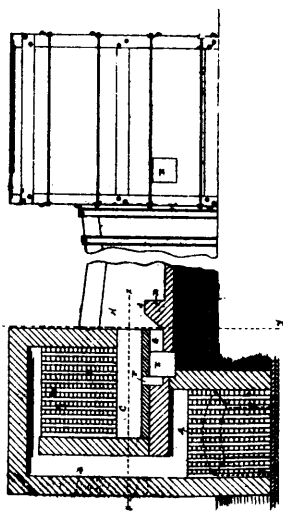
33712 Schirk's Indicator for Slotting Gear Cutting Machines.



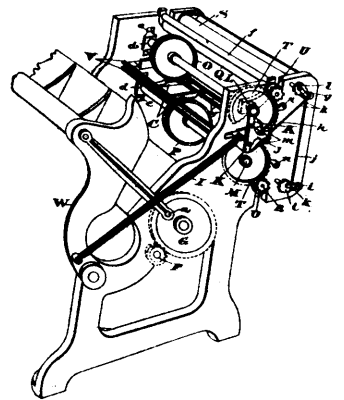
33713 Kukenthal's Wire Cleaner.



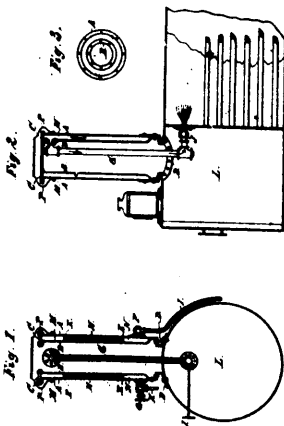
33714 MacWaters' Ware Exhibitor.



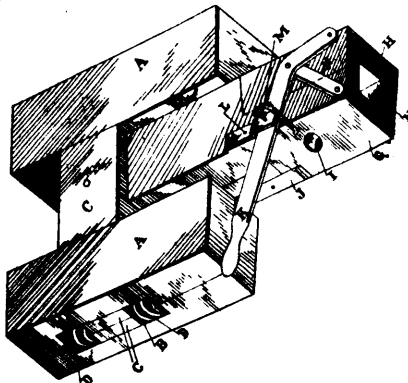
33715 Younger's Heating Furnace.



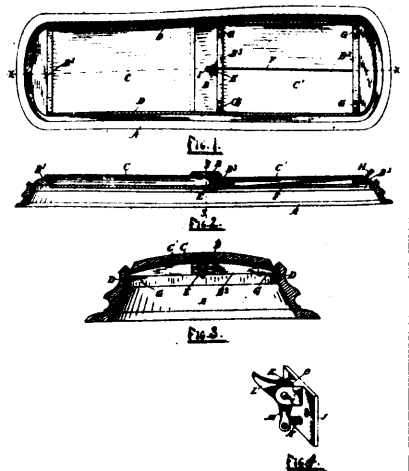
33716 Carter's Machine for Numbering Paper.



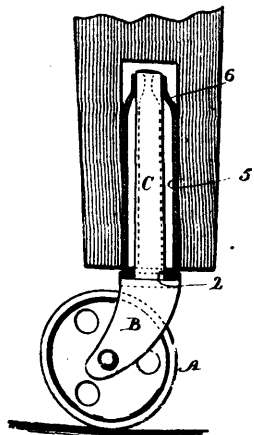
33717 Brown's Smoke Stack.



33718 Shaw's Car Coupling.

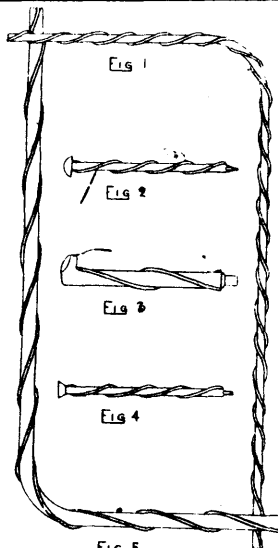


33719 Walker's Burial Casket.



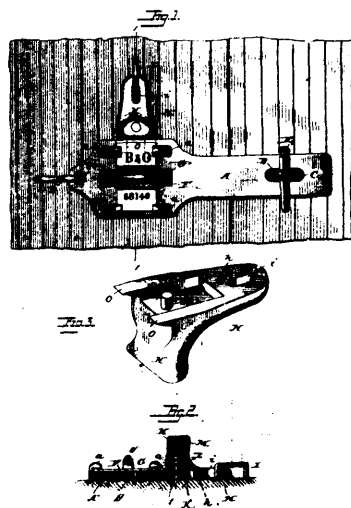
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Diss' Caster.



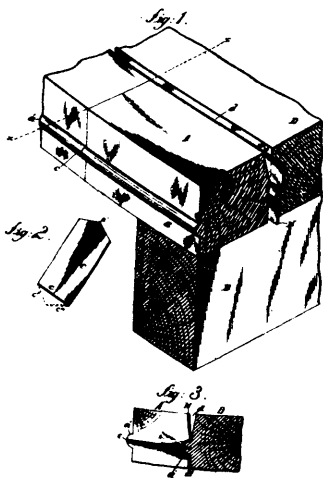
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Fig. 5
Norgate & Milne's Wire for Manufacturing Nails.



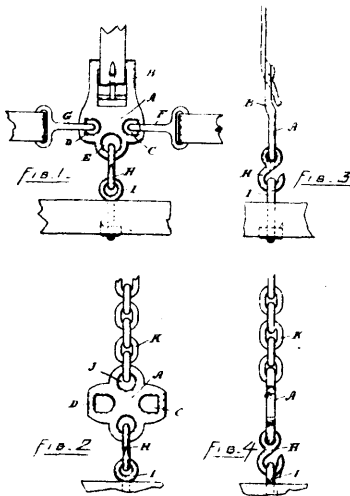
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Welch's Seal Locking Device.



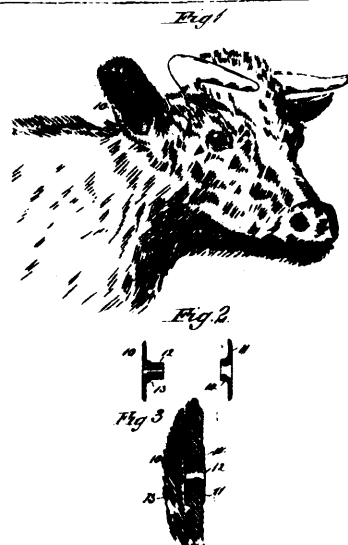
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Finley's Flooring.



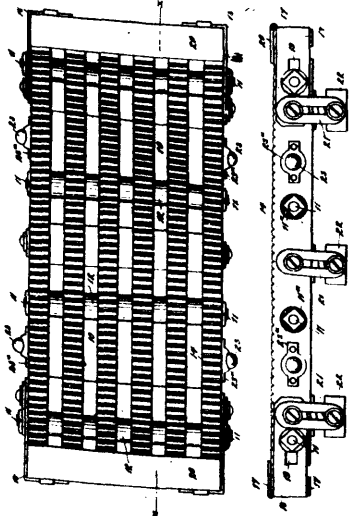
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Robertson's Harness Mounting.



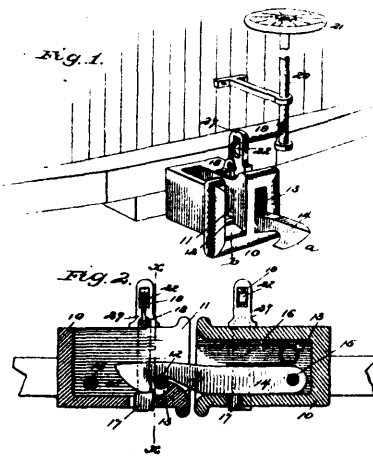
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Talbot's Button for Tagging Cattle.



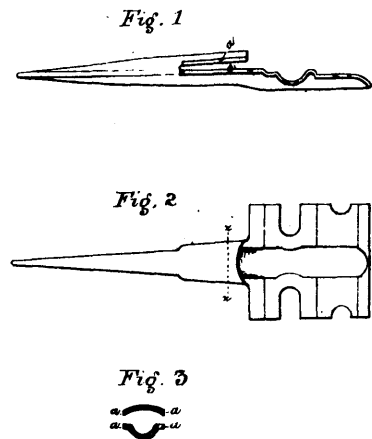
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Talbot's Floor for Cars.



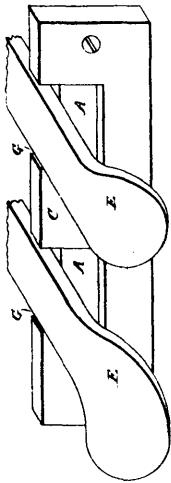
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Drengson's Car Coupler.

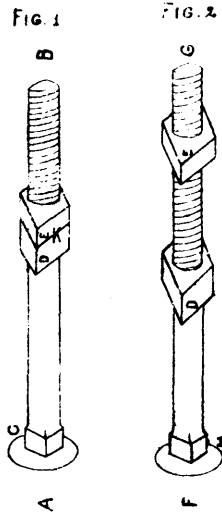


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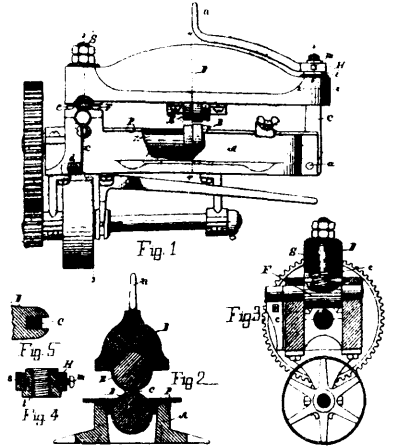
Collinson's Mowing and Reaping Machine Knife Guard.



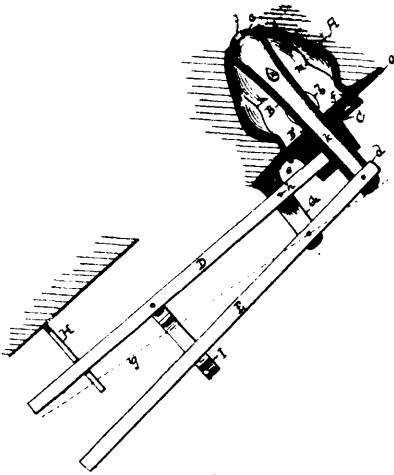
33731 Kussner's Mouse Proof Attachment for Piano Forte Pedals.



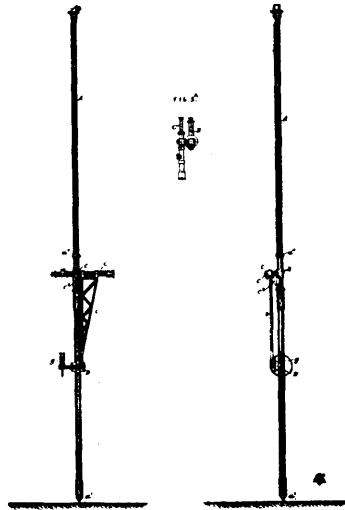
33732 Deeks' Nut Lock.



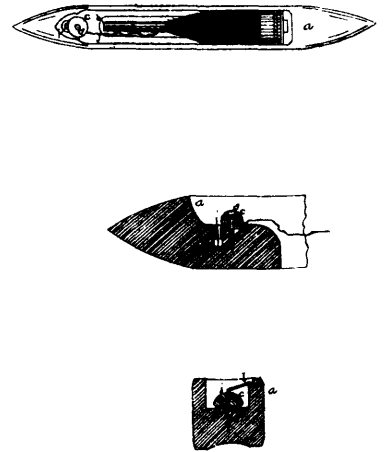
33733 Wortorf's Saw Stretching Machine.



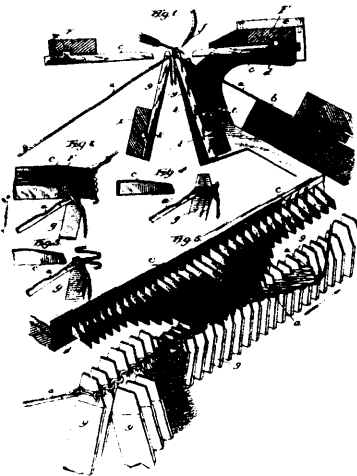
33734 McGroder's Tuyere Iron.



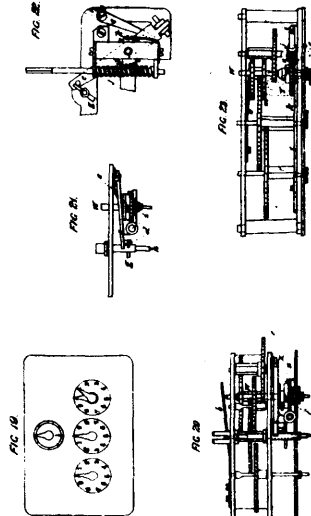
33735 Smith's Telemeter.



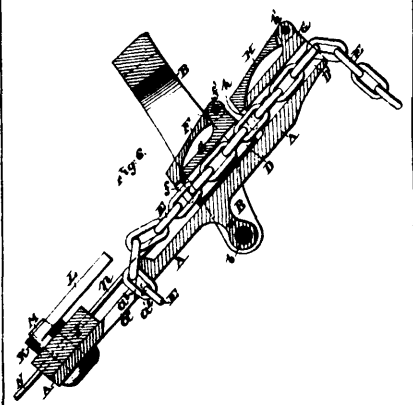
33737 Kelly's Tension Regulating Device for Shuttles.



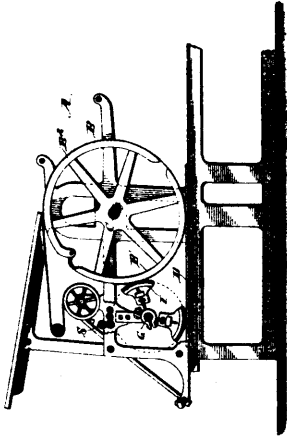
33741 Wilcomb's Method of Knitting, etc.



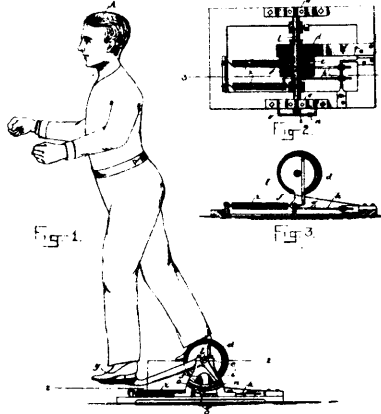
33742 Valon's Stop Index for Pre-payment Gas Meters.



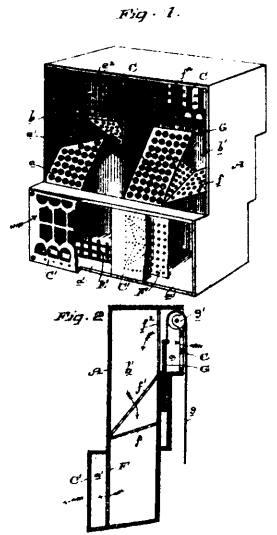
33743 Mason's Wire and Cable Tightener.



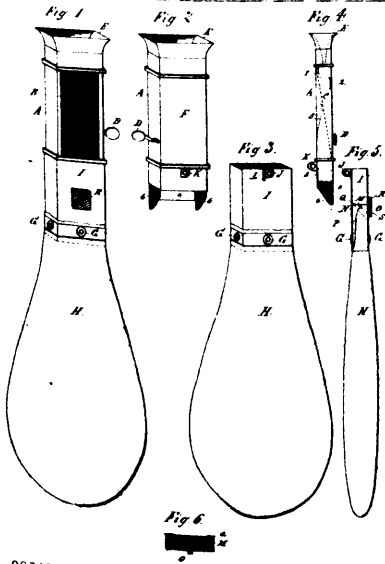
33744 Ditson's Printing Press Attachment.



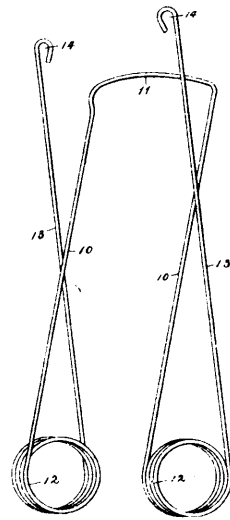
33746 Sanborn's Exercising Machine.



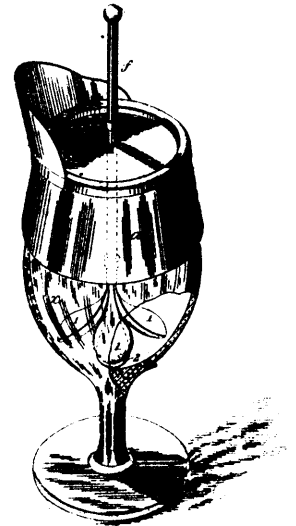
33747 Abrahamson's Ventilator.



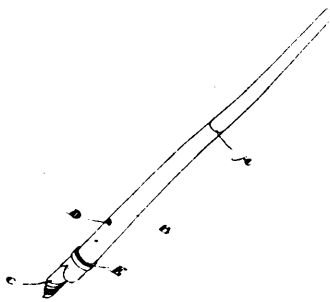
33748 Berne's Fare Collector.



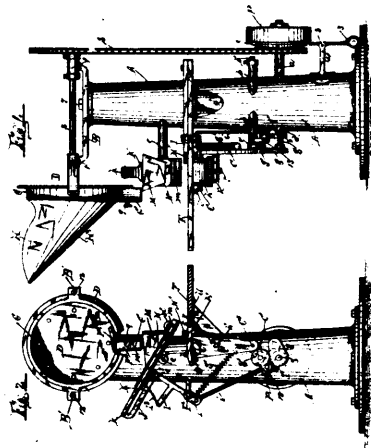
33750 Ruggles' Paper Clip.



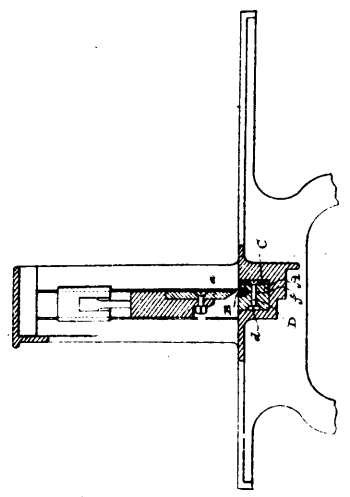
33751 Boermann's Mixer.



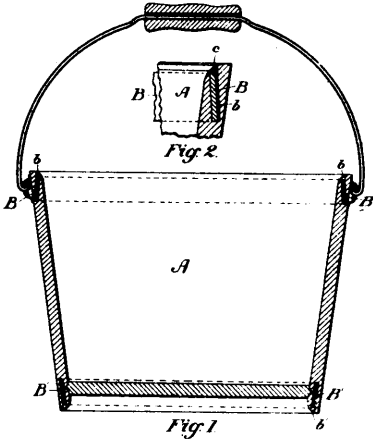
33752 Spligner's Pen Holder.



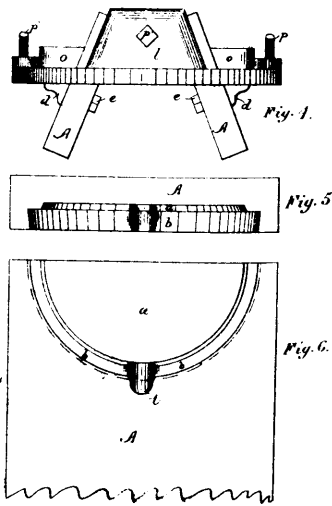
33753 Coughtry's Cigar Bunching Machine.



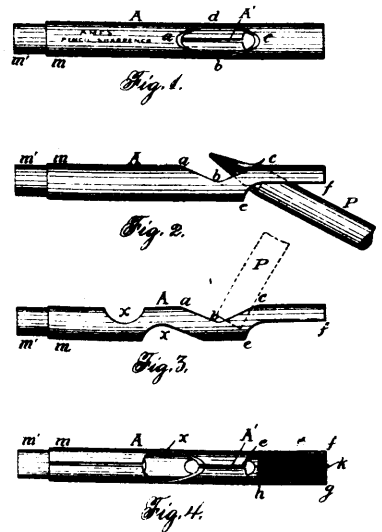
33754 Hamilton's Cutting Stick.



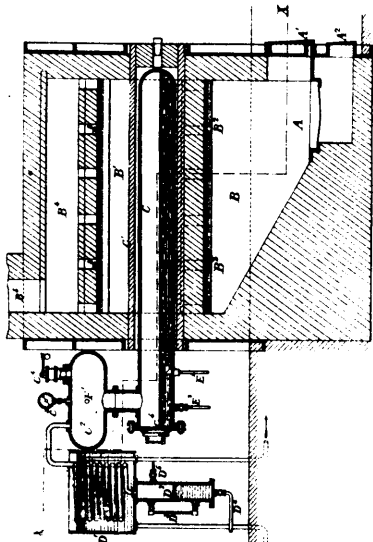
33755 Warner's Pail, etc.



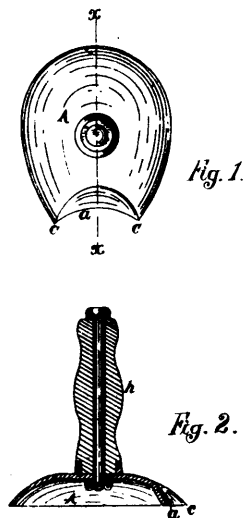
33756 Marsh's Machine for Soldering Cans.



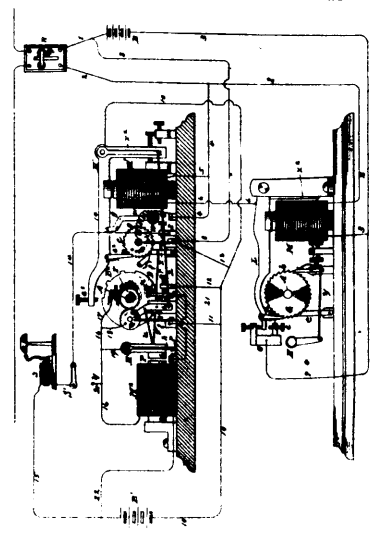
33757 Ames' Pencil Sharpener.



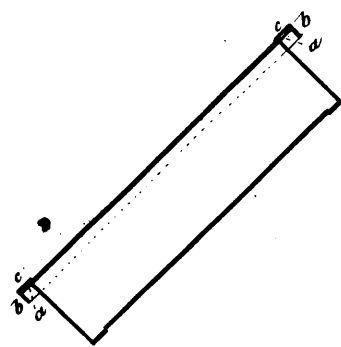
33758 Dewar & Redwood's Distillation of Mineral Oil, etc.



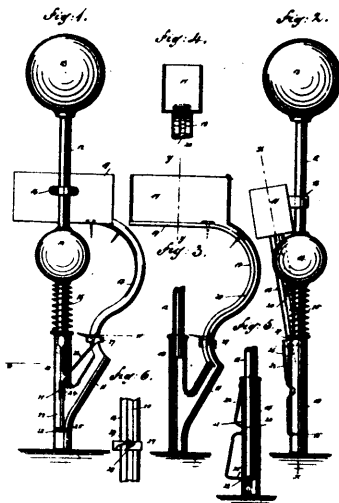
33759 Agan's Hog Scraper.



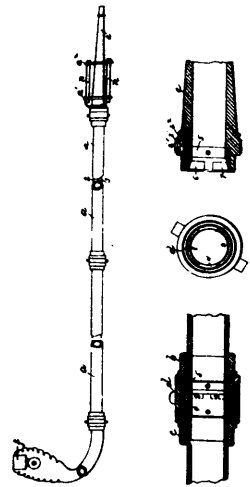
33760 Taylor's Electric Signal.



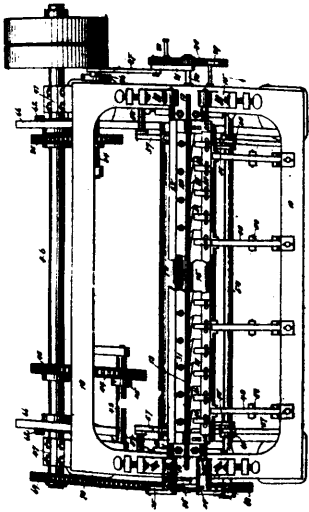
33761 Maconochie's Construction and Manufacture of Cans, etc.



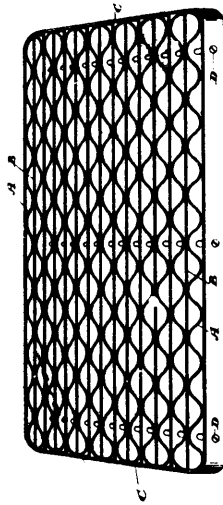
33762 Millener & McRae's Hand Tacking Implement.



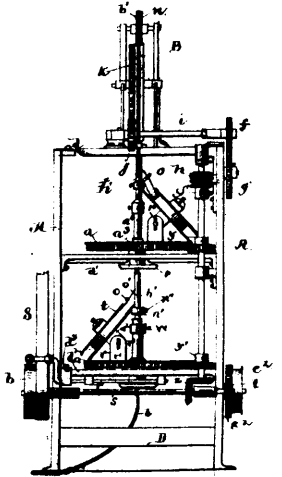
33763 Crosby's Hose Signal.



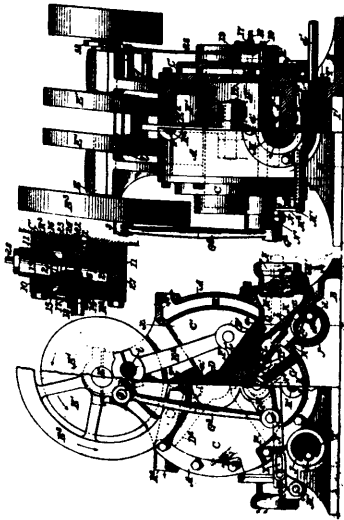
33764 Connolly's Machine for Picking Fur Skins.



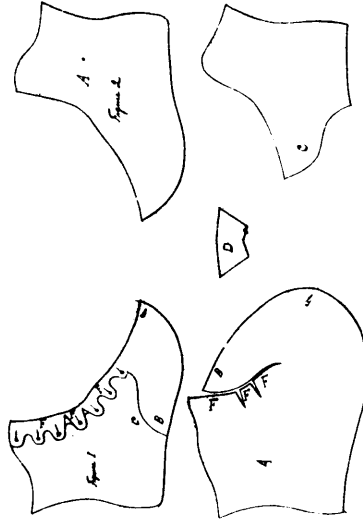
33765 Coxon's Door Mat.



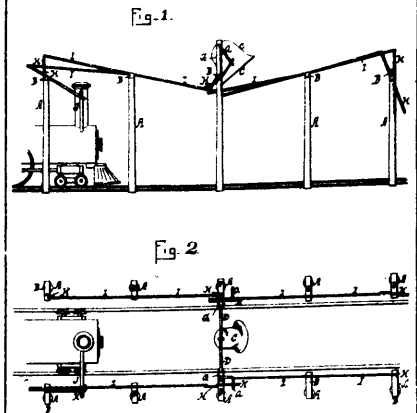
33766 McCabe's Machine for Covering Wire Cables.



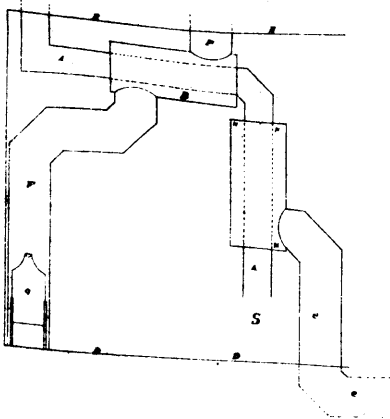
33767 Crist's Gas Engine.



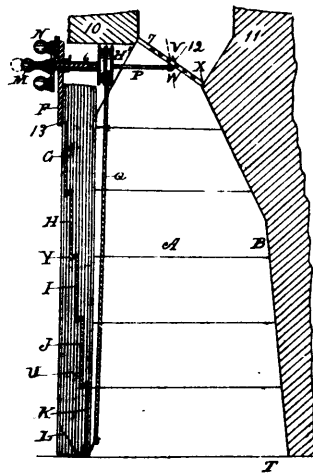
33768 Bonette's Empeigne de Chaussures.



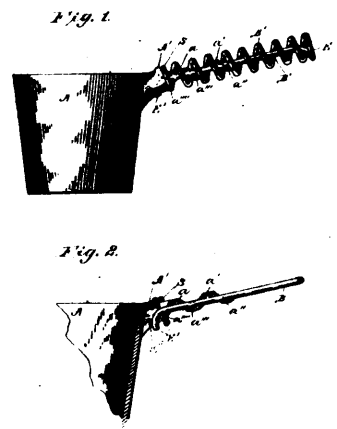
33769 Finley's Railroad Signal.



33771 Wright, Norris, Rath & Morris's Process of Ventilating School Rooms.

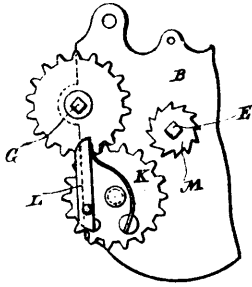


33772 Wisdom's Fire Board and Damper.



33774 Devore's Handle.

Fig. 2



33775 Gaylord's Alarm Clock.



Fig. 3



Fig. 4

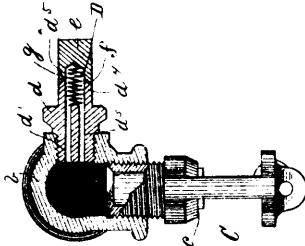
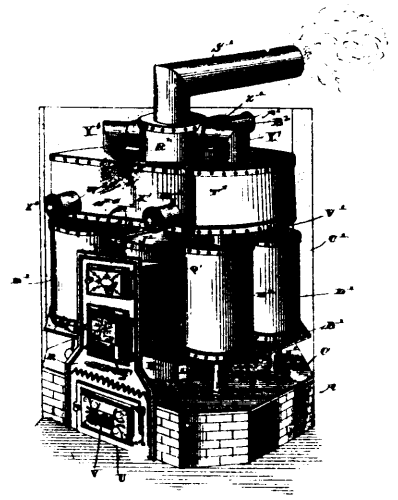


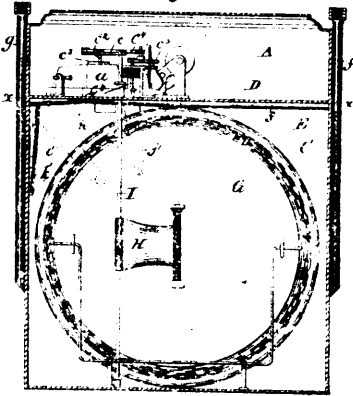
Fig. 2

33776 Stitson's Fire Extinguisher.

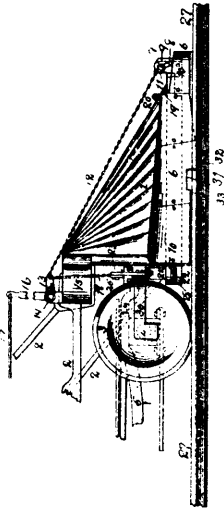


33778 Lawyer's Heating Furnace.

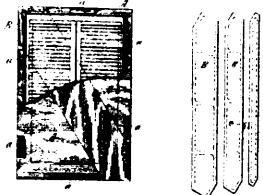
Fig. 1



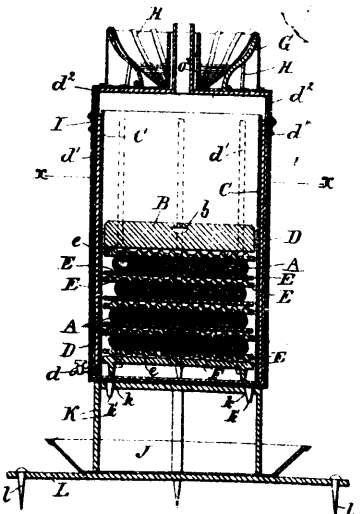
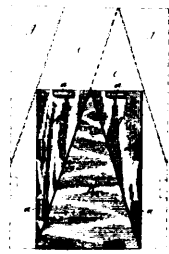
33779 Wynno & Morrison's Dry Gas Meter.



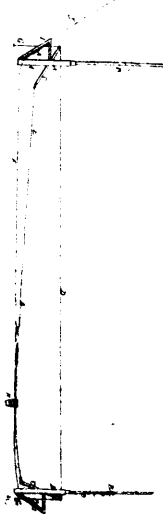
33780 Priest's Track Cleaner.



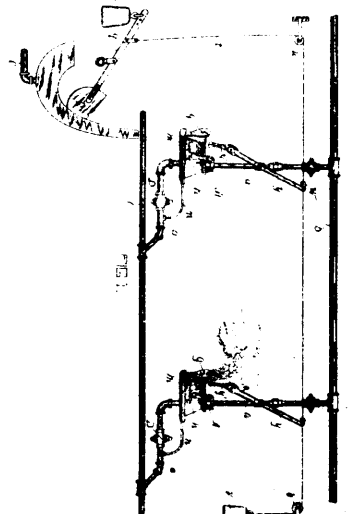
33781 Dalziel's Backing Block for Stereotype and Electrotype Plates.



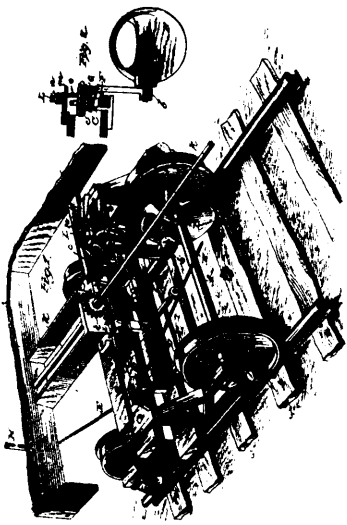
33782 Struver's Manufacture of Butter, etc.



33783 Whiting's Store Service Apparatus.

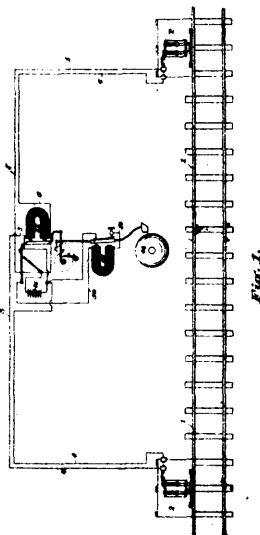


33784 Wallace's Air Moistening and Cooling Apparatus.

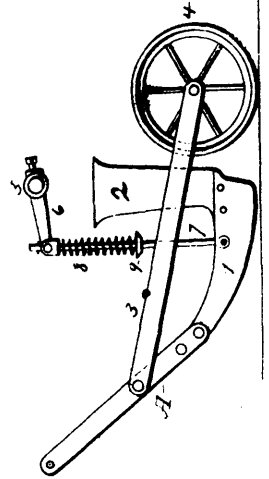


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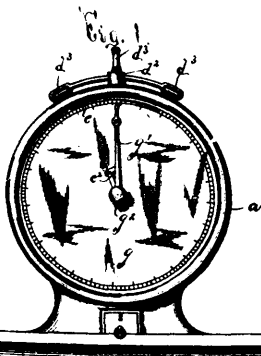
Fairman's Car Brake.



33787 Loy & O'Toole's Device for giving notice of the approach of a Railroad Train to a Station or Crossing.

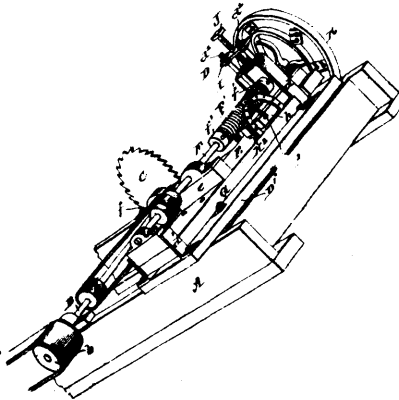


88788 Van Brunt's Device for Covering Grain.

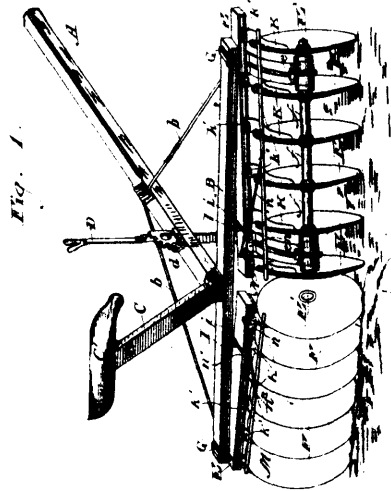


33789

Feechiar's Test Lifting Machine.

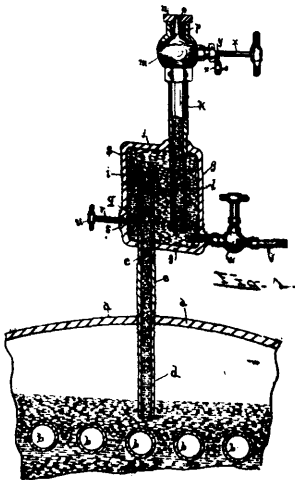


33790 Berry's Planer Attachment for Saw Mills



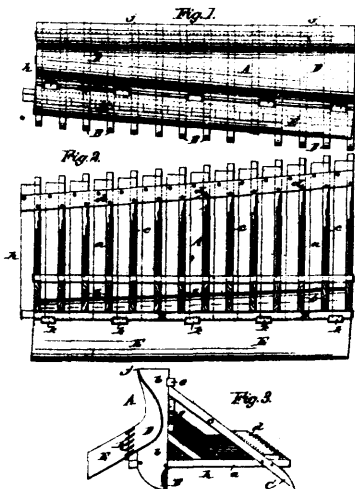
33791

Ritty's Harrow.



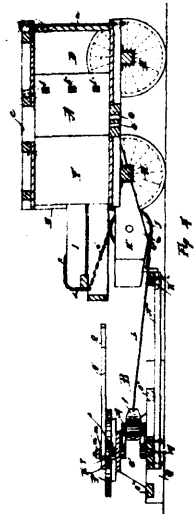
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Hand's Low Water Alarm.



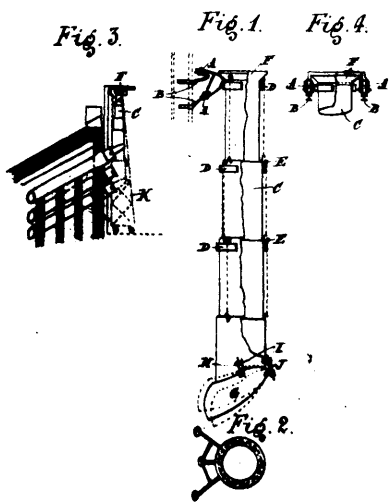
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Lummer's Portable Dam.

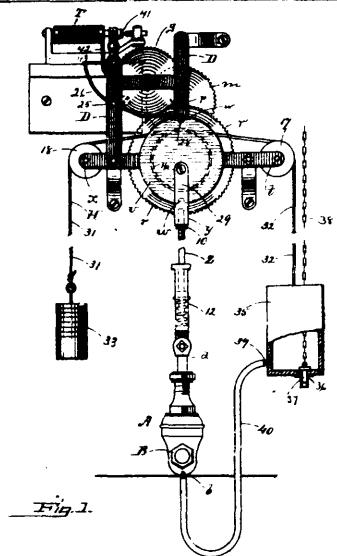


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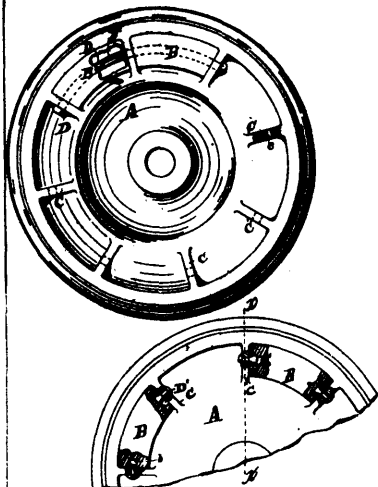
Dansereau's Presse à Foin.



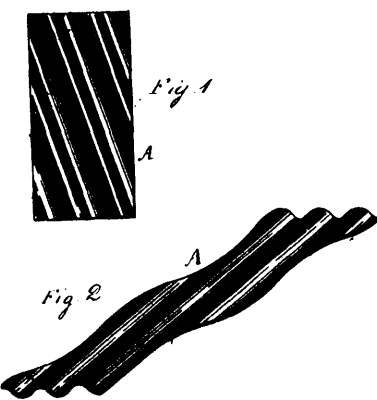
33795 Van Vestrant's Apparatus for Charging Gas Retorts.



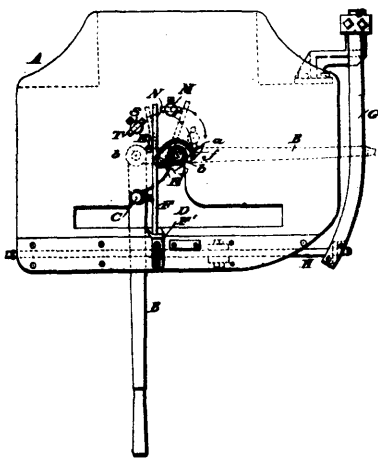
33796 Skinner's Shut Off for Water Pipes.



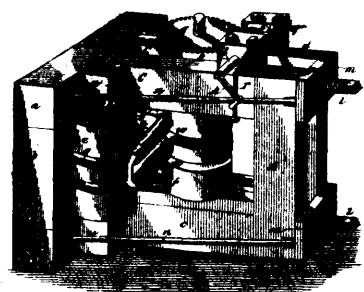
33797 Griffin's Car Wheel.



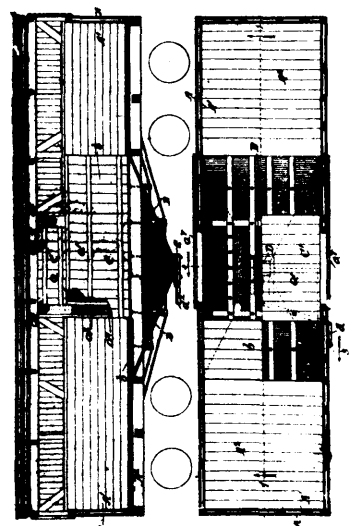
33798 Herder's Shavings for Vinegar Generators, etc.



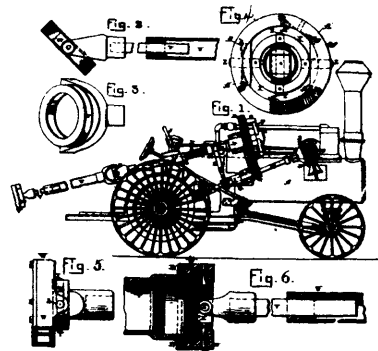
33799 Dunn's Machine for Making Nut Locks.



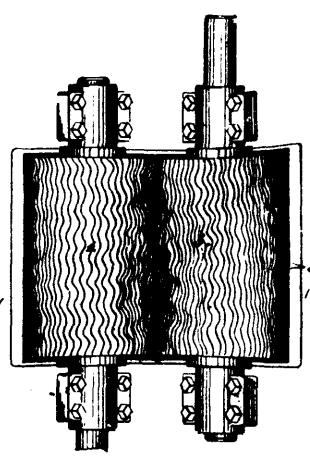
33800 Roenspiess & Flynn's Machine for Curving or Straightening Cold Steel Nails.



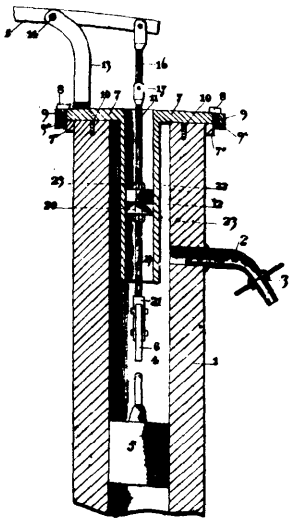
33801 Foy's Freight Car.



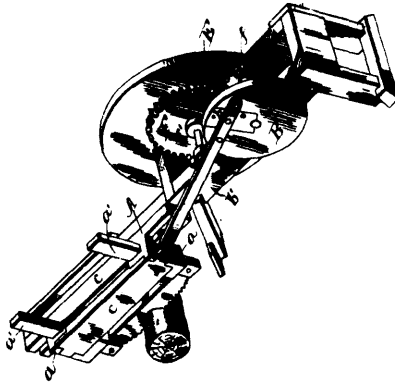
33802 Stanford's Steam Power Apparatus for Screwing Pipes Together.



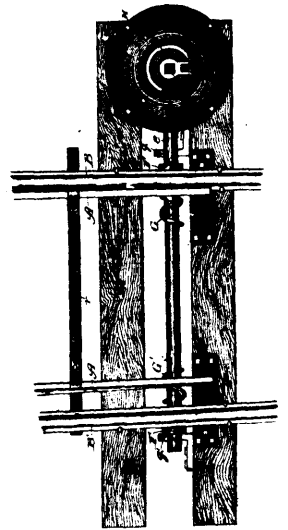
33803 Hueffners' Grinding Roll for Flour Mills.



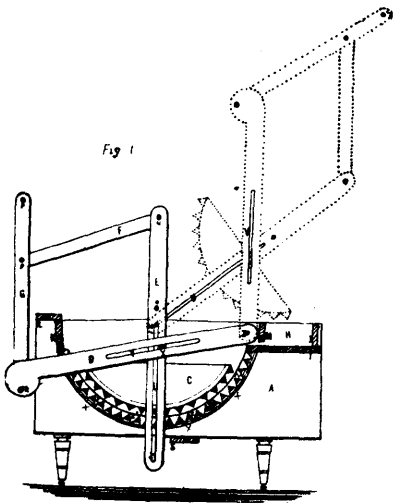
33804 Patchel's Pump.



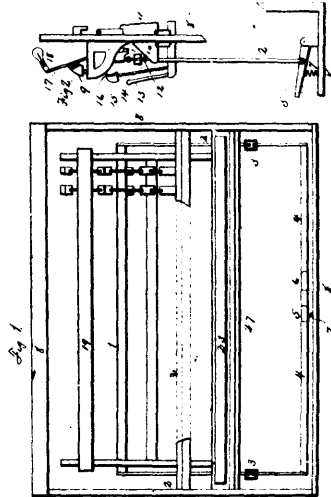
33805 Gunn's Sawing Machine.



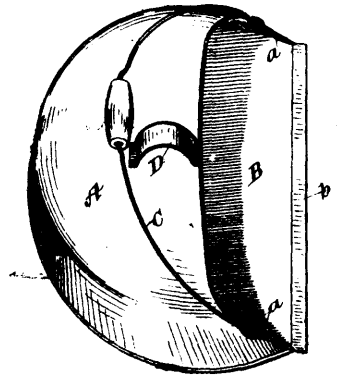
33806 Hill's Railroad Switch Appliance.



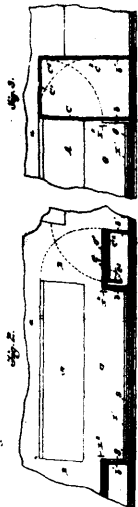
33807 Farr's Washing Machine.



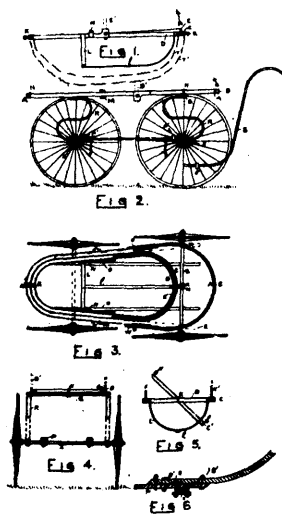
33808 Toles' Pianissimo Action.



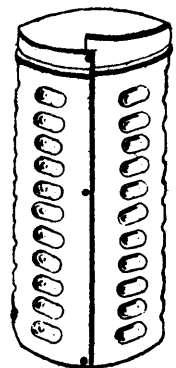
33809 Fletcher's Dust Pan.



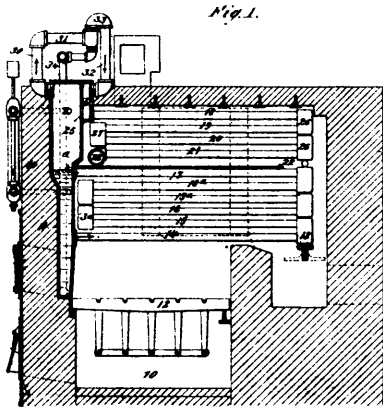
33810 Casper's Sleeping Car.



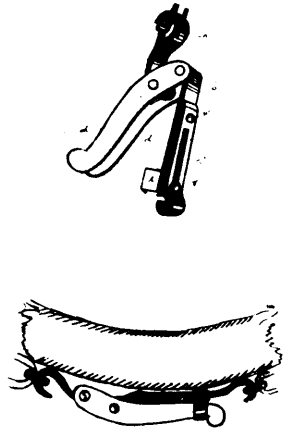
33811 Harris' Child's Buggy.



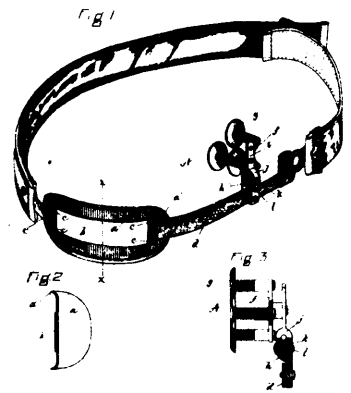
33812 Stuart's Stove Pipe.



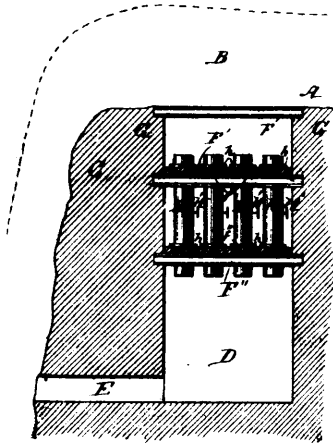
33813 Dietrich's Steam Boiler.



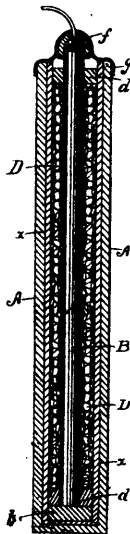
33814 Everett's Hame Fastener.



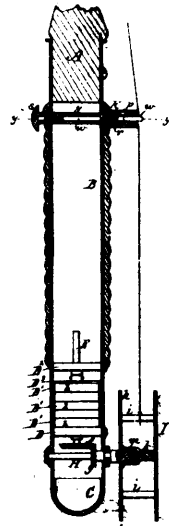
33815 Nye's Truss.



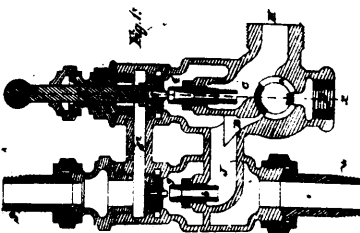
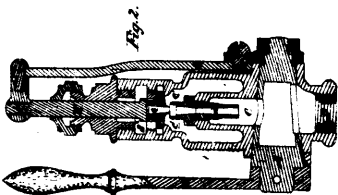
33816 Bartlett's Wheel Pitt, etc.



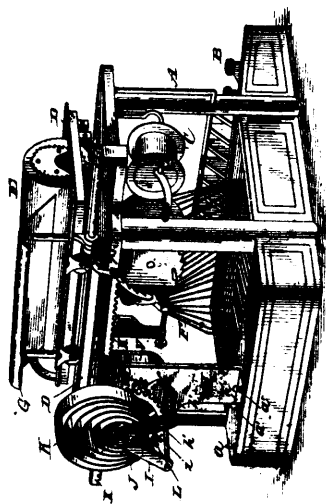
33817 Crosby's Electric Battery.



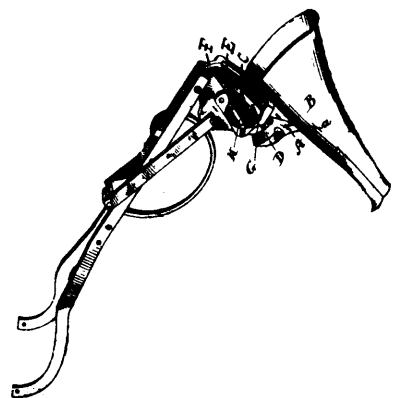
33818 Follett's Fishing Rod, etc.



33819 McShane's Boiler Feeder.



33820 Romm's Type Writer Attachment.



33821 Larsen's Drill Hoe.