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The Canadian Patent Office

RECORD

Vol. XVIII.—No. 4.

APRIL, 1890.

{ Price in Canada \$2.50 per An.
 { United States - \$2.50 " "

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. 34,005. Electro Mechanical Movement. (*Mouvement électro-mécanique.*)

Samuel E. Mutting, Chicago, Ill., U.S., 1st April, 1890; 5 years.

Claim.—1st. In an electro mechanical movement, the combination of an electric circuit, a heat conductor to which heat is imparted by the current in said circuit, a softenable substance adapted to harden in an operative position in contact with the heat conductor, such substance and conductor being held in fixed relative positions to each other until the conductor is heated, and means for changing their relative positions as the substance is softened by the heating of the conductor, substantially as described. 2nd. In an electro mechanical movement, the combination of an electric circuit, a heat conductor to which heat is imparted by the current in said circuit, a softenable substance adapted to harden in an operative position in contact with the heat conductor, such substance and conductor being held in fixed relative positions to each other until the conductor is heated, and means, set into operation only by the heating of the conductor, for changing their relative positions as the substance is softened by the heating of the conductor, substantially as described. 3rd. In an electro mechanical movement, the combination of an electric circuit, a heat conductor to which heat is imparted by the current in said circuit, a disk or cylinder of softenable substance adapted to harden in an operative position in contact with the heat conductor, such disk or cylinder and conductor being held in fixed relative positions to each other until the conductor is heated, and changing their relative positions as the substance of the disk or cylinder is softened by the heating of the conductor, substantially as described. 4th. In an electro mechanical movement, the combination of an electric circuit, a heat conductor to which heat is imparted by the current in said circuit, and a disk or cylinder of softenable substance into or through which the heat conductor projects or passes, such disk or cylinder and conductor being held in fixed relative positions to each other until the conductor is heated, and changing their relative positions as the substance of the disk or cylinder is softened by the heating of the conductor projecting into or passing through the same, substantially as described. 5th. In an electro mechanical movement, the combination of an electric circuit, a heat conductor to which heat is imparted by the current in said circuit, a disk or cylinder of softenable substance in contact with the heat conductor, such disk or cylinder and conductor being held in fixed relative position to each other until the conductor is heated, and means for rotating the disk or cylinder as the substance of the disk or cylinder is softened by the heating of the conductor, substantially as described.

No. 34,006. Electric Current Arrester. (*Interrupteur de courant électrique.*)

Charles F. Sise, Montreal, Que., 1st April, 1890; 5 years.

Claim.—1st. The combination, with an electric current arrester, of signalling mechanism adapted to be operated by the action of such arrester, for the purposes set forth. 2nd. The combination, with an electric current arrester, of a local battery circuit containing signalling mechanism and adapted to be operated by the action of such arrester, for the purposes set forth. 3rd. The combination of an electric current arrester, of mechanism adapted to be operated by the action of such arrester, for signalling the subscriber's station and central office or other station, for the purpose set forth. 4th. The combination, with an electric current arrester located at a subscriber's station, of a series of contact making devices, and a signalling circuit adapted to be operated by same at a central station, a making devices between such stations, and means for operating said contact making devices from subscriber's station, and of signalling such subscriber, for the purpose set forth.

No. 34,007. Paper File. (*Serre papier.*)

Joseph A. Fournier, Ottawa, Ont., 1st April, 1890; 5 years.

Claim.—A paper file, consisting of the goose-neck shaped bar A, having foot A¹ with recess a¹ and having a head A¹¹ with slot a¹¹, screw B cast in said foot, and a needle C pivoted in the recess a¹ and having its point extending and resting in the slot a¹¹, substantially as set forth.

No. 34,008. Nail Plate Feeder. (*Alimentateur de clouterie.*)

Randolph Hersey, Montreal, Que., 1st April, 1890; 5 years.

Claim.—1st. In an automatic nail plate feeding machine, the combination of the switch cam 1, longitudinally sliding bar 4 adapted to be operated by the said switch cam, lever 21, and longitudinally sliding bar 28 adapted to be operated by the slide bar 4, straps 33 attached to slide bar 28, cylinder 61 having straps 33 attached thereto and adapted to be rotated on its axis by the said bar and straps, the whole substantially as described. 2nd. In an automatic nail plate feeding mechanism, the combination of the switch cam 1, longitudinally sliding bar 4 having adjustable slotted block 7, provided with adjustable pin 12, said bar being arranged to be operated by the said switch cam, lever 21, and longitudinally sliding bar 28 adapted to be adjustably moved thereby, straps 33 connected to the slide bar 28 and adapted to rotate the cylinder 61, the whole substantially as and for the purposes set forth. 3rd. The combination, in an automatic nail plate feeding machine, of the slide bar 28, having a longitudinal reciprocating motion, provided with brackets 30, and pins 31, having slots 32, and ratchet teeth 35, springs 37 adapted to hold the said pins from rotation, straps 33 and cylinder 61, the straps being adapted to rotate the said cylinder, the whole substantially as described and shown for the purposes set forth. 4th. The combination, in an automatic nail plate feeding mechanism, of a reciprocatingly rotated cylinder 61, with the slide 83 provided with plates adapted to grip the handle of the nail plate holding tongs, and then slide and feed the nail plate in the cylinder, the whole substantially as described and shown for the purposes set forth. 5th. The combination, in an automatic nail plate feeding mechanism, of the bed 81, slide 83 adapted to move therein, said slide having flange 85, also projections 88 and 89, hinged arm 91, spring 92, actuating pawl a¹, and spring 109, the whole constructed and arranged together substantially as and for the purposes described. 6th. The combination, in an automatic nail plate feeding mechanism, of the bed 81, slide 83 adapted to move longitudinally therein, said slide having flange 85, projections 88 and 89, hinged arm 91, actuating pawl a¹, and springs 92 and 109, and friction bearing, as described, the whole constructed and arranged as shown and described, substantially as and for the purpose set forth. 7th. The combination, in a nail plate feeding mechanism, of the slide 83, having plates 98 adapted to grip and actuate the handle a², pawl a¹ and rod 75 having spring portion c¹, with lever 3 and cam projection 2, the whole substantially as and for the purposes set forth. 8th. The combination, in an automatic nail plate feeding mechanism, of the pivoted frame 57 and cylinder 61, with parts thereto attached as described and shown, carried thereby with the toggle joint, consisting of main arm 44 having adjustable bracket 49, and adjustable pin 45, and upper arm 52, whereby the motions of the frame 57 caused by the action of the toggle joint may be adjusted, the whole substantially as and for the purposes described. 9th. The combination, in an automatic nail plate feeding mechanism of the stationary bed 81, having a slide arranged therein and adapted to rotate the handle a², as described, with a vibrating frame 57, having reciprocatingly rotating cylinder carried in the said frame, substantially as described. 10th. In a nail plate feeding mechanism, the combination of the slide 83 having adjustable friction, as described, projections 88 and 89, hinged arm 91, actuating pawl a¹ and actuating springs 92 and 109, and set screw 107, the whole constructed, arranged and operating together substantially as described and shown, for the purposes set forth. 11th. In a nail plate feeding mechanism, the combination of the switch cam, having projection 2, head 18 adapted to operate the longitudinally reciprocatingly moved slide bar 4, and lever 3 with said slide bar, and lever 21 adapted to be adjustably operated by said slide bar 4, longitudinally reciprocatingly moved bar 28, adapted to be operated by the lever 21, straps 33, and cylinder 61, adapted to be rotated by said bar 28, and toggle joint

adapted to actuate the cylinder, as described, with rod *b*, and the mechanism A, constructed and arranged as described, adapted to operate the handle *a*, as described, the whole constructed, arranged and operating together substantially as, and for the purposes set forth.

No. 34,009. Order Holder. (*Serre-commande.*)

Robert J. Copeland and Albert E. Chatterson, Chicago, Ill., U.S., 1st April, 1890; 5 years.

Claim.—1st. In an order holder, the combination of the clamp B, comprising stiff strips C, C', affording the jaws of the clamp, and one or more springs D maintaining the jaws normally closed, and covers A, A', hinged at their edges, respectively, to the parting edges of the jaws, substantially as and for the purpose set forth. 2nd. In an order holder, the combination of the clamp B, comprising jaws C, C', each formed of a metal strip *t*, imbedded in rubber *s*, and one or more springs D, maintaining the jaws normally closed, and covers A, A', hinged at their edges respectively, to the parting edges of the jaws, substantially as and for the purpose set forth. 3rd. In an order holder, the combination of the clamp B, comprising jaws C, C', each formed of a metal strip *t*, imbedded in a strip of rubber *s*, provided with recesses *r*, and one or more springs D, extending into the recesses *r*, and operating to maintain the jaws normally closed, and covers A, A', hinged at their edges, respectively, to the parting edges of the jaws, substantially as and for the purpose set forth.

No. 34,010. Binder. (*Reliure mobile.*)

Robert J. Copeland and Albert E. Chatterson, Chicago, Ill., U.S., 1st April, 1890; 5 years.

Claim.—1st. In a binder, the combination of the wires, B, B', held in fixed relative position, and the removable hollow bar C, adjustable upon the wires and provided internally with locking mechanism to engage the wires, substantially as and for the purpose set forth. 2nd. In a binder, the combination of the wires B, B', held in fixed relative position, and the removable hollow bar C, adjustable upon the wires and provided externally with locking mechanism operated by a removable key to engage and release the wires, substantially as and for the purpose set forth. 3rd. In a binder, the combination of the wires B, B', held in fixed relative position, and the removable hollow bar C, adjustable upon the wires and provided internally with locking mechanism comprising a sliding bar C', provided with openings *s*, *s'*, an engaging edge *e*, at the opening *e*, a loose block D, in the opening *s'*, and a set screw D', extending through the adjacent end of the bar C' against the loose block, substantially as and for the purpose set forth. 4th. In a binder, the combination of the wires B, B', held in fixed relative position, adjustable hinged covers, E, E', upon the wires, and the removable hollow bar C, adjustable upon the wires and provided internally with locking mechanism to engage the wires, substantially as and for the purpose set forth.

No. 34,011. Church or Pew Chair.

(*Banc d'église.*)

John D. Pennington, Hamilton, Ont., 1st April, 1890; 5 years.

Claim.—1st. The combination of the panelled seat and back with frame, substantially as and for the purpose hereinbefore set forth. 2nd. The combination of the division standard and the adjustable bracket arm, substantially as and for the purpose hereinbefore set forth.

No. 34,012. Gas Absorber and Ventilator.

(*Aspirateur de gaz et ventilateur.*)

Louis H. Tarrant, St. Thomas, Ont., 1st April, 1890; 5 years.

Claim.—1st. The combination of the ordinary pipe O and the tapered pipe T, substantially as and for the purpose hereinbefore set forth. 2nd. The combination, with the ordinary pipe O and the tapered pipe T, of the revolving band or damper D, substantially as and for the purpose hereinbefore set forth.

No. 34,013. Production of Brooches and Like Ornaments from Natural Formations of the Bones of the Cod, (Morrhua Vulgaris) and Other Fishes. (*Production des broches et ornements semblables au moyen des formations naturelles des arêtes de morue (morrhua vulgaris) et autres poissons.*)

William H. Read, Maidenhead, Eng., 1st April, 1890; 5 years.

Claim.—1st. As a new article of manufacture, an ornament for the adornment of the person, formed from the bones of a fish, such for instance as the skull of the cod fish, in combination, with devices affixed thereto for attaching the same to the clothing of the wearer. 2nd. As a new article of manufacture, in an ornament for the person, the combination, with a fish bone, of means, substantially as described, for attaching said bone to the clothing of the wearer. 3rd. As a new article of manufacture, in an ornament for the person, the combination of a bone of the skull of a fish with a suitable pin or contrivance, substantially as set forth, for attaching said bone to the clothing of the wearer. 4th. As a new article of manufacture, in an ornament for the person, the combination of a fish's skull bone, with a pin for attaching, said bone to the clothing of the wearer, substantially as described and set forth.

No. 34,014. Cutting Out and Making of Breeches, Riding Trousers, Pantaloon and Such Like. (*Taillage et confection des culottes, pantalons d'équitation et autres pantalons et articles analogues.*)

William W. Crisp and Robert L. Wood, London, Eng., 1st April, 1890; 5 years.

Claim.—The within described method of cutting out and making up breeches, riding trousers, pantaloon and such like articles, whereby the inside seams are placed somewhat to the front of the leg, substantially as herein shown and described.

No. 34,015. Wind Wheel. (*Moulin à vent.*)

Leroy S. Pfouts, Canton, Ohio, U.S., 1st April, 1890; 5 years.

Claim.—1st. The combination, with the wind wheel centrally supported on the turn-table, of a vane hinged to said turn-table by the diagonal and horizontal rods S and T respectively, said rods connected with the said turn-table at one side of the axes of the wheel shaft, the diagonal rod connected to the turn-table at the base, and the horizontal rod at a point above the base, the diagonal rod being provided with a bend terminating in a laterally projected arm, thereby providing a firm bearing for said brake, the stud *q* secured to the wind wheel support, the cranked lever U fixed to said shaft, a link P connected at one end to the crank arm of the lever U, and connected at its opposite end to the laterally projecting arm of the rod S, substantially as set forth. 2nd. The combination of a wind wheel and its supporting frame G, of a turn-table to which the said supporting frame is secured, the said turn-table consisting of the top centrally apertured plate, provided with annular flanges *q* and *f*, the latter flange having a greater diameter than the former flange, an annular supporting head C, provided with a central aperture coincident with the aperture of the top plate, the short annular flange of said top plate turning upon the upper face of said head, while the longer annular flange engages the periphery of the flange *q*, thereby forming a closed chamber, the circular plate enclosed within said chamber, and provided with a central aperture through which the pipe spindle projects, said plate further provided with radial spindles, upon which rollers are journaled, and a tube spindle D projecting through the aperture of the turn-table journaled at its lower end in stationary bearings and secured at its upper end to the said turn-table, substantially as set forth. 3rd. In combination, with a wind wheel centrally mounted over a supporting revolving tower, of a supporting shaft J, having crank wheels mounted on the ends thereof, wrist pins carried by the wheels, and connecting rods M, connecting said pins to a cross-bar N, said bar having a central pivotal connection with the pump rod, substantially as described and for the purpose set forth. 4th. The combination, in a revolving frame for supporting a wind wheel, of the cap E, frame bars G and brace rods, when constructed substantially as described and for the purpose set forth. 5th. The combination, with a wind wheel and its supporting frame, of a vane pivotally secured to said frame, a link connecting said vane to a weighted lever pivoted to the supporting frame, a crank wheel and a brake strap to embrace and engage the periphery of said wheel, said strap, having a link connection with the weighted lever, whereby the folding movement of the vane will move said lever to draw the strap against the crank wheel to resist or arrest rotary movement of the wind wheel, substantially as described.

No. 34,016. Electro Magnetic Dispatch Apparatus. (*Appareil électro-magnétique à dépêche.*)

John T. Williams, Mount Vernon, N. Y., U. S., 1st April, 1890; 5 years.

Claim.—1st. The combination, with a series of helices A, A', A², A³, a track or guide B, which extends through the helices and forms a continuous conductor; a core or carriage E supported by and moving in said track or guide, of a continuous conductor C extending through said helices, a series of conductors D, D', D², D³, which are insulated from each other and extend through the successive helices, a contact F secured to the core or carriage and engaging the conductor C, a contact F' secured to the carriage in metallic connection with the contact F, and made to engage the successive conductors D, D', D², D³, connections between the ends of the helices, the track B and conductors D, D', D², D³, and connections between the electric generator, the track B and the conductor C, substantially as described. 2nd. The combination, with the helices, the track, the conductors extending through the helices, the electric generator and the connections between the helices, conductors and electric generator, of a carriage and pairs of spring arms, each pair secured at one end to the carriage and pressing towards each other at their free ends, and contact wheels carried by the free ends of the springs and pressed towards each other, to grip the opposite sides of the conductors, substantially as described. 3rd. A carriage, having spring arms secured at one end and pressing towards each other at their opposite free ends, and provided at their free ends with contact wheels mounted to grip the opposite sides of electrical conductors, substantially as described.

No. 34,017. Steam Heating Boiler.

(*Chaudière de calorifère à vapeur.*)

William B. Dunning, Geneva, N. Y., U.S., 1st April, 1890; 5 years.

Claim.—1st. In a steam boiler, the combination of two annular water chambers A and D, of different lengths, one arranged within the other and connected by collars *b*, and forming a large steam chamber G directly over the fire-box Q, with the tube or box H, flue L, M, smoke flue R and steam pipes, substantially as and for the purpose specified. 2nd. In a steam boiler, the combination of the two annular water chambers A and D, large steam space G directly over the fire box, flue tube H, with damper *z*, draft opening *o*, sliding damper P, heat flues L and M, diaphragm N, all arranged and constructed substantially as and for the purpose described.

No. 34,018. Treatment of Slag.

(*Traitement des scories.*)

St. George T. C. Bryan, Birmingham, Ala., U. S., 1st April, 1890; 5 years.

Claim.—1st. The herein described process of treating slag mechani-

ally by rotating it in a suitable vessel, when in a molten state, so as to separate impurities from it through the action of gravity and centrifugal force, and after the removal of such impurities stirring the slag so as to make the fused mass practically homogeneous and of uniform temperature and quality, substantially as set forth. 2nd. The method of treating slag herein described, for the purpose of making it cellular, which consists in forcing into it and intimately mingling with it, when in a molten state, carbonic acid gas and hydrogen gas, substantially as set forth. 3rd. As a new article of manufacture, an artificial paving or building block of slag, made in part solid and in part cellular, substantially as set forth. 4th. The combination, with a cellular artificial block of slag, made for paving or building purposes, of a plastic substance or covering forming a bond with the slag by entering its cells, substantially as set forth.

No. 34,019. Curve for Cash Carrier Systems.

(*Courbe pour les chiens de magasins.*)

The Union Store Service Company, East Sazinaw (assignee of Frank S. Church, Detroit), Mich., U.S., 1st April, 1890; 5 years.

Claim.—1st. In a store service apparatus, a curved track section having arms for supporting the same, one or more of said arms being adjustable and adapted to vary the curvature of said section, substantially as described. 2nd. In a store service apparatus, a curved track section, having arms for supporting the same, one or more of said arms being provided with a turn buckle for lengthening and shortening the arms, substantially as described. 3rd. A curve for the track of a cash carrier apparatus, consisting of a curved track section, supported midway between its ends by a fixed arm, and adjustable arms located on each side of said arms, the construction being such that the curvature may be varied by lengthening or shortening the adjustable arms, substantially as described.

No. 34,020. Tuyere. (*Tuyère.*)

George Schweikhart, Wauwatosa (assignee of Jacob Stoll, Milwaukee), Wis., U.S., 1st April, 1890; 5 years.

Claim.—1st. In a tuyere, the combination of the nozzle blast pipe and a chambered cap, having a radially slotted aperture, substantially as and for the purposes set forth. 2nd. In a tuyere, the combination, with the nozzle and blast pipe, of a chambered hemispherical cap having a spreading aperture, substantially as and for the purposes set forth. 3rd. In a tuyere, the combination, with the blast pipe and nozzle, having outwardly projecting lugs at its discharging end, and flanges a little below said lugs, of a removable chambered cap having an inwardly projecting flange, with notches therein adapted to pass over said lugs, and when turned to rest upon and be closed by the flanges on the nozzle, substantially as and for the purposes set forth. 4th. In a tuyere, the combination, with a blast pipe and frame cast in one integral piece with the polar limbs made and vertical nozzle pipe communicating therewith, of a vertical jacket surrounding the nozzle pipe and open at its lower end, substantially as and for the purposes set forth. 5th. In a tuyere, the combination, with a blast pipe and a vertical nozzle pipe communicating therewith at one side, and provided at its upper end with outwardly projecting flanges a little below said lugs, of a removable cap having an inwardly projecting flange at its base with notches therein arranged to pass over said lugs, and when the cap is turned to rest upon and be closed by the flanges on the nozzle, and a vertical jacket enclosing said nozzle pipe and having openings at its upper and lower ends, substantially as and for the purposes set forth. 6th. In a tuyere, the combination, with a blast pipe and a vertical nozzle pipe communicating laterally therewith, open at its lower end, which is provided with a gate and provided at its upper end with outwardly projecting lugs, and a little below said lugs with outwardly projecting flanges, of a removable chambered cap, having a rounded upper surface, a radially slotted aperture and an inwardly projecting flange upon and are closed by the flanges on said nozzle pipe when the cap is turned, the upper side of said inwardly projecting flange being formed with inclines which engage the lugs on the nozzle and draw the cap snugly down against the flanges therein, and a vertical jacket surrounding said nozzle pipe communicating at the upper end through the space between the nozzle and the edges of the flange on the cap, with chamber therein and open at the lower end, substantially as and for the purposes set forth.

No. 34,021. Method of Controlling the Distribution of Hydro-Carbon and other Oils for Lighting Purposes, and Means or Apparatus for Extinguishing of the Lamps used therewith. (*Mode de contrôle de la distribution des hydrocarbures et autres huiles pour l'éclairage, et moyens ou appareil pour effectuer l'allumage et l'extinction des lampes employées à cette fin.*)

The Penn Lamp and Lighting Company, London (assignee of Thomas Penn and Alfred E. Penn, Wandsworth Road), Eng., 1st April, 1890; 5 years.

Claim.—1st. In apparatus or means for supplying hydro-carbon or other oils to lamps by gravitation, a valve or plug arranged between the chamber or vessel into which the lamp wick dips, and the main oil supply tank or reservoir, the said valve or plug being connected to a float or equivalent device operated by the varying level of the oil in the wick chamber, so as to cause the valve or plug to open and close, a passage arranged in the side of the valve seat, through which oil is admitted from the reservoir to the wick chamber, the said passage being arranged at an angle to the line of motion of the valve so that the motion of the valve is not affected by the pressure of the

oil, whatever may be the position of the oil reservoir, substantially as hereinbefore described. 2nd. In apparatus for supplying hydro-carbon or other oils to lamps by gravitation, a conical valve or plug, and a correspondingly formed seating, in which it is caused to rise and fall by variations in the level of the oil in the wick chamber of the lamp, so as to open and close a passage in the valve seat to admit oil to, and maintain a constant level in the wick chamber, the passage in the valve seat being at or about a right angle to the line of motion of the valve, substantially as and for the purpose hereinbefore described. 3rd. In apparatus or means for supplying hydro-carbon and other oils to lamps by gravitation or governing device, consisting of a float, having attached thereto a conical valve hollowed out or recessed between its opposite ends, and caused to move longitudinally in a conical seat, so as to open and close a passage arranged in the seat at an angle to the line of motion of the valve, the said governing device being situated between the main oil supply reservoir and the lamp, and operating substantially in the manner hereinbefore described. 4th. For controlling the supply of hydrocarbon or other oils to lamps by gravitation, the combination of the float E in a chamber D, situated outside the lamp cylinder or chamber into which the lamp wick dips, valve G connected to the float and arranged to move in a longitudinal direction in a seat, having a passage H communicating with the oil supply reservoir, and arranged at an angle to the line of motion of the valve, substantially as and for the purpose hereinbefore described with reference to Fig. 1 of the accompanying drawings. 5th. In apparatus for controlling the supply of hydro-carbon and other oils to lamps by gravitation, the combination, with the valve G, valve seat and passage H therein, as described, of the vessel E connected to the valve, into which vessel the lamp wick dips, and which is caused by the varying level of the oil therein to rise and fall, so as to cause the valve to open and close the passage in the valve seat, substantially as and for the purpose hereinbefore described, with reference to figure 2 of the accompanying drawings. 6th. In a multi-burner bracket, pendant or the like, for burning hydro-carbon, or other oils supplied thereto by gravitation, a controlling device, constructed substantially as hereinbefore described and arranged at the junction, where the passages leading to the several burners meet, substantially as hereinbefore described with reference to Fig. 3 of the accompanying drawings. 7th. In apparatus for controlling the supply of hydro-carbon or other oils to lamps by gravitation, the combination, with the valve G and its seating, having a passage H arranged at an angle to the line of motion of the valve, of the annular float E attached to the valve G and placed in the lamp cylinder, or vessel A, into which the lamp wick dips, so as to operate the valve by the rise and fall of the level of the oil in the vessels, substantially as and for the purpose hereinbefore described with reference to Figs. 5 and 6 of the accompanying drawings. 8th. In lamps for burning hydro-carbon and other oils, an opening in the casing of the burner to admit of a lighted taper or other lighting appliance being passed to the burner to light the lamp without removing the chimney or shade, substantially as hereinbefore described, with reference to Fig. 4 of the accompanying drawings. 9th. In lamps for burning hydrocarbon and other oils, means for adjusting the height of the lamp with, and for raising and lowering the wick to bring it into position for lighting and for extinguishing the light, the said means consisting of a disc fast on the spindle of the wick elevator, and a lever mounted loosely on the said spindle so as to be capable of being turned thereon, and of being connected with the disc in any required position by means of a screw or pin passed through a hole in the lever, into one of a series of holes provided in the disc, so that by operating the lever either by cords or the like attached thereto or otherwise, the wick may be raised or lowered as required, substantially as hereinbefore described with reference to Figs. 5 and 6 of the accompanying drawings. 10th. The combination, with the subject matter of the last preceding claiming clause, of a lever on the plug of the cock on the oil supply pipe leading from the oil reservoir to the wick chamber of the lamp, the said lever being connected to the lever on the spindle of the wick elevator, substantially as and for the purpose hereinbefore described with reference to Figs. 5 and 6 of the accompanying drawings. 11th. In lamps for burning hydro-carbon and other oils, providing a notch or opening in the top of the wick tube for the purpose of maintaining a portion of the wick a light when the main portion of the wick is extinguished, substantially as and for the purposes hereinbefore described, with reference to Figs. 5 and 6 of the accompanying drawings. 12th. In lamps for burning hydro-carbon and other oils, an auxiliary jet, which may remain burning when the light from the main wick is extinguished, for the purpose of lighting the main wick when required, substantially as hereinbefore described with reference to Fig. 7 of the accompanying drawings. 13th. The general combination and arrangement of parts constituting an instrument for lighting elevated lamps, substantially as hereinbefore described with reference to Fig. 8 of the accompanying drawings.

No. 34,022. Joint. (*Joint.*)

Emery Nixon and Joseph Millichamp, Toronto, Ont., 1st April, 1890; 5 years.

Claim.—1st. A joint composed of a rounded tongue connected to the body of the material by a narrow neck, on each side of which is a suitably shaped and inclined abutting edge inserted in a correspondingly shaped groove, having closing jaws and abutting edges to correspond to and fit the abutting edges of the rounded tongue, substantially as and for the purpose set forth. 2nd. A joint, composed of a rounded tongue connected to the body of the material by a narrow neck, on each side of which is a suitably shaped and inclined abutting edge inserted in a correspondingly shaped groove, having closing jaws and abutting edges to correspond to and fit the abutting edges of the rounded tongue, and having a reinforcing flange extending outwards and overlapping the joint and part of the tongued piece of the material, substantially as and for the purpose set forth.

No. 34,023. Collar Stiffener. (*Renfort de col.*)

Charles Wittmann, Montreal, Que., 1st April, 1890; 5 years.

Claim.—1st. A stiffener for collars, composed of a plate or frame to be secured in neck or band of same, an arm pivoted to such plate

and adapted to lock at desired angle with same, all as herein set forth and for the purposes described. 2nd. In a collar stiffener, the combination of the base or plate A, rod B carried on same, and arm C constructed as described, all as and for the purposes set forth.

No. 34,024. Printing Machine.

(Machine à imprimer.)

James L. Morrison, (in trust,) Toronto, Ont., (assignee of Thomas McDowell, Niagara Falls, N.Y., U.S.) 1st April, 1890; 5 years.

Claim.—1st. In a machine designed to print an endless web of paper, a type or embossing die suitably supported by mechanism caused to operate so that the die or type shall travel alternately between its inking roller and the platen arranged to press the paper against the said type or die. 2nd. In a machine designed to print an endless web of paper, a type or embossing die suitably supported by mechanism caused to operate so that the die or type shall travel alternately between its inking roller and the platen arranged to press the paper against the said type or die, in combination with a plate located between the paper and the travel of the type or die a hole being made in the plate immediately below the platen so as to permit the impression of the type or die made upon the paper, substantially as and for the purpose specified. 3rd. The number wheel A having a type or embossing die plate C inserted in the rim, and a plate c extending around a portion of the said rim, in combination with the rod D arranged to connect the wheel A to the cam wheel E, so that the revolving of the said cam wheel shall impart a rocking movement to the wheel A, substantially as and for purpose specified. 4th. The number wheel A, having a type or embossing die plate C inserted in its rim, a plate C' suspended over the said rim, and having a hole b cut in it, in combination with the rod D arranged to connect the wheel A to the cam wheel E, so that the revolving of the said cam wheel shall impart a rocking motion to the wheel A, substantially as and for the purpose specified. 5th. The number wheel A, having a type or embossing die plate C, inserted in its rim, a plate C' suspended over the said rim and having a hole b cut in it, in combination with the rod D arranged to connect the wheel A to the cam wheel E, so that the revolving of the said cam wheel shall impart a rocking movement to the wheel A, the arm Q carried by the shaft N so as to support the platen X immediately over the hole b connected to and deriving motion from the eccentric M, which is arranged to cause the platen X to come in contact with the die plate C every time that the said die plate is brought below the hole b, substantially as and for the purpose specified. 6th. A number wheel A having a type or embossing die plate C on its rim, and deriving a rocking movement as described, in combination with the inking roller G, and distributing roller P, substantially as and for the purpose specified. 7th. A number wheel A deriving a rocking movement, as described, and having a type or embossing die plate C on its rim, and a plate c connected to the rim in combination with the inking roller G and distributing roller P, substantially as and for the purpose specified. 8th. The platen arm Q, having pivoted upon it the extension piece W in combination with platen X pivoted on the extension piece W, substantially as and for the purpose specified. 9th. The platen composed of a rubber piece W detachably connected to the block U, substantially as and for the purpose specified.

No. 34,025. Dynamo Machine.

(Machine à dynamo.)

Walter Thompson, Toronto, Ont., (assignee of Albion Carr, Dresden, Germany,) 1st April, 1890; 5 years.

Claim.—1st. The improved dynamo, combining therein a revolving armature consisting of 4 or more elect magnets, and two or more oscillating field magnets, as shown and described, and for the purpose set forth. 2nd. The improved dynamo, combining therein an armature revolving on a shaft with insulated metallic plugs corresponding cones on metallic springs oscillating field magnets, as shown and described and for the purpose set forth. 3rd. The improved dynamo, combining therein an armature revolving on a shaft carrying a gear wheel which transmits its movement to a second gear wheel connected by an arm with the field magnets and by which motion the fields are made to oscillate, as described and for the purpose set forth.

No. 34,026. Malting Machine.

(Machine à malt.)

Andrew Wiggin, Boston, Mass., and Michael A. Barber, Norwich, Conn., U.S., 1st April, 1890; 5 years.

Claim.—1st. In combination, with an agitator shaft and mechanism as set forth, for driving the same, a series of reversible buckets journaled and concentric with said shaft and geared together, as described, the said buckets being provided with rigid reversing ribs, substantially as and for the purpose specified. 2nd. A reciprocating agitator for malting machines provided with a central shaft and mechanism, substantially as described, for rotating the same and having a series of reversible approximately semi-cylindrical buckets journaled concentric with said shaft and adapted in either position to bear at one edge against the shaft, said buckets being provided with rigid longitudinal ribs to engage in the grain to reverse the buckets, substantially as specified. 3rd. In a malting machine, the combination, with parallel ways of journal frames F, having at each end laterally projecting slotted plates d', e', parallel shafts P, M, journaled in said frames geared together, and bearing respectively a scored pulley, and an agitating device consisting of a series of reversible buckets journaled concentric with said latter shaft frames d', e' bearing rollers d', e', and having plates that confront and engage the plates d', e', above referred to, clamping bolts h passing through said confronting plates and adjusting screws f tapped into the ends of frames F and abutting the roller frames d', e', all being as and for the purpose specified.

No. 34,027. Washing Machine.

(Machine à blanchir.)

John B. Reinhart, Berlin, Ont., 1st April, 1890; 5 years.

Claim.—1st. In a washing machine, the combination of a tub a, having slats V, and provided with a frame A, with horizontal pieces B, cross piece C, and the metal plates H and J, substantially as and for the purpose hereinbefore set forth. 2nd. In a washing machine, the tub a, with slats V, the lid O, with slats O', a frame A, having horizontal pieces B, and cross piece C, the lever K, the connecting rods M and N, and the crank P, substantially as and for the purpose hereinbefore set forth. 3rd. The combination in a washing machine, of a metal plate J, provided with a pin I, fastened to the under surface of the slatted tub a, a metal plate H, fastened to the horizontal piece B, the slatted lid o, on the upright spindle a, the lever K, connecting rods m and n, the crank P, hook and eye E, hinge D, the catch bolt F, with the principal frame A, substantially as and for the purpose hereinbefore set forth.

No. 34,028. Sash Fastener. (Arrête-croisée.)

George M. Griswold, New Haven, Conn., U.S., 1st April, 1890; 5 years.

Claim.—1st. In a lock for the meeting rails of sashes, the combination, with a vertically projecting post fast upon one sash, of a housing upon the rail of the other sash, said housing, having an opening therein in line with said post, and a roll arranged within said housing and adapted to engage the post, substantially as set forth. 2nd. In a lock for the meeting rails of sashes, the combination, with the stationary and vertically projecting post arranged upon the rear rail, of a housing mounted upon the outer rail, a vertical opening in said housing in the same plane with and adapted to admit the post, a rolling wedging element mounted within said housing and having a movement therein at an angle to the line of entrance of the post, and an operating lever or the like engaging said wedging element and accessible from without the housing, whereby the wedging element may be raised upward and backward out of its engagement with the post, substantially as specified. 3rd. The combination, with the vertically disposed post, of the recessed housing, into and out of which said post is adapted to slide, a roll mounted within said housing and adapted when in its normal position to engage the post upon one side and the wall of the housing upon the other side, a spring whereby said roll is impelled downward into engagement with said post, and means, as a knob or lever, arranged without the housing, whereby the roll may be lifted upward and backward out of engagement with the post, substantially as specified. 4th. In a lock, for the meeting rails of sashes, the combination, with the post secured to the rear rail and projecting upward vertically therefrom, of the housing mounted upon the outer rail and having a recess for the accommodation of the post, said recess increasing in cross section from bottom to top, a wedge roll arranged within said recess and lying against the inside wall thereof, and a spring actuated frame arranged about the roll, and whereby the latter may be raised and lowered in the recess, substantially as specified.

No. 34,029. Organic Acid Derived From Phenol, Especially Applicable to Explosives. (Acide organique tiré du phénol, applicable spécialement aux explosifs.)

Stephens H. Emmons, Emmens, Penn., U.S., 1st April, 1890; 5 years.

Claim.—The new crystalline acid compound, having the properties hereinbefore set forth produced by the action of heated concentrated or fuming nitric acid of specific gravity 1.52 or higher upon picric acid in excess and the crystallization of the resulting liquid.

No. 34,030. Rotary Engine. (Machine rotative.)

Ernst R. Malmberg, St. Louis, Mo., U.S., 1st April, 1890; 5 years.

Claim.—1st. The combination in a rotary engine of a shaft, an annular piston chamber concentric with the shaft and having a circumferentially slotted inner wall, a piston moving in said chamber and carried upon a plate projecting radially through the slot from the shaft, annular abutment chambers formed in the casing on diametrically opposite sides of the shaft in the plane of the piston chamber each to intersect the same, and each made larger in cross section than the piston chamber, supply and exhaust ports in the casing formed without and in proximity to, the two outer points of intersection of each abutment chamber with the piston chamber, and cylindrical valves revolving in said annular abutment chambers, having central peripheral openings therein, corresponding in width with the diameter of the piston and connected by a slot registering with the slot in the wall of the piston chamber, substantially in the manner and for the purpose herein set forth. 2nd. The combination in a rotary engine with a central shaft, an annular concentric piston chamber circular in cross section, diametrically opposed, annular abutment chambers of a larger cross section made to intersect and cross the piston chamber at two several points, annular cylindrical valves revolving in said abutment chambers, peripheral openings in each annular valve, connected by a central, circumferential slot registering with the slot for the piston arm, and a narrow connecting plate extending radially from the shaft to the piston through a circumferential slot in the intervening wall of the piston chamber in a plane transverse to the axis of the shaft, said plate being extended in length to enter the intersecting valves as the piston passes through them and thereby close the slots therein and overlap and close upon the proximate edge of each opening in the valve in the movement thereof, substantially in the manner and for the purpose herein set forth. 3rd. The combination in a rotary engine with its shaft, and an annular piston chamber concentric with said shaft, of

annular valve ways each made to intersect the piston chamber as two several points and form a segmental passage through the inner wall of said chamber, cylindrical abutment valves geared with the shaft and revolving in said valve ways and having peripheral openings to permit of the passage of the piston through them, and separate supply and exhaust ports governed by said valves, substantially in the manner and for the purpose herein set forth. 4th. The combination in a rotary engine with the circumferentially divided casing, the shaft mounted transversely therein, the annular concentric chambers formed within the casing, and the annular abutment valves formed in said casing each to intersect the piston chamber and having a width exceeding that of said chamber, of annular abutment valves made to revolve in said chambers, and a drum of equal width secured within the casing upon the shaft and geared to both valves by a double toothed gear, substantially in the manner and for the purpose herein set forth. 5th. The combination in a rotary engine, with a central shaft, a cylindrical chamber encircling the shaft, a drum fitted upon the shaft to revolve in said chamber, a separate annular piston chamber concentric with the shaft and drum, circular in cross section and having a circumferentially slotted inner wall, a cylindrical piston moving in said chamber, a radial plate projecting from the shaft transversely to its axis through the slotted wall of the piston chamber and connecting the shaft and piston, cylindrical abutment valves of like diameter with the drum, geared thereto and mounted to revolve in peripheral contact therewith in annular valve ways intersecting the piston chamber, and supply and exhaust ports communicating with said valve ways, substantially in the manner and for the purpose herein set forth.

No. 34,031. Shaft Loop. (*Bracelet de harnais*)

Isaiah Best, Mount Pleasant, and John J. Sadler, Toronto, Ont., 1st April, 1890; 5 years.

Claim.—1st. A metal loop A, fixed to the loop strap B, and having a hinged section a, acted upon by a spring or other locking device, substantially as and for the purpose specified. 2nd. A metal loop A, fixed to the loop-strap B, and having a recess f made in it to receive a piece of rubber, leather, or similar material, in combination with a spring, or other locking device, arranged to act upon a hinged section made in the loop A, substantially as and for the purpose specified.

No. 34,032. Cigar Bunch Slitting Machine. (*Machine à enciser les cigares.*)

Edward Martyn, Detroit, Mich., U.S., 1st April, 1890; 5 years.

Claim.—1st. A device for slitting the end of cigar bunches, consisting of a table to which is secured an upright frame, said frame supporting the vertical guide rods V, the cross-head G arranged upon the rods and adapted to slide up and down, and having elongated slots S, the knives located in the slots S in the cross-head, and means for adjusting them laterally therein, the coiled springs W, the angle rod P having its ends secured to the cross-bar and being connected with the foot-lever L, L', the connecting rods secured to the cross-bar and to the cross-head G, substantially as and for the purposes specified. 2nd. In a device for slitting the end of cigar bunches, the combination of the table, the upright frame, the guide-rods V and coiled springs W, with the cross-head having the slots S carrying the knives O, the arched spring arms n bolted to said cross-head and attached at their outer ends to the cross-piece R, the connecting rods secured to the cross-head and to the cross-bar T, the rod P having its ends secured to said cross-bar, and its downward extending loop to the inner end of the part L of the foot-lever, the duplex foot-lever consisting of the parts L, L' pivoted in the frame T, for the purposes specified. 3rd. The combination of the table and gages thereon, the upright frame, the guide rods and springs, the cross-head having slots S carrying the knives O, the spring arms, the cross piece R, having blocks 3, the rods P, and P', and the duplex lever, arranged and operating as and for the purposes specified.

No. 34,033. Set of Two and Three Horse Whiffletrees. (*Palonniers pour deux ou trois chevaux.*)

Thomas A. Jackson, Mount Pleasant, Ont., 1st April, 1890; 5 years.

Claim.—The double or treble whiffletree, consisting of the bar A, brace B, the ties E, E, the draw-bar C, the clevis D, the clevises G, G, supporting the pulley wheels J, I, the pulley z within the draw-bar C, the hooks at the outer ends J, I, the hooks in pairs 2, 2, and to hold the hooks in place, all formed and combined, substantially as and for the purpose hereinbefore set forth.

No. 34,034. Pail, Tub, etc. (*Seau, cuvette, etc.*)

Robert S. Stratton, Orillia, Ont., 1st April, 1890; 5 years.

Claim.—The combination, with a pail, tub, or other cylindrical utensil, of a wire hoop or hoops bent inwardly at certain intervals, so as to indent and imbed itself at these points into the staves of the pail or other utensil, and the perforated sleeve C, the ends of the wire of which the hoop is composed passing through these perforations and being imbedded in the pail, as set forth.

No. 34,035. Combined Bit-Stock, Nut Wrench, Bolt Cutter and Screw Cutter. (*Vilbrequin, clé à écrou, cisailles à boulon et à vis combinés.*)

Charles Wies and James M. Loekey, Faulkton, S.D., U.S., 1st April, 1890; 5 years.

Claim.—1st. The combination, with the bit-stock A, having parallel cheeks D, D', provided with converging slots E, E, of the parallel jaws F, F', provided with pins G, traversing the slots, as and for the purpose set forth. 2nd. The combination, with the bit-stock A, having

parallel cheeks D, D', provided with the converging or inclined slots E, E, of the parallel jaws F, F', having pins G traversing the slots, screw-cutting dies K, K, and a cutter L, as set forth.

No. 34,036. Indelible Print or Picture. (*Impression ou image indélébile.*)

Joseph R. France, New York, N.Y., and Frederick C. Colborn, Arlington, N.J., U.S., 2nd April, 1890; 5 years.

Claim.—1st. As an article of manufacture, a picture, print, or the like of any kind or color and on any material with a transparent or semi-transparent sheet of pyralin or other pyroxyline compound securely united to its front or face, substantially as and for the purpose set forth. 2nd. As an article of manufacture, a picture, print, or the like of any kind or color and on any material securely fastened or united between two sheets of pyralin or other pyroxyline compound, substantially as and for the purpose set forth. 3rd. As an article of manufacture, a picture, print or the like of any kind or color, and on any material securely fastened or united between two sheets of pyralin or other pyroxyline compound, said sheets being a little larger in length and width than the picture or print to which they are to be united and having their edges joined or united together, thereby completely enclosing the picture or print, substantially as and for the purpose set forth. 4th. As an article of manufacture, a picture, print or the like of any kind or color on paper, silk or other fibrous or textile material securely fastened or united between two sheets of pyralin or other pyroxyline compound, said sheets being a little larger in length and width than the picture or print to which they are to be united and having their edges joined or united together, thereby completely enclosing the picture or print, and the one of said sheets on the front or face of said picture or print being transparent and the other of any desired color, substantially as and for the purpose set forth. 5th. As an article of manufacture, an indelible waterproof and polished picture, print or the like, consisting of a picture print or the like of any kind or color, and on any material securely fastened or united between two sheets of pyralin or other pyroxyline compound, said sheets being polished and also a little larger in length and width than the picture or print to which they are to be united, and having their edges joined or united together, thereby completely enclosing the picture or print, and the one of said sheets on the front or face of said picture or print being transparent, and the other of any desired color, substantially as and for the purpose set forth. 6th. The method of manufacturing an indelible picture, print or the like, which consists in securely uniting to the front or face of any print, picture or the like a sheet of pyralin or other pyroxyline compound, substantially as set forth. 7th. The method of manufacturing an indelible waterproof picture, print or the like, which consists in securely uniting any picture, print or the like, between two sheets of pyralin or other pyroxyline compound, substantially as set forth. 8th. The method of manufacturing an indelible water-proof picture, print or the like, which consists in securely uniting any picture, print or the like between two sheets of pyralin or other pyroxyline compound, and uniting or joining together the edges of said sheets, so as to completely enclose the interposed picture, print or the like, substantially as set forth. 9th. The method of manufacturing an indelible waterproof and polished picture, print or the like, which consists in securely uniting any picture, print or the like between two sheets of pyralin or other pyroxyline compound, by wetting the surfaces of the picture, print or the like, with alcohol or other solvent of pyroxyline, and applying heat and pressure to said sheets after the picture or print has been placed between them and at the same time and by the same operation uniting or joining the edges of said pyralin sheets together, which sheets are a little larger in length and width than the interposed picture, print or the like, so as to completely enclose the interposed picture and then polishing said sheets of pyralin or other pyroxyline compound, substantially as set forth.

No. 34,037. Car Coupling. (*Attelage de chars.*)

William Ulery, Briscoe, Mo., U.S., 2nd April, 1890; 5 years.

Claim.—1st. A car coupling, consisting of a spring and spring-actuated block located in the rear of the draw-head, a link raiser and guider secured in the foremost part of the draw-head, having an arm extending through the side of the same and having its arm weighted, an inclosing cap for the pin screw on the stud or projection above the draw-head, and a lever and rod fastened to and operated from the top of the car, substantially as described. 2nd. The herein described car coupling, consisting of the draw-head, having the pin hole extending through its top and the threaded extension, a pin located in said hole, and an inclosing cap, having an internal thread on said extension and an opening extending therethrough to receive the pin, and provided with an internal shoulder at its upper end to prevent the pin being drawn out of the casing, and a trigger suitably secured in a groove in the rear of the draw-head, its upper end adapted to engage the collar of the pin and to hold the same in place while the cars are being coupled, substantially as described. 3rd. The herein described car-coupling, consisting of a spring and spring-actuated block located in the rear of the draw-head, a link raiser and guider consisting of a block journaled in the lower front end of the draw-head upon the link rests, provided with an arm extending through the side of the draw-head, and having a lateral extension provided with a weighted end, an inclosing cap for the pin screwed on the stud or projection above the draw-head, having the pin hole extending through its top and the threaded extension, an internal shoulder at the upper end of said extension, and a trigger located in a groove in the rear of the draw-head, its upper end adapted to engage the collar of the pin, for the purpose set forth.

No. 34,038. Gas Meter. (*Compteur à gaz.*)

Robert Mitchell and Charles Lawson, Montreal, Que., 2nd April, 1890; 5 years.

Claim.—1st. In a gas meter, the diaphragm normally separate from the frame, and fastening devices by which it can be attached to the meter frame, as herein set forth. 2nd. In a gas meter, the diaphragm composed of the front plate, expansible leather sides and back plate with apertures therein, and plate normally covering same, as and for the purposes set forth. 3rd. In a gas meter, the diaphragm composed of front and back plates, each provided with return flanges, leather sides with edges laid on such flanges, and lengths of wire or metal wound round over such leather, as and for the purpose described. 4th. The combination, with the front plate F of the diaphragm, of the centre N with outer pin n, eyes O, O', and bush P, as and for the purposes set forth. 5th. The combination, with the valve plate Q, with openings therein, of plates Q' covering such openings attached to valve plate, so as to be removable at will, and carrying valves and gratings. 6th. In a gas meter, ports from inlet pipe to supply and from exhaust into outlet pipe, of proportionately less sectional area than such pipes, as and for the purposes set forth.

No. 34,039. Hame Staple and Trace Tug Clip. (*Anneau d'attelle pour les traits et mancelles.*)

Edwin M. Crossan and Merritt L. Devers, Bethany, Mo., U. S., 3rd April, 1890; 5 years.

Claim.—1st. A hame staple and trace tug clip, formed integral with each other, and consisting of the staple A, and the parallel plates C, substantially as described. 2nd. A hame staple, having formed integral therewith plates parallel with each other and arranged at an angle to the staple and provided with perforations, substantially as and for the purpose described.

No. 34,040. Frame for Wire Mats.

(*Bordure pour les paillassons.*)

Thomas Midgley, Beaver Falls, Penn., U.S., 3rd April, 1890; 5 years.

Claim.—1st. A mat, having a body or centre portion formed of wire work, combined with a border or bounding portion formed of bent wire and connected to the body or centre portion. 2nd. A mat, having a body or centre portion formed of wire work, combined with a border or bounding coil of wire connected to said body or centre part. 3rd. A mat, having a body or centre portion formed of wire work, combined with a bounding part, also formed of wire and interlaced with the edges of the body or centre portion. 4th. A mat, having a body or centre portion formed of wire work, combined with a continuous bounding coil of wire secured to the body part and forming rounded corners. 5th. A wire mat formed entirely of wire, and consisting of a central portion and a frame or border, the said frame or border being formed by coiling a piece of wire around the outer edges of the central portion.

No. 34,041. Frame for Wire Mats.

(*Bordure pour les paillassons.*)

Seymour Rogers, Beaver Falls, Penn., U.S., 3rd April, 1890; 5 years.

Claim.—1st. In a wire mat, a body part composed of a series of parallel coils united by hinge rods, in combination, with a bounding coil or coils extending entirely around the mat, and arranged transversely to the body coils on two sides of the mats, and in which the hinge rods are interlooped with the ends of such body coils and bounding coils. 2nd. In a wire mat, a body part formed of a series of parallel coils connected together, in combination, with a continuous bounding coil arranged transversely to the body coils and along their ends, and wire rods extending through the body coils and entirely across the body of the mat, and connecting the bounding coils on diametrically opposite sides of the mat to the body coils. 3rd. In a wire mat, the body portion formed of a series of parallel coils of wire, combined with a series of staple-shaped hinge-rods connecting the adjacent coils together, and in which said staple-shaped hinge-rods are inserted from opposite sides of the mat. 4th. In a wire mat, a flexible body part composed of wire coils, in combination, with a bounding coil surrounding the edges of the body part and arranged partly parallel to and partly transverse with respect to the body coils, and a hinge rod of shorter width than the width of the mat, located at the end of the mat for uniting the parallel portions of the bounding coil to the end coil of the body part. 5th. In a wire mat, the body part formed of a series of parallel coils, combined with staple-shaped hinge rods connecting the parallel coils, and a flexible bounding coil arranged transversely to the body coils and interlaced with the ends of the said body coils, and looped ends of the staple-shaped hinge rods. 6th. In a wire mat, a body part formed of wire work combined with bounding coils D extending along two diametrically opposite edges of the body part and bent around the corners toward each other, and made to meet, or substantially meet, on the other edge of the body part, a splice tube or piece E, arranged partly within each of the ends of the bounding coils, and a connection between the said bounding coils on each side of the splice tube and the body part. 7th. In a wire mat, the body part formed of parallel coils of wire, united by hinge rods, in combination with, having their end portions interlaced with the ends of the body coils, and secured thereto by connecting parallel to the ends of the body part, and having their end portions parallel to the ends of the body part, and secured thereto by connecting rod or hinge wire G. 8th. In a wire mat, the body part formed of parallel coils of wire united by hinge rods, in combination with bounding coils D interlaced with the ends of the body part, and secured thereto by connecting parallel to the ends of the body part, and secured thereto by connecting rod or hinge wire G, and united by a splice tube E.

No. 34,042. Manufacture of Vinegar.

(*Fabrication du vinaigre.*)

John F. Peasgood, Woodyatt, Eng., 3rd April, 1890; 5 years.

Claim.—The manufacture of tomato vinegar in the manner hereinbefore described, wherein I dispense with the process of fermentation.

No. 34,043. Compound Ingot for the Manufacture of Solid or Hollow Seamless Plated Wire. (*Lingot composé pour la fabrication du fil de fer galvanisé solide ou creux sous soudure.*)

John L. P. Spooner, Providence, R.I., U.S., 3rd April, 1890; 5 years.

Claim.—The method of making a seamless plated ingot, consisting of first melting the fine metal in a suitable mold into a fluid state, then immersing a hollow or solid core of base metal into the molten fine metal and allowing it to cool, whereby the fine metal will be united directly to the core by fusion.

No. 34,044. Baby Tender. (*Chariot d'enfant.*)

Milo A. Richardson and Rosell L. Richardson, New York, N.Y., U.S., 3rd April, 1890; 5 years.

Claim.—1st. In a baby tender, the combination, with a circular base, of a seat carried thereby and mounted eccentrically thereon at a point back of the centre of the base. 2nd. In a baby tender, the combination, with the base, of a body ring rigidly carried thereby, a seat suspended from said ring and an elastic connection between said seat and ring, whereby the seat may be moved independently of the ring. 3rd. In a baby tender, the combination, with the base, of a body ring carried thereby, a seat suspended from said ring, and an adjustable connection between said ring and seat, whereby the latter can be adjusted relatively to the ring. 4th. A baby tender, consisting of a base constructed of an elastic ring, rungs secured thereto and provided with casters, a body ring supported by and rigidly connected to the base by legs projecting from said rungs, a seat, and adjustable elastic suspenders flexibly connected to the body ring and seat for supporting the latter.

No. 34,045. Carriage Curtain Fastening.

(*Suspension des stores de voitures.*)

The Star Manufacturing Company, (assignees of Samuel P. Scott.), Hillsborough, Ohio, U.S., 3rd April, 1890; 5 years.

Claim.—1st. In a carriage curtain fastening device, the combination of the base and the movable head having a bore with the pin provided with lugs on its ends, the collar on said pin having notches adapted to engage said lugs and the controlling spring all concealed within the bores of the head and base, substantially as described. 2nd. The combination of the base and pin attached thereto, having lugs on its outer end with a movable head having a closed bore, the collar placed on said pin and secured in the bore of the head and provided with slots engaging the lugs of the pin, and the coiled spring surrounding the pin and bearing against the collar and base, substantially as and for the purpose set forth. 3rd. The combination of the base A, having a central opening and an angular flange, as described, the pin secured thereto, having lugs on its upper end, and the coiled spring surrounding the outer portion of the pin, with the slotted collar D played on said pin and the head E, having a bore in which collar D is seated, and fitted over the end of the pin, substantially as and for the purpose herein described.

No. 34,046. Rail. (*Rail.*)

Richard De S. Bacot, Columbia, Thos. R. Heyward and Wm. N. Heyward, Hardeeville, S.C., U.S., 3rd April, 1890; 5 years.

Claim.—1st. In a rail, the combination of a flange and web section constituting the base and a grooved ball fitted thereto by means of webs integral with the ball and concave in the wake of the bolts projecting from each side of the ball clamping the base section, and having a space c between the top of the web section and the bottom of the groove, substantially as described. 2nd. In a rail, the combination of a flange and web section constituting a base, having diagonally cut ends for forming the joints, and a grooved ball with projecting webs or jaws fitting over the base section, whereby, when a joint is formed, the sections are secured together and an unbroken base section is provided for the support of the ball. 3rd. In a rail, the combination of a flange and web section constituting a base, having a groove on each side of the web and a grooved ball fitting over the base, and having webs or jaws concave in the wake of the bolts, the extremities of which fit into the grooves on each side of the base section, and having a space c between the top of the base section and the bottom of the groove in the ball, as described. 4th. As a new article of manufacture, a ball for a rail having a central groove, and two downwardly projecting webs or jaws integral with the ball, concave in the wake of the bolts, and adapted to be fitted over the web of a flange and web section, the groove being of sufficient depth to leave a space c when applied to the base section, substantially as described. 5th. In a rail, the combination of a flange and web section constituting the base, and a grooved ball fitted thereto by means of webs integral with the ball, concave in the wake of the bolts projecting from each side of the ball and clamping the base section.

No. 34,047. Car Coupling. (*Attelage de chars.*)

George A. Sanders and Samuel J. Willett, (assignees of Nelson Newman.) Springfield, Ill., U.S., 3rd April, 1890; 5 years.

Claim.—1st. The combination of the draw heads, having the pairs of coupling pins U, R, one in advance of the other, the spring pressed link holders K arranged in the draw heads, and having the trans-

verse open slots N, to receive and retain the inner ends of the links and vertical open slots P, for the pins R, to enable said pins to retain said inner ends of the links in the holders, said slots N being of greater depth than the said slots P, and the pair of coupling links I, substantially as described. 2nd. In a car coupling, the combination, with the draw head and coupling pin of the longitudinally movable bar W, the vertically movable lever arm C', the chain connecting the latter to the coupling pin, the hand lever I' connected to the bar W, and the chains connecting the lever arm C' to said bar at opposite ends of the latter, and at points above and below the lever arm C', substantially as described. 3rd. In a car coupling, the combination, with the draw head and coupling pin, of the lever arm C', the chain connecting the same to the pin, the longitudinally movable rod W having the arms A', B', extending from its lower and upper sides, the chains connecting the lower arm C' to the extremities of said arms A', B', and the guides for said chains, substantially as described.

No. 34,048. Electric Heating and Cooking Device. (*Appareil de chauffage et de cuisine à l'électricité.*)

The Butterfield and Mitchell Electric Heating and Cooking Company, (assignee of Henry R. Butterfield,) Waterville, Me., U. S., 5th April, 1890; 5 years.

Claim.—1st. An electric cooking or heating device, consisting of a coiled wire enclosed in insulating material arranged externally and internally, said wire being in an electric circuit, substantially as set forth. 2nd. In an electric heater and exterior layer of insulating material an interior layer of insulating material concentric therewith, and an interposed coil of wire the ends of said insulating material layers being connected by strips or rings, and the wire forming part of an electric circuit, substantially as set forth. 3rd. An electric cooking or heating device consisting of a wire protected by insulating material and in circuit with a generator of electricity for the purpose set forth. 4th. An electric cooking and heating device consisting of a wire forming part of an electric circuit and enclosed between insulating walls as shown the walls and wire considered as a whole having the shape of a hollow cylinder or equivalent hollow figure and operating substantially as set forth.

No. 34,049. Sash Balance. (*Contre-poids de croisée.*)

James McArthur and Charles J. Wichmann, Rochester, N. Y., U. S., 5th April, 1890; 5 years.

Claim.—1st. In a sash balance, the combination of a face plate A, with the spring drum C holding the cable D, and a swinging guide pulley E over which the cable passes, substantially as described. 2nd. In a sash balance, the combination of a face plate A, with spring drum C holding the cable D, a swinging guide pulley E, over which the cable passes, and a brake H, operating on the guide pulley, substantially as described. 3rd. In a sash balance, the combination of a face plate A, with spring drum C holding the cable D, a swinging guide pulley E over which the cable passes, a brake H operating on the guide pulley E, and a guard G to protect the cable, substantially as described. 4th. In a sash balance, the combination of a face plate A, with spring drum C holding cable D, a swinging guide pulley E over which the cable passes, and an adjustable brake H operating on the guide pulley, with an adjusting screw g bearing on the prolongation f of the brake strap, substantially as described. 5th. In a sash balance, the combination of a face plate A, the spring drum C holding the cable D, and guide pulley E over which the cable passes, together with a frame holding said guide pulley and swinging in a plane at right angles to the face plate, substantially as described. 6th. In a sash balance, the combination of a spring drum holding the cable, a guide pulley over which the cable passes, a brake operating upon said guide pulley and an adjusting screw for increasing or diminishing the pressure of said brake, substantially as described. 7th. In a sash balance, the combination of a face plate A, a grooved spring drum C, to which the cable D is attached, and having said cable run in the grooves of said drum with a guide pulley E, over which said cable passes, and a brake operating upon said guide pulley, substantially as described.

No. 34,050. Hand Car. (*Char à bras.*)

Ira E. Stump, Richville, and Calvin S. Pierce, Cleveland, Ohio, U. S., 5th April, 1890; 5 years.

Claim.—In a hand car, and in combination with one of the axles thereof, the spur wheel G, crown wheel F, having the flange a, the connecting rod J, cross head I, link M, and actuating lever L, the parts being arranged and operating in the manner, and for the purpose set forth.

No. 34,051. Pocket Lamp. (*Lampe de poche.*)

The Magic Introduction Company, (assignee of Elias B. Koopman,) New York, N. Y., U. S., 5th April, 1890; 5 years.

Claim.—1st. In a lighting device, a light producing apparatus, combined with an automatically revolvable carrier, and a removable disk provided with drops or bits of explosive material and applied to said carrier, and a scratcher against which the explosive material is forced and by which it is ignited as the carrier is revolved, substantially as described. 2nd. In a lighting device, a light producing apparatus, combined with a rotary carrier provided with teeth, a disk of ignitable pellets applied thereto, a spring pawl to engage said teeth on the carrier and rotate it tooth by tooth to ignite successive igniting device, a scratcher, substantially as described. 3rd. In a lighting device, a light producing apparatus, a case containing it, and a pawl and spring arranged in and fastened to said case, and having one end formed as a pawl and provided with a button to move it, combined with a rotary fulminate carrier arranged in said case, and constructed with ratchet teeth adapted to be engaged by said pawl, a disk of ignitable pellets applied to said carrier, and a scratcher, substantially as described. 4th. In a lighting device, a light producing appar-

atus, a case containing it, and a spring arranged in and fastened to said case, and having one end formed as a pawl and provided with a button to move it, combined with a rotary fulminate carrier arranged in said case and constructed with ratchet teeth adapted to be engaged by said pawl, a disk of ignitable pellets applied to said carrier, a projection from the spring to dog said carrier by engagement with its teeth, and a scratcher, substantially as described. 5th. In a lighting device, the lamp proper, a case containing it, a cover hinged to said case, a rotary fulminate carrier provided with ratchet teeth, a disk of ignitable pellets applied to said carrier, and a scratcher, combined with a spring having one end formed as a pawl to engage the ratchet teeth of the carrier to rotate it, and also constructed with a detent for the carrier, and also having its other end in engagement with the cover to throw it open as the pawl is actuated to rotate the carrier, substantially as described. 6th. A lighting device composed of a case, a hinged side containing the lamp proper, and a scratcher thereon, a rotary toothed fulminate carrier, a fulminate disk applied to said carrier, a cover for the case, and a spring comprising a pawl and a detent for the carrier, and a cover opener, substantially as described. 7th. In a lighting device, a light producing apparatus, combined with a carrier adapted to receive a removable disk of ignitable pellets and provided with a ratchet, a pawl to engage the said ratchet to move it and the carrier tooth by tooth, a detent for the ratchet, and a scratcher against which the ignitable pellets are forced and by which they are ignited as the carrier is revolved, substantially as described.

No. 34,052. Adjustable Chair and Lounge.

(*Fauteuil et causeuse brisés.*)

Clarence E. Allen, Swanton, Vt., U. S., (Co-inventor with Ira D. Hatch, Maxville, Ont.) 5th April, 1890; 5 years.

Claim.—1st. In a folding chair, the combination, with the notched and inclined sills, of the hinged jointed back supports E, I, having the extensions Z, and the hinged back D, front legs F and braces K, substantially as specified. 2nd. The combination, with the notched and inclined sills, the hinged back and the hinged jointed back supports, and the pins W and the canvas H, of the foot rest provided with the folding legs, the notched metal plates A and the thumb nuts T, substantially as specified.

No. 34,053. Water Wheel. (*Roue hydraulique.*)

Adolphe Patrick, St. Jean, and Michel T. Lefebvre, Montréal, Qué., 5th April, 1890; 5 years.

Résumé.—1o. La combinaison, dans un coffre de turbine, des conduits fixes c', c', et du régulateur circulaire B, avec la crémaillère P, l'engrénage q' et la tige C, tels que décrits et pour les fins indiquées. 2o. La combinaison, dans une roue hydraulique genre turbine, des aubes l', l', recourbées en forme d'un quart d'ellipse et disposées autour de la roue G de chaque côté de la languette k', tel que décrit et pour les fins indiquées. 3o. La combinaison, avec le coffre de turbine A, du couvercle L muni du tuyau d'échappement M, tel que décrit et pour les fins indiquées.

No. 34,054. Drilling Machine.

(*Machine à percer.*)

Samuel J. Moore, Hamilton, Ont., 5th April, 1890; 5 years.

Claim.—In a drilling machine, the combination of the bed A, formed with heads B, C, spindle D, hub J, handle K, d, face plate E, pressure screw H, wheel G or handle attachment, clamp bracket L and clamping screw N, all arranged and constructed substantially as and for the purpose specified.

No. 34,055. Elevator Lo

(*Arrête monte-charge.*)

George R. Holden, St. Thomas, Ont., 5th April, 1890; 5 years.

Claim.—The combination of the sliding jaws F, F, and the swinging arms E, E, substantially as and for the purpose hereinbefore set forth.

No. 34,056. Pine Fibre as a New Article of Manufacture. (*Fibre de pin.*)

William Latimer, Wilmington, N. C., U. S., 5th April, 1890; 5 years.

Claim.—As a new manufacture, the herein described product, termed by me pine fibre, composed of lone pine twisted filaments, having serrated or rough edge or surfaces interwoven and clasping each other, dry and practically devoid of moisture, and sufficiently strong, soft and pliable to withstand the unavoidable and necessary strain incident to its manipulation in spinning and weaving, as hereinbefore set forth.

No. 34,057. Vapor Burner. (*Foyer à gaz.*)

Lewis S. Calder, Terre Haute, Ind., U. S., 5th April, 1890; 5 years.

Claim.—1st. In a vapor burner, the combination, with the conical mixing chamber having the air flue and guide and provided with air inlets, of the superheater having a depending tube entering the guide, and the perforated hood or spreader having the supporting legs, said mixing chamber being provided in its top with the oval-shaped opening, substantially as described. 2nd. In a vapor-burner, the conical mixing chamber having a series of air inlets and formed with the guide and air-flue, the same having also in its top a double or approximately oval-shaped opening, substantially as described. 3rd. In a vapor burner, the combination, with the conical mixing chamber, having the air-flue and guide and provided with air inlets, of the superheater having a depending tube entering the guide, the perforated hood or spreader having the supporting legs, and the rod entering the mixing chamber, substantially as and for the purpose described.

No. 34,058. Rotary Apparatus with Feathering Vanes or Blades to be employed for obtaining Motive Power, Propelling Vessels, Measuring the Flow of Liquids or other similar Purposes. (*Appareil rotatif avec vanes ou lames articulées pour produire la force motrice, propulser les vaisseaux, mesurer le cours des liquides, et autres fins similaires.*)

Count Henri Avet, Turin, Italy, 5th April, 1890; 5 years.

Claim.—1st. The new or improved rotary apparatus, comprising a main axis, a frame mounted on such axis, axes carried by such frame, vanes or blades mounted on such axes, and means for rotating these latter, as described. 2nd. An apparatus, constructed with a central shaft A, and shafts carrying vanes or blades a partaking of a rotary motion in supports S, governed by the combination of the cranks E, and the frames M with the spur wheel C, the intermediate pinion B, the spur wheel R¹, the sleeve m and the spur or worm wheel R, all arranged and operating substantially as hereinbefore described and illustrated in the accompanying drawings. 3rd. In combination with the construction referred to in the preceding claiming clause, the method of regulating the position of the vanes or blades by means of a worm v on a shaft r, worked by a crank s, all arranged and operating as and for the purposes hereinbefore described, with reference to the accompanying drawings.

No. 34,059. Dynamo Electric Machine.

(*Machine dynamo-électrique.*)

Thomas L. Willson, Brooklyn, N.Y., U.S., 5th April, 1890; 5 years.

Claim.—1st. The combination of the field magnet, a commutating armature and brushes bearing upon the periphery of the armature within the polar gaps. 2nd. The combination, with a commutating armature, of a field magnet having two pole pieces embracing the armature on opposite sides, and commutator brushes bearing upon the portion of the periphery of the armature exposed in the gaps between the pole pieces. 3rd. A dynamo electric machine, having a commutating armature, and a field magnet constructed to leave the entire length of the exterior of the armature exposed on opposite sides between the pole pieces, and brushes arranged to bear against the exposed periphery of the armature in the polar gaps. 4th. The combination, with a commutating armature, consisting of segmental bars arranged spirally around a core, and field magnets having polar ends radially approaching the exterior circumference of said armature on opposite sides, of brushes bearing directly on the external peripheral segments of said commutating armature at the exposed portions between the radially-approaching magnet poles, substantially as herein set forth. 5th. In a gramme armature, the combination, with a core, of an inner and outer circle of segmental bars n, n', embracing said core, with their ends recessed or scarfed, and with cross-connecting pieces r let into said recesses and soldered or secured therein, substantially as shown and described. 6th. A gramme armature, constructed with an annular core, exterior and interior metal strips extending longitudinally of the axis of the armature, plates of insulating material alternated with said strips and radial metal strips connected at their inner ends to the inner strips, and at their outer ends to the outer strips, the respective strips being coupled in spiral order, and the radial strips being of less width than the longitudinal strips, whereby they are held out of contact with and insulated from one another, substantially as set forth. 7th. In a dynamo electric machine, field magnets made in the form of a rectangle or frame, cast in one integral piece with the polar limbs made separate and bolted on the ends of the integral frame and directed inward with the armature shaft extending transversely and centrally through the sides of the frame, and the armature mounted on the middle thereof in the centre of the integral frame between the attached polar limbs, substantially as herein shown and described. 8th. In a dynamo, the combination, with a field magnet, of a commutating armature arranged with its axis coincident with the plane of the field magnet, whereby the portions of the periphery of the armature exposed within the gaps, between the pole pieces, are on opposite sides of the plane of the field magnet, and commutator brushes bearing upon the periphery of the armature within the polar gaps, whereby the brushes are conveniently accessible upon the exterior of the machine. 9th. The combination, with an annular armature, of an expandible clutching sleeve within the same, an armature driving shaft concentric to said sleeve, a wedging screw connection between said shaft, and expandible sleeve acting to tighten or expand said sleeve by the forward rotation of the shaft within the armature, and a friction clutch between the shaft and the sleeve acting to slip in the direction of said forward rotation of the shaft and to catch in the reverse direction, substantially as and for the purpose set forth. 10th. In a dynamo electric machine, the combination, with an armature and its driving shaft, and a wedging screw connection between the shaft and armature, constructed to tighten by a forward rotation of the shaft within the armature of the disk v secured to the shaft, and the frictional pawls u pivoted thereon and engaging the armature in the reverse direction, substantially as shown and described. 11th. In a dynamo-electric machine, the combination of brush-holding bars arranged parallel with the armature shaft, with brushes mounted thereon to bear upon the commutating peripheral surface of the armature, and adjustable supports for said bars, substantially as shown and described. 12th. In a dynamo-electric machine, a brush carrier extending parallel to the shaft of the armature and adjacent and exterior to the periphery of the armature, with a brush mounted on said carrier and bearing upon the periphery of said armature, substantially as shown and described. 13th. The combination, with the supporting frame of the brush-holding bars v, brushes mounted on said bars and brackets w¹ adjustably supporting each end of the bar on the frame, substantially as shown and described. 14th. The combination of the brush carrier extending par-

allel with the armature shaft and external to the periphery of the armature, with angularly adjustable brushes mounted on said carriers and bearing directly on the armature, substantially as set forth. 15th. The combination, with the fixed frame a, b, c, d, of the bars w extending entirely across the frame and secured thereto at each end, and disposed parallel with the armature, with brushes mounted thereon and bearing on the commutating surface, substantially as shown and described. 16th. The combination, with a commutating armature, of brush-holding bars on opposite sides of the armature and extending parallel with its axis, and brushes mounted thereon bearing upon the periphery of the armature and adjustable longitudinally on said bars, in order to bear upon different portions of the length of the armature, substantially as set forth. 17th. In a dynamo machine, the combination of a brush-supporting bar extending parallel with the armature shaft external to the armature and in electrical connection with the brushes and attached to the frame, with the circuit wires of the field magnets extending to and from said bar, substantially as shown and described. 18th. In commutator brush adjusters, the combination, with a brush carrier adjustable tangentially in relation to the commutating surface, of a brush mounted on said carrier and having a radial adjustment to and from the commutating surface, substantially as set forth. 19th. In commutator brush adjusters, the combination, with an axial bar adjustable tangentially in relation to the commutating surface, of a movable brush mounted on said axial bar and rotatively adjustable thereon to and from the commutating surface, substantially as herein shown and described.

No. 34,060. Grain Binder. (*Lieuse à grain.*)

The Noxon Bros. Manufacturing Co., Ingersoll, Ont. (assignee of John F. Seiberling, Akron, Ohio, U.S.), 5th April, 1890; 5 years.

Claim.—1st. The combination with the needle and its shaft, of the cam rigidly secured thereto, the cam lever pivoted on the frame, the yoke pivoted thereto, and the compressor connected to and supported by said yoke and also pivoted to the needle, substantially as described. 2nd. The combination of the needle shaft, the needle secured to said shaft, the cam secured to the heel end of the needle, the pivoted and adjustable cam lever F, hinged at its upper end at or near the upper side of the binder frame, and supported at its lower end and actuated by a cam roller on said lever engaging the cam on the needle, the compressor, and the pivoted and yielding connection between the cam lever and compressor, substantially as described. 3rd. The combination of the needle shaft, the needle secured to said shaft, the cam on the needle, the compressor arm hinged to the needle below the shaft, the spur on the needle supporting the compressor in position to receive the grain, the compressor connected to said compressor arm, the cam lever, the hinged connection between the cam lever and compressor arm, permitting said arm to yield the supporting spring s', and the spring rod I hinged to the compressor arm and connected with the cam lever F, in the manner substantially as described. 4th. The combination of the yoke H, the spring h², in said yoke, the rod h¹ provided with the hook or pin engaging the compressor arm, the cam lever F hinged to the yoke, the compressor arm G and the compressor G, substantially as described. 5th. The combination, with the needle and the cam formed on the heel end thereof, and the compressor arm connected to the heel of the needle, of the compressor actuating lever F and yoke H connecting said lever and compressor arm, and having the trunnions h, h, journalled in said lever, the rod h¹, spring h² and the adjustable nuts h³ and h⁴ on the rod h¹, one to preserve the proper distance between the cam lever and compressor arm, and the other to adjust the spring to its proper tension, substantially as described. 6th. The combination, with the needle, the cam rigidly secured thereto, and the compressor, of the cam lever carrying the cam rollers and made adjustable in length to preserve the cam roller in proper relation to the cam, substantially as described. 7th. The combination, with the needle, the adjustable compressor and the compressor arm connected with said needle, of the pivoted cam lever F, the double switch E and its spring e', the yoke H, and connections interposed between said lever F, and the compressor and the cam roller s, on the cam lever F, substantially as described.

No. 34,061. Process for Making Paper, Linen and similar Material Impervious to Water. (*Procédé pour rendre le papier, le linge et les corps similaires imperméables à l'eau.*)

David Macdonald and William T. Tassie, Toronto, Ont., 5th April, 1890; 5 years.

Claim.—The within described process for the preparation of paper, linen, or similar material, which consists in soaking the material in oil, then passing it between wringing rollers, after which the material is dried and then completely covered with an ink, or similar material, evenly distributed over its surface with or without pressure, substantially as specified.

No. 34,062. Plant Protector.

(*Protecteur de plantes.*)

Fred A. J. Smart, Effingham Falls, George W. Lougee and Arthur P. Merrow, Freedom, N.H., U.S., 5th April, 1890; 5 years.

Claim.—1st. In a plant protector, the combination, with a frame A, formed with inclined sides, the latter provided with two grooves C, C', of screen E and glass D, arranged to slide in such grooves, as set forth. 2nd. The combination, in a plant protector, with frame A, provided with inclined perforated sides, of a glass D and a screen E, located in the grooves of such sides, screens G and pivoted covers H for the perforations, flange B secured to the frame, and strip F, secured to the screen E, as set forth.

No. 34,063. Cant Hook. (Renard.)

Alfred E. Creigh, Roncoverte, W. V., U.S. 8th April, 1890; 5 years.

Claim.—1st. In a cant-hook, the combination of the metal end socket formed of the series of longitudinal sections 1, having the inner seat-lugs 3, and the metal end rings encircling the said sections, substantially as set forth. 2nd. The combination of the metal socket formed of a series of longitudinal sections 1, having the inner seat-lugs 3, the metal ring-bands 5, and the removable pike, substantially as set forth. 3rd. The combination of the sections 1 having the thickened lower ends and the inner seat-lugs 3, the metal ring-bands 5, the tow-band 10, and the removable pike, substantially as set forth. 4th. The combination of the sections 1, having the thickened lower ends and the inner seat-lugs 3, the metal ring-bands 5, the clip-band 6, having the recessed apertured ends 7, the threaded bolt 8 and nut 9, and the hook, substantially as set forth.

No. 34,064. Insufflator. (Insufflateur.)

Joseph M. Harding, Oil City, Penn., U.S., 8th April, 1890; 5 years.

Claim.—1st. The herein described insufflator consisting of the flexible tube A, provided with the flexible bowl B, adapted to be inserted in the nostril, substantially as and for the purpose set forth. 2nd. In combination with a flexible tube A, the rigid mouth piece C applied at one end of said tube and the bowl B, constructed, substantially as described, at the opposite end of the tube, the whole being constructed and adapted for use substantially as herein set forth.

No. 34,065. Ore Concentrator. (Concentrateur de minerai.)

Milton T. Van Derveer, Amsterdam, N.Y., U.S., 8th April, 1890; 5 years.

Claim.—1st. The vanning-pan provided with a series of depressions extending across the pan, each depression having an inclined side *a* and a shelving bottom *u*, which laps over the side of an adjoining depression, said depressions being deepest at the center and gradually decreasing in size therefrom, and curving upward to ends of the depressions, substantially as described for the purpose set forth. 2nd. The combination, in an ore-concentrator, of a pan having a series of pockets or depressions with inclined bottoms and countersunk openings in said bottoms, valves of metal or less specific gravity than mercury fitted loosely in said openings, and suitable mechanism for imparting longitudinal and lateral vibration to said pan, substantially as described for the purpose set forth. 3rd. In combination with a vanning pan provided with vibrating mechanism and loosely supported at one end by hangers, a reciprocating rod N, a cross bar *e* with arms *h*, *h'*, secured thereto at their upper ends, the lower ends of arms *h* being rigidly secured to the pan, and arms *h'* being pivotally connected with the frame, substantially as described for the purposes set forth. 4th. In an ore-concentrator, a vibrating vanning-pan having a series of depressions, each of which has an inclined side wall, and an inclined or shelving bottom provided with grooves or corrugations, and a series of perforations, substantially as described. 5th. The combination, with a vanning-pan having a series of depressions with inclined bottoms and sides and mechanism for imparting a longitudinal and lateral vibration to said pan, of a horizontal rod and a series of stirrers conforming to said depressions secured to said rod so as to follow the longitudinal movement of the pan, substantially as described. 6th. In an ore-concentrator, a vanning-pan having a series of depressions, each of which has an inclined side wall and beyond the wall of the adjoining depression and said depressions having each a varying depth, in combination with the mechanism for vibrating the pan longitudinally, laterally and with a rising and falling movement, substantially as described. 7th. A vanning-pan having a series of depressions, each depression having an inclined side and a shelving bottom that overlaps the side of the adjoining depression, said depressions being deepest at the center, and decreasing in size therefrom toward their ends, in combination with a series of stirrers conforming in shape and arrangement to said depressions, substantially as described.

No. 34,066. Carpet Lining. (Bourre de tapis.)

Alexander Gregg, jr., Detroit, Mich., U.S., 8th April, 1890; 5 years.

Claim.—As a new article of manufacture, the straw cloth lining for carpets, herein described, consisting of the bundles A woven together by the warp B and also provided with the fibrous selvage C, substantially as specified.

No. 34,067. Caster. (Roulette de meuble.)

George D. Clark, Plainville, Conn., U.S., 8th April, 1890; 5 years.

Claim.—The herein described caster frame, consisting of the bridge 9, the horns or arms 7 at each end thereof, and the flange 8, bent at an angle to said bridge in the same general direction as the horns, all formed integral with seamless corners at both ends and one side of said flange at its junction with the horns and bridge, substantially as described, and for the purpose specified.

No. 34,068. Parasol for Children's Carriages. (Parasol pour les voitures d'enfants.)

James T. Smith, New York, N.Y., U.S., 8th April, 1890; 5 years.

Claim.—In combination with the ribs and stretchers of a parasol, a top notch having a concave shaped recess formed on its under side, to which the ribs are secured, a screw-threaded standard or head above said notch, with which said standard engages the having a long extension above the stretcher notch, and to which the latter is secured, said extension passing into the top notch when the parasol is spread, substantially as described.

No. 34,069. Gear for Vehicles.

(Train de voiture.)

George A. W. Robertson, Charlottetown, P. E. I., 8th April, 1890; 5 years.

Claim.—1st. In a wheeled vehicle, the combination, with two buffing plates having their ends curved in opposite directions, of a spring secured at one end between the said plates, and having its opposite end carried outward between the curved extremities of the said plates, substantially as shown and described. 2nd. In a wheeled vehicle, the combination, with two buffing plates having their extremities curved in opposite directions, of a balance buffer spring attached at one extremity between the plates and having its opposite end carried outward between and beyond the curved extremities of the plates and a regulating device having a bearing upon the upper buffer plate, whereby the movement of the extending end of the spring may be limited as described. 3rd. In a wheeled vehicle, the combination, with the shafts, the body and buffing plates, one of which is a spring plate, attached to the body at each side near the forward end, the forward extremities of which buffing plates are curved in opposite directions, of a rock shaft journalled between the shafts, and a buffer balance spring rigidly secured at one end between the rear extremities of said plates, the opposite end of which spring is carried outward between the curved ends of the plates to a connection with the rock shaft, substantially as shown and described and for the purpose specified. 4th. In a vehicle, the combination, with the shafts and a body spring supported between said shafts at its forward end, of a crank shaft journalled in bearings attached to the rear ends of the shafts and the rear portion of the body, substantially as shown and described and for the purpose specified. 5th. In a vehicle, a body suspended between the shafts in such a manner as to allow the body a forward and backward or swinging motion, substantially as shown and described and for the purpose specified. 6th. In a vehicle, the combination, with the shafts, a body suspended between said shafts, a rock shaft journalled in the shafts in front of the body, and springs attached to the body at one end and to the rock shaft at their other extremities, of a crank shaft journalled in bearings attached to the shafts and body, the crank arm of which shaft is given a forward inclination, substantially as shown and described and for the purpose specified. 7th. In a vehicle, the combination, with the shafts and a body suspended between the shafts, of springs attached at one end to the under side of the body near the forward end at the sides, and a connection between each of said springs and the shafts, and a crank shaft journalled in bearings attached to the shafts and the body of the vehicle, substantially as shown and described. 8th. In a vehicle of the character described, the combination, with the shafts and axle of leaf springs attached at their forward ends to the shafts, their rear ends being in the form of a short cross, the head of which is turned downward so as to grip the axle at the back, while the two side arms are worked to the exact width of the axle, grooves being sunk across them to receive the clips by which they are bound in the usual manner to the axle, substantially as shown and described and for the purpose specified.

No. 34,070. Electro Magnetic Cut-out for Electrical Instruments. (Interrupteur électro-magnétique pour les appareils électriques.)

Thomas A. D. Forster, Norristown, Penn., U.S., 8th April, 1890; 5 years.

Claim.—1st. An electro-magnetic protector for electrical instruments, comprising an electro-magnet wound in two sections, each connected to an instrument post having a magnetic core and a magnetic casing, an armature parallel with the end of said magnet, mounted upon a guide-rod at right angles to it, and in position to be attracted both by core and casing, and a contact plate upon said guide-rod, whereby when the armature is attracted, circuit is closed between the instrument posts, and when attraction ceases, said circuit is opened. 2nd. An electro-magnetic protector for electrical instruments, comprising an electro-magnet wound in two sections, each connected to an instrument post, having an armature and a contact-plate upon a guide-rod, and having contact springs D, E, a post as L in the path of the contact-plate, connected to a ground post, whereby when the armature is attracted, circuit is closed between the two instrument posts and the ground post, and when attraction ceases, said circuit is opened. 3rd. An electro-magnetic protector for electrical instruments, comprising an electro-magnet wound in two sections, each connected to an instrument post having upon a guide-rod an armature and a contact-plate, normally in contact with neither instrument post, whereby when the armature is attracted, circuit is closed between said instrument posts, through said contact plate, and when the attraction ceases, said circuit is opened. 4th. An electro-magnetic protector for electrical instruments, comprising an electro-magnet wound with coarse and with fine wire coils, whose armature when attracted closes the circuit, short-circuiting the fine wire coil and the instrument posts. 5th. The combinations upon an electro-magnet of two coils, one of coarse and one of fine wire, in series, and a cut-out operated by the armature, whereby, upon the attraction of the armature, the fine wire coil is cut out by short circuit. 6th. The combination, with an electro-magnet, of two coils, one of coarse and one of fine wire, in series, an armature parallel with the end of the said magnet, mounted upon a guide-rod at right angles, and its end in position to be attracted by the magnet, and a contact plate upon said guide-rod, whereby, when the armature is attracted, circuit is closed between the ends of the coil of fine wire, and between the instrument posts, and when attraction ceases, said circuits are opened.

No. 34,071. Portable Holder for Plants. (Porte-plante portatif)

Mary H. Christie, Toronto, Ont., 8th April, 1890; 5 years.

Claim.—1st. A portable holder for plants and flowers formed of flexible material impervious to water and having a close base and a

perforated top for the plant or flower stems to pass through, as herein described and for the purpose specified. 2nd. A portable holder for plants and flowers formed of flexible material impervious to water and having its top perforated with a number of openings, each opening having a flap with a wire or cord attached to it, as herein described and for the purpose specified. 3rd. A portable holder for plants and flowers formed of flexible material impervious to water and having its top perforated with a number of openings and a larger opening with a lid, or flap to close the same, integral with the material forming the top, as herein described and for the purpose specified.

No. 34,072. Marginal Index for Bibles.

(*Index marginal pour les bibles.*)

Byron Laing, Acton, Ont., 9th April, 1890; 5 years.

Claim.—1st. In a marginal index for bibles, the scallops C, having double parallel index E, stamped thereon, condensed to one-half, substantially as and for the purpose hereinbefore set forth. 2nd. In a marginal index for bibles, the scallops C, having double parallel index E, stamped thereon, condensed to one-half, in combination with a transparent facing D, placed in position and arranged substantially as and for the purpose hereinbefore set forth.

No. 34,073. Vehicle Spring. (*Ressort de voiture.*)

Hugh A. Stringer, London, Ont., 9th April, 1890; 5 years.

Claim.—1st. As a new article of manufacture, a torsional spring bar E, formed with an angular end E¹, substantially as and for the purpose set forth. 2nd. A torsional spring bar E, formed with an angular end E¹, in combination with a swinging link F, and the body C, substantially as and for the purpose set forth. 3rd. A torsional spring bar E, formed with an angular end E¹, and a returned end E², in combination with the bevelled or wedge shaped nut or washer H, and the strap brace G¹, in which a socket G, is formed, substantially as and for the purpose set forth. 4th. A torsional spring bar E, formed with an angular end E¹, and a returned end E², in combination with the swinging link F, bracket E³, body C, shaft or other suitable support A, socket bracket I, strap brace G¹, formed with a socket G, and the bevelled or wedge shaped nut or washer H, substantially as and for the purpose set forth. 5th. The body C, formed with hooked ends C¹, the strap braces G¹, formed with sockets G², the cross bar A¹, and the rubber cushion, R, substantially as and for the purpose set forth. 6th. As a new article of manufacture, a seat, or back of a seat, formed of coils of wire J, as set forth.

No. 34,074. Wheel-Barrow Wheel.

(*Roue de brouette.*)

Jean B. Siotte, Ashland, Wis., U.S., 9th April, 1890; 5 years.

Claim.—A wheel-barrow wheel consisting of a wrought metal tire having holes drilled for the spokes, the spokes, the alternate ones of which are bent at right angles to the plane of the wheel, in opposite directions and welded together forming the axle on which are formed collars and journals, the other ends of the spokes are secured in the holes of the said tire, substantially as described.

No. 34,075. Electro-Magnetic Temperature Regulator. (*Régulateur électro-magnétique de la température.*)

John V. Stout, Easton, Penn., U.S., 9th April, 1890; 5 years.

Claim.—1st. In an apparatus for actuating valves, dampers and the like, the combination of a main lever, a locking lever arranged to move into and out of the path of the main lever to lock or release the same, armatures carried by said levers, and electro-magnets arranged within attracting distance of the armatures and serving to move the levers, substantially as set forth. 2nd. In an apparatus for actuating valves, dampers and the like, the combination of a main actuating lever provided with an armature, an electro-magnet located within attracting distance of the armature, a locking lever movable into and out of the path of the main lever and provided with an armature, a second electro-magnet located within attracting distance of said armature and serving to withdraw the locking lever from the path of the main lever, and a spring acting upon the locking lever and serving to return it to the path of the main lever. 3rd. In an apparatus for controlling valves, dampers and like devices, the combination with a main lever and an actuating electro-magnet therefor, of a locking lever, adapted to hold the main lever in a given position, an electro-magnet for withdrawing the locking lever, and releasing the main lever, and circuit closers, carried by the locking lever, whereby a short circuit is established to cut out the main lever magnets when the locking lever is withdrawn, and the main lever is released. 4th. In combination with a battery, or source of electrical energy, and with suitable conductors, a main lever B, and an electro-magnet C, for lifting the same, a locking lever G, and an electro-magnet for withdrawing said locking lever, insulated contact plates *a*, *p* and contact screw *m*, and brush or spring *q*, the former having merely a touching contact with plate *o*, and the latter having a sliding contact with plate *p*, whereby the contact is destroyed at *o*, upon a slight backward movement of lever G, while the contact continues at *q* until the lever G is moved backward a greater distance. 5th. The combination of a battery, or other source of electrical energy, and suitable conductors, a main lever, an electro-magnet for moving said lever, a locking lever to hold the main lever, an electro-magnet for moving said locking lever, a thermostat having two contact points, with which it makes electrical connection alternately, as the temperature rises above or falls below predetermined limits, and circuit closers or switches, carried by the main and locking levers, and serving to direct the current of electricity, first through the two electro-magnets, and thereby to cause the withdrawal of the locking lever, and the release of the

main lever, then to cut out the main lever magnet, thereby permitting said lever to fall, and finally breaking the circuit, thereby rendering the locking lever magnet inert, and permitting the locking lever to recede slightly from its controlling magnet, and to establish a new path, by which the current shall pass, when the thermostat again closes the circuit.

No. 34,076. Fifth-Wheel for Buggies.

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

David G. Wyeth, Newark, N.J., U.S., 9th April, 1890; 5 years.

Claim.—1st. In a buggy, wherein lateral buggy springs are arranged triangularly with the rear axle, and come together at the middle of the front axle, the combination of the clip *b* having the eye *d*, the clip bar *e* having the eye *f*, and the bolt formation *g*, the spring bed *j* having the perforated part *i*, with the axle A having the perforated ear *a*, combined and arranged as substantially set forth and for the purpose specified. 2nd. In a buggy, wherein lateral buggy springs are arranged triangularly with the rear axle, and come together at the middle of the front axle, a fifth-wheel consisting of the clip *b* having the eye *d*, the clip bar *e* having the eye *f* and bolt formation *g*, the spring bed *j* having the perforated part *i*, the axle A having the perforated ear *a*, the vehicle shaft V, the shaft irons *s*, *s* and clip bars *t*, all formed, arranged and combined as and for the purpose hereinbefore set forth. 3rd. In a buggy, wherein lateral buggy springs are arranged triangularly with the rear axle, and come together at the middle of the front axle, a fifth-wheel consisting of the combination of the clip bar *e*, having the bolt formation *g*, the spring bed *j* having the perforated part *i*, with the axle B having the perforated ears *v*, and *w* combined, and arranged as and for the purpose specified. 4th. In a buggy, wherein lateral buggy springs are arranged triangularly with the rear axle, and come together at the middle of the front axle, the fifth-wheel consisting of the clip bar *e* having the bolt formation *g*, the spring bed *j* having the perforated part *i*, the axle B having the perforated ears *v* and *w*, the vehicle shafts V, the shaft irons *s*, *s* and clip bars *t*, all formed, arranged and combined as and for the purpose hereinbefore set forth. 5th. In a buggy, wherein lateral buggy springs are arranged triangularly with the rear axle, and come together at the middle of the front axle, the fifth-wheel consisting of the combination of the clip *b*, clip bar *e* having the bolt formation *g*, spring bed *j* having the perforated part *i*, and the axle B¹ having the lugs *e*, *f*, arranged and combined as and for the purpose specified. 6th. In a buggy, wherein lateral buggy springs are arranged triangularly with the rear axle, and come together at the middle of the front axle, a fifth-wheel consisting of the clip *a*, clip bar *e* having the bolt formation *g*, the spring bed *j* having the perforated part *i*, the axle B¹ having lugs *e*, *f*, the vehicle pole or shafts V, the shaft irons *s*, *s*, and clip bars *t*, all arranged, combined and formed as and for the purpose hereinbefore set forth.

No. 34,077. Milk Aerator. (*Aérateur du lait.*)

Godson J. Alford, Bastard, Ont., 9th April, 1890; 5 years.

Claim.—The placing of the weight M on the side of the aerator H, for the purpose of overturning and filling the same, when dropped into the can of milk R.

No. 34,078. Hot Water Boiler.

(*Chaudière de calorifère à eau.*)

David L. Dwinell, George A. Miller and Charles H. Miller, Montreal, Que., 9th April, 1890; 5 years.

Claim.—1st. In a hot water boiler or furnace, the combination with the fire chamber, and a water jacket surrounding same and communicating with the supply or return pipes, of a series of cast sections superimposed one upon the other, and located immediately above the fire chamber and communicating with a water back in connection with said water jacket, horizontal diaphragms extending into each of said cast chambers from the rear wall of said water back, and a top chamber communicating with the water back, and with the flow pipes, the whole being arranged so that there will be zig-zag passages for the products of combustion between the different water chambers through which such products of combustion may pass from the fire chamber to the smoke chamber and thence to the flue, substantially as and for the purpose described. 2nd. In a hot water boiler or furnace, the combination with a suitable base including the ash pit and fire chamber, a water jacket A³, surrounding said fire chamber, and a casing B¹, enclosing the heating chamber of a series of cast water chambers B², B³, mounted one upon the other within the casing B¹, and in connection with a common water back divided by the diaphragms H¹, which water back in turn connects with a common top chamber C, and the whole fastened together by rods or bolts A⁴, substantially as described.

No. 34,079. Link or Lap Ring. (*Chainon brisé.*)

William H. Baker, Samuel W. Smith and Salmon S. Matthews, Pontiac, Mich., U.S., 9th April, 1890; 5 years.

Claim.—As an improved article of manufacture, a lap ring consisting of the two sections A, A¹, these sections being pivoted together and constructed, each of a disk *a*, and the oppositely projecting hook portions *b* having their adjacent faces flattened, and their exposed surfaces rounded, each of the said hook portions having projecting from its outer edge an integral lug *d*, these lugs fitting in recesses formed in the outer edges of the adjacent hook portions, and having their outer or exposed portions rounded, to conform to the contour of the rings formed by the said hook portions, substantially as herein described.

No. 34,080. Book Binding. (*Reliure de livre.*)

Rudolph E. Frey, John Buscher and Gustave Frey, St. Louis, Mo., U.S., 9th April, 1890; 5 years.

Claim.—A sewing band for books, having strips secured thereto at suitable intervals, forming folding spaces, substantially as described.

No. 34,081. Spring Vehicle. (*Voiture à ressorts.*)

Henry M. Whitney, Cortland, N.Y., U.S., 11th April, 1890; 5 years.
Claim.—1st. In combination with the front and rear axles, side springs, and body, the plates P, P secured to the central portions of said springs and parallel therewith, the reach sections R, R articulated to the front ends of said plates and extending convergently to the centre of the front axle and connected thereto, and the braces B, B articulated to the rear ends of the aforesaid plates and extending divergently to the rear axle and connected thereto, substantially as described and shown. 2nd. In combination with the front axle, head block, and side springs, the V-shaped reach section R formed in one piece and with the tongue extension *a* at the junction of its arms, and lying with said extension under the front axle, the king bolt passing through the tongue extension *a*, the brace *b* extending from the front of the head block through the front end of said tongue extension, and shackles hinging the rear ends of the said reach sections to the central portions of the side springs, substantially as described and shown. 3rd. In combination with the front axle and side springs, the V-shaped reach section R secured at the junction of its arms to the said axle and terminating with shackle eyes *c, c* at the central portions of the side springs, plates P, P on the under sides of said springs and formed with perforated ears containing the aforesaid shackle eyes, bolts coupling said eyes to the ears, body loops *l, l* lying across the aforesaid plates and formed with perforated rearwardly extending shanks *l, l*, clips embracing the springs and fastening the body loops thereto, and bolts passing through the shanks *l, l*, plates P, P and springs, substantially as described and shown. 4th. In combination with the two axles, head block and side springs, the plates P, P on the under sides of the central portions of said springs, formed with perforated ears *e, e* at both ends, the body loops *l, l* and cross bar *f* lying across the under sides of said plates, clips *g, g* embracing the springs and fastening thereto the body loops and cross bar, the V-shaped reach section R formed in one piece, and with the tongue extension *a* extending across the underside of the front and receiving the king bolt through it, and the rear ends of said reach section terminating with shackle eyes *c, c* and connected thereby to the front ears *e, e* of the aforesaid plates, and the braces B, B formed at the front ends with shackles *c', c'* and connected thereby to the rear ears *e, e*, and the rear ends of said braces secured to the under side of the end portions of the rear axle by clips embracing the latter, substantially as described and shown.

No. 34,082. Manufacture of Cheese.

(*Fabrication du fromage.*)

Francis Brenton, (assignee of Francis W. Brenton,) Thurlow, Ont., 11th April, 1890; 5 years.

Claim.—1st. The within described process for improving the flavor of cheese, which consists in removing the rind from manufactured cheese, and subjecting the cheese which has been separated from the rind to a pounding or working process, so as to thoroughly mix the entire mass of cheese, substantially as specified. 2nd. The within described process for improving the flavor of cheese, which consists in removing the rind from manufactured cheese, and subjecting the cheese which has been separated from the rind to a pounding or working process, so as to thoroughly mix the entire mass of cheese, and adding to the said cheese during the process of working, sweet cream, sage, mustard, or such other flavoring as may be desired, substantially as specified.

No. 34,083. Machine for Extracting Tree Stumps and Lifting Stones.

(*Machine à arracher les souches et enlever les pierres.*)

Joseph Thibault, Brome, Ont., 11th April, 1890; 5 years.

Claim.—The combination of the windlass E, with its toothed wheel F, and the shifting catch or drag L operated by the lever K, and compound pawl or detent M, with the tripod or triangle A, B, C, and with the beams O and R, having axles at their ends to receive wheels, substantially as and for the purpose hereinbefore set forth.

No. 34,084. Construction of Axles for all Kinds of Vehicles.

(*Fabrication des essieux pour toutes sortes de voitures.*)

William H. Rogers, Kingston, Ont., 11th April, 1890; 5 years.

Claim.—The combination of the bars, rods and parts of the axle, in the manner described, and bound and secured by collars, rings or fastenings enclosing the same, substantially as and for the purpose hereinbefore set forth.

No. 34,085. Skate. (*Patin.*)

James A. Whelpley, Keene, N.H., U.S., 11th April, 1890; 5 years.

Claim.—1st. The toe plate B, formed of a single piece of metal and provided with a hole *g*, channel *h*, depression *i*, and holes *j, j*, in shown and described. 2nd. A toe or heel plate provided with a having upwardly projecting pieces provided with a recess *e'*, and notches *c'*, and the nut I, substantially as and for the purposes set forth. 3rd. The lever D, provided with each other, the regulating screw thread bar F, bolt K, and adjusted with studs *n*, toe plate B provided with the toe clamps E, E, provided upon which the lever D is free to turn, and also travel longitudinally the purposes set forth. 4th. The regulating bar F, provided with a thumb piece *o*, in combination with the lever D, whereby the bar F

is prevented from turning when the lever is in a locked position, substantially as set forth. 5th. The piece H, in combination with the runner A provided with a hooked recess *o*, and the toe plate B provided with the hole *g*, substantially as and for the purposes set forth. 6th. Toe or heel clamps provided at their upper edges with spurs that are upset in the process of stamping out the blank, substantially as set forth. 7th. The toe plate B, provided with the channel *h*, said channel being bent on a slight curve, transversely of the skate in combination with the toe clamps D, bent to correspond thereto, substantially as and for the purpose set forth. 8th. The actuating lever D, provided at its forward end with a straight slot, through which is passed a bolt to secure it to the toe plate, so that it is free to turn, and also to travel longitudinally, and also provided with two slots set at an angle to each other for operating the toe clamps, the rear end of the lever being formed saddle shaped to lock it onto the runner, substantially as shown and described. 9th. The toe and heel damper having a bulb *a*, depression *z*, at the bend whereby the clamps are strengthened, substantially as shown and described.

No. 34,086. Lamp Holder for Vehicles.

(*Porte-lampe pour voitures.*)

Charles L. Ellicott, Baltimore, Md., U.S., 11th April, 1890; 5 years.

Claim.—1st. A holder for vehicle lanterns, consisting of a bracket suspended from the under side of the floor of a vehicle, and having a laterally extending arm at its top, the end of which is provided with a snap hook in position to engage the bail of the lantern when in a perpendicular position, and provided on its lower end with a laterally extending fork in position to partially encircle the base of the lantern, when suspended in a vertical position from the snap hook, in combination with a strap and buckle secured to the ends of the fork, whereby the lantern may be securely held within the fork substantially as described. 2nd. A holder for vehicle lanterns, consisting of a bracket suspended from the under side of the floor of a vehicle, and having a laterally extending arm at its top, the end of which is provided with a snap hook in position to engage the bail of the lantern when it is in a perpendicular position, said bracket being provided with a hinge, to permit its being raised to a horizontal position when not in use, and having on its lower end a laterally extending fork semicircular in shape, in position to engage and partially encircle the base of the lantern, in combination with a strap and buckle, one secured to one end of the fork, and the other to the other end thereof, whereby the lantern may be securely held within the fork, substantially as described.

No. 34,087. Drier for Fruit. (*Séchoir à fruits.*)

George Frick and Frederick Frick, Waynesborough, Penn., U.S., 12th April, 1890; 5 years.

Claim.—1st. A drier having its greatest extent in a horizontal direction, formed with two passages extending longitudinally in the same horizontal plane, and inter-communicating at both ends of the same, and a series of crates or cages for containing materials to be dried, capable of moving through one of said passages in one direction, and through the other in the opposite direction, the course of said crates being wholly within the drier, substantially as described. 2nd. A drier having its greatest extent in a horizontal direction, formed with two passages extending longitudinally in the same horizontal plane, and inter-communicating at each end of the same for the passage of heated air, and crates or cages for containing the materials to be dried, capable of moving through one of said passages in one direction, and through the other in the opposite direction, the course of said crates being wholly within the drier, substantially as described. 3rd. The combination with a drying chamber, having its greatest extent in a horizontal direction of two vertical shafts provided with sprocket wheels and chains, crates or cages, for receiving materials to be dried, connected to said chains and provided with supporting wheels and an endless track lying wholly within the chamber, and engaged by said supporting wheels, whereby said crates may be supported by said track, and moved and maintained in a vertical position by said chains, substantially as described. 4th. The combination with a drying chamber, having its greatest extent in a horizontal direction of a heater, and heating coils for heating said chamber, and an air passage for supplying air to said coils, having an inlet at one end and an outlet at the other, and a smoke outlet or uptake for the heater passing longitudinally through said air inlet passage, the inlets to the smoke outlet and to the air passage being at opposite ends, substantially as described. 5th. A drying chamber, having its greatest extent in a horizontal direction, a steam boiler and steam coils for heating air for said chamber, a separate chamber surrounding the boiler and having a discharge opening or openings adjacent to the steam coils, and an air inlet to the boiler chamber, substantially as described. 6th. The combination with a drying chamber of an endless chain mounted therein, crates or cages for containing the materials to be dried connected to said chain, and having one solid or closed side, and slides in said chamber for closing the spaces between said crate and the walls of the drying chamber, whereby the closed wall of the crate and the said slides form a partition across the drying chamber, substantially as described. 7th. The combination with a drying chamber, having grated openings for the admission of hot air, of valves for closing said openings, slides for separating a portion of the drying chamber from the main body of the same, a door for said drying chamber, and movable connections between said door and said slides, and valves whereby the opening or closing of the door effects the movement of the slides and valves substantially as described. 8th. The combination, with the drying chamber of the endless chains mounted therein, crates or cages connected with said chains, slides J and connecting bar J', a sliding door for said drying chamber, pivoted flap valves *n*, rods *m* connected to said valves and engaging the bar J', and the cords *p* connecting the door and the bar J' substantially as described. 9th. The combination with a drying chamber having its greatest extent in a horizontal direction, of a partition dividing said chamber longitudinally, crates on a track in said chamber, endless chains mounted in said chamber and surrounding said partition for holding said

crates in a vertical position and for moving the same and spring seated bearings for one of the chain shafts substantially as described. 10th. The combination with a drying chamber of endless chains mounted therein crates or cages for supporting the materials to be dried connected to said chains, a supporting track parallel with said chains a supporting wheel attached to each crate, and engaging said track, a track above said supporting track provided with a vertical wall parallel with said chains, a rib *d* having a considerable portion parallel with the curved portions of the vertical wall of the track, a traveler connected to each crate and engaging the vertical wall of the track and two friction rollers one on each side of said traveler connected to each crate and adapted to engage the said rib substantially as described. 11th. The combination with a drying chamber having its greatest extent in a horizontal direction of a partition dividing said drying chamber, sprocket chains surrounding said partition the pivoted wing of flap N adjacent to one end of the chamber and forming a continuation of the said partition, a crank on the axis of said wing or flap, a shaft gearing with one of the shafts of the sprocket chains and a crank on said shaft having a projection adapted to engage the crank connection with the wing or flap, substantially as described. 12th. The combination with a drying chamber having its greatest length in a horizontal direction of two sprocket chains one above the other and a supporting track, the said chains and track being parallel with the main plane of the drying chamber crates or cages connected to said chains and movably supported on said track and another track in a different horizontal plane from the supporting track engaged by a rigid projection from said crates or cages, substantially as described.

No. 34,088. Separable Pocket Camp Stool.

(*Siège de camp brisé.*)

Henry Lang, Albany, N.Y., U.S., 12th April, 1890; 5 years.

Claim.—1st. In a camp stool, the combination of two separable sections A and B, of substantially the same form, fitted to engage one on top of the other, each section having a central post E, of cruciform shape, to form a series of ribs I thereon, and each of said ribs having a shoulder or abutment 2, a seat piece D, and swinging arms C, pivoted to said ribs, each of said arms being provided with a shoulder 5, which is fitted to engage with the shoulder of the rib to which the arm is pivoted, as herein specified. 2nd. In a camp stool, the combination of two separable sections A and B, of substantially the same form, fitted to engage one on top of the other, each having a central post E of cruciform shape to form a series of ribs I thereon, and each of said ribs having a shoulder or abutment 2, a seat piece D, and swinging arms C, pivoted to said ribs, each of said arms being provided with a shoulder 5, which is fitted to engage with the shoulder of the rib, to which it the said arm is pivoted, and each pair of said central posts being provided with a separable joint formed by a socket 7, and pivot pin 8, and means, as shown and described for locking said sections together, as herein specified. 3rd. In a camp stool, the combination of a central post E of cruciform shape, whereby a series of ribs I are formed thereon, and channel shaped swinging arms C pivoted to said ribs, as herein specified.

No. 34,089. Apparatus for Peeling and Slicing Potatoes, Vegetables and Fruits. (*Appareil pour peler et trancher les patates, les légumes et les fruits.*)

William H. Dawson and Henry Goodwin, Manchester, Eng., 12th April, 1890; 5 years.

Claim.—1st. A vegetable and fruit parer, comprising a bottom wall 2, having a paring and slicing blade 8, a convex chopping blade 6 and paring and slicing blade 10, substantially as described. 2nd. A vegetable and fruit parer, comprising a shank having a paring and slicing blade 8, a convex chopping blade 6, and a cellular cutter 7, substantially as described. 3rd. A vegetable and fruit parer, consisting of a sheet of metal formed with the side flanges 3 and 4, longitudinal paring and slicing blades 8, 10 and 12, grating surface 13, and chopping blade 6, and provided at one end with the cellular cutter 7, substantially as described. 4th. The combination, with the hollow handle 14, of a paring device, comprising a shank, paring and slicing blades, and a lateral stud, and adapted to enter the hollow handle, and a locking device for attaching the hollow handle and the paring device together, substantially as described. 5th. An implement for cutting and paring vegetables and fruits, consisting of a hollow handle having at one end the slot 20, the bridge piece 21 and the rotating ring or collar 22, having the bridge piece 23 and a paring device comprising paring blades, and a shank having a lateral stud 24, substantially as and for the purpose hereinbefore set forth.

No. 34,090. Pole Pieces of Dynamo Electric Machines. (*Pièces de pôle pour machines dynamo-électriques.*)

John G. Statter, London, Eng., 12th April, 1890; 5 years.

Claim.—1st. A dynamo electric machine or motor, having one or more of its pole pieces cut away or incised at a point H, intermediate of the extremities of said pole pieces, to vary the length of the conductor acted upon, and keep constant the magnetism generated in the coils passing under the brushes, whereby, when said brushes are shifted, sparking will be obviated, substantially as described. 2nd. A dynamo electric machine or motor, having one or more of its pole pieces cut away or incised at a point or points H, intermediate of the extremities of said pole pieces, to make the inductive effect of the field magnets equal to the self-induction generated in those coils of the armature passing under the brushes, whereby the inductive effect and the self-inductive effect will neutralize each other, and no sparking will occur when the brushes are shifted. 3rd. A dynamo electric machine or motor, having one or more of its pole pieces cut away or incised at the point H, intermediate of the extremities of said pole pieces, to vary the magnetic effect of the field-magnets

upon the armature, and prevent sparking when the brushes are shifted, substantially as described. 4th. A dynamo electric machine or motor, having one or more of its pole pieces cut away or incised at a point H, intermediate of the extremities of said pole pieces, to keep constant the inductive effect of the field magnets upon the armature coils passing under the brushes, whereby sparking will not occur when said brushes are shifted. 5th. A pole piece for a dynamo electric machine or motor, cut away or incised at a point H, intermediate of the extremities of said pole piece, to vary the magnetic effect of said pole piece upon the armature, and make the resultant of the magnetic effect of the pole pieces and the self-induction generated in the coils of the armature passing under the brushes zero, the location, size and form of the cavities H, being determined substantially in the manner set forth.

No. 34,091. Roller Bearing.

(*Coussinet à rouleaux.*)

Charles D. Meneely, Albany, and John Gibbons, West Troy, N. Y., U.S., 12th April, 1890; 5 years.

Claim.—1st. The combination, with a car axle and axle box, of anti-friction rollers, having end journal bearings smaller than the body of the rollers, and formed with annular grooves in said bearings, interior tube form tracks surrounding the axle at each end, separating rollers formed with annular grooves and arranged at each end of the anti-friction rollers between the journal ends of the same, and a guide ring arranged circumferentially about the journal ends of the anti-friction rollers and the separating rollers and within the grooves in the same, substantially as described. 2nd. The combination, with a bearing box that is made with an interior track at each end, and constructed with a cap at its outer end, containing interiorly an encircling concave groove, substantially as described, of an axle made with an encircling concave groove at its outer end, arranged to be in line with and correspond in reversed and opposite concavity with the groove made in the cap; an end thrust ball arranged within the coincidently made grooves of the cap and axle, friction rollers, having grooved and journalled ends, arranged between the inner surface of said bearing box and axle, a separating roller having a groove roller face arranged at each end of the bearing between each of the friction roller journals and the adjacent end track, and a ring made to encompass said separating rollers and to be within the grooves thereof, substantially in the manner as and for the purposes set forth. 3rd. The combination, with the axle A, made with the encircling grooves G¹, of the bearing box B, made with the cap C, having the interior encircling groove G², and the interior end tracks T, T, the end thrust ball B¹, arranged within the coincidently placed grooves of the axle and bearing box cap, the friction rollers R¹ made with the end journal J, arranged between said axle and bearing box, and the separating rollers R², each made with the groove g², with one of said separating rollers arranged between each two of the friction roller journals, and the adjacent inside track at each end of the bearing, and the rings O at each end of the bearing within the grooves of the separating rollers, substantially in the manner as and for the purposes set forth.

No. 34,092. Pump Valve. (*Souape de pompe.*)

William McGregor, Oil Spring, Ont., 12th April, 1890; 5 years.

Claim.—1st. The valve H, having spirally twisted wings J, in combination with a valve chamber F, as set forth. 2nd. The valve H, having the spirally twisted wings J, and a cavity L at the top, as set forth. 3rd. The cup receiver M, having a collar connecting the valve chamber and pump sections, to retain dirt falling from the well tube, as set forth.

No. 34,093. Stove Pipe Thimble.

(*Dé de tuyau de poêle.*)

Archibald Fairgrieve, Toronto, Ont., 12th April, 1890; 5 years.

Claim.—As an improved article of manufacture, the stove pipe thimble herein described, consisting of two cylinders of sheet metal, with an annular space between them, connected together at the ends by metal rings or flanges, and having a non-conducting fibrous material between the cylinders.

No. 34,094. Spike Extractor. (*Tire clou.*)

Frank P. West, East Helena, Mont., U. S., 12th April, 1890; 5 years.

Claim.—1st. The combination, with a lever carrying a pivoted claw of a block D, bifurcated to form depending portions to bear on the base of a rail, and links E, E, for connecting the block to the lever, substantially as shown and for the purpose set forth. 2nd. In a spike extractor, the combination of the lever A, the lower end thereof being constructed, substantially as shown, and provided with a curved portion, a claw carried by said lever, and a block having a recessed upper face and roller, and bifurcated to form depending portions to bear on the base of a rail, said block being connected to the lever by slotted links E, E, substantially as shown and for the purpose set forth. 3rd. The combination in a spike extractor, of a lever carrying a claw, said lever having a curved lower portion, and projection a², slotted links connecting the lever with the block D, said block having the upper face thereof recessed to provide thereon side walls, and a roller pivoted between the rear portions of said side walls, so that the curved face and projection a² can contact with said roller, substantially as shown and for the purpose set forth. 4th. The combination in a spike extractor, consisting of a lever, constructed substantially as shown, a claw pivotally connected to said lever, slotted links E, E, connected to the lever in rear of the claw, and a block, having an upper recessed cross-piece, to which is journalled a roller side projecting lugs d, d and depending members, one of said members having an adjusting screw or bolt, the parts being organized, substantially as shown and for the purpose set forth.

No. 34,095. Harvester Sickle Grinding Machine. (*Machine à aiguiser les couteaux des moissonneuses.*)

James N. Parker, Elkhart, Ind., U.S., 12th April, 1890; 5 years.

Claim.—1st. In a grinding machine, the combination, with a suitable support, a swinging yoke and grinding roller therein, of means for holding the yoke yieldingly down to its work, and means for holding the yoke rigidly, substantially as set forth. 2nd. In a grinding machine, the combination, with a suitable support, a guide plate, a cross head mounted thereon and a swinging yoke, of a grinding roller in the yoke, a handle for reciprocating the cross head and for locking the yoke rigidly in place when the roller is used for ordinary grinding, substantially as set forth. 3rd. The combination, with a support, and an inclining guide plate, of a cross-head adapted to slide on the guide plate, a set screw in the cross-head for preventing lateral motion, a swinging yoke, a grinding roller, and a handle secured to the cross-head by means of which the latter is reciprocated, substantially as set forth. 4th. The combination, with a suitable support, having an inclining guide plate secured thereto with undercut edges, a cross-head mounted on the guide plate, and having depending inwardly projecting ears which embrace the edges of the guide plate, and a set screw in one of the ears for regulating lateral play of the spindle passing through the cross-head, a swinging yoke mounted on the spindle, a grinding roller journaled at the lower end of the yoke, a handle for reciprocating the cross-head, and gearing for communicating motion to the grinding roller, substantially as set forth. 5th. The combination, with a support, an inclining guide plate with the undercut edges secured thereto at one end, a cross-head having flat-faced lugs mounted on the guide plate and depending inwardly projecting ears embracing the edges of the plate, one of said ears having a set screw for defining the lateral movement of the cross-head, of a spindle passing through the cross-head, a swinging yoke held on said spindle by a set screw or similar means, a grinding roller journaled in the free end of the yoke, a spring for depressing the roller, a handle for moving the cross-head and gearing for communicating motion to the roller, substantially as set forth. 6th. The combination, with a support, having an adjustable plate thereon with an inclining notched forward end, of an inclining guide plate, a cross-head, a swinging yoke having a cross bar and a rib thereon adapted to ride on the inclining forward end of the plate and be seated in the notch when the roller reached the points of the knives, substantially as set forth. 7th. The combination, with a support, a guide plate, cross head, and swinging yoke with roller therein, of a knife holder, a spring for depressing the yoke when the roller is acting on the knives in the holder, a dog rigidly secured to the machine for holding the yoke when reversed, and an extensible handle for locking the yoke in the dog, substantially as set forth. 8th. The combination, with a base plate, a support, a plate adjustably secured to the support and having an inclining forward edge with a notch therein, and an inclining guide plate projecting from the support, of a cross-head, a spindle, drive wheel thereon, a yoke mounted on the spindle, an adjustable spring bearing on the yoke, a grinding roller journaled in the lower end of the latter, a pinion on the roller meshed with the teeth of the main gear wheel, a rigid dog, a handle stem, and handle adjustably thereon to lock the yoke in the dog, substantially as set forth.

No. 34,096. Oil Lamp. (*Lampe à huile.*)

The Penn Lamp and Lighting Company, London, (assignee of Thomas Penn and Alfred E. Penn, Wandsworth Road), Eng., 12th April, 1890; 5 years.

Claim.—1st. An oil lamp, having the upper end of the wick tube perforated or provided with openings, which openings or perforations are covered with absorbent material contained in a chamber, communicating by a descending tube or passage with the oil in the reservoir. 2nd. The combination, with the subject matter of the preceding claim, of a sheath or cover for that portion of the wick which enters the oil reservoir. 3rd. In an oil lamp, the combination, with the chamber C, tube or tubes D, D', and valve or end of the tube, by turning the burner in its holder, substantially as described and illustrated in the drawings. 4th. In an oil lamp, the combination with the chamber C and tubes D, D', of the tube or passage for charging the chamber C and tubes D with oil without removing the burner from the oil reservoir, substantially as described and illustrated in the drawings. 5th. In an oil lamp, the combination, with a chamber or chambers, surrounding or partially surrounding the upper perforated portion of the wick tube, and communicating with the oil in the reservoir by one or more tubes or passages, of a suction device for charging the chamber or chambers, and the wick with oil from the reservoir, substantially as described and illustrated in the drawings.

No. 34,097. Fire Proof Ceiling and Wall. (*Plafond et cloison incombustibles.*)

Albert Klapperstuck and Anton H. Meyer, Hoboken, N. J., U. S., 12th April, 1890; 5 years.

Claim.—A fire-proof compound for ceilings and walls, consisting of mortar, gypsum, colophonium and an acid, substantially as specified.

No. 34,098. Valve Reseating Tool. (*Outil pour remplacer les soupapes.*)

Pliny J. Wright and Clara E. Sampson, Minneapolis, Minn., U. S., 12th April, 1890; 5 years.

Claim.—1st. In a valve-reseating device, the combination, with a revolvable shaft, of a file connected to the lower end of said shaft at right angles to its axis, of a size to cover at any one time only a part of the surface to be dressed, whereby the file is rendered self-clear-

ing, substantially as described. 2nd. In a valve reseating device, the combination, with a revolvable shaft, of a cutter detachably connected thereto, having a flat file surface on its underside, and inclined file surfaces on its ends, substantially as described, whereby the tool is adaptable to dressing both flat and conical valve seats. 3rd. The combination with the shaft D, of the cutter F, having flat and inclined file surfaces f^1 , f^2 , the centering guide G, the bushing H, the screw K, and the ratchet crank Q, q , q^1 , substantially as described.

No. 34,099. Electric Railway Signalling Apparatus. (*Appareil électrique à signaux de chemins de fer.*)

Thomas P. Warrall, West Chester, and Anna M. Palmer, Philadelphia, (assignees of Henry J. Palmer, Philadelphia), Penn., U.S., 12th April, 1890; 5 years.

Claim.—1st. In an electric railway signalling system, track terminals, and a partial electric circuit connected therewith, corresponding train terminals, and a partial circuit connected therewith, and passing to a battery on the train, through an electro-magnet, in combination with a separate circuit controlling a signalling apparatus through the armature, and back stop of the said magnet, the said separate circuit being normally open between two points, but closed at those points when the contact devices on the train are upon the road terminals, whereby if the external circuit be found closed a signal upon the locomotive will be prevented, and if found open a signal will be sounded, as and for the purpose set forth. 2nd. The combination, with conducting rails along a railway track of corresponding contact devices upon a train, the said devices being attached to one or more movable or tilting supports, and a circuit controller operated directly by the movement of said tilting supports to close a circuit upon the train, as and for the purpose set forth. 3rd. The combination with the contact brushes, and the supporting frame in which they are pivoted, of the battery Z, the partial circuit containing the magnet σ , and the secondary circuit controlled by the said magnet and having as its terminals the head X, and the spring Y, as and for the purposes set forth.

No. 34,100. Stylographic Pen (*Plume stylographique.*)

Thos. B. Norgate, Victoria, B. C., 12th April, 1890; 5 years.

Claim.—1st. The combination of the valve V, and seat v, together with the stylus S and sheath A, substantially as and for the purpose hereinbefore set forth. 2nd. The combination of the flexible washers W, W and part B, together with the parts A and C, and the washer W, and the part C, together with the cap D, substantially as and for the purpose hereinbefore set forth.

No. 34,101. Spring Motor. (*Moteur à ressort.*)

Johann G. E. Reichard, Borna, Saxony, and Christian C. Treiber, Lone Elm, Mo., U. S., 12th April, 1890; 5 years.

Claim.—1st. The combination, with a fixed pinion, of trains of gear wheels connected with the said fixed pinion, and a frame carrying the said trains of gear wheels and provided with springs, substantially as shown and described. 2nd. In a spring motor, the combination, with a fixed pinion, of trains of gear wheels meshing into the said fixed pinion, a frame mounted to turn loosely on the shaft of the said fixed pinion, and carrying the said trains of gear wheels, a set of frames mounted to turn in the said first named frame, shafts held in each of the said set of frames, and connected with the said trains of gear wheels, and springs pressing against the said shaft, substantially as shown and described. 3rd. In a spring motor, the combination, with a fixed pinion, of trains of gear wheels meshing into the said fixed pinion, a frame mounted to turn loosely on the shaft of said fixed pinion and carrying the said trains of gear wheels, a set of frames mounted to turn the said first named frame, shafts held in each of the said set of frames and connected with the said trains of gear wheels, springs pressing against the said shaft, and spring barrels held on the said shafts and against which operate the said springs, substantially as shown and described. 4th. In a spring motor, the combination, with a fixed pinion, of trains of gear wheels meshing into the said fixed pinion, a frame mounted to turn loosely on the shaft of the said fixed pinion and carrying the said trains of gear wheels, a set of frames mounted to turn in the said first named frame, shafts held in each of the said set of frames, and connected with the said trains of gear wheels, springs pressing against the said shafts and against which operate the said shafts, and means, substantially as described, for transmitting the motion of the first named frame and of the said shafts to the main driving shaft, substantially as shown and described. 5th. In a spring motor, the combination, with a fixed pinion, of trains of gear wheels meshing into the said fixed pinion, a frame mounted to turn loosely on the shaft of the said fixed pinion, and carrying the said trains of gear wheels, a set of frames mounted to turn in the said first named frame, shafts held in each of the said set of frames and connected with the said trains of gear wheels, springs pressing against the shafts, spring barrels held on the said shafts and against which operate the said springs, means, substantially as described, for transmitting the motion of the first named frame and of the said shafts to the main driving shaft, and a third frame operated from the said first named frame, and transmitting its motion to the main driving shaft, substantially as shown and described.

No. 34,102. Electric Gong. (*Gong électrique.*)

Daniel B. Stevens, (Co-inventor with Jesse E. Harris), Toronto, Ont., 12th April, 1890; 5 years.

Claim.—1st. The combination, with a gong hammer, of a gong, having a lug or projection formed on it, substantially as specified. 2nd. A gong, having a lug or projection formed on its bottom edge, and suspended over an electro magnet designed to operate a hammer and

cause it to strike the projection on the gong, substantially as specified. 3rd. A gong A, having a projection *a*, formed on its bottom edge, a bridge B, extending over the magnet G, and supporting the gong A rigidly in position, in combination with the gong hammer E, operated by the magnet G, substantially as specified. 4th. An electro magnet, composed of a soft metal core *b*, made integral with the supporting end brackets *d*, the said core being covered with some suitable non-conducting material over the wire *f*, wound upon it, substantially as specified.

No. 34,103. Carriage Top. (*Soufflet de voiture*).

Salem E. Kierolf and Francis E. Williams, Jackson, Tenn., U. S., 12th April, 1890; 5 years.

Claim.—1st. In a carriage top, the combination, with the front bow restricted to the canopy or cover, and the middle bow, of the additional braces connected to said front and middle bows, and in addition to yielding or flexing inward, each having an offset near its lower end, and inwardly curved above its flexing or yielding point, or joint, permitting the braces as the top folds down to rest upon the middle bow, and sustain the top in the lowered position; substantially as set forth. 2nd. In a carriage top, the combination, with the front bow restricted to the canopy or cover, and the middle bow, of the additional braces connected to said front and middle bows, and each being formed with a spring and an offset near its lower end, and inwardly curved above said spring, substantially as set forth.

No. 34,104. Thill Coupling.

(*Armon de limonière*.)

Norris M. Compton, William H. Longcoy, Sullivanville, and Henry L. Bacon, Elmira, N. Y., U. S., 12th April, 1890; 5 years.

Claim.—1st. The combination, in a thill coupling of a clip designed to be connected to the axle, and having ears permanently carrying the pivot bolt, a metal section D having a bolt channel and end stop, the latter perforated as described, and a lower section E, having a bolt channel, an end lug to engage the perforation in the stop so as to pivotally engage said sections, and a device for connecting the free ends of said sections, substantially as set forth. 2nd. The combination, in a thill coupling of the axle clip provided with a permanently attached pivot bolt, a section D, having the bolt channel and vertical end stop, the latter provided with an opening, having a curved bottom, and the lower section E, provided with a bolt channel, and having the end lug to engage said stop opening, and curved to correspond with the bottom thereof, and a thumb-screw for connecting the free end of said section E to the section D, substantially as set forth. 3rd. The combination, in a thill coupling of the clip, having the permanent pivot bolt, and the sections D, E grooved as described, and pivotally engaged in the rear of said bolt, and connected as set forth, the section D, having shoulders *d, e* to hold the forward portion out of contact with the similar parts of section E, substantially as specified.

No. 34,105. Car Coupling. (*Attelage de chars*).

William C. Watson and Theodore Y. Kinne, Patterson, N. J., U. S., 12th April, 1890; 5 years.

Claim.—1st. In a car coupling, the combination with a draw-head, of a coupling hook pivoted within the same, a spring acting on said coupling hook to force it in one direction, a pull-rod extending upon both sides of said draw-head, and adapted to contact with the coupling hook to move the latter in one direction, and a lock for securing said pull-rod in a position into which it may be adjusted, substantially as specified. 2nd. In a car coupling, the combination with a draw-head of a coupling hook pivoted within the same, a spring for moving said coupling hook in one direction, a pull-rod extending upon both sides of said draw-head and having a portion adapted to contact with the coupling hook to move it in one direction, said pull-rod also constituting a rock shaft, an arm and a notched piece with which said arm engages to lock said combined pull-rod and shaft against longitudinal movement, substantially as specified. 3rd. In a car coupling, the combination with a draw-head, of a coupling hook pivoted within the same, a spring for moving said coupling hook in one direction, a pull-rod extending to opposite sides of said draw-head, and adapted to contact with the coupling hook to move it in one direction, a lock for securing said pull-rod in a position into which it may be adjusted, and a crank for causing the unlocking of said lock, substantially as specified. 4th. In a car coupling, the combination with a draw-head provided with a shank upon its rear end, of a spring surrounding said shank and operating to force the draw-head forward, a coupling hook pivoted within said draw-head and provided with a shank extending through the shank of the draw-head and a second spring surrounding said shank of the coupling hook beyond the spring first named, and operating to draw said coupling hook inwardly, substantially as specified.

No. 34,106. Axle. (*Essieu*).

Frank L. G. Chapman, Adolph Hoefler, Stevens Point, and James T. Smith, Parrish, Wis., U. S., 12th April, 1890; 5 years.

Claim.—1st. The combination, with the bed piece, having an oil chamber, of the tubular axle A, screwed into the end of the oil chamber, and the clips P, fastening the tubular axle to the bed piece, substantially as described. 2nd. The combination, with the hollow bed piece L, having the arms I, and oil chamber L, of the tubular axle A, screwed into the ends of the oil chambers, and the clips P, fastening the tubular axle to the arms I, substantially as described. 3rd. The combination with the tubular axle A, of the spindle B, having the collar C, and the sleeve D, screwed upon the outer end of the axle and having a flange *d*, fitting outside of the collar C, substantially as described. 4th. The combination with the tubular axle A, having the enlargement *a*, of the bushing H received within the enlargement, the spindle B, having a journal mounted in

the bushing H, and a collar C, adjacent to the end of the bushing and abutting against the enlargement *a*, and the sleeve D screwed upon the outside of the enlargement *a*, and having a flange *d*, fitting the journal outside of the collar C, substantially as described. 5th. The combination, with the tubular axle A, of the spindle B, having the collar C, and a shank F, a hub mounted on the shank and recessed to receive the end of the axle A, and provided with a hole O, and a sleeve D, screwed upon the end of the axle within the recess of the hub, and provided with a socket registering with the hole O, substantially as described.

No. 33,107. Ventilated Boot or Shoe and Making the Same. (*Chaussure ventilée et sa confection*).

James H. McKechnie, Granby, Que., 15th April, 1890; 5 years.

Claim.—1st. The improved ventilated boot or shoe herein described, it consisting in a boot or shoe, having a ventilating channel formed by and extending between the layers thereof, said channel communicating with the interior of the shoe through openings in the inner layer, all substantially as described. 2nd. The improved ventilated boot or shoe herein described, it consisting in a boot or shoe, having a ventilating channel formed between the perforated lining, and the outer layers arched on said lining, said outer layers consisting of the sheet 14, arched over the perforations of said lining, and of the surface layer of the shoe, substantially as described. 3rd. In a ventilated rubber shoe, the combination of the perforated lining, the sheet 14 arched over the perforations of said lining, and a surface layer extending over said arched sheet, onto the lining at the sides of said sheet, substantially as shown and described. 4th. In a ventilated rubber shoe, the combination with the perforated lining of the sheet 14, arched substantially as described, and the strip 9, all substantially as shown and described. 5th. In a ventilated rubber shoe, the combination, with the perforated lining of the sheet 8, correspondingly perforated and applied to said lining, the arched outer layer, and the strip 9 contiguous to the edge of the lining, all substantially as described. 6th. In a ventilated rubber shoe, the combination, with the perforated lining of the sheet 8, correspondingly perforated, and applied to said lining, the arched outer layer and the strip 9, lying between the sheet 8 and the lining, all substantially as shown and described. 7th. In a ventilated rubber shoe, and in combination therewith, the improved ventilating tube, consisting of the perforated sheet 8, and the sheet 14 arched over the perforations in said sheet 8, said sheets being joined together along their edges, substantially as described. 8th. The method herein described, of making ventilated rubber shoes, which consists in fitting the lining on the last, applying a channel core, forming the outer layer over said core, and then vulcanizing the shoe, and removing the core, substantially as described. 9th. The method herein described, of making ventilating channels in rubber shoes, which consists in perforating the lining, and fitting the said lining on the last, applying a channel core over the perforations, forming the outer layer over said core, and then vulcanizing the shoe, and removing said core, substantially as described. 10th. The method herein described, of making ventilated rubber shoes, which consists in fitting the lining on the last, applying to the lining the ventilating tube having the core therein, covering the partly made shoe with the outer layer, and then vulcanizing the shoe and removing the core, substantially as described. 11th. A boot or shoe, having a ventilating channel extending inward therein, and communicating with the interior of said boot or shoe by series of openings along the line of the said channel, substantially as described.

No. 34,108. Passenger Gangway and Ship's Companion Ladder. (*Planche et échelle de navire*.)

Charles Thomson, Montreal, Que., 15th April, 1890; 5 years.

Claim.—1st. In passenger gangways, and ship's companion ladders, steps automatically adjustable to a horizontal position, for the purpose set forth. 2nd. In passenger gangways and ship's companion ladders, steps pivotally carried by the string boards of same, and means for keeping such steps in a horizontal position, for the purpose set forth. 3rd. In a passenger gangway, the combination of a wheeled platform, a frame pivoted to same, steps pivotally carried by such frame, and means for keeping such steps in a horizontal position, for the purposes set forth. 4th. In a passenger gangway, the combination of a wheeled platform, a frame pivoted to same, steps pivotally carried by such frame, one or more rods extending the full length of such frame, and means for pivotally connecting such rod or rods with said platform, and each of said steps, for the purpose set forth. 5th. In a passenger gangway, having a wheeled platform, and a frame pivoted to same, and adapted to connect at one end with the ship, arms or extensions, from such wheeled platform adapted to come in contact with the side of the ship, in the event of excessive rising of same, for the purpose set forth. 6th. In a companion ladder, the combination, with a fixed platform of a movable frame pivoted thereto, steps pivotally carried by such frame, one or more rods extending the full length of such frame, and means for pivotally connecting such rod or rods with said platform, and each of said steps, for the purpose set forth. 7th. In a passenger gangway, or companion ladder, adjustable step boards pivoted at four points to supports for same, for the purpose set forth. 8th. In a passenger gangway or companion ladder, the combination, with the string boards of the step frame with a platform, the plane of which is always substantially horizontal, to which such frame is pivoted and with rods also pivoted to such platform, of adjustable step boards pivoted at their ends, and towards their rear and front edges respectively to said step frame and said rods, for the purpose set forth. 9th. In passenger gangways, and ship's companion ladders, hand rails automatically adjustable in distance to and from the step frame of same, for the purpose set forth. 10th. In passenger gangways and ship's companion ladders, having platforms, to which movable frames carrying the steps are pivoted, the combination

respectively with such platforms, and movable frames of a fixed standard or standards, and pivoted standards, and a hand rail or rails connected with same, so as to be automatically adjusted in distance to and from said movable frames, for the purpose set forth.

No. 34,109. Atmospheric Gas Burner.

(*Bec à gaz atmosphérique.*)

Henry Cox, jr., London, Eng., 15th April, 1890; 5 years.

Claim.—1st. The combination of parts constituting the apparatus or tap hereinbefore described, for controlling at one operation the quantities of gas, and common air, in the proper ratio for mixing or blending, in relative proportions for proper combustion. 2nd. The combination of the gas inlet screw or plug D, with the inside revolving perforated pipe or casing B, and outside perforated pipe or casing A, as and for the purpose described. 3rd. In connection with atmospheric burners, an enlargement or expansion chamber L, between the gas and air inlets and the burner, substantially as and for the purpose hereinbefore described. 4th. In combination, with atmospheric gas burners A, contracted passage or tube K, and an enlargement or expansion chamber L, arranged substantially as and for the purposes hereinbefore described and illustrated. 5th. The combination, with an atmospheric gas burner of an enlargement or expansion chamber, such as L, with air and gas inlets, so connected and operated as to be simultaneously adjusted in proper relative proportions, substantially as hereinbefore described. 6th. The combination, with an atmospheric gas burner, of a contracted passage or tube such as K, and an enlargement or expansion chamber such as L, with air and gas inlets, so connected and operated as to be simultaneously adjusted in proper relative proportions, substantially as hereinbefore described. 7th. The arrangement and combination of parts, constituting the apparatus hereinbefore described, and shown in the accompanying drawings.

No. 33,110. Chain Propeller.

(*Propulseur à chaîne.*)

Nelson W. French, Tunkhannock, Penn., U.S., 15th April, 1890; 5 years.

Claim.—1st. The combination, with drive wheels D, E, the endless chain traveling thereon, and fixed projections secured to the side of the boat, and disposed one near the lower rear edge of the wheel E, and the other near the upper front edge of the wheel D, of blades pivotally secured to the endless chains, as shown, and automatically operated stops, carried by the said chains, and normally holding said blades in operative position, said stops adapted to engage the fixed projections on the boat, and be thereby released from contact with the blades, substantially as and for the purpose hereinbefore described. 2nd. The combination, with the drive-wheels D and E, the endless chains mounted thereon, provided with arms K, normal to the chain, and projections J³, J⁴, fixedly secured to the sides of the boat, and disposed one near the lower rear edge of the wheel E, and the other near the upper front edge of the wheel D, of the blades H¹ provided near the upper portion of their ends with journals, said journals pivoted in the outer ends of the arms K, and automatic stops on one of each pair of arms K, adapted to engage the blades, and hold them in position for operation, and arranged to engage the fixed projections to release said blades, substantially as, and for the purpose hereinbefore described. 3rd. The combination, with the drive wheels D, E, endless chains mounted thereon provided with a series of pivoted frames J, consisting of projecting arms K, and the brace rods L, the blades H¹ pivoted above their central portion in the lower ends of the arms K, and the fixed projections J³, J⁴, secured to the sides of the boat, and disposed one near the lower rear edge of the wheel E, and the other near the upper front edge of the wheel D, of spring-actuated stops secured to one of each pair of said arms K, said stops provided with a head portion J², provided with a recess J¹, a long projecting portion J³, a short projecting portion J⁴, having a beveled edge, whereby said stop will be raised when the blades H¹ are operated in a backward direction, thereby causing the upper ends of said blades to engage said beveled portion, raise the stop and slip into the recess, and a projection J², adapted to engage the fixed projections J³, J⁴, substantially as and for the purpose described. 4th. The combination, with H in their peripheries, and annular recesses G, G, at their peripheral edges, as shown, of the endless chains formed of flat links B, traveling to engage the recesses H, H, in the wheels D, E, pivoted frames secured to said chains, the blades pivotally mounted in said frames, as shown, automatically operated stops secured in said frames J, adaptation in the water, and the other near the upper front edge of the wheel E, and the other near the lower rear edge of the wheel D, of the blades H¹, in operative position, while in sides of the boat, and fixed projections J³, J⁴, secured to the wheel E, and disposed one near the lower rear edge of the wheel E, and the other near the upper front edge of the wheel D, be released from contact with the blades, substantially as and for the purpose shown and described.

No. 34,111. Method and Apparatus for Heating in Furnaces. (*Mode et appareil de chauffage dans les calorifères.*)

Elijah B. Cornell, Philadelphia, Penn., U.S., 15th April, 1890; 5 years.

Claim.—1st. The method of heating in furnaces, which consists in thermolyzing steam into its constituent gases, and then subjecting these gases to catalytic action, and combustion, substantially as set forth. 2nd. The method of heating in furnaces, which consists in forming steam, converting such steam into an oxyhydrogen gaseous mixture, distributing this gaseous mixture through a catalytic mass, and burning said gaseous mixture, substantially as set forth. 3rd. The method of heating in furnaces, which consists in thermolyzing dry or superheated steam into its constituent gases, and then subjecting such gases to catalytic action and combustion, substantially

as set forth. 4th. The method of heating in furnaces, which consists in forming steam, drying this steam, superheating it, converting it into an oxyhydrogen gaseous mixture, distributing this gaseous mixture through a catalytic mass, and burning said gaseous mixture, substantially as set forth. 5th. The method of heating in furnaces, which consists in thermolyzing steam into constituent gases, and subjecting such gases to the action of a catalytic mass in itself a fuel, and to combustion simultaneously with this fuel, air being supplied to such fuel to support its combustion, substantially as set forth. 6th. The method of heating in furnaces, which consists in thermolyzing steam into its constituent gases, and subjecting such gases to the action of a catalytic material in itself a fuel, and to combustion simultaneously with this fuel, air being supplied to such fuel, to support its combustion by injection by said gases, substantially as set forth. 7th. The method of heating in furnaces, which consists in thermolyzing dry or superheated steam into its constituent gases, distributing these gases beneath the grate bars of a furnace, subjecting them to the catalytic action of a material, whether it be itself a fuel or not, and which material is situated above the grate bars, and consuming by combustion the gases in the above said material having a catalytic action, substantially as set forth. 8th. In an apparatus for heating in furnaces, the combination of a steam generator or supply, a furnace, having a fire-box and an ash pit, a septum of catalytic material in said fire-box, a retort having an inoxidizable inner surface in said fire-box, and pipe connections between said steam supply or generator and one side of said retort, and between the ash pit, and the other side of said retort. 9th. In an apparatus for heating in furnaces, the combination of a retort, having an inoxidizable inner surface, said retort being connected with a supply of steam, a septum of a catalytic material, a chamber below said septum, and a pipe connection between the retort and said chamber below the septum, substantially as set forth. 10th. In an apparatus for heating in furnaces, the combination of a retort, having an inoxidizable inner surface, a superheater or drier connected to said retort, a steam supply pipe for said superheater or drier, a septum of a catalytic material, a chamber below such septum, and a pipe connection between the retort and said chamber below the septum, substantially as set forth. 11th. In an apparatus for heating in furnaces, the combination of a retort, having an inoxidizable inner surface connected with a supply of steam, a septum of a catalytic material, a chamber below said septum, and a pipe connection between the retort and said chamber below the septum, having a larger cross sectional area than its inlet steam pipe and outlet pipe connections, substantially as set forth. 12th. In an apparatus for heating in furnaces, the combination of a cast iron retort connected with a supply of steam, a septum of a catalytic material, a chamber below said septum, and a pipe connection below the retort and said chamber below the septum, substantially as described.

No. 34,112. Stop Cock Box.

(*Regard d'aqueduc.*)

Philip H. Gundermann, Chicago, Ill., U.S., 15th April, 1890; 5 years.

Claim.—1st. A stop-cock box, comprising, in combination, relatively extensible sections A¹ and A², the upper section A¹, having on its inner surface, one or more longitudinal grooves t, annular grooves s, communicating with the grooves t, and sockets s¹, extending upward from the annular grooves, and the lower section A², extending into the section A¹, and having one or more lugs p on its outer surface to enter the grooves t and sockets s¹, substantially as and for the purpose set forth. 2nd. A stop-cock box comprising, in combination, relatively extensible sections A¹ and A², the upper section A¹, having on its inner surface, one or more longitudinal grooves t, annular grooves s, communicating with the grooves t, and sockets s¹, extending upward from the annular grooves, and having a head B, integral with the section A¹ and provided with an opening, a removable cover q, for the opening, having a lip q¹, and a latch q², to engage with the under side of the head B, respectively at opposite sides of the opening, and the lower section A² extending into the sections A¹, and having one or more lugs p on its outer surface to enter the grooves t and sockets s¹, substantially as and for the purpose set forth.

No. 33,113. Corset Busk. (*Busc de corset.*)

Isaac Levy, Newport, R.I., U.S., 15th April, 1890; 5 years.

Claim.—1st. A corset busk, consisting of a series of longitudinal wires, connected together at intervals in their length by cross strips, and each wire formed with spring coils, substantially as shown and described. 2nd. A corset busk, consisting of a series of longitudinal wires, connected together at intervals in their length by cross-strips, each wire formed with spring coils, and said busk having a broad lower end, substantially as shown and described. 3rd. The combination of two corset-busks, each consisting of a series of longitudinal wires, connected together at intervals in their length by cross strips, each wire formed with a series of spring coils, and means, substantially as shown and described, for connecting said busks together, as set forth. 4th. The combination of two corset-busks, each consisting of a series of longitudinal wires, connected together at intervals in their length by cross strips, each wire formed with a series of spring coils, one of said busks, having one of its wires bent to form a hook projecting from the face of the busk, and the other busk, having one of its wires bent to form a loop projecting from the edge of the busk, substantially as shown and described for the purpose specified.

No. 34,114. Check Book and Temporary Binder for the same. (*Livret de cheques à relier mobile.*)

Lewis J. Evans, Brooklyn, N.Y., U.S., 15th April, 1890; 5 years.

Claim.—1st. The book composed of leaves, each consisting of the stubs, checks, and supplemental strip, having an adhesive surface secured beneath the stubs, and protruding freely beneath the inner

ends of the checks, combined with the binder therefor, substantially as and for the purposes set forth. 2nd. The book composed of leaves, each consisting of the stubs, checks, and adhesive supplemental strip, permanently attached beneath the outer ends of the stubs, and protruding freely beneath the inner ends of the checks, combined with the temporary binder, having the rod by which the said book may be temporarily secured in position, substantially as and for the purposes set forth. 3rd. The book composed of the checks; stubs, supplemental strips, having an adhesive surface as described, and the loop H, combined with the temporary binder, having the removable rod I, and lugs J, said rod being adapted to enter said loop and retain the book in position, substantially as and for the purposes set forth. 4th. The book composed of leaves, each having stubs, checks, and a supplemental adhesive strip D, as described, combined with the temporary binder, having the recess Q, to receive the extra thickness caused by the strips D, the rod I and lugs J, whereby the book may be secured in position, substantially as and for the purposes set forth.

No. 34,115. Manufacture of Auger Bits and Apparatus Therefor. (*Fabrication des mèches de tarières et appareil pour cet objet.*)

George H. Crowther, Côte St. Paul, Que., 15th April, 1890; 5 years.

Claim.—1st. The art or process of forming the cutting heads of bits, or augers, by the action of a swaging die, driven through a channel formed in a casing, holding the twisted bar in place, and striking the end of such twisted bar, as herein set forth. 2nd. The combination, of a sectional casing, formed with seat in it for holding the twisted bar, of a bit or auger, a channel being a continuation of said seat, and in line therewith, and a swaging die working in such channel, all as herein described. 3rd. In apparatus for forming the cutting heads of bits or augers, the combination of the halves A¹, A¹, with threaded recesses b, b, forming seat for twisted bar and channel B, and swaging die F, with cutting head F¹, all as and for the purposes set forth. 4th. In apparatus for forming the cutting heads of augers, bits, etc., the casting A, made in two halves A¹, A¹, with cylindrical recesses b, b, formed in both, and screw threads C, C, set in same, all as and for the purposes set forth.

No. 34,116. Piston Rod Packing.

(*Garniture de tige de piston.*)

Charles C. Jerome, Chicago, Ill., U.S., 15th April, 1890; 5 years.

Claim.—1st. The combination, with a stuffing box and a piston rod, of a series of sectional soft metal packing rings, arranged to break joints, an expansible steam setting band, embracing the series of packing rings, a screw attached to one end of said band, and loosely passing through the other end, for limiting the expansion of said band, and cups, forming tight joints with the packing rings, substantially as set forth. 2nd. The combination, with a stuffing box and piston rod, of a pair of soft metal sectional packing rings, arranged side by side to break joints, an expansible steam setting band slightly narrower than the combined thickness of the packing rings, and the cups forming tight joints with the rings, and overlapping the side edges of the band, the central portion of said band being exposed to the steam, substantially as set forth. 3rd. The combination, with a stuffing box, a gland having a condensing recess therein, a drip pipe and packing, of a pair of sectional soft metal packing rings, an expansible band covering the greater portion of the exposed surface of the packing rings, cups having tight joints with the rings, and overlapping the edges of the band, a bushing and a spring located between, and bearing against the bushing and adjacent cup, substantially as set forth.

No. 34,117. Gas Regulator and Equalizer for Gas Engines. (*Régulateur du gaz pour les machines à gaz*)

William C. Rossney, Hyde Park, and Watson G. Cutter, Cambridge, Mass., U.S., 15th April, 1890; 5 years.

Claim.—1st. In a device of the character described, a valve in the gas supply pipe of the engine, adapted to be automatically closed by the back pressure of the gas, substantially as described. 2nd. In a gas regulator, the pipe C, provided with a valve seat 15, and swinging valve 16, substantially as and for the purpose set forth. 3rd. In a gas regulator, the combination of a body supply, and discharge pipes, a liquid sealed dome, secured to a vertically moving spindle, and a cone disk on said spindle, actuating a gravity valve for closing the mouth of the supply, substantially as described. 4th. In a gas regulator, a body, a vertically sliding spindle in the top thereof, a liquid sealed dome secured thereto, a supply pipe, a cone disk on the spindle for closing a gravity valve in the supply, when said dome rises, a discharge pipe, and a valve in said discharge, adapted to be closed by the back pressure of the gas from the engine, substantially as described. 5th. In a gas regulator, a body provided with a liquid sealed dome, a supply pipe, having a normally open gravity valve adapted to close as the dome rises, a discharge pipe, and a swinging valve therein actuated by the gas, substantially as and for the purpose set forth. 6th. In a gas regulator, a body, a liquid sealed dome secured to a spindle sliding through the top thereof, a supply pipe, and valve therefor actuated by a disk of said spindle, and a discharge pipe, having an interiorly arranged inclined valve seat, and a swinging valve, substantially as and for the purpose set forth. 7th. In a gas regulator, provided with a liquid sealed dome or bell, a supply pipe, provided with a gravity valve at its mouth, having a curved arm working on a cone disk on the dome spindle, substantially as and for the purpose set forth. 8th. In a gas regulator, a body provided with an interiorly arranged cylinder, a liquid sealed dome enclosing said cylinder, and secured to a spindle sliding in the body top, a supply pipe, a hinged valve at the mouth thereof, a cone disk on said spindle, engaging an arm on said valve, substantially as and

for the purpose set forth. 9th. In a gas regulator, of the character described, the supply pipe B, provided with the gravity valve *t*, having the arm *r* working on a disk on the dome spindle, substantially as and for the purpose set forth. 10th. In a gas regulator, the supply pipe B, provided with a valve adjusted by the dome spindle in combination with the discharge pipe C, provided interiorly with a shut-off valve, actuated directly by the gas, substantially as and for the purpose set forth. 11th. In a gas regulator, a body provided with a cylinder, a liquid sealed dome enclosing said cylinder, a dome spindle, a supply pipe, a gravity valve therefor operated by a cone disk on said spindle, a discharge pipe, and an automatic check valve therein actuated by the back pressure of the gas, substantially as and for the purpose set forth. 12th. In a gas regulator, the body A¹, dome K, and spindle H, bearing the disk *m*, in combination with the supply B, provided with the valve *t*, having the arm *v*, the discharge pipe C provided with the pipe Z, having the inclined seat 15, and the swinging valve 16, arranged to operate, substantially as described.

No. 34,118. Clothes and Hat Holder.

(*Porte-manteau pour habits et chapeaux.*)

Albert Drouillard and Jacques Rocheleau, Windsor, Ont., 15th April, 1890; 5 years.

Claim.—1st. A clothes holder, provided with a spring actuated clasp F, and hook D, substantially as described. 2nd. As a new article of manufacture, the clothes holder herein described, consisting of the base A, having ears B, the hook D, grooved clasp F, heel J, and spring G engaging in an aperture in the base A, and acting on the heel J, all substantially as shown and described.

No. 34,119. Knitting Machine.

(*Machine à tricoter.*)

Emil Franck, Philadelphia, Penn., U.S., 17th April, 1890; 5 years.

Claim.—1st. The combination of the vertical needle cylinder of a knitting machine, the needles and the operating cams for acting upon the bits of said needles, with slotted shifter cams located below the operating cams, and acting upon the needle stems below the bits, so as to throw said bits into and out of range of the operating cams. 2nd. The combination of the needle cylinder and its needles, the operating cams acting on the bits of the needles, slotted shifter cams located below the operating cams, and acting on the stems of the needles below the bits, so as to throw said bits into and out of range of the operating cams, annular racks carrying said shifter cams, and reciprocating pawls, engaging with the racks to turn the same. 3rd. The combination of the needle shifting cams, the rack for operating the same, the duplex pawl acting on said rack, and having a projecting arm, means for reciprocating the pawl, and pins carried by the rack, and acting on said arm of the pawl, to effect the automatic reversal of the same at each limit of its movement. 4th. The combination of the cylinder and its needles, operating cams for the needles, shifter cams acting on said needles, racks carrying said cams, pawls, one engaging with one rack, and the other with the other rack, a vibrated lever, and rods connecting one pawl to one arm of said lever and the other pawl to the opposite arm of the same. 5th. The combination of the cylinder and its needles, operating cams for the needles, cams for shifting said needles into and out of operative position, racks carrying said cams, pawls for operating the racks, a pawl operating lever, a cam or eccentric, having a rod connected to said lever, a driving shaft for the eccentric, a shipper rod, a clutch for connecting the eccentric to the driving shaft, and an arm on said clutch, connected to the shipper rod, to throw said cam or eccentric into or out of action.

No. 34,120. Fountain Pen. (*Plume-fontaine.*)

John D. Bray, Montreal, Que., 17th April, 1890; 5 years.

Claim.—1st. The combination, with a tubular pen staff composed in part of a tubular ink reservoir, and a compressible bulb in communication with an air duct with said reservoir, of a longitudinally adjustable pen holding tubular section, in socketed connection by a slip joint with the ink reservoir, and provided with a feeding tube, having a feeding nozzle at its forward end, and a tubular valve seat in its rear, in constant communication with the duct of the feeding tube, and a longitudinally stationary valve carried by the pen staff, and controlling flow through the feeding tube, substantially as specified. 2nd. The combination of the ink reservoir tube A, the pen holding tube B, fitted to slide at its rear end within the forward end of said tubular ink reservoir, the feeding tube C, reduced in front, and having a fixed position within the tube B, the elastic tubular valve seat *d*, in constant communication with the duct of the feeding tube, the filling piece *g* at the rear end of the ink reservoir, provided with an air duct through it, the compressible bulb G, the rear filling or closing piece *g*¹, and the longitudinally stationary valve E, with its attached rod *e* arranged to pass through the bulb, and operating to control flow through the feeding tube, and connected with the closing rear end piece *g*¹ of the staff, essentially as herein described.

No. 34,121. Grain Drill. (*Semoir en ligne.*)

John W. Rhodes, Havana, Ill., U.S., 17th April, 1890; 5 years.

Claim.—1st. In combination with the runner frame of a grain drill, lugs projecting from the frame, a runner having a bifurcate forward termination embracing the lugs, a shaft extending through the lugs, and the bifurcated end of the runner, and a spiral spring on the shaft, having one end bearing against the runner and the other end against the frame, as set forth. 2nd. In combination with the runner frame of a grain drill, lugs projecting from the frame, a runner having a bifurcate forward termination embracing the lugs, a shaft extending through the lugs and the bifurcated end of the runner, a compound spiral spring, formed of a loop of metal encircling the shaft, and bearing with its loop against the runner, and with its

ends against the frame, and a set screw in the runner, adapted to the loop of the spring, as set forth. 3rd. In combination with the runner frame of a grain drill, a runner, pivotally connected with the frame, a spring bearing on the runners, and a set screw in the runner to regulate the tension of the spring, as set forth. 4th. In grain drills, in combination, rear frames mounted on wheels, and carrying the driver's seat, a front frame pivotally connected with the rear frames, means on the rear frames for raising and lowering the forward frame, runners connected with the forward frame, and supporting the same when in operation, springs tending to press the runners downward, and compressible connections between the rear ends of the runners, and the said forward frame, whereby the runners may be raised with said forward frame, as set forth. 5th. In grain drills, in combination, a frame, a runner connected with the frame by a spring joint, and a yielding, and adjustable connection between the rear end of the runners and the frame, as set forth. 6th. In grain drills, in combination, a front frame, having runners attached, rear frames hinged thereto, and carried on wheels, a rack pivotally supported from the rear frame, and having an arm as 17, a lever mounted on the pivot of the rack, and having a bolt adapted to the teeth of the rack, a beam of the front frame extended rearwardly, and a connecting bar pivoted in the end of the beam, connected pivotally with the arm of the rack and extended above said arm to form a stop, as set forth. 7th. In grain drills, in combination, a front frame with runners attached, rear frames hinged thereto and mounted on wheels, a rack supported pivotally on the rear frames, and connected with the forward frame, a lever mounted on the pivot of the rack, and having a bolt adapted to the teeth of the rack, and a lock latch adapted to the teeth of the rack, and held normally out of contact therewith, as set forth. 8th. In grain drills, in combination with the runner shanks thereof, fertilizer conveying tubes pivotally connected with the upper rear portions of the shanks, and means for securing the tubes in various positions of adjustment, whereby soil in greater or less quantity may be made to intervene between the seed, the fertilizer, as set forth. 9th. In grain drills, in combination, a hopper having a hinged lid, a lock or latch hinge at or near the longitudinal centre of the hopper, and lines connected to the bolt of the lock hinge, and extended to the ends of the hopper, as set forth.

No. 34,122. Knitting Machine.

(Machine à tricoter.)

George H. Gilbert, Philadelphia, Penn., U. S., 17th April, 1890; 5 years.

Claim.—1st. The combination of the two cam rings, one above the other, with a needle cylinder, having needles, all of which have bits engaging with the cams of one ring, a portion only of the needles having secondary bits engaging with the cams of the other ring, and these latter needles being movable in the cylinder, whereby their secondary bits can be moved into, and out of range of the operating cams therefor, all substantially as specified. 2nd. A knitting machine, in which are combined two cam rings, one above the other, a needle cylinder having needles, all of which have bits engaging with the cams of one ring, a portion only of the needles having secondary bits engaging with the cams of the other ring, and being movable into and out of range of said cams, mechanism for rotating the cam ring, which controls all of the needles, and a portion of the needles, all substantially as specified. 3rd. The combination of the needle cylinder and its needles, a cam ring having cams, whereby each needle is operated two or more times on each rotation of said ring, a supplementary cam ring, whereby certain of the needles are operated once, on each reciprocation of said ring, and devices for rotating the main cam ring and reciprocating the supplementary cam ring, the needles being movable in the cylinder independently of the supplementary cams, whereby they may be removed from and restored to the influence of said cams, all substantially as specified.

No. 34,123. Process of Preserving Fish and Meat. (Procédé de conservation du poisson et de la viande.)

Max Ams, New York, N.Y., U.S., 17th April, 1890; 5 years.

Claim.—1st. A step in preserving fish or meat, which consists in subjecting the same simultaneously to pressure and smoke, substantially as specified. 2nd. A step in preserving fish or meat, which consists in placing it into an open work receptacle, applying pressure, substantially as specified. 3rd. The process of preserving fish or meat, which consists in salting it, simultaneously compressing and smoking it and then packing it into cans, substantially as specified.

No. 34,124. Constructing and Attaching Pen Harvester Guards. (Manière de construire et assujétir les gardes des arrache-pois.)

Francis L. Hamilton, Hilbert, Ont., 18th April, 1890; 5 years.

Claim.—The socket A, and mode of constructing same, the strap C, as being formed with the socket A, and the mode of attaching same to the cutter bar, substantially as and for the purposes hereinbefore set forth.

No. 34,125. Damper. (Régistré.)

The Warner Manufacturing Company (assignee of William A. Hance), Freeport, Ill., U.S., 18th April, 1890; 5 years.

Claim.—1st. In a damper, the combination, with a blade, having a recess for the bent end of a handle shaft or spindle, of a handle shaft, having at its inner end a lateral bend lying in said recess, and having its outer end bent upon itself, forming a spring pressing the edge of the blade, whereby the force of the spring, tending to with-

draw the shaft longitudinally, presses the bent end into the recess, and maintains the engagement of the handle with the blade. 2nd. The combination, with a blade, having a radial passage, into which a handle shaft may be thrust, and at the inner end of the passage a recess adapted to receive the laterally bent end of such shaft, of a handle shaft provided at its inner end with a bend or hook, and having its outer end returned upon itself in the form of a spring pressing the edge of the blade, substantially as set forth. 3rd. The combination, with the blade, having the groove, the bridges spanning the same, the openings and the recess for the hooked inner end lying in said recess, and the integrally formed spring pressing the edge of the blade, substantially as set forth. 4th. The combination, with the blade A, having the opening D, with inclined walls recessed at H, the radial groove spanned by the bridges C, C', C'', and the openings J, J', of the handle shaft G lying in said groove, and having at its inner end the bend or hook I, and at its outer end the integrally formed spring handle terminating in a coil about the shaft in close proximity to the edge of the blade, substantially as set forth.

No. 34,126. Electrical Communicating System. (Système électrique de correspondance.)

The Electric Signal Manufacturing Company, New York (assignee of Alfred G. Holcombe, Long Island), N.Y., U.S., 18th April, 1890; 5 years.

Claim.—1st. In an electrical communicating system, the combination, with a source of electric energy signaling devices, located at a central and sub-stations, and circuit connections uniting said stations, of electric lamps located in branch lines at the sub-stations, and having suitable circuit-closing devices, whereby they may be lighted at the will of the operators at the sub-stations, substantially as set forth. 2nd. The combination, substantially as set forth, with the all-around battery wire of the collective wire, the sub-station signaling devices located between said wires, the individual line leading from said signaling devices to the central station, and an electric lamp and its switch at each sub-station, placed in a shunt around the signaling devices. 3rd. In an electrical communicating system, the combination with the sub-stations, the individual lines, and the step by step indicators of each line, of a sub-circuit for each indicator, including the operating magnet thereof, an automatic rheotome or vibrator, and a circuit-completing switch or key, whereby, after a signal is registered upon the indicator, it may be automatically returned to zero by closing the vibrator circuit, substantially as set forth. 4th. The combination of the central and sub-stations, the individual lines leading from the sub-stations to the keys n, n^1, n^2 at the central station, through which they are normally closed through the magnets of their respective indicators, sub-circuits, also including said magnets, a rheotome and normally open keys o, o^1, o^2 , and connecting bars or devices between the keys n, n^1, n^2 and o, o^1, o^2 , whereby, when the latter keys are operated to close the sub-circuits to bring the indicators to zero, the normally-closed individual lines are open at the former keys, substantially as set forth. 5th. The combination, with a battery located at the central station, of an all-around battery wire connected therewith and leading to all the sub-stations, individual lines running from said stations to the central station, where each one passes through its indicator to the opposite pole of the battery, and a normally open sub-circuit for each indicator connected with one pole of said battery, and including an automatically-acting rheotome, and connected through the indicator with the opposite pole of said battery, substantially as set forth. 6th. The combination of the indicator disk, marked to correspond with the predetermined signals to be received, and also having portions of its face differently marked to indicate when it is at zero, and when not, as, for instance, a white spot to indicate zero, and the remainder black, of a face plate, having two apertures, one through which the received signal is read, and another through which the face of the disk is seen, to indicate conspicuously when the disk has been moved from zero, substantially as and for the purpose set forth. 7th. The combination of the indicator or annunciator, its individual line in which its actuating magnet is included, a sub-circuit normally open at two points, contacts operated by the movement of the indicator, which automatically close the said sub-circuit at one point when the indicator is moved from zero point, a circuit opener or insulator which opens said contacts at the same point when the indicator is returned to zero, and a circuit-closing key or switch for closing the circuit at the other point at will, to return the indicator to zero, substantially as set forth. 8th. The combination of the indicator disk, its actuating magnet, its pawl, its individual line in which the magnet is included, and also sub-circuit containing the automatically-acting rheotome, and including said actuating magnet, the contacts k^1, k^2, k^3 , included in the sub-circuit, and the insulator, which opens said contacts when the indicator disk is at zero, and a circuit-closing key or switch for closing said sub-circuit at will to return the indicator to zero, substantially as set forth. 9th. The combination, with the rotating indicator disk, its driving ratchet actuating magnet, and a line lever, of the pivoted lever p^1 , having a stop located out of a line drawn from its pivot, perpendicular to the armature, and against which the armature lever strikes when retracted to force the end of the lever p^1 between the teeth of the ratchet, and rectify the position of the disk, substantially as set forth. 10th. The combination, with the rotating indicator disk, its driving ratchet, actuating magnet and armature lever and pawl, of the pivoted elbow lever, normally drawn by its spring against the elbow lever and located out of a line drawn from the pivot of said lever, perpendicular to the armature, against which the armature lever falls when retracted to operate the elbow and rectify the position of the disk, substantially as set forth. 11th. The combination, with the indicator actuating magnet, and the sub-circuit in which it is included, of an automatically-acting rheotome, consisting of an electro-magnet, its vibrating armature lever, an independent circuit-completer operated by the armature lever and loosely connected therewith, and a key for closing said circuit, substantially as and for the purpose set forth. 12th. In

a call box, the combination of the rotating spindle carrying the pointer, and the notched circuit-making wheel, the winding sleeve, the movable contact-arm *d*, contacts *d'*, *d''*, the insulated stop on the winding sleeve, which normally holds said arm on one of said contacts, the lever *a'*, connected with the other of said stops, and operated by the notched circuit-making wheel and locking devices interposed between the spindle and winch sleeve, whereby, when the pointer is set and the sleeve released, the required signal is transmitted, substantially as set forth. 13th. The combination, with the spindle carrying the notched signaling wheel and pointer, of the winding sleeve, the notched flange thereon, the catch or dog *a'*, the stop or pin *a''* on the wheel and the stop *a'*, against which it works, whereby the pointer and notched signaling wheel may be freely rotated in either direction, but are carried around when the sleeve is released in transmitting a signal. 14th. The combination of the collective wire *f*, the stop *d'*, with which it is connected, the contact arm *d* connected with the individual line, and normally resting against said stop, the stop *d''* connected with the all-round battery wire, against which the arm *d* rests when a signal is being transmitted, the notched transmitting wheel and its spindle, the winding sleeve and drum, and the locking devices between the sleeve, and signal transmitting devices, consisting of the pawl *a'* for engaging the sleeve, and the stops *a'*, *a''*, substantially as set forth. 15th. The combination, substantially as set forth, of a source of electric energy, individual lines leading from the central to the sub-stations, signaling devices interposed between the individual lines, and one pole of the source of energy, a collective line to which all the individual lines run, flash lights placed between the collective line and the sub-station, apparatus and circuit connections, which connect the opposite pole of the source of energy with the individual lines, substantially as set forth. 16th. The combination, substantially as set forth, of a source of electric energy, individual lines, an annunciator for each line, through which the line is connected with one pole of the source of energy, signaling apparatus interposed between the opposite pole of the source of energy and the individual lines, circuit connections and switches, by which any individual lines may be disconnected from its annunciator and connected with said signaling apparatus, signaling electric flash lights in each individual line, and a collective line, with which all the individual lines connect. 17th. The combination, substantially as set forth, of a source of electric energy, individual lines, an annunciator for each line, through which the line is connected with one pole of the source of energy, signaling apparatus interposed between the opposite pole of the source of energy, and the individual lines circuit connections and switches by which any individual line may be disconnected from its annunciator and connected with said signaling apparatus, call boxes and signaling electric flash lights in each individual line at each sub-station, and a collective line with which all the individual lines connect.

No. 34,127. Clothes Drying Reel.

(*Séchoir à linge.*)

William H. Richmond, Mount Pleasant, Mich., U. S., 13th April, 1890; 5 years.

Claim.—In a clothes drying reel, the pipe standard A, provided with a screw cap or top B, the upper runner C, having a sleeve L, provided with a binding screw M, braces G connecting the lower runner D, and arms E, washers H between said braces and arms, key J, locking down the lower runner, and the staples N, securing the line to the arms, as set forth.

No. 34,128. Apparatus for Smoking Fish and Meat. (*Appareil pour fumer le poisson et la viande.*)

Max Ams, New York, N.Y., U.S., 18th April, 1890; 5 years.

Claim.—1st. The combination of a flangeless receptacle *a*, open at both ends with a pair of open work heads disconnected from the receptacle, and engaging opposite sides thereof, and with a clasp engaging the heads, substantially as specified. 2nd. The combination of a receptacle with a pair of open work heads *b*, *c*, having the solid plates *b'*, *c'*, and with a clasp bearing against said plates, substantially as specified.

No. 34,129. Railroad Scales.

(*Balances de chemin de fer.*)

James W. Ballard, Harvey L. Fisher, Leander Clark, Mary A. Mason, Morgan S. Drury, William F. Johnston, Eugene R. Smith and George W. Ingersoll, Toledo, Iowa, U. S., 18th April, 1890; 5 years.

Claim.—1st. In scales of the character described, the combination of a series of transverse rock-shafts, hinged levers on said rock-shafts, adapted to support the platform of the scales, crank arms on the outer ends of said shafts, rods connecting said crank arms, and connections between said crank arms and another rock-shaft, whereby the turning of the latter will operate the crank arms, in the manner and for the purpose described. 2nd. The combination of the platform, the bearings secured to the under side thereof, the transverse rock-shafts arranged below the platform, the hinged levers comprising the lower members secured rigidly on the rock-shafts and the upper members, supported by the lower members, and adapted to engage the bearings when the two members are in alignment, and be disengaged therefrom when the members are at an angle to each other, and mechanism for rotating the rock-shafts, as described. 3rd. The hinged levers, having their lower members provided with the inclined shoulders described, for the purpose specified. 4th. In an attachment for platform scales, the hinged lever comprising the lower member, having the transverse groove in its upper end and provided with a projecting arm, and the upper member, having its lower end journaled in the groove, a pin projecting from said upper member through the arm, and a spring coiled around said pin beyond the arm, and secured on said pin, as set forth. 5th. The combination, with the platform, of the base plate

secured thereto, the bearing plate secured to said base plate, and having the flanges and the concave recess between said flanges, the wedge adjustably secured between the base plate and the bearing plate, the hinged levers engaging the concave recess in the bearing plate, and mechanism for operating said levers, as specified. 6th. The combination of the rock-shafts, having crank arms at their ends, the pitmen connecting said crank arms, the bars pivoted to the innermost crank arms and provided at their inner ends with rack teeth, the pinion meshing with said rack teeth, and mechanism for rotating said pinion, as set forth. 7th. The combination of the standards J, the rollers M¹ between said standards, the sliding bars moving on said rollers and provided with rack teeth in their opposing sides, the pinion engaging said teeth, mechanism for rotating said pinion, the rock-shafts and connections between the rock shafts and the sliding bars, as set forth. 8th. The combination of the rock shafts, the sliding bars connecting therewith, the transverse shaft N¹, the pinion K¹ adapted to operate the sliding bars, gearing between said pinion and the shaft N¹, the driving wheel, gearing between said wheel and the shaft N¹ and the brake lever arranged below the driving wheel and adapted to bear thereon and connected with the sliding bars, as set forth. 9th. The combination of the rock shafts, the sliding bars connected therewith, the operating wheel U¹, gearing between said wheel and the sliding bars, the brake lever pivoted below the wheel U¹ and having a shoe at one end adapted to bear against the said wheel, and the chain connecting the opposite end of the lever within the sliding bars, as set forth.

No. 34,130. Account and Record Holding Case and Correlative Sheet, Card or Ticket. (*Casier de comptabilité et d'archives avec feuille, carte ou billet corrélatifs.*)

Cassius M. Wilson, Fairchild, Wis., U.S., 18th April, 1890; 5 years.

Claim.—The within described improvements in account and record holding cases, also the improved sheets, cards or tickets, said improvements in the cases comprising, primarily, peculiarly constructed and arranged slides, for forming compartments successively above and in advance of one another, and secondarily the described detail adjunctive or correlative features, and the novel features of the said sheets, cards or tickets being, that they have on them the accounts between seller and buyer, or employer and employé, and the other described characteristics, all substantially as and for the purpose set forth.

No. 34,131. Drain Pipe Connector.

(*Raccordement de tuyau de drainage.*)

George M. Ford, Montreal, Que., 19th April, 1890; 5 years.

Claim.—The combination, in a drain pipe connector, of the seat B with the cover A, as shown and described for the purpose set forth.

No. 34,132. Addressing Machine.

(*Machine à adresser.*)

Robert Dick, Buffalo, N.Y., U.S., 19th April, 1890; 5 years.

Claim.—1st. In an addressing machine of the character described, the motor-arm, having its forward end bent at right angles and its opposite end bent into a spring terminating with a hook or staple, and having rigidly secured thereto the rear fulcrum, having its rear end bent at right angles and its forward end bent into a curved neck, substantially as set forth. 2nd. In an addressing machine of the character described, the combination, with the shell A, having to one side a socket and lug, of the spring motor arm, bent into a hook or staple at its rear end to fit said socket, substantially as described.

No. 34,133. Combined Infant's Toilet Case and Bath. (*Nécessaire de toilette et baignoire l'enfant combinés.*)

Robert Stratton, Orillia, Ont., 19th April, 1890; 5 years.

Claim.—1st. In a combined bath and toilet case for infants, the combination of the ends or standards supporting a frame at the upper end pivotally, and connected by a bottom and rails, a bottom and rails connecting said ends or standards, and forming with ballusters or lining a receptacle for clothes and the like, a frame holding a waterproof fabric adapted to serve as a bath, said frame provided with pivots, supported in the slotted upper ends of the standards, and with hinged slotted brackets adapted to engage pins on said standard, and steady said frame, substantially as set forth. 2nd. In a combined bath and toilet case for infants, the combination of the ends A having feet rails *a*, the bottom B and rails C, connecting said ends, and with the ballusters D form a receptacle, the frame F holding a waterproof fabric adapted as a bath, said frame supported upon pivots *f'* in slots at the top of the ends A, and a hinged wire bracket G secured to said frame, having a slot *g* and adapted to engage a pin *f''* in said ends A, for the purpose of steadying said frame, substantially as set forth. 3rd. In a combined bath and toilet case for infants, the combination of the ends A, having foot rails *a*, the bottom B and rails C connecting said ends, the ballusters D filling the space between the bottom and top rails, the cabinet E and the pivoted bath F, F, having the hinged brackets G, substantially as set forth.

No. 34,134. Feed Water Heater and Purifier for Steam Boilers. (*Réchauffeur et épurateur de l'eau d'alimentation dans les chaudières à vapeur.*)

George B. Field, New York, N.Y., U.S., 19th April, 1890; 5 years.

Claim.—A feed water purifier, consisting of sheet metal pipes located within the boiler coil of sheet metal, and scrap iron, arranged and combined as and for the purpose hereinbefore set forth.

No. 34,135. Steam Heating Apparatus.*(Calorifère à vapeur.)*

Robert W. King, Georgetown, Ont., 19th April, 1890, 5 years.

Claim.—1st. A steam heating boiler, connected to a steam radiator by a main steam pipe, extending from the steam space of the boiler to a point at the inlet of the radiator, and by a return pipe extending from the outlet of the radiator to the water space of the boiler, in combination with a coil situated in the smoke flue of the boiler and connected with the said return pipe between the radiator and the boiler, substantially as and for the purpose specified. 2nd. A steam heating boiler, connected to a steam radiator by a main steam pipe extending from the steam space of the boiler to a point at the inlet of the radiator, a return pipe extending from the outlet of the radiator through a coil or water space situated in the smoke flue of the boiler, to the boiler, in combination with a return pipe leading from a point in the main steam pipe before it reaches the radiator, directly to the boiler, substantially as and for the purpose specified. 3rd. A steam-heating boiler, connected to a steam radiator by a main steam pipe extending from the steam space of the boiler to a point at the inlet of the radiator, a return pipe extending from the outlet of the radiator through a coil or water space, situated in the smoke flue of the boiler, to the boiler, in combination with a pipe leading from the upper part of the coil E, or down pipe F to the main steam pipe G, substantially as and for the purpose specified. 4th. The combination, with the boiler, the smoke flue and indirect smoke flue, of the pipe E in the indirect smoke flue, the main steam pipe G, the hot-air flue, the pipe L connected with the main steam pipe and emptying into the hot-air flue, and the pipe M connecting the steam pipe with the pipe E, substantially as and for the purpose specified.

No. 34,136. Tea and Coffee Pot.*(Théière et cafetière.)*

Charles H. Clerke, Saint Stephen, N.B. (assignee of Lyman B. Gould, Calais, Me., U.S.), 19th April, 1890; 5 years.

Claim.—1st. A strainer for tea or coffee pots, comprising a sheet of reticulated fabric, adjustably disposed across the interior of the pot, substantially as set forth. 2nd. A tea or coffee pot, provided with vertical ways in its interior (if considered desirable) combined with a sheet of wire cloth or similar fabric, fitted to slide in said ways, substantially as and for the purposes set forth. 3rd. In a tea or coffee pot, a sheet of wire cloth or similar fabric adjustably disposed across the interior of the pot and extended to project upward into the cover, substantially as described. 4th. In a tea or coffee pot, the pot A, provided with the nose D, in combination with the strainer C disposed across the interior of said body, at an angle to said nose, substantially as described. 5th. In a tea or coffee pot, the pot A, provided with the nose D and cover F, in combination with the wire cloth strainer C, extended upward to project into the said cover, and disposed across the interior of the said body, substantially as described. 6th. In a tea or coffee pot, the body A, provided with the nose D, cover F and ways G, in combination with the foraminous strainer C, fitted to slide in ways or otherwise, substantially as and for the purpose set forth.

No. 34,137. Apparatus for the Manufacture of Gas. *(Appareil de production du gaz.)*

John A. McCallum, Charles N. Woods, William J. Livingston and William D. Devana, Riverside, Cal., U. S., 19th April, 1890; 5 years.

Claim.—1st. In a gas-making apparatus, the combination, with a furnace, of oil-supply pipes discharging into the top of the said furnace, a double fixing chamber filled with checker bricks, and having two fire places, being connected by pipes with the said furnace, and a blast pipe discharging into the said fire places, and also into the bottom of the said furnace, substantially as shown and described. 2nd. In a gas-making apparatus, the combination, with a furnace, of oil-supply pipes discharging into the top of the said furnace, branch pipes leading from the said furnace, a super-heater filled with checker-bricks and having two fire places, into which discharge the said branch pipes, and a blast pipe discharging into the said furnace at its bottom, and also provided with branch pipes leading into the said fire places of the fixing chamber, substantially as shown and described. 3rd. In a gas-making apparatus, the combination, with a furnace, of oil supply pipes discharging into the top of the said furnace, branch pipes leading from the said furnace, a fixing chamber filled with checker bricks, and having two fire-places into which discharge said branch pipes, and a blast pipe discharging into the said furnace at its bottom, and also provided with branch pipes leading into the said fire-places of the superheater, and a steam pipe passing through one of the said branch pipes into the bottom of the said furnace, the combination, as shown and described. 4th. In a gas-making apparatus, the combination, with a furnace, of oil-supply pipes discharging into the top of the said furnace, branch pipes leading from the said furnace, a fixing chamber filled with checker bricks, and having two fire-places into which discharge said branch pipes, a blast pipe discharging into the said furnace at its bottom, and also provided with branch pipes leading into the said furnace at its bottom, and also provided with branch pipes leading into the said furnace at its bottom, and a pipe leading from the upper end of the said superheater, and connected with a washer, substantially as shown and described. 5th. In a gas-making apparatus, the top of the said furnace, of oil-supply pipes discharging into the top of the said furnace, branch pipes leading from the said furnace, a fixing chamber filled with checker bricks, and having two fire-places into which discharge said branch pipes, a blast pipe discharging into the said furnace at its bottom, and also provided with branch pipes leading into the said furnace at its bottom, and also provided with branch pipes leading into the said furnace at its bottom, and a pipe passing through one of the said branch pipes into the said fixing chamber, and a valve held on the upper end of the said fixing chamber, to discharge into a smoke stack, substantially as shown and described.

No. 34,138. Spiral Welding Machine.*(Machine à souder les spiraux.)*

The Spiral Welding Company (assignee of George R. Green), East Orange, N.J., U.S., 19th April, 1890; 5 years.

Claim.—1st. In a spiral welding machine, the combination with a stationary anvil supported inside the pipe, and a furnace adjacent to the outside of the pipe, of a mass of refractory material attached to the anvil opposite the furnace, substantially as set forth. 2nd. In a spiral welding machine, the combination, with a suitable bed, of a pipe mold to guide the pipe, a stationary anvil supported within the pipe, a furnace to heat the pipe and a former reciprocated to and from the pipe opposite the anvil, substantially as set forth. 3rd. In a spiral welding machine, the combination with a suitable bed, of a skelp table to guide the skelp, a pipe mold to receive and shape the skelp, cylindrically anti-friction rolls sustained upon the pipe mold parallel with the spiral seam of the pipe, an anvil and former to shape the pipe, and a furnace to heat the sheet metal, substantially as set forth. 4th. In a spiral welding machine, a mold for spiral welding machines, consisting in a series of flat sections T, provided with a series of inclined seats t' , and a series of rolls r' pivoted upon such seats, and means for clamping the sections adjacent to one another upon the same axial line, substantially as set forth. 5th. In a spiral welding machine, the combination, with an anvil and former for shaping the pipe, of a furnace embracing the straight edge of the skelp adjacent to the pipe, a skelp table sustained adjacent to the furnace, a pair of rolls upon the skelp table, covering a part of the skelp adjacent to the furnace, and an additional pair of rolls upon the skelp table, spanning the entire width of the skelp with housing secured to both edges of the skelp table, as and for the purpose set forth. 6th. In a spiral welding machine, the combination, with an anvil and former for shaping the pipe, of a furnace embracing the straight edge of the skelp adjacent to the pipe, a skelp table sustained adjacent to the furnace, a pair of rolls upon the skelp table covering a part of the skelp adjacent to the furnace, an additional pair of rolls upon the skelp table, spanning the entire width of the skelp with housing secured to both edges of the skelp table, the universal coupling L, for driving one pair of the said rolls, and cog-wheels upon the table connecting the two pairs of rolls, as and for the purpose set forth. 7th. In a spiral welding machine, the combination with a pipe mould, a furnace and an anvil and former for shaping the pipe, of an auxiliary feed ring applied to the pipe when formed, and provided with rolls adjusted to draw the pipe from the mold as the ring is rotated, substantially as set forth. 8th. In a spiral welding machine, the combination, with a pipe mold, a furnace and an anvil and former for shaping the pipe, of a skelp table, with feeding rolls attached thereto, feed gearing for actuating such rolls, a rotary ring R applied to the pipe when formed, and provided with rolls adjusted to draw the pipe from the mold, as the ring is rotated, and gearing connecting the ring with the feed gearing of the rolls to operate both simultaneously, substantially as herein set forth. 9th. An end feed for spiral welding machines, consisting in the frame P, the ring R mounted thereon, the teeth Q formed upon the rim to rotate the same, and the series of rolls r' mounted adjustably upon the ring, the whole arranged and operated as and for the purpose set forth. 10th. An end feed for spiral welding machines, consisting in the frame P, provided with anti-friction wheels w' , the ring R fitted within such wheels, the teeth Q formed upon the rim to rotate the same, and the series of rolls r' mounted adjustably upon the ring, as and for the purpose set forth. 11th. An end feed for spiral welding machines, consisting in the frame P, a portion of the anti-friction wheels w' upon its opposite faces, a portion of the wheels being mounted upon adjustable blocks, provided with screws, the ring R fitted within such wheels, the teeth Q formed upon the rim to rotate the same, and the series of rolls r' mounted upon the rim to rotate the same, and for the purpose set forth. 12th. In a spiral welding machine, the combination, with a pipe mold, a spiral furnace and an anvil and former for shaping the pipe, of a skelp table, with feeding rolls attached thereto, feed gearing for actuating such rolls, a rotary ring R applied to the pipe when formed, and provided with rolls adjusted to draw the pipe from the mold, as the shaft F is rotated, teeth upon the ring to rotate the same, the shaft F connected with the feed gearing, the arm Q pivoted on such shaft, the worm S and segment S' for oscillating the arm, and the change wheels G' pivoted upon the arm, and adapted to drive the teeth upon the ring R, as and for the purpose set forth. 13th. In a spiral welding machine, the combination, with a stationary anvil supported inside the pipe, and a furnace adjacent to the outside of the pipe, of a mass of refractory material adjacent to the inside of the pipe and opposite the furnace, substantially as set forth.

No. 34,139. Electrical Distribution.*(Distribution électrique.)*

The United Gas Improvement Company (assignee of Stanley C. C. Currie), Philadelphia, Penn., U.S., 19th April, 1890; 5 years.

Claim.—1st. The combination, with an alternating generator, and a constant current excitor mounted upon or connected with the same shaft, of a storage battery included in a circuit with the excitor for the purpose set forth. 2nd. The combination, substantially as set forth, of an alternating generator, a constant current excitor mounted upon or connected with the same shaft, a storage battery, and a circuit including the excitor and storage battery, and fields of the alternating generators. 3rd. The combination, substantially as set forth, of an alternating generator and its excitor, a distribution circuit W leading from the alternating generator, and a storage battery connected in circuit with the excitor and circuit connections, whereby, when the lamp load is light, the excitor is run as a dynamo to charge the storage battery, and, when the load is heavy, the discharge from the storage battery drives, or assists in driving, the discharge from the generator. 4th. The combination, substantially as set forth, of an alternating generator, an excitor mounted upon or connected with the same shaft, a storage battery and a circuit including the storage battery, the fields of the alternating generator and the fields of the excitor, for the purpose described.

No. 34,140. Double Sealed Water Trap.*(Trappe d'eau à double soudure.)*

Robert Baker, Hamilton, Ont., 19th April, 1890; 5 years.

Claim.—1st. In a double sealed closet trap, a shell or cylinder A, having an opening at its upper and an outlet at its lower end, for the attachment of a pipe thereto, and provided with an integral flange C, adapted to support an interior cylinder E, with open top, and integral rim O, and the seal F, having a series of openings H, lugs N, and rod G, in combination with central vertical tube D, the cup shaped lower seal I held in position, as shown, by mechanical devices, substantially as and for the purpose hereinbefore set forth. 2nd. In a double sealed water trap, the combination of a cylinder A, having an integral flange C, for the purpose of supporting in position the central vertical tube D, and the upper seal F, having a series of openings H, the lower cup shaped seal I, held in position, as shown, in the lower part of cylinder A, by mechanism, substantially as and for the purpose hereinbefore set forth.

No. 34,141. Air Gas Machine.*(Machine à gaz atmosphérique.)*

John D. Brotherston, Cobourg, Ont., 19th April, 1890; 5 years.

Claim.—The combination, with the carburating tank I, provided with inlet pipe H, and an outlet pipe to the gas burners, of the open top cylinders A, A, inverted cup pistons B, B, provided with an inlet valved pipe C, and an outlet valved pipe E, the flexible tube G, connecting said pipe H, to pipe E, pump rods K, crank shaft P, winding drum M, rope N, and weight O, as set forth.

No. 34,142. Electrically Reciprocated Tool.*(Outil alternatif électrique.)*

Harry N. Marvin, Syracuse, N. Y., U. S., 19th April, 1890; 5 years.

Claim.—1st. The combination, with a source or generator of pulsating or alternating currents, and a reciprocating tool, comprising a magnetic core or plunger and two oppositely acting coils, of two working or line circuits, one for each of said coils, connected to the source of current, substantially in the manner hereinbefore described, so that an alternation or pulsation of current in the one circuit shall succeed, and alternate with an alternation or pulsation in the other circuit, substantially as and for the purpose hereinbefore set forth. 2nd. The combination, of a reciprocating tool, consisting of a movable magnetic core or plunger, and two oppositely acting coils, two working circuits, including said coils respectively, a generator containing a single induced or current generating coil, and a commutator rotated by the movable element of the generator, and adapted to connect the terminals of the said induced circuit with the working circuits alternately, as set forth. 3rd. A generator of electric currents, consisting in the combination of field magnets, an armature revolving between the same, a collector with which one terminal of the armature coils is connected, a brush at all times in contact with said collector, a second collector in connection with the other terminal of the coils, and two contact brushes alternately making contact with said second collector, each of said brushes being connected to an independent circuit, as set forth.

No. 34,143. Mining Machine. (Machine à miner.)

Moses A. Michales, Allegheny, Penn., U. S., 19th April, 1890; 5 years.

Claim.—1st. In a mining machine, the combination of a reciprocating drill-bar provided with a drill-holder moving therewith, a shoulder or projection on said bar, a circular wedge or screw surrounding the drill-bar, a spring for operating the drill-bar against the action of the wedge or screw, and a laterally-adjustable carriage or support, having said elements mounted thereon, substantially as set forth. 2nd. In a mining machine, the combination of a drill-bar, a spring for operating the drill-bar in one direction, an electric motor, an annular wedge or screw surrounding the drill-bar and engaging a shoulder thereon, and a system of gearing and counter-shafts connecting the motor and annular wedge, substantially as set forth. 3rd. In a mining machine, the combination of a drill-bar provided with a drill-holder moving therewith, a spring for operating the bar in one direction, a rotating circular wedge or screw mounted on the drill-bar and engaging a shoulder thereon, and a laterally-adjustable carriage, having said elements mounted thereon, substantially as set forth. 4th. In a mining-machine, the combination of a drill-bar, a spring for moving the drill-bar in one direction, an arm connecting the spring and drill-bar, and a circular wedge or screw engaging a shoulder or projection on the drill-bar, substantially as set forth.

No. 34,144. Wooden Dish. (Gamelle.)

William D. Johnson, Seymour, Ind., U. S., 19th April, 1890; 5 years.

Claim.—A thin wooden dish scooped from a block of wood in concavo-convex form, with end extensions or ears formed by the outward curve B, and upward curve C, for bracing the fibres, and preventing warping and chipping, substantially as and for the purpose described.

No. 34,145. Combined Carbonizing and Drying Machine. (Machine à carboniser et sécher.)

David Cole and Joshua Pedder, Doon, Ont., 19th April, 1890; 5 years.

Claim.—1st. An improved carbonizer, consisting of a revolvable cylinder A, having a space formed around it between the inner skin a, and the outer skin b, a steam pipe or passage way connecting the said space with a steam boiler, and extending through the trunion on which the cylinder is journaled, and a gas pipe or passage way ex-

tending through the trunion, and connecting the gas retort with the interior of the cylinder, substantially as and for the purpose specified. 2nd. An improved carbonizer, consisting of a revolvable cylinder A, having a space formed around it between the inner skin a, and the outer skin b, a series of fingers M, connected to, and extending inwardly from the inner skin a, in combination with the trunions connected one at each end of the cylinder, through which trunions a passage way leading to the space between the two skins of the cylinder is formed, and a passage way leading to the interior of the cylinder, substantially as and for the purpose specified. 3rd. A cylinder, having a steam space formed around it, immediately annexed to its inner skin, and having holes formed in it at one end, in combination with a steam pipe connecting the interior of the said space with the steam boiler, and a pipe extending from the end of the cylinder opposite to that through which the holes are made, and connecting the interior of the cylinder with an exhaust fan, substantially as and for the purpose specified.

No. 34,146. Bung Spout for Barrels.*(Bondon à bec pour les barils.)*

Charles D. Bowyer and Charles W. Lear, Camden, N. J., U. S., 19th April, 1890; 5 years.

Claim.—1st. The herein described twin spout, terminating in varying sized entering ends, each of the spouts being provided with discharge ports in rear of its end, substantially as specified. 2nd. The herein described twin spout, terminating in varying sized entering ends, each of the spouts being provided with discharge ports, the port of one spout being oppositely arranged with relation to and out of line with the other, substantially as specified. 3rd. The opposite integral truncated cone shaped spouts, each of which terminates in open induction ends, and each of which is provided with discharge ports, the discharge port of one spout being opposite to the other, substantially as specified, whereby one discharge port serves as a vent when the other discharge port is in use, as set forth. 4th. The opposite truncated cone shaped spouts, each terminating in open induction ends of varying sizes, and provided with discharge ports on opposite sides, and provided at their bases with integral angularly disposed lips, which form a continuation of the discharge ports, substantially as specified. 5th. The herein described twin spout, terminating in opposite entering ends 2, 3, and provided on opposite sides with discharge ports 5, and lips 9, forming a continuation of the discharge ports, as set forth.

No. 34,147. Railway Surface Cattle Guard.*(Garde bétail à niveau de chemin de fer.)*

Parker Merrill, St. Louis, Mich., U. S., 21st April, 1890; 5 years.

Claim.—1st. A railway surface cattle guard, comprising sections between and outside the rails of the track, said sections being composed of transverse beams that have their tops oval or round, and separated longitudinal bars strained across said beams, with a space between the upper surface of the ties and said bars, substantially as set forth. 2nd. A railway surface cattle guard, comprising two or more transverse beams secured to the ties, and a series of longitudinal bars, provided with hooks at each end, strained across said beams, and cross bars passing beneath the rails, and through the hooks at one end of the longitudinal bars, and a series of short hooks, into hooks of longitudinal bars, at opposite end from said cross bars, and a series of short hooks on said cross bars, the said series of short hooks being spiked to the outer faces of the ties supporting the terminal beams, substantially as set forth.

No. 34,148. Railway Surface Cattle Guard.*(Garde bétail à niveau de chemin de fer.)*

Parker Merrill, St. Louis, Mich., U. S., 21st April, 1890; 5 years.

Claim.—1st. In a railway surface cattle guard, the combination of four like sections, and in each section the combination of two or more transverse beams, with a series of rods provided with hooks at each end, that are hooked into the upper surface of the terminal beams, and two base bars bolted to the ends of all the beams in each section, and the ends of said base bars spiked to the upper surface of the ties, supporting the terminal beams, substantially as set forth. 2nd. A railway surface cattle guard, comprising sections between, and outside the rails of the track, said sections being composed of strips of metal bent to form the transverse beams, having their sides converging from the base to the apex, said beams at the ends of the sections having a row of holes at or near the apex, and the separated rods provided with hooks at each end, which are caught into said holes, and the base bars that are bolted to the ends of the transverse beams in each section, substantially as set forth.

No. 34,149. Snow Ball Dash Board for Cutters. (Garde neige pour trameaux.)

Thomas Phillips, Orillia, Ont., 21st April, 1890; 5 years.

Claim.—1st. In a snow ball dash-board for cutters, the combination of the main frame of dash-board, with an inner frame covered with wire netting or perforated sheet metal, and secured together, substantially as and for the purpose specified. 2nd. In a dash-board for cutters, the combination of the main frame A, inner frame B, wire netting C, or perforated sheet metal, secured by screw bolts, to form a snow ball dash-board, substantially as specified.

No. 34,150. Log Canter. (Roule billot.)

Isaac S. Wardell, Victoria, Ont., 21st April, 1890; 5 years.

Claim.—1st. The pivoted lever F, supporting the shaft D on which the pulley E is fastened, the pivoted lever G, connected at one end to the lever E, and provided with a foot step H at its other end, in combination with the friction pulley K, and substantially the mechanism described for operating the arm P, as and for the pur-

pose specified. 2nd. The arm P, fixed to the shaft O, which derives motion as described, in combination with the cam Q, and spring plate R, substantially as and for the purpose specified. 3rd. The frame S, supporting the center d and its driving mechanism, and carried by the links T, and crank rod U, in combination with the lever V, chain rod W, and lever Y, arranged substantially as and for the purpose specified. 4th. The friction pulley m, connected to the driving counter shaft j, which is supported at one end by the lever h, in combination with the crank lever j, push rod e and lever Y, substantially as and for the purpose specified.

No. 34,151. Anti-Friction Journal Box.

(*Coussinet de tourillon sans frottement.*)

Robert W. Moffett, Denver, Col., U.S., 21st April, 1890; 5 years.

Claim.—In an anti-friction journal box, the combination of the rollers 3, having in each end circular grooves 5, plates having grooves 6 to match or correspond, and balls 7 in said grooves 5 and 6, substantially as and for the purpose set forth.

No. 34,152. Driving Mechanism for Harvester Binders. (*Mécanisme de commande pour les moissonneuses-lieuses.*)

The Massey Manufacturing Company, (assignee of John C. McLachlan), Toronto, Ont., 21st April, 1890; 5 years.

Claim.—1st. In a harvester, an intermediate shaft supported in a bearing box, journaled at one end on the ground-wheel axle, and pivoted at its other end on the frame of the machine, gearing being provided to connect the intermediate shaft with the ground-wheel, substantially as and for the purpose specified. 2nd. In a harvester, an intermediate shaft supported in a bearing box journaled at one end on the ground-wheel axle, and pivoted at its other end on the frame of the machine, gearing being provided to connect the intermediate shaft with the ground-wheel, in combination with a sprocket chain fixed to the intermediate shaft, and connected by a sprocket chain to sprocket-wheels on the shafts, from which the different operating parts of the machine derive their motion, substantially as and for the purpose specified.

No. 34,153. Fastener for the Meeting Rails of Sashes. (*Arrête-croisée.*)

Darwin O. Livermore and Arthur F. Mayo, Los Gatos, Cal., U.S., 21st April, 1890; 5 years.

Claim.—1st. In a sash lock, the combination, with the casing, having curved slots, and the operating lever pivoted to said casing and vibrating in a vertical plane, of the hook, having trunnions engaging said slots and moving in a plane at right angles to that of the lever, as set forth. 2nd. In a sash lock, the combination, with the lever, as set forth, and actuated by the movement of the operating lever, of the vertically movable slide, the hook at the lower end of said slide, and adapted to be projected or retracted therefrom, and devices, substantially as described, whereby the slide is connected with and actuated by the movement of the lever, as set forth. 3rd. In a sash lock, the combination of operating lever P, and the trunnions and the cam D, slide plate G, hook plate E, in a sash lock, and guide slots, substantially as described. 4th. In a sash lock, the setting lever, having the handle formed of the pieces S, substantially as described. 5th. In a sash lock, having looking hooks that are adapted to operate in a vertical direction, with a curvilinear path, a keeper B, having double recesses or sockets forth.

No. 34,154. Bevelling Square. (*Sauterelle.*)

James F. De Lancett and Addison Child, Childwold, N.Y., U.S., 21st April, 1890; 5 years.

Claim.—A measuring instrument comprising the longitudinally slotted plate, the squares having their arms b² bevelled, and their the plate, and the thumb nuts threaded stems arranged in the slot of squares to the plate, said squares being adapted to be adjusted along and arranged at the ends of the plate, and have their arms b align with the latter, substantially as described.

No. 34,155. Strap Holder for Parcels. (*Poignée de courroies à emballer.*)

Edward S. Hotchkiss (co-inventor with George M. Morris), Bridgeport, Conn., U.S., 21st April, 1890; 5 years.

Claim.—1st. A strap holder for parcels, consisting of a carrier and slides adapted to pass by each other and through said carrier. 2nd. A strap holder for parcels, consisting of a carrier and rods sliding ends, and provided at their inner ends with guides, each of which incloses a rod of the opposite slide. 3rd. A strap holder for parcels, consisting of a carrier, slides adapted to pass by each other and through said carrier, and a longitudinal strip attached to the carrier, as and for the purpose set forth. 4th. A strap holder, consisting of a pair of slides, a carrier by which said slides are held and to which the handle is connected, said slides consisting of parallel rods and ends guides, each of which is secured to one rod, and incloses one of the rods of the other slide, substantially as described. 5th. A strap holder for parcels, consisting of a carrier, and slides adapted to pass by each other outside of and independent of said carrier. 6th. A strap holder, consisting of a carrier to which the handle is attached,

slides adapted to move therein, and a longitudinal spring strip extending from the carrier and having lips 10 at its ends, said strip acting to support the carrier, and the lips to engage the slides when in use, and said strip and lips springing down below the plane of the slides when not in use, so that the slides may be extended. 7th. The slides, consisting of rods, cross-pieces connecting said rods at their outer ends and having loops for the straps, and guides at the ends of the rods, each of which incloses a rod of the other slide, in combination with the handle carrier, consisting of a cross-piece inclosing the rods, and a spring strip attached to the cross-piece, having at its outer ends lips adapted to engage the outer sides of the rods, and to which the handle is connected. 8th. The slides, consisting of rods, cross-pieces at the ends of said slides, central rods 13, whose outer ends are connected to the slides, and guides at the inner ends of the rods, each of which engages another rod, in combination with the handle carrier, consisting of a cross-piece and a spring strip connected thereto to which the handle is attached.

No. 34,156. Mop Wringer.

(*Essoreuse de torchon.*)

Arthur M. Burnham, Gardiner, Maine., U.S., 22nd April, 1890; 5 years.

Claim.—1st. In a mop wringer, the combination, with a receptacle, of a roller mounted on a movable arm, vertical spindles, and horizontal guide arms mounted on said spindles, and adapted to be swung laterally by the movable arm, substantially as set forth. 2nd. In a mop wringer, the combination with a receptacle, of a movable arm, a roller mounted thereon, vertical spindles, horizontally swinging guide arms adapted to be moved by the movement of the arm carrying the roller, and springs for returning the parts to their normal positions, substantially as set forth. 3rd. In a mop wringer, the combination, with a receptacle and a roller journaled in fixed bearings, of a rocking shaft, a spring secured to the shaft for turning it in one direction, an arm secured to the shaft for turning it in one direction, an arm secured to the shaft and carrying a roller, and a lever for moving the arm and turning the shaft in a direction against the pressure of the spring, substantially as set forth. 4th. In a mop wringer, the combination with a receptacle and a fixed and vibrating roller, of a rocking shaft pivoted to the receptacle for operating the vibrating arm, horizontally-swinging guide arms and springs and levers for operating all the parts simultaneously, substantially as set forth. 5th. In a mop wringer, the combination, with a pail and a roller, a spring-actuated arbor, having a vibrating arm thereon with a roller in the latter, of a goose-necked arm pivoted to the pail for operating this vibrating arm, a foot lever and a rod connecting the latter with the goose-necked arm, substantially as set forth. 6th. In a mop wringer, the combination, with a pail, a roller and a spring actuated arbor, having a vibrating arm thereon with a roller therein, of a goose-necked arm pivoted to the pail for operating this vibrating arm, a foot lever, a connecting rod spring cushioned treads, spring actuated horizontally swinging guide arms, and a loop connecting said arms with the vibrating arm, whereby they are all operated together, substantially as set forth. 7th. In a mop wringer, the combination, with a pail, a roller, and spring actuated arbor, having a vibrating arm thereon with a roller in the latter, of a goose-necked arm pivoted to the pail for operating this vibrating arm, a foot lever, a rod connecting the latter with the goose-necked arm, and an adjusting nut for regulating the position of the parts, substantially as set forth.

No. 34,157. Heating Apparatus for Buildings. (*Calorifère.*)

Samuel J. Moore, Hamilton, Ont., 22nd April, 1890; 5 years.

Claim.—1st. In a heating apparatus, in combination, with a furnace for heating buildings, one or a series of fire-proof flues connected with a furnace and constructed horizontally under floors and made to pass through or over them, and in upright or oblique positions in any or all of the walls or partitions of any private or public building, the said flues being heated by the smoke and products of combustion, and a series of dampers or other pieces arranged in suitable places in the said flues to arrest the escape of heat, all constructed and arranged substantially as and for the purpose specified. 2nd. In a heating apparatus, the combination with a furnace A, of the smoke flue B, drum or enlarged flue C, horizontal flues F, F, vertical flues G in partitions or walls, all arranged and constructed substantially as and for the purpose specified. 3rd. In a heating apparatus, the combination with a furnace A, of the smoke flue B, drum or flues C, flues F, F, vertical or oblique flues G, G, in partitions or walls, horizontal flues J, J, N, the said flues provided with check dampers, all constructed and arranged substantially as and for the purpose specified.

No. 34,158. Harrow Attachment for Plows.

(*Herse assujétie aux charrues.*)

Frederick Berlin, Detroit, Mich., U.S., 22nd April, 1890; 5 years.

Claim.—1st. The combination with a plow, of a small harrow so arranged as to follow the furrow as it is turned, and having an adjustable connection with the plow, thus constituting a compound agricultural implement whereby the work of plowing and of harrowing the ground may be performed at one and the same time, substantially as described. 2nd. The combination with a plow, of a small harrow connected to the plow by means of a suitable swivel or universal joint, and so arranged as to travel in the rear of the plow share and to pulverize the freshly turned furrow, substantially as described. 3rd. The herein described harrow, made of suitable size and form, said harrow having a hinged or universal connection with a bar plate or frame, whereby the same is adapted for attachment to the frame of a plow and to be used as an adjunct thereto, substantially as described.

No. 34,159. Matrix Making and Type Writing Machine. (*Machine à faire les matrices et graphotype.*)

William Rennyson, Morristown, Penn., U. S., 22nd April, 1890; 5 years.

Claim.—1st. The combination of a frame, a circular series of toggle levers, operating keys connected to the toggles, and a circular series of type bars pivotally connected to the said toggle levers, as and for the purpose set forth. 2nd. The combination, of a frame, a circular series of jointed type bars, means for guiding these type bars, a series of radial toggle levers pivotally connected at their inner ends to the said jointed type-bars, operating keys and springs for restoring the parts to their normal position, substantially as and for the purpose described. 3rd. The combination of a casing, the vertically adjustable type bars, the adjustable toggle levers radially arranged and connected to the said type bars, and operating keys connected to the toggle levers, as described. 4th. The combination of a frame, a pivotally supported jointed type bar depending from the said frame, a toggle lever pivotally connected to this depending type bar, an operating key connected to the toggle lever and a spring for restoring the parts to their normal position, substantially as and for the purpose set forth. 5th. The combination of a frame, a depending pivotally-supported type bar connected to this frame, this type bar being constructed of two sections pivotally connected together at their adjoining ends, a toggle lever F pivotally connected at its inner end to the joint or knuckle of the said jointed type bars, an operating key resting upon the said toggle lever, and a spring for restoring the parts to their normal position, whereby the type bar sections themselves form a toggle, as and for the purpose set forth. 6th. The combination of a frame, type bars, toggle levers for operating the said type bars, a vertically guided ring arranged below the said toggle levers and operated thereby, a depending operating rod P connected to the said ring, a pivoted escapement lever connected to rod P, a pinion provided with an internally-toothed escapement wheel, and a spring actuated carriage, provided with a rack bar upon its under side controlled by said pinion and escapement, as and for the purpose specified. 7th. The combination, with a spring-actuated carriage provided with a rack bar upon its under side, of a shaft journaled below said carriage, a pinion upon this shaft and engaging the said rack-bar upon the carriage, two or more internally-toothed escapement wheels connected to the said pinion, these escapement wheels being provided with a different number of teeth, means for adjusting the said shaft, an escapement lever constructed to engage the teeth of the said escapement wheels, and means for operating the said escapement lever, substantially as and for the purpose specified. 8th. The combination with a circular series of type bars, of a guiding cup E, in which the said type bars are confined and concentrated, substantially as and for the purpose set forth.

No. 34,160. Horse Shoeing.

(*Ferrure de cheval.*)

Albert S. F. Rankin, Cookshire, Que., 22nd April, 1890; 5 years.

Claim.—1st. The art of shoeing horses, which consists in having the heel of the foot shoeless, or whereby the frog will cushion against the ground at each step, and protecting the hoof by a shoe A, beneath the toe portion of the foot, as set forth. 2nd. A horse shoe, tapering in thickness from the front to rear, as set forth. 3rd. A horse shoe, having the heel extremities thinner than the front or the toe portion, as set forth.

No. 34,161. Gas Furnace for Steam Boilers.

(*Foyer à gaz pour les chaudières à vapeur.*)

George Whysall, Toledo, Ohio, and John A. Lambing, Wilkingsburg Penn., U. S., 22nd April, 1890; 5 years.

Claim.—In a steam boiler furnace, the combination, with the boiler and the combustion chamber below the boiler, of gas supply ports or pipes opening into the combustion chamber on opposite sides thereof, and a flue extending from the combustion chamber beneath the boiler, substantially as and for the purposes described.

No. 34,162. Skirt Protector.

(*Protecteur de jupon.*)

Annie Dixon, Toronto, Ont., 22nd April, 1890; 5 years.

Claim.—1st. A skirt protector, composed of a piece of material connected at its bottom edge to, or formed integral with a suitably-supported outer skirt, and having holes in its centre for the passage of the wearer's legs, and garters or straps for suspending it, substantially as and for the purpose specified. 2nd. A skirt protector, composed of a piece of material connected at its bottom edge to, or formed integral with a suitably supported outer skirt, and having holes in its centre for the passage of the wearer's legs, and garters or straps for suspending it together with leggings, substantially as and for the purpose specified.

No. 34,163. Lamp Glass. (*Verre de lampe.*)

Ernst Bohm, Clerkenwell, and Willoughby H. Power, Anerly, Eng., 22nd April, 1890; 5 years.

Claim.—The combination of lamp glass and piano-parabolic lens or lenses, as set forth.

No. 34,164. Automatic Hatch Operating Mechanism. (*Mécanisme automatique pour actionner les écoutilles.*)

Claim.—1st. The combination of a hatchway, with a guideway e, a stop received by said guideway and guided in an inclined direction, a hatch connected to the stop and a cage, substantially as specified. 2nd. The combination of a hatchway with a grooved guideway e,

having inclined cross groove e², a stop f, having flange f¹ engaging said groove, a hatch connected to the stop and a cage, substantially as specified. 3rd. The combination of a hatchway with a grooved guideway e, having shoulder e¹ and inclined cross groove e², a stop f, having flange f¹ engaging said groove, a pair of pulleys h, h¹, a rope passing over said pulleys, a hatch connected by the rope to the stop and a cage having a beveled finger, substantially as specified.

No. 34,165. Sash Balance.

(*Contre poids de croisée.*)

Frank L. Rosentreter and William H. Caldwell, Rochester, N. Y., U. S., 22nd April, 1890; 5 years.

Claim.—A sash balance, consisting of plate A and B, screw i, spring H, roller D and metallic tape E, all formed and combined as hereinbefore set forth.

No. 34,166. Medicine Called Racicotine.

(*Médecine appelée "Racicotine."*)

Antoine Racicot, Montreal, Que., 22nd April, 1890; 5 years.

Claim.—A medical compound composed of clear water, tamarac bark, quassia, amara wood, rasped wood of guaëac, valerian root, sulphate of magnesia and tincture of guaëac, substantially in the proportion and for the purpose set forth.

No. 34,167. Rifle Sight. (*Mire de carabine.*)

Magnus Nelson, Tottenham, Ont., 22nd April, 1890; 5 years.

Claim.—1st. A small pendulum or plumb suspended in a rifle sight, the arm of the pendulum or plumb passing through a narrow vertical slot, in such a manner that any slight rolling movement of the barrel will cause the arm of the pendulum to strike the side of the slot, and thereby prevent the vibratory movement which it has when the pendulum arm is perfectly plumb, substantially as specified.

No. 34,168. File. (*Serre-papier.*)

Arthur J. Wells, Syracuse, N. Y., U. S., 22nd April, 1890; 5 years.

Claim.—1st. In a file, the combination of a supporting base A having a longitudinal groove B and adjustable partitions C having the legs C¹ and feet c, substantially as and for the purpose set forth. 2nd. In a file, the combination of a supporting base A, a longitudinal shoulder a² and transverse shoulders with adjustable partitions C having projections C¹ and lateral projections c, substantially as and for the purpose described. 3rd. The combination of the base A having the projecting wearing edge or plate A², slots a, adjustable partitions C and feet c, substantially as and for the purpose set forth. 4th. The combination of the base A wearing edge or plate A², slots a and a longitudinal slot B with adjustable partitions C and projections c, substantially as and for the purpose described. 5th. The combination of a base A, partitions C and a detachable tag D, substantially as and for the purpose specified. 6th. In a file, the combination of a supporting base A, a series of adjustable mounted partitions C and adjustable mounted tags D, substantially as and for the purpose set forth. 7th. In a file, the combination of a supporting base A, a series of adjustably mounted partitions C, projections c and a tag D having an engaging shoulder B² substantially as and for the purpose described. 8th. The combination of a supporting base A, a longitudinal shoulder a², transverse shoulders, adjustable partitions C having projections C¹ and feet c, and a tag D having engaging shoulders d², substantially as and for the purpose set forth. 9th. The combination of a base A, metallic projecting edges, slots a, tag D having shoulders d² and the contracted portion d¹, substantially as and for the purpose described.

No. 34,169. Method of Obtaining Gluten and Starch. (*Manière de produire le gluten et l'amidon.*)

Herman Barker, Somerville, Mass., U. S., 23rd April, 1890; 5 years.

Claim.—1st. The method herein described of obtaining gluten from cereals, which consists in adding water to the granulated or pulverized cereal to form a semi-fluid or pasty mass, dividing the said pasty mass into small independent pieces or particles, disintegrating the said independent pieces in liquid to set free the gluten, and thereafter collecting the gluten by subsidence. 2nd. The method herein described of obtaining starch from cereals, which consists in adding water to the granulated or pulverized cereal to force a semi-fluid or pasty mass, dividing the said pasty mass into small independent pieces or particles, disintegrating the said independent pieces in liquid to set free the starch, and thereafter collecting the starch by subsidence.

No. 34,170. Washing Machine.

(*Machine à blanchir.*)

Benjamin Brobst, Columbus, Ohio, U. S., 23rd April, 1890; 5 years.

Claim.—1st. The combination of the supporting frame having a standard, as D, the hinge piece as S, secured to said standard, hinge piece T, pivotally secured to piece S, said piece T having a downwardly projected wing n, having therein a circular slot U, and the cross bar U, substantially as described and for the purpose set forth. 2nd. The combination of the supporting frame, a tub having a pivotal engagement therewith, a standard secured to said supporting frame, a bracket secured to said standard, said bracket provided with arms terminating in conical ends, and operating lever consisting of spaced and suitably connected side pieces, each of said arms provided with a conical socket to engage the conical ends of the bracket, a rubbing head located in said tub, and rods, one connecting the lever and the tub, and the other connecting the lever and the head, said rods secured to the operating lever at points above and below its pivotal engagement with the bracket, substantially as set forth. 3rd. In a washing machine, the combination with the tub, of

a false bottom, the rods K secured to said bottom, and having their upper ends removably engaged with the edge of the tub. 4th. In a washing machine, the combination with the tub, of the false bottom, and having their upper ends produced in hook form, and set screws for removably clamping said hook ends to the edge of the tub, substantially as set forth. 5th. The combination with the tub, and a rotary frame to which it is secured, and a fixed standard, of a bracket having journal arms, an operating lever consisting of a pair of oppositely arranged bars connected at their opposite end by a handle N, each bar of said lever having a pivotal engagement with the journals of said bracket, a connecting rod α , and a cross rod O engaged with said lever for drawing its bars together to compensate for wear of its journal bearings, substantially as set forth.

No. 34,171. Catamenial Bandage.

(*BanJage cataménial.*)

William R. Steinmetz and Cornelia Steinmetz, Watertown, Mass., U.S., 23rd April, 1890; 5 years.

Claim—In a catamenial sack the combination with the body belt C having at its front a metal loop L, a holder or cover B in which is removably secured the absorbent antiseptic pad D, of the thigh strap E secured to cover B, the back strap G and front strap G' connected to opposite ends of cover B and to the front and back of belt C and the side straps K, K attached to the thigh-strap and body belt, as shown and described.

No. 34,172. Ice Marker. (*Traceur de glace.*)

The Fischer Ice Tool Company, (assignee of Joseph B. Fischer), Hamilton, Ont., 23rd April, 1890; 5 years.

Claim—1st. In an ice marker, the combination, substantially as set forth, of a marker beam provided with a line of cutting teeth, and a cam shaped runner pivoted to such beam at its centre of length and adapted to project below the teeth and serve to support the implement with the teeth clear of the ice. 2nd. In an ice marker the combination, substantially as set forth, of a cutter beam provided with a line of teeth a cam shaped runner pivoted to such beam at its centre of length and adapted to project below said teeth and support the implement with the teeth clear of the ice and a detent to serve in fixing intermediate position of said runner and cause the runners to act as a limiting stop for the depth of cutting of the teeth. 3rd. In an ice marker the combination substantially as set forth of a pair of cutter beams provided with teeth and disposed parallel to each other and rigidly united together, a center bar journaled in bearings supported in a central position between the two beams a pair of arms projecting at right angles to center bar and a double edged guide blade secured to the outer ends of said arms parallel to said beams and at a distance from the nearest line of teeth equal to the distance from one line of teeth to the other. 4th. In an ice marker the combination, substantially as set forth, of a pair of cutter beams provided with teeth and disposed parallel to each other and rigidly united arm rests Q secured to said beams a center bar journaled in bearings supported centrally between said beams, arms projecting at right angles over said center bar and adapted to engage said arm rests and a double edged guide blade secured to the outer ends of said arms.

No. 34,173. Tension Machine for use in Constructing Fences. (*Machine de tension pour la construction des clôtures.*)

Warren H. Hightree, Edward R. Cowin and John J. Cowin, Hubbard, Ohio, U.S., 23rd April, 1890; 5 years.

Claim—1st. In a fence making machine, the combination, with a vertical tension rod having a pulley secured thereto, of a rotatable cylinder or drum to the rear of the tension rod, a transverse timber in advance of and adjacent to said drum, a rope secured to said timber and wound around said drum, an independent rope or chain secured over a pulley to the drum in an opposite direction, and passed and carrying upon its free end a weight and means, as the levers O, described tension device for fences, the same comprising in combination the wheels, the axle provided with a drum as described, the axle at their forward ends and provided with a metal pike as described, a cross timber connecting the timbers F at a point slightly in advance of the drum, the timber I, the pulley attached thereto, the drum around the drum, the cross timber passed through the pulley and bearing and drum carrying at its upper end a pulley, and a rope or chain M wound around the drum in a direction opposite to that of its free end provided with a weight, substantially as described and for the purpose specified.

No. 34,174. Harrow. (*Herse.*)

James Albert, (assignee of Simeon B. Hendricks), Rockford, Ill., U.S., 25th April, 1890; 5 years.

Claim—1st. In combination, in a harrow, a tubular harrow beam provided with transverse holes A', extending therethrough, for admitting harrow teeth, an end cross beam having transverse openings E' thereof being inserted into the end of the tubular harrow beam, the bushing E² extending through the end of the tubular harrow beam, and the washer E² embraced between the end of the end cross beam and an end cross beam, an eye bolt threaded to receive a nut, combined double bushing and washer E, a harrow tooth threaded to receive a nut inserted through one of the holes A' in the harrow beam and the eye C² in the eyebolt, and nuts for securing all of said

parts operatively together, substantially as described and for the purpose specified. 2nd. In combination, a harrow beam provided with transverse holes A', extending therethrough, for admitting harrow teeth, a harrow tooth having a horizontal shoulder thereon and cylindrical portion B², adapted to be inserted through the holes A' in said beam and threaded to receive a nut, an adjusting standard having a vertical hole G¹, extending through the foot G² thereof, to admit said tooth therethrough, and a nut B³ for securing said tooth into and said standard upon said harrow beam, substantially as set forth. 3rd. In combination, the harrow beams A, provided with transverse openings D' therein, the end cross beams D, having transverse holes A', extending therethrough, the combined double bushings E, inserted into the ends of the harrow beams A and through the end cross beams D, the washers F, the eyebolts C, the teeth B, inserted through the harrow beams A and eyes C² in the eye bolts C, the standards G, the adjusting beams H, the bolts H¹, and nuts B³, C¹, and H², for securing said parts operatively together, substantially as described and for the purpose set forth.

No. 34,175. Radiator. (*Calorifere.*)

Samuel D. Tompkins and Thomas H. Williams, Jersey City, N. J., U.S., 25th April, 1890; 5 years.

Claim—The combination, with a radiator composed of interchangeable sections, each having a convex lower end, of interchangeable leg arches for the sections, having concave upper surfaces to receive the convex lower ends of the radiator sections, secured by a bolt, or other locking device to hold the leg arches in position on any section, substantially as described.

No. 34,176. Lubricating Device for Steam Engines. (*Appareil de graissage des machines à vapeur.*)

Albert L. Ide, Springfield, Ill., U.S., 26th April, 1890; 5 years.

Claim—1st. The combination with a steam engine, crank shaft and disk, and an engine frame affording bearings for the shaft, and formed to provide an oil tank or basin beneath the disk, the side walls of which rise to a point above the lower edge of the disk, of a detachable cover fitted to the frame and forming with the latter a closed housing surrounding the crank disk and adjacent parts, a trough or receptacle located upon the inner surface of the cover in position to receive from the same lubricant thrown thereon by said disk and a pipe attached to the housing communicating with said trough and leading to a bearing surface to be lubricated, substantially as described. 2nd. The combination, with a crank shaft, and a crank disk, of an oil tank or basin beneath the disk, a housing of which rise to a point above the lower edge of the disk, the side walls of which rise to a point above the lower edge of the disk, the housing provided with an oil receiving surface arranged in position to receive from the said oil-receiving surface fluid lubricant to cast thereupon by the crank disk, a pipe leading from said trough to a bearing to be lubricated and a valve in said passage, crank shaft, as described. 3rd. The combination, with an engine crank shaft, a crank disk thereon, and a bearing for the shaft provided with an oil cup or receptacle, located in position to receive from the surface of the bearing lubricant cast upon the same by the disk, of a pipe communicating with said trough or receptacle and discharging into an oil cup upon the bearing, said oil cup being provided with an overflow pipe or passage leading into the housing, substantially as described.

No. 34,177. Apparatus for Burning Prairie Grass. (*Appareil pour brûler le foin de prairie.*)

Ezekiel C. Rice, Mandan, N.D., U.S., 26th April, 1890; 5 years.

Claim—1st. A machine for burning or destroying prairie grass within a specified area, consisting essentially, of a movable bottomless enclosure, having closed sides, ends and top, and a burner or burners housed within said enclosure, substantially on the plane of the lower open portion thereof, and operating to ignite the grass and other material within the limits of the enclosure, for the purpose described, substantially as set forth. 2nd. A machine for burning or destroying prairie grass within a specified area, substantially as herein described, consisting essentially of a movable or travelling fire-proof bottomless enclosure, having the closed sides, ends and top, and a burner or burners housed within said enclosure, arranged in the lower part thereof, and having the flame surfaces exposed to ignite the grass and other material within the limits of the enclosure, for the purpose set forth. 3rd. A machine for burning or destroying prairie grass within a specified area, consisting essentially of a movable fire-proof bottomless enclosure, having the closed sides and ends and top, a burner or burners carried within the enclosure and having the flame surfaces thereof exposed to ignite the grass within the limits of the enclosure, and a force-draft appliance independent of the burner and carried by the enclosure for directing a blast of air upon the burning area within the enclosure and promoting combustion of the burning grass, substantially as described for prairie grass set forth. 4th. A machine for burning or destroying prairie grass within a specified area, consisting essentially of a movable bottomless enclosure, at less inclosure, a burner or burners housed within said inclosure to the forward end thereof, and arranged upon or in close proximity to the surface over which the inclosure moves, and a rotary fan or blower located within the inclosure above and in rear of said burner, for the purpose described, substantially as set forth. 5th. A machine for burning or destroying prairie grass within a specified area, consisting essentially of a movable bottomless enclosure, having the top skeleton frame to form the inclosing side and end to said frame, a of said inclosure, and the metallic covering secured for conveying fuel burner housed within said inclosure, and means for conveying fuel to the burner, substantially as described. 6th. A machine for burning or destroying prairie grass within a specified area, consisting of a movable fire-proof enclosure, a series of burners arranged within the inclosure, and each individual burner being arranged longitudinally

nally of said inclosure, and distributing pipes for conveying fuel to said burners, substantially as described for the purpose set forth. 7th. A machine for burning or destroying prairie grass within a specified area, consisting of a movable fire-proof inclosure, a series of burners arranged within the same, each burner consisting of a porous absorbent, block-housed within a perforated jacket, a tank or reservoir and distributing pipes for conveying fuel to said burners, substantially as described. 8th. A machine for burning or destroying prairie grass within a specified area, consisting of a movable fire-proof inclosure, a series of absorbent porous burners arranged longitudinally within the inclosure and in close proximity to each other, the series of supply pipes communicating with the burners, a tank or reservoir, and a common transverse pipe communicating with the tank and the series of pipes, substantially as described for the purpose set forth. 9th. A machine for burning or destroying prairie grass within a specified area, consisting of a movable fire-proof bottomless inclosure, the burner housed within the same, a rotary fan or blower arranged within the inclosure and in rear of the burner, and operating to force a blast of air upon the burning area or surface within the inclosure, and a driving wheel geared to said fan or blower, substantially as described. 10th. A machine for burning or destroying prairie grass within a specified area, consisting of a movable fire-proof bottomless inclosure, the burner housed within said inclosure at the front thereof, a rotary fan or blower arranged within the inclosure in rear of the burner above the same, and operating to force a blast of air upon the burning area or surface within said inclosure, a driving wheel located at the bottom of the inclosure and adapted to be rotated by contact with the ground, and an idle-wheel geared to the fan or blower and the driving wheel, substantially as described. 11th. A machine for burning or destroying prairie grass within a specified area, consisting of a movable fire-proof inclosure carrying a burner or burners, which are arranged within the inclosure for the purpose described, and another inclosure arranged in rear of and connected to the first-mentioned inclosure, substantially as described. 12th. A machine for burning or destroying prairie grass within a specified area, consisting of a movable bottomless fire-proof inclosure, substantially as herein described, having the closed sides, ends and top, whereby the burning grass is confined within the boundary walls of the inclosure, and a brake is made in the prairie as the inclosure is drawn over the ground, as set forth.

No. 34,178. Plough Coulter.

(*Coutre de charrue.*)

Charles Wilton and Charles E. Wilton, Haldimand, Ont., 28th April, 1890; 5 years.

Claim.—The construction of the coulter with the lower part movable forwards, but not backwards, substantially as and for the purposes hereinbefore set forth.

No. 34,179. Mowing Machine. (*Faucheuse.*)

John C. Craig, Fenelon Falls, Ont., 26th April, 1890; 5 years.

Claim.—1st. The combination, with the pitman F, of the rocking bar or shaft K having an arm pivoted to said pitman and an arm pivoted to a link Z hinged to the knife, said shaft journalled between jaws near the heel of the finger bar, whereby the knife will reciprocate when the finger bar in either a vertical or horizontal position, as set forth. 2nd. The combination, with the main frame A, of the lever P pivoted to said frame, a rock shaft O journalled thereto, and having an angular bent end depressed by said lever, and the other end bent and connected by a rod S to a jaw fixed to the finger bar to lift the finger bar and knife vertically by depression of the lever, as set forth. 3rd. The combination, with the main frame, having a bracket extension H, of a bar J, having one end sleeved on a projecting pin secured to said bracket, and the other end hinged between jaws M, M, rigidly attached to the heel of the finger bar, and a brace L supporting said bar from the main frame, so as to permit the finger bar to be lifted to a vertical position by lever P, as set forth. 4th. The combination, with the main frame A, of the bar J having a sleeve rocking on a pin extending from the main frame, and the opposite end supported by a brace L encompassing the bar, an arm U extending from said frame forwardly, and an arm T extending from said bar rearwardly, said arms connected by a lever V for rocking the finger bar to cause the knife to cut higher or lower, as set forth.

No. 34,180. Wash Board. (*Planche à savonner.*)

Victor Landrieu, Bay St. Louis, Miss., U. S., 26th April, 1890; 5 years.

Claim.—The combination, with a reversible wash board, having transversely-disposed guides on the upper inner sides of its side bars, of a board or plate arranged between said bars, and having eyes or staples to engage said guides, whereby said plate may be moved on the guides to form a soap-holder for each side of the board, as set forth.

No. 34,181. Paper Making Machinery.

(*Machine de fabrication du papier.*)

Thomas Riley, Kingsley Falls, and Lynn T. Leet, Montreal, Que., 26th April, 1890; 5 years.

Claim.—1st. In a paper making machine, the combination with the felt for carrying the pulp, of a heated cylinder and a press roll between which the felt passes in such manner that the water is first squeezed out and the pulp then transferred directly to said heated cylinder, and a reel for receiving the dried pulp sheet as it leaves said heated cylinder, all substantially in the manner and for the purpose described. 2nd. In a paper making machine, the combination, with the felt, and a series of rolls around which said felt passes, and with the drying cylinder G and main press roll H, of the supplement-

ary roll J, substantially as and for the purpose specified. 3rd. The combination, with the frame A and drying cylinder G and felt F, of the main press roll H, located immediately underneath said drying cylinder and adjustable vertically, for the purpose described. 4th. The combination, with the frame A, drying cylinder G and felt F, of the bracket J pivoted to said frame, supplementary roll J' carried by said bracket, and the levers J¹, J², having the sliding weight J³, whereby said supplementary roll may be adjusted with relation to said felt and drying cylinder, substantially in the manner specified. 5th. In combination with the heated cylinder for drying the pulp, the friction roll P carried in a loose or adjustable bracket for the purpose described. 6th. The combination, with the drying cylinder G, of the friction roll P, pivoted bracket p, having arm P¹ and catch bar S, substantially as and for the purpose specified.

No. 34,182. Ornament for Jewelry.

(*Ornement pour la bijouterie.*)

William Blassing, Central City, Iowa, U. S., 28th April, 1890; 5 years.

Claim.—1st. An ornament, consisting of a body, a series of plates hinged thereto and a cap carried by one of the hinged plates for holding the hinged plates in closed position, substantially as set forth. 2nd. An ornament, consisting of an angular body, a series of angular plates hinged thereto, and a cap carried by one of said plates for holding the plates closed, substantially as set forth. 3rd. An ornament for jewelry, consisting of a polygonal plate, triangular leaves hinged thereto, and a cap connected with one of the leaves for holding the points together, substantially as set forth. 4th. An ornament for jewelry, consisting of a polygonal plate, triangular leaves hinged to its edges, a lug on one of the leaves, and a screw-cap having a screw-threaded stem adapted to turn in the lug to hold the leaves together, or permit them to be unfolded, substantially as set forth. 5th. An ornament for jewelry, consisting of a polygonal plate having a flange on one face, triangular leaves hinged to the several edges of the plate, a lug on one leaf and a screw-cap connected therewith and adapted to hold the leaves together, substantially as set forth.

No. 34,183. Fifth Wheel.

(*Rond d'avant-train.*)

John W. Williams and John G. Capps, Lowell, Ark., U. S., 28th April, 1890; 5 years.

Claim.—The combination, with the reach and the bolster 4, secured to the end thereof, of the shank 2 bolted to the reach, the upper section 3 of the fifth wheel centrally perforated and integral with the reach, the lower section 11 having the diametrically-opposite pairs of perforated depending lugs 13, the pivot bolt 6 passed through the sections, secured at its upper end, the L-shaped standard 15, and the opposite connecting standard 17, each having the upper ends bifurcated and bolted to the lugs, and below said bifurcations provided with opposite bearing perforations, the oscillating clip 20, having opposite trunnions mounted in the bearings, and the axle 21, clipped thereupon, the inclined brace bolted at its rear end to the shank and reach, and terminating at its front end in a perforation, and a stud depending from the L-shaped standard and passing through the perforations, substantially as specified.

No. 34,184. Washing Machine.

(*Machine à blanchir.*)

James H. Coleman, Hamilton, Ont., 25th April, 1890; 5 years.

Claim.—In a washing machine, the neck or tube A¹ of the machine A, having an opening a, in combination with the valve B and eye E of handle F, connected together by the spiral spring C, substantially as and for the purpose hereinbefore set forth.

No. 34,185. Signal Appliance.

(*Appareil de signal.*)

William J. Barnes, Oshkosh, Wis., U. S., 28th April, 1890; 5 years.

Claim.—1st. The combination, with the supporting post A, of a light frame or box joined to stanchions, which pass, when raised, through corresponding openings in a pulley, supporting box above, and are connected with a double raising lanyard passing over pulleys from below the lower end, being attached to and carried by the light frame from below to form a lowering rope integral with the raising rope, a drag attached to a lower supporting platform, and engaging both the raising and lowering ropes, and a supporting hook at the top, arranged so as to engage a corresponding hook or projection upon the light frame when descending in a perpendicular, substantially as shown for the purposes specified. 2nd. The combination, with a supporting post A, of a light frame having posts or stanchions extending upwardly, attached to a double lanyard, passing upwardly over pulleys at the top, and downward below the light frame and attaching thereto, eyes or sockets at the top to admit or enclose the stanchions when raised, and a supporting hook at the top to engage a corresponding hook or projection upon the light frame, when at perpendicular, substantially as shown for the purposes specified. 3rd. In a railroad or other signal, the combination, with a supporting post, of a pulley secured to the upper part of the post, an elevating and lowering cord passing over the pulley, said cord extending in a loop near the bottom of the post, a light frame having the two ends of the cord connected thereto, a hook or support for the light frame to hold it firmly at the proper signaling point, and a protective covering for the portion of the cord which passes over the pulley when the lamp is lowered for lighting or trimming.

No. 34,186. Electric Arc Lighting.*(Eclairage électrique à arc.)*

Llewellyn Saunderson, Kingston, Ireland, 28th April, 1890; 5 years.

Claim.—1st. In an arc lamp, the combination, consisting of carbon electrodes, (one or both hollow) connected with an electric source, and usual devices for the production of the electric arc between the electrodes, a tightly fitting fibrous plug inserted a short way up the hollow electrode, a space within the electrode void of fibrous plug or packing between the packing at one end and the arc at the other, and means for supplying liquid or semi-liquid hydrocarbon to the plug or packing at the end furthest away from the arc. 2nd. In an arc lamp, the combination, consisting of carbon electrodes, (one or both hollow) connected with an electric source and usual devices for the production of the electric arc between the electrodes, a tightly fitting fibrous plug inserted into the hollow electrode, a lining of bituminous enamel to the passage in the hollow carbon electrode, and means for supplying liquid or semi-liquid hydrocarbon to the plug or packing at the end furthest away from the arc. 3rd. In an arc lamp, the combination, consisting of carbon electrodes (one or both hollow) connected with an electric source and usual devices for the production of the electric arc between the electrodes, a tightly fitting fibrous plug inserted a short way up the hollow electrode, a space within the electrode void of fibrous plug or packing between the packing at one end and the arc at the other, such space having within it threads or pieces of asbestos or other non-conductor of electricity to prevent the deposit of carbon, and means for supplying liquid hydrocarbon to the plug or packing at the end furthest away from the arc. 4th. The combination of the electrodes with the appliances, substantially as described.

No. 34,187. Tile or Brick Cutting Table.*(Table pour tailler les tuiles ou les briques.)*

Jacob Bensing, Malinta, Ohio, U.S., 28th April, 1890; 5 years.

Claim.—1st. The combination with the supporting frame, of the endless carrier composed of hinged connecting blocks, having spaces, as described, separated, and a rotating device having a series of radial cutting frames provided with cutters adapted to register with said spaces, substantially as set forth. 2nd. The combination, with the supporting frame carrying the horizontal grooved portions at each side, of an endless carrier consisting of hinged blocks and having spaces, as described, rollers journaled on said blocks to engage said grooves, and a revoluble device provided with a series of cutter frames, each having a cutter adapted to register with the spaces between the blocks, substantially as set forth. 3rd. The combination, with the supporting frame, and revoluble device having the radial cutter frames, of an endless carrier composed of a series of blocks E, E', the blocks E, having castings secured to their under sides and provided with journals, the blocks E', provided with castings on their under sides and perforated to engage said journals to form a hinged connection, substantially as set forth. 4th. The combination with the supporting frame, having the side grooves, and revoluble device carrying radial cutter frames, of an endless carrier composed of their under sides provided with journals, the blocks E', having castings secured to their under sides and perforated to engage said journals, and rollers mounted on the projecting ends of the latter to engage said grooves, substantially as set forth. 5th. The combination, with a supporting frame, of the revoluble device having the radial cutter frames, and an endless carrier consisting of hinged blocks, every alternate block being provided on its upper side, at each end, with a vertical standard, substantially as set forth. 6th. The combination, with the supporting frame, and endless carrier, of a yoke shaped cutter frame provided with oppositely located hooks, connected at its other end to an adjustable thumb screw, substantially as set forth. 7th. The combination, with a supporting frame and endless carrier, of a transverse shaft, a disk mounted thereon

and provided with horizontal marginal lugs and a series of inner perforations, a series of sockets located between said lugs and secured by a bolt engaging one of said perforations, and a cutter frame connected to said sockets, substantially as set forth. 8th. The combination, with a supporting frame and endless carriers, of the disk and socket secured thereto, and cutter frames, each comprising independent sections having inner tongues embracing and bolted to said sockets, substantially as set forth.

No. 34,188. Spring Tooth Harrow.*(Herse à dents élastiques.)*

Samuel N. Hensch and Walker A. Drumgold, York, Penn., U.S., 29th April, 1890; 5 years.

Claim.—1st. The slotted ratchet hub and the spring tooth, inserted and held therein, in combination, with the stationary ratchet plates and the pivot bolt, substantially as and for the purposes hereinbefore set forth. 2nd. The slotted ratchet hub, having lug e, in combination with the spring tooth inserted in the slot, and notched to engage lug e, the pin or rivet f by which the tooth is secured to the hub, the stationary ratchet plates and the pivot bolt, substantially as and for the purposes hereinbefore set forth. 3rd. The harrow frame, composed of straps of zig-zag form, in combination with individually hinged or pivoted spring teeth located between the contiguous angles of adjoining straps and pivot bolts, whereby both the teeth are held in place, and the straps between which the teeth come are bound together, substantially as set forth. 4th. The combination of the harrow frame E, composed of straps bent into zigzag form, as described, the stationary ratchet plates, the ratchet hubs, the spring teeth attached to said hubs, and the pivot bolts by which both the hubs and stationary plates are held in place, and the frame straps are bound together, substantially as and for the purposes hereinbefore set forth.

No. 34,189. Spring Tooth Harrow.*(Herse à dents élastiques.)*

Samuel N. Hensch and Walker A. Drumgold, York, Penn., U.S., 29th April, 1890; 5 years.

Claim.—1st. In combination with the stationary ratchet plates, and the pivot bolt, the ratchet faced clips provided with two sets of lugs so placed as to come above and below the tooth as described, and the spring tooth inserted between said clips, and held by the said lugs, substantially as and for the purposes hereinbefore set forth. 2nd. The combination of the stationary ratchet plates, the pivot bolt, the ratchet faced clips provided on their interior opposite faces with two sets of lugs, which are adapted to come above and below the tooth, as described, and with projections to engage the sides of the tooth, and the tooth inserted between said clips, and held by said lugs thereon, and provided in its sides with notches or recesses which are engaged by the projections upon the clips, substantially as and for the purposes hereinbefore set forth.

No. 34,190. Apparatus for Sealing Gummed Paper. *(Appareil à cacheter le papier encollé.)*

Thomas H. Hathaway, New Bedford, Mass., U.S., 29th April 1890; 5 years.

Claim.—1st. The combination, of the frame, the receptacle with discharge pipe and air bulb, the absorbent roller, and sealing roller, substantially as described and set forth. 2nd. As an improved article of manufacture, the within described apparatus for moistening and sealing gummed articles, consisting of a suitable frame carrying an absorbent roller, a receptacle for containing and delivering a liquid to the absorbent roller, and an air forcing device for expelling the liquid from the receptacle, all constructed for conjoint operation, as set forth.

**CERTIFICATES OF THE PAYMENT OF FEES FOR FURTHER TERMS HAVE BEEN ATTACHED TO
THE FOLLOWING PATENTS.**

1751. MORITZ LINDNER, 2nd 5 years of No. 21,635, from the 9th day of May, 1890. Improvements on Toy Model Houses, April 5th, 1890.
1752. THOS. ALFRED ABBOTT, 2nd 5 years of No. 21,425, from the 14th day of April, 1890. Improvements in Plasters for the Skin, April 5th, 1890.
1753. C. S. SEATON, 2nd 5 years of No. 21,437, from the 15th day of April, 1890. Improvements on Machines for Heading Bolts or Rivets, April 5th, 1890.
1754. J. H. STONE, 2nd 5 years of No. 21,389, from the 9th day of April, 1890. Improvements on Tubular Lanterns, April 5th, 1890.
1755. THE UNION BAG MACHINE CO., 2nd 5 years of No. 21,913, from the 17th day of June, 1890. Improvements on Sewing Machines, 5th day of April, 1890.
1756. THE UNION BAG MACHINE CO., 2nd 5 years of No. 21,914 from the 17th day of June, 1890. Improvements on Sewing Machines, 5th day of April, 1890.
1757. W. L'E. MAHON (assignee), 2nd 5 years of No. 21,506, from the 22nd day of April, 1890. Improvements in Hoop Planing Machines, 5th day of April, 1890.
1758. F. L. PALMER, 2nd 5 years of No. 21,545, from the 28th day of April, 1890. Improvements in Machines for Sewing and Knitting Fabrics, 5th day of April, 1890.
1759. J. W. DAVEY, 2nd 5 years of No. 21,377, from the 7th day of April, 1890. Improvements on Fence Posts, 5th day of April, 1890.
1760. THE METALLIC ROOFING CO. (assignee), 2nd 5 years of No. 21,393, from the 10th day of April, 1890. Improvements in Metallic Shingles or Roofing Plates, 8th day of April, 1890.
1761. C. BRECKH, 2nd 5 years of No. 21,407, from the 13th day of April, 1890. Improvements in Corn Brooms, 8th day of April, 1890.
1762. CAREY & RUTSON, 2nd 5 years of No. 21,392, from the 10th day of April, 1890. Improvements in Steam Emptying Ash Pans, 8th day of April 1890.
1763. J. KERR, 2nd 5 years of No. 21,406, from the 13th day of April, 1890. Improvements in Grate Bars for Furnaces and Stoves, 9th day of April, 1890.
1764. G. W. SMILLIE, 2nd 5 years of No. 21,523, from the 24th day of April, 1890. Improvements in Car Coupings, 9th April, 1890.
1765. A. LOGAN, 2nd 5 years of No. 21,457, from the 20th day of April, 1890. Improvements in Stump Extractors, 11th day of April, 1890.
1766. E. J. DESBEAU, 2nd 5 years of No. 21,423, from the 14th day of April, 1890. Improvements in Lubricating Carriage Axles, 11th day of April, 1890.
1767. L. D. SAWYER (assignee), 2nd 5 years of No. 21,410, from the 13th day of April, 1890. Improvements in Thrashing Machines, 12th day of April, 1890.
1768. THE UNION BEARING AND LUBRICATING CO. (assignee), 2nd 5 years of No. 21,484, from the 22nd day of April, 1890. Improvements in Journals for Axle Boxes, 16th day of April, 1890.
1769. J. S. CROTTY, 2nd and 3rd 5 years of No. 23,268, from the 25th day of January, 1891. Improvements on Corsets, 16th day of April, 1890.
1770. R. P. & M. KENNEDY, 2nd 5 years of No. 21,461, from the 20th day of April, 1890. Improvements in Dry Earth Closets, 16th day of April, 1890.
1771. E. THOMSON, 2nd 5 years of No. 21,583, from the 4th of May, 1890. Improvements on Dynamo Electric Machines, 16th day of April, 1890.
1772. A. WATTS (assignee), 2nd 5 years of No. 21,528, from the 24th day of April, 1890. Improvements in Thrashing Machines, 19th day of April, 1890.
1773. T. P. CHANDLER, 2nd 5 years of No. 21,643, from the 12th day of May, 1890. Improvements in Electric and other Railways, 19th day of April, 1890.
1774. SINGER MANUFACTURING CO. (assignee), 2nd 5 years of No. 21,629, from the 9th day of May, 1890. Improvements in Sewing Machine Stand and Treadle, 19th day of April, 1890.
1775. SINGER MANUFACTURING CO. (assignee), 2nd 5 years of No. 21,369, from the 13th day of June, 1890. Improvements on Belt Shifting and Replacing Devices, 19th day of April 1890.
1776. THE BROOKS' MANUFACTURING CO. (assignee), 2nd 5 years of No. 21,462, from 20th of April, 1890. Improvements in Hot Water Boilers, 19th day of April 1890.
1777. I. B. TRIPP, 2nd 5 years of No. 21,604, from the 6th day of May, 1890. Improvements on Window Curtain Bars, 21st day of April, 1890.
1778. W. CAMPBELL, 2nd 5 years of No. 21,480, from 21st day of April, 1890. Improvements on Wheel Expanders, 21st day of April, 1890.
1779. THE ONTARIO FIRE PROTECTION CO. (assignee), 2nd 5 years of No. 21,627, from the 9th day of May, 1890. Improvements in Chemical Fire Engines.
1780. GEO. KREMENTZ, 2nd 5 years of No. 21,503, from 22nd day of April, 1890. Improvements in Collar Buttons, 22nd day of April, 1890.
1781. P. BARCLAY, 2nd 5 years of No. 11,175, from the 24th day of April, 1890. Improvements on Lubricators for Steam Engines, 22nd day of April 1890.
1782. A. HAMLIN. 2nd and 3rd 5 years of No. 30,829, from 20th day of February, 1894, Improvements in Dog Power, 25th day of April, 1890.
1783. S. MAY, 2nd and 3rd 5 years of No. 17,243, from the 12th day of July, 1888. Improvements on Pulleys, 25th day of April, 1890.

APRIL LIST OF TRADE MARKS.

Registered at the Department of Agriculture—Copyright and Trade Mark Branch.

3688. THE ST. LEON MINERAL WATER COMPANY, LIMITED, of Toronto, Ont. St. Leon Water, 3rd April, 1890.
3689. WILLIAM PITT CLOTWORTHY, of Baltimore, State of Maryland, U. S. A., (doing business under the trade name, FRUIT PUDDING COMPANY). A Dessert for the table, 5th April, 1890.
3690. WILLIAM PITT CLOTWORTHY, of Baltimore, State of Maryland, U. S. A., (doing business under the trade name, PATAPSCO BAKING POWDER COMPANY). An Article of Prepared Food, 5th April, 1890.
3691. THOMAS JOHN PALMER, of Queen's Hill, Lancaster, County of Lancaster, England. Decorative material for walls, Ceilings and other surfaces, 5th April, 1890.
3692. HENRY L. PIERCE, of Boston, State of Massachusetts, U.S.A., (doing business under the firm name, WALTER BAKER & CO). Chocolate, 8th April, 1890.
3693. ADOLPH SOMMER, of Berkeley, County of Alameda, State of California, U.S.A. Leather-grease and Leather treated with said grease, 8th April, 1890.
3694. HOWDEN STARKE and COMPANY, of Montreal, Que. Tools, 8th April, 1890.
3695. HENRY BOKER and COMPANY, of Solingen, Rhenish Prussia, Germany. Scissors, Cutlery, Razors and Hardware, 8th April, 1890.
3696. FRANCIS MATTHEWS, of Brampton Ont. Mineral or Soda Water, 10th April, 1890.
3697. ALEXANDER BRYCE, of the Township of York, County of York, Ont. Dairy Produce, 12th April, 1890.
3698. JEAN DAMIEN ROLLAND. Président de la COMPAGNIE DE PAPIER ROLLAND, de Montréal, Que. Papier, 15 Avril, 1890.
3699. EGBERT W. GILLET, of Chicago, Illinois, U.S.A. Lye, 17th April, 1890.
3700. JOHN FORBES, of Halifax, N.S. Skates, 19th April, 1890.
3701. W. BRUNET ET CIE., Quebec, Que. Marque de Commerce Generale, 19 Avril, 1890.
3702. J. RATTRAY AND COMPANY, of Montreal, Que. Cigars, 19th April, 1890.
3703. THEODORE ANGELO, of New York, N. Y., U. S. A. Medical Lotion, 21st April, 1890.
3704. TRESS AND COMPANY, of 3, 5 and 7, Stamford Street, Southwark, London, England. General Trade Mark, 22nd April, 1890.
3705. THE WOOLSON SPICE COMPANY, of Toledo, Ohio, U.S.A. Coffee, Baking Powder, Bird Seed and Blueing, 23rd April, 1890.
3706. SHURLY AND DIETRICH, of Galt, Ont. Saws, 24th April, 1890.
3707. } THOMAS ROBERTSON & CO., of Montreal, Que. Galvanized, Tinned and Black
3708. } Sheet Iron, 25th April, 1890.
3709. CHARLES H. BESLY, of Chicago, Illinois, U.S.A. Manufacturers and metal workers hardware, tools and supplies, brass, bronze, copper, ingots, sheets, wires and the like and oil sold therewith, 25th April, 1890.
3710. HENRY KUNTZ, Hamilton, Ont. Ale, Lager Beer and Porter, 26th April, 1890.
3711. CHARLES PATTON DIMITRY, of New Orleans, State of Louisiana, U.S.A. Writing Inks, 28th April, 1890.
3712. } CHARLES MACINTOSH & CO., (L'd), of Cambridge Street, Manchester, and 90 Fore
3713. } Street, London, England. India Rubber Goods, 29th April, 1890.
3714. } J. SCHWEPPE & CO., (L'd), of 51 Berners Street, London, England. Mineral and
3715. } Aerated Waters, natural and artificial, including Ginger Beer,
29th April, 1890.
3716. HENRY WADE, of Kingston, Ont. Medicinal Compound, 30th April, 1890.
3717. SHURLY AND DIETRICH, of Galt, Ont. Saws, 30th April, 1890.

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5309. } FERRYMAN JOHN. Song. Words by Henry Vaughan. Music by Paul Rodney.
 5310. } CLOSE TO MY HEART. Song. Words by permission from the "Century Magazine." Music by Milton Wellings.
 5311. } THE RE-MEMBERED SONG. Words by R. S. Hichens. Music by Paul Rodney.
 5312. } ARABIAN SERENADE. Song. Words by G. Hubi Newcombe. Music by Milton Wellings. The Anglo-Canadian Music Publishers' Association, (L'd.), London, England, 1st April, 1890.
5313. THE PENNYCOMEQUICKS, by S. Baring Gould, (book). William Bryce, Toronto, Ont., 2nd April, 1890.
5314. THE ARAB'S RRIDE. Song. Words and Music by Godfrey Marks. The Anglo-Canadian Music Publishers' Association, (L'd.), London, England, 5th April, 1890.
5315. SCALES AND CHROMATIC SCALES. Section III. Number I, of "Practical Pianoforte School" by Charles Halle. Forsyth Brothers, London, England, 5th April, 1890.
5316. YACHTING SONG. Words by John Imrie. Music by Herbert L. Clarke. Imrie and Graham, Toronto, Ont., 5th April, 1890.
5317. { DEUX MAZURKAS. No. 1 in E Minor. }
 5318. { DEUX MAZURKAS. No. 2 in B Minor. } par Clarence Lucas. Op. 13.
 A. & S. Nordheimer, Toronto, Ont., 5th April, 1890.
5319. MISADVENTURE, by W. E. Norris, (book). William Bryce, Toronto, Ont., 8th April, 1890.
5320. A GIRL OF THE PEOPLE, by L. T. Meade, (book). John Lovell & Son, Montreal, Que., 8th April, 1890.
5321. APPENDICE: au RITUEL ROMAIN à L'USAGE DES PROVINCES ECCLESIASTIQUES DE QUEBEC, MONTREAL ET OTTAWA. Narcisse S. Hardy, Quebec, 8 Avril, 1890.
5322. UN VOYAGEUR DES PAYS d'en HAUT, par l'Abbé G. Dugas, (livre). C. O. Beauchemin et Fils, Montreal, Que., 9 Avril, 1890.
5323. ROSAMOND WALTZ, by C. R. Howell, Ameliasburg, Ont., 10th April, 1890.
5324. THE MAZE. An Evening in Harvest Time. Song. Words and Music by W. S. Duncan, Toronto, Ont., 11th April, 1890.
5325. UNE EXCURSION AUX CLIMATS TROPICAUX. Voyage aux Iles-du-Vent, par l'Abbé L. Provencher. J. A. Langlais, Quebec, 11 Avril, 1890.
5326. LE PREMIER WALTZ MINUET, pour Piano, par Prof. John F. Davis, Toronto, Ont., 12th April, 1890.
5327. THE LIFE AND TIMES OF GEN. JOHN GRAVES SIMCOE, together with some account of MAJOR ANDRE and CAPT. BRANT, by D. B. Read, Q. C. George Virtue, Toronto, Ont., 14th April, 1890.
5328. L'ENFANT MYSTERIEUX, par le Dr. V. Eugène Dick, Vols. I et II. J. A. Langlais, Que, 14 Avril, 1890.
5329. CÆSAR'S BELLUM GALLICUM. (Books I and II), with introductory notices, notes and complete vocabulary, by John Henderson, M. A. The Copp, Clark Co., (L'd.), Toronto, Ont., 16th April, 1890.
5330. MONTREAL PHARMACEUTICAL JOURNAL, Vol. I, No. I, April, 1890. Lyman Sons & Co., Montreal, Que., 17th April, 1890.
5331. BELT LINE MAP SHEWING NORTHERN SUBURBS OF TORONTO. Benjamin Sawden, Toronto, Ont., 18th April, 1890.
5332. GRIM TRUTH, by Alexis Agnes Vial, Montreal, Que., 18th April, 1890.
5333. SYRLIN OR POSITION, by "Ouida." John Lovell & Son, Montreal, Que., 18th April, 1890.
5334. THAT VALLEY OF TEARS. Poem. By William Thomas, Toronto, Ont., 18th April, 1890.
5335. THE OFFICIAL LAW LIST, 1890, (Ontario). Edited by H. R. Hardy, Barrister-at-Law, Toronto, Ont., 18th April, 1890.
5336. I DYE TO LIVE. Song. Music by Geo. F. Root. Robert Parker, Toronto, Ont., 19th April, 1890.
5337. HISTOIRE POPULAIRE DE MONTRÉAL DEPUIS SON ORIGINE JUSQU'A NOS JOURS, par Adrien Leblond de Brumath, Montréal, Que., 21 Avril, 1890.
5338. { WALDO, by N. D. Bagwell. }
 5339. { SELECTED SERMONS AND LECTURES, by the late Rev. Wm. Stephenson. }
 William Briggs, Book Steward of the Methodist Book and Publishing House, Toronto, Ont., 21st April, 1890.

5340. REVE D'AMOUR. (Dream of Love). Valse for Piano, by M. A. Torrance. I. Suckling & Sons, Toronto, Ont., 21st April, 1890.
5341. LOOKING BACK. Valse de Salon, by F. A. Towner, Toronto, Ont., 21st April, 1890.
5342. SCINTILLA. Suite des Valses, par H. H. Godfrey. A. & S. Nordheimer, Toronto, Ont., 21st April, 1890.
5343. FÊTE NATIONALE DES CANADIENS FRANCAIS CELEBRÉE A QUEBEC 1881-1889, par Honoré Julien Jean Baptiste Chouinard, Ancien Président General de la Société St. Jean Baptiste de Quebec, Quebec, 21 Avril, 1890.
5344. PHOTOGRAPH OF SACRED COLLEGE WITH KEY THERETO. Mrs. Mary Eastham, Winnipeg, Man., 22nd April, 1890.
5345. FOREIGN EXCHANGE EQUIVALENT QUOTATIONS. Robert Terroux, Montreal, Que., 22nd April 1890.
5346. PHOTOGRAPHS PRODUCED FROM SKETCHES OF SCENERY IN THE EARLY HISTORY OF CANADA. Second Edition. John D. Robertson, St. John, N.B., 22nd April, 1890.
5347. BELL TELEPHONE COMPANY OF CANADA. TORONTO EXCHANGE, SUBSCRIBERS' DIRECTORY, ONTARIO DEPARTMENT, APRIL, 1890. The Bell Telephone Company of Canada, Montreal, Que., 24th April, 1890.
5348. LITTLE ANNA ROONEY. Words and Music by Michael Nolan. Arranged by George Le Brunn. The Anglo-Canadian Music Publishers' Association, (L'd.), London, England, 25th April, 1890.
5349. DYSPEPTICURE. A WORK ON DYSPEPSIA. Charles K. Short, St. John, N. B., 28th April, 1890.

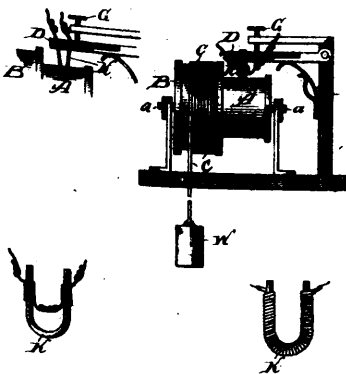
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ILLUSTRATIONS.

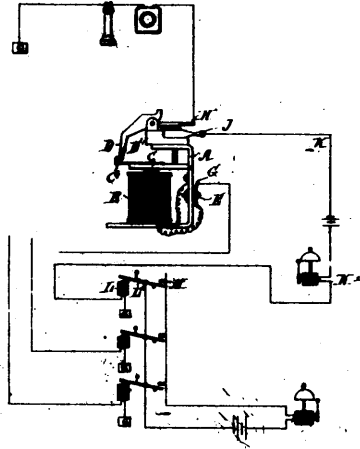
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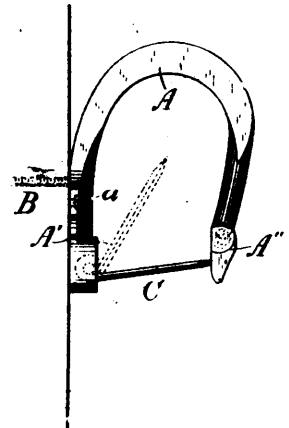
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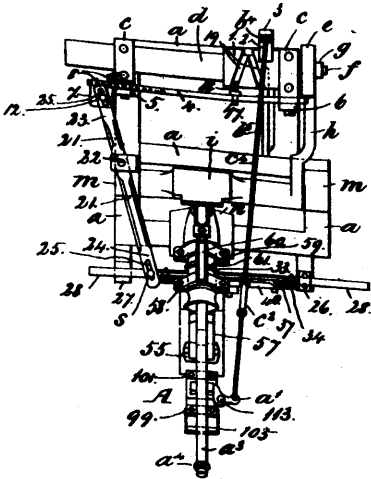
34005 Nuttin's Electro Mechanical Movement.



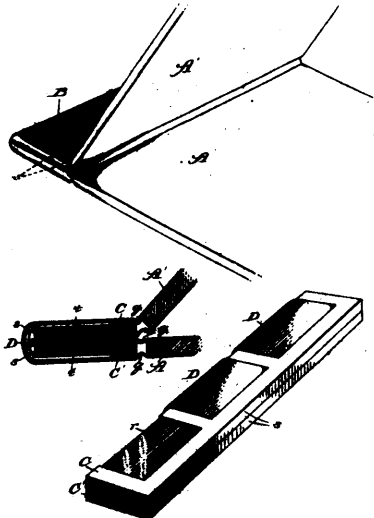
34006 Sise's Electric Current Arrester.



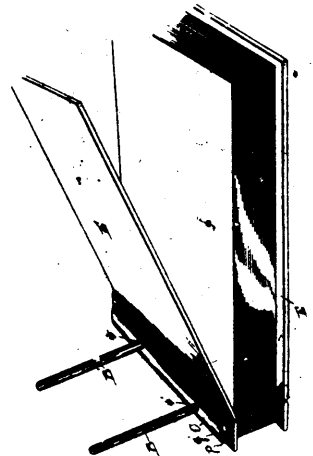
34007 Fournier's Paper File.



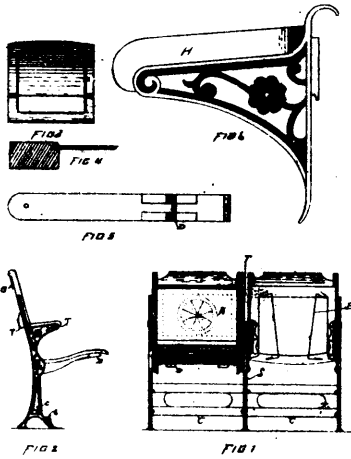
34008 Hersey's Nail Plate Feeder.



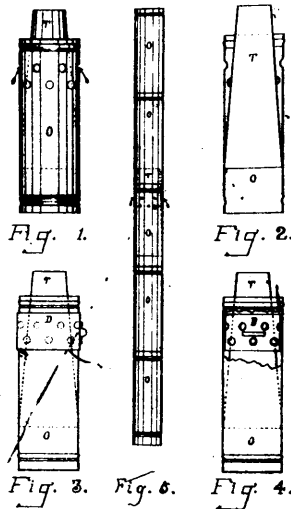
34009 Copeland & Chatterton's Order Holder.



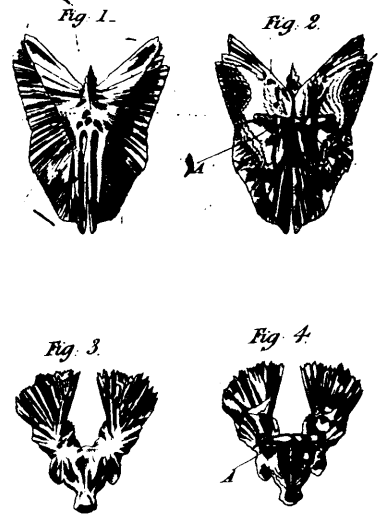
34010 Copeland & Chatterton's Binder.



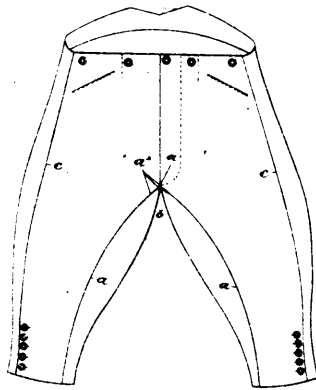
34011 Pennington's Church or Pew Chair.



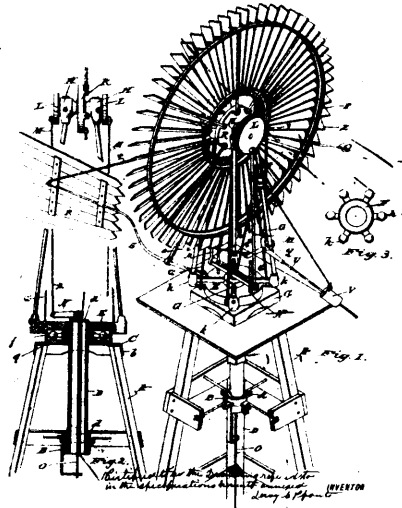
34012 Tarrant's Gas Absorber, etc.



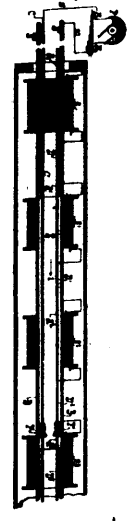
34013 Read's Production of Brooches, etc., from the Bones of Fishes.



34014 Crisp & Wood's Cutting Out and Making up of Breeches, etc.



34015 Pfont's Wind Wheel.



34016 Williams' Electro Magnetic Despatch Apparatus.

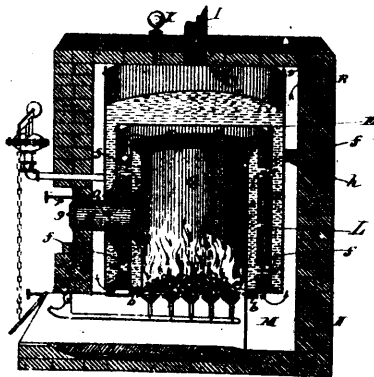
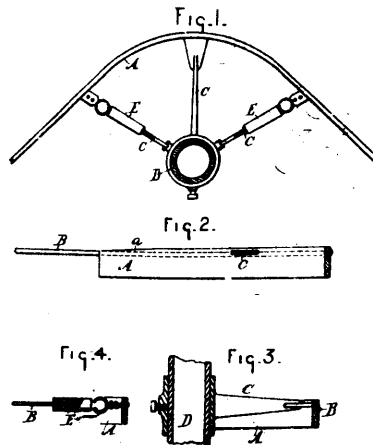
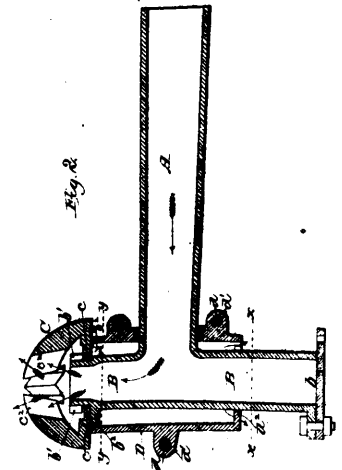


Fig. 1.

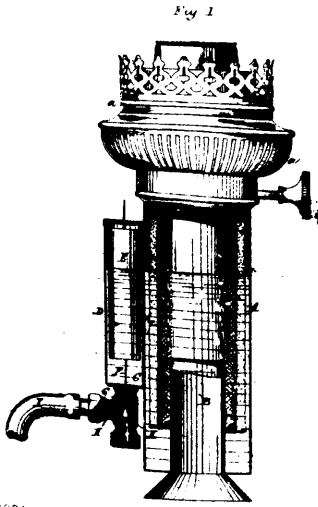
34017 Dunning's Steam Heating Boiler.



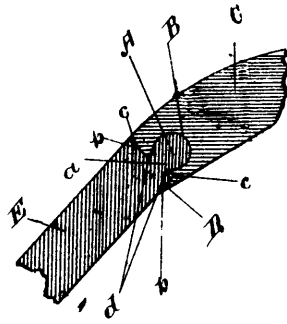
34018 Church's Curve for Cash Carrier System.



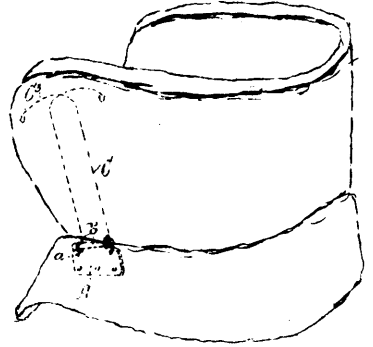
34020 Stoll's Tuyere.



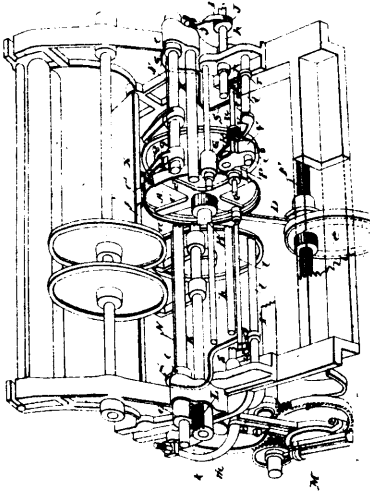
34021 Penn's Method of Controlling the Distribution of Hydro Carbon, for Lighting Purposes, etc.



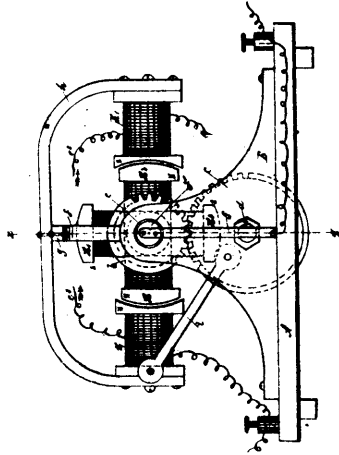
34022 Nixon's Joint.



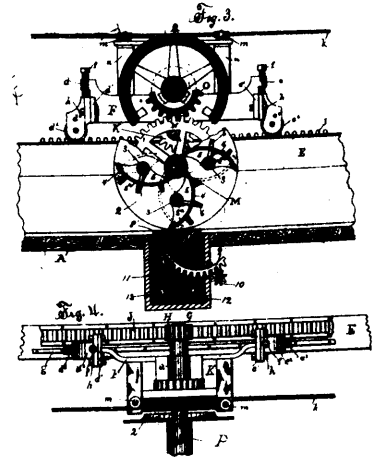
34023 Wittmann's Stiffeners for Collars.



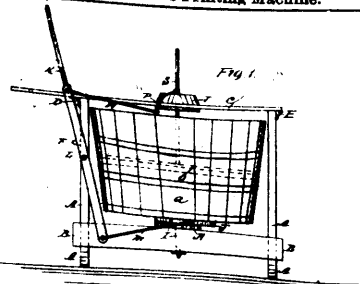
34024 McDowell's Printing Machine.



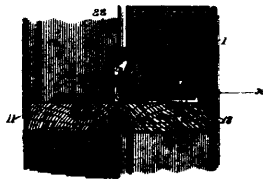
34025 Carr's Dynamo Machine.



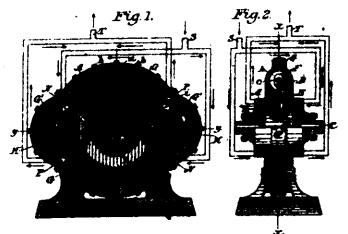
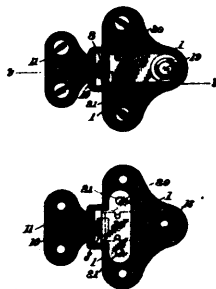
34026 Wiggin's Malting Machine.



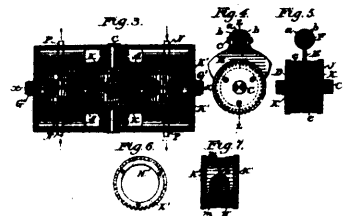
34027 Reinhart's Washing Machine.

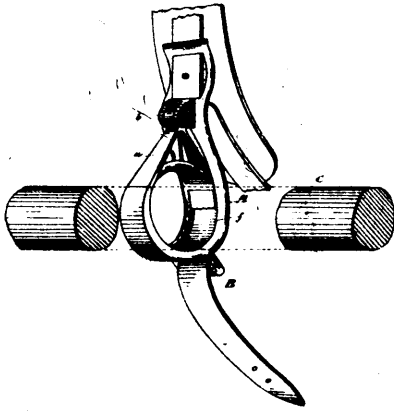


34028 Griswold's Sash Fastener.

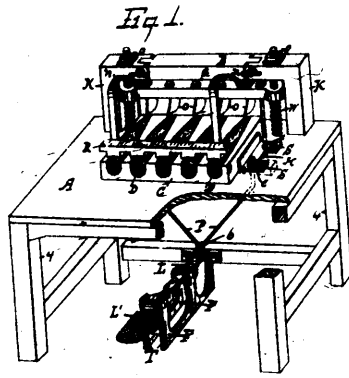


34030 Malmberg's Rotary Engine.

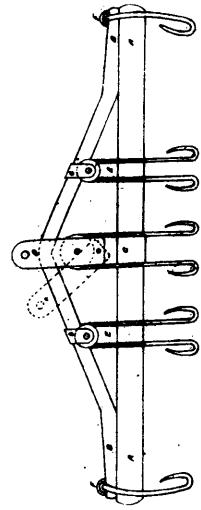




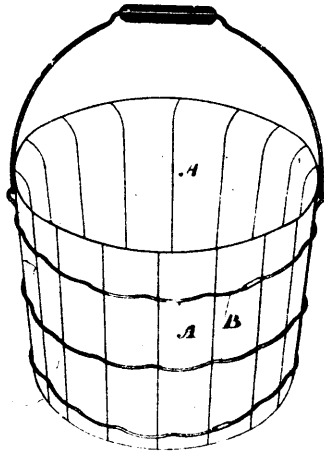
34031 Best & Saddler's Shaft Loop.



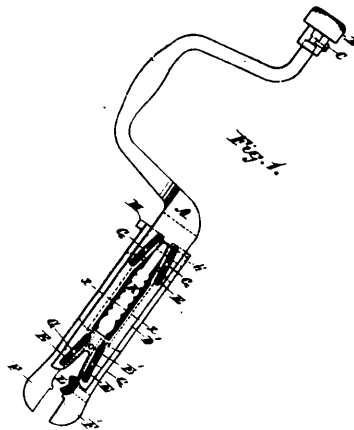
34032 Martyn's Cigar Bunch Slitting Machine.



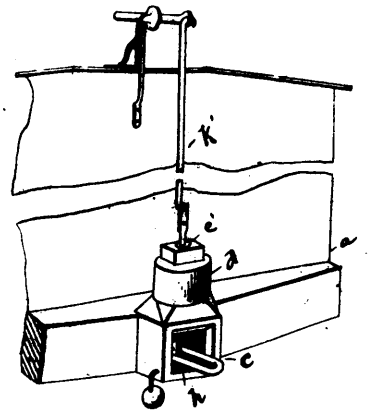
34033 Jackson's Set of Whiffletrees.



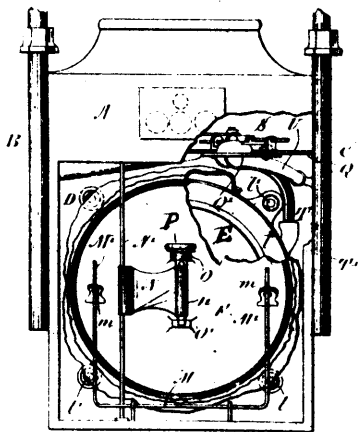
34034 Stratton's Pail, etc.



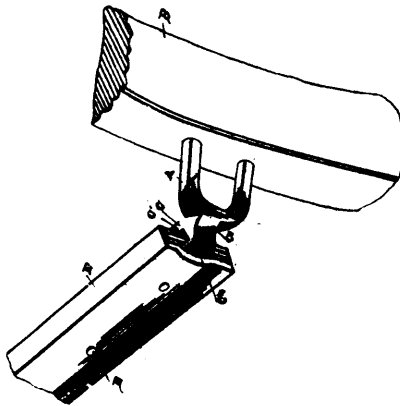
34035 Wies' Bit Stock, etc.



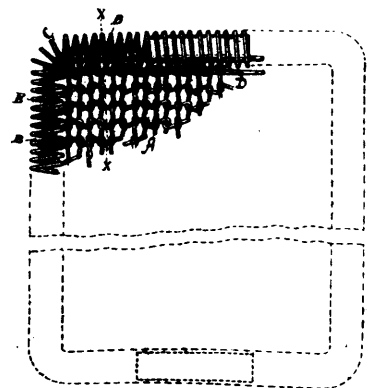
34037 Ulery's Car Coupling.



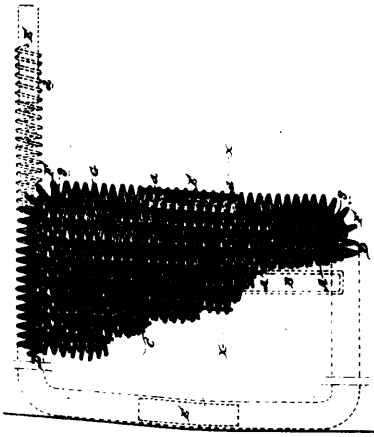
34038 Mitchell & Lawson's Gas Meter.



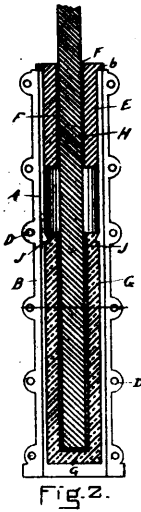
34039 Crossan & Dever's Horse Staple, etc.



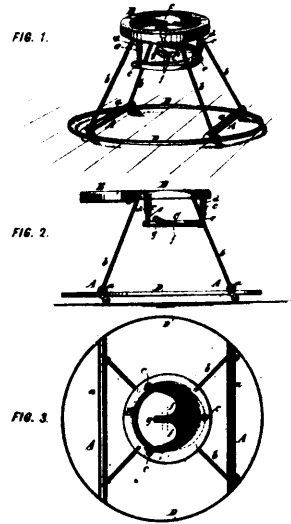
34040 Midgeley's Frame for Wire Mats.



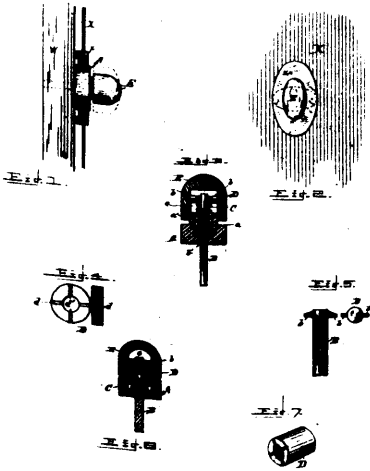
34041 Rogers' Frame for Wire Mats.



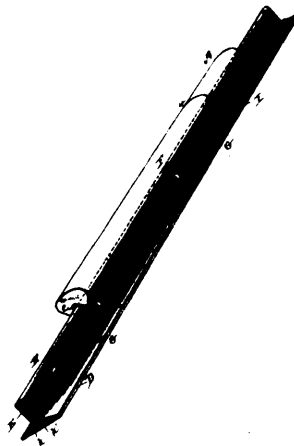
34043 Spooner's Ingots for the Manufacture of Wire.



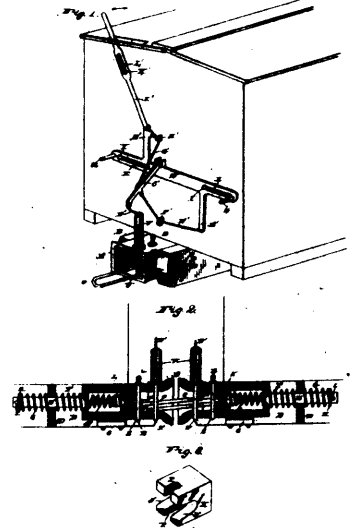
34044 Richardson's Baby Tender.



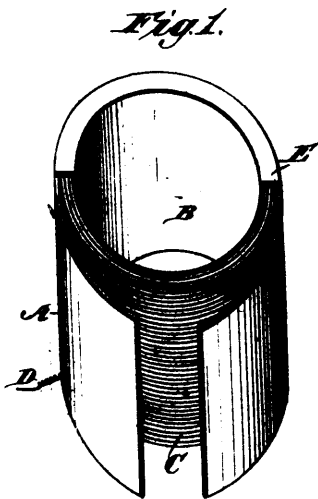
34045 Scott's Carriage Curtain Fastening.



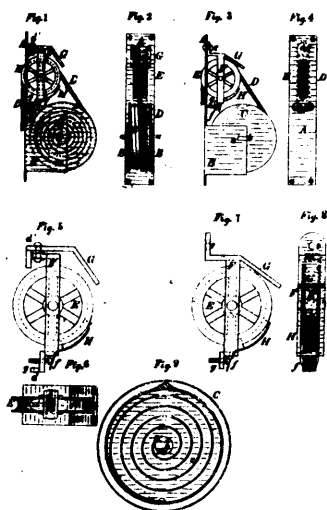
34046 Bacot's Rail.



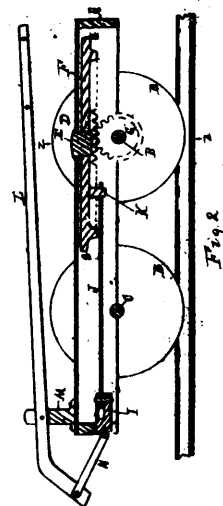
34047 Newman's Car Coupling.



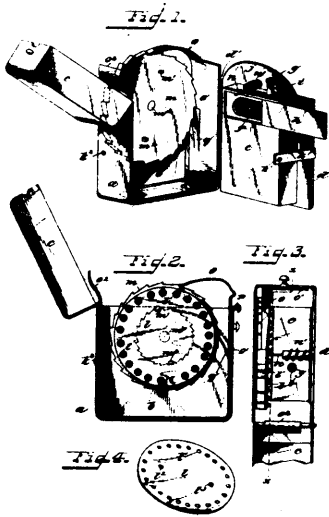
34048 Butterfield's Electric Heating and Cooking Device.



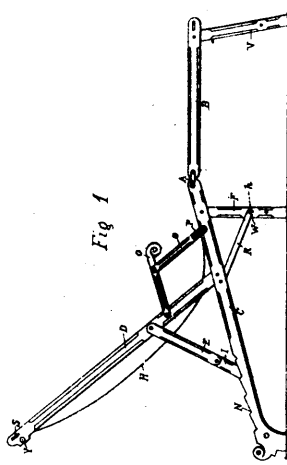
34049 McArthur's Sash Balance.



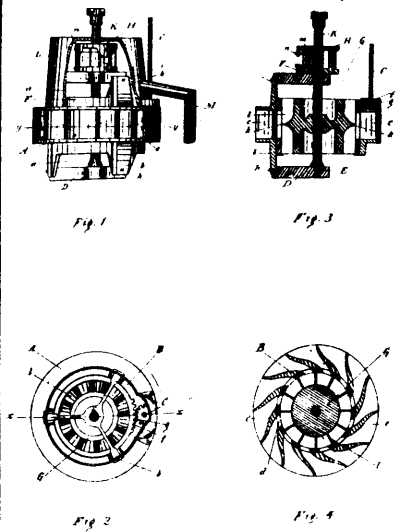
34050 Stamp's Hand Car.



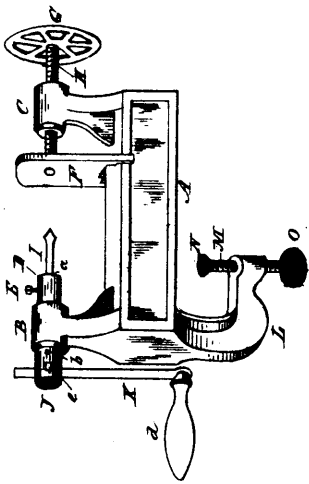
34051 Koopman's Pocket Lamp.



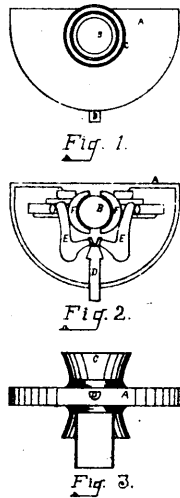
34052 Allen & Hatch's Chair and Lounge.



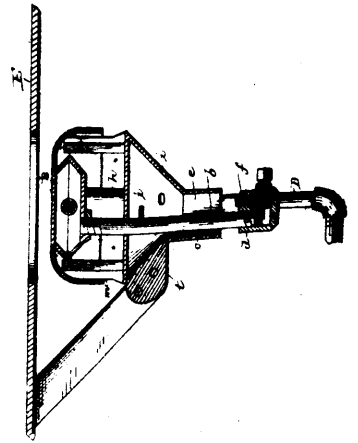
34053 Patrick's Roue Hydraulique.



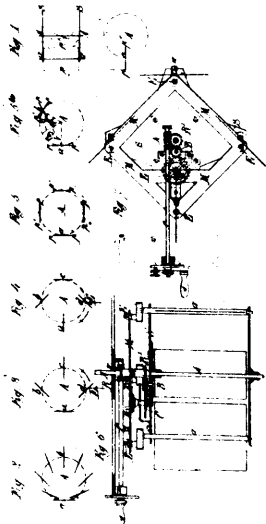
34054 Moore's Drilling Machine.



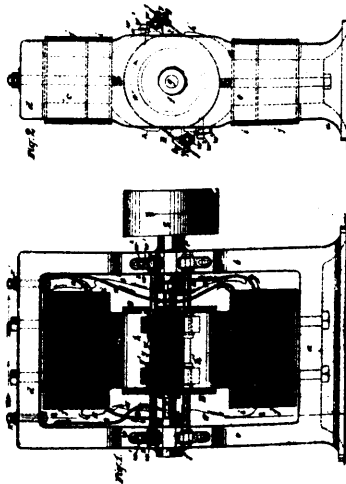
34055 Holden's Elevator Lock.



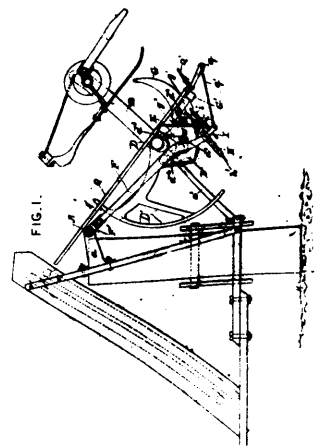
34057 Calder's Vapor Burner.



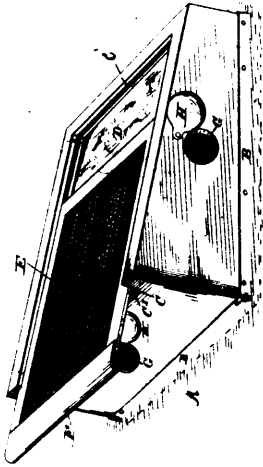
34058 Avet's Rotary Apparatus.



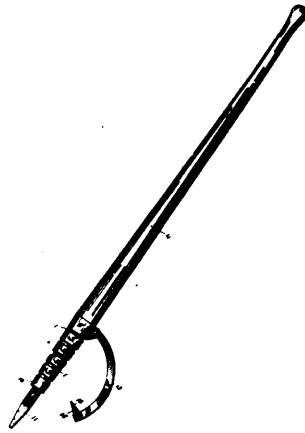
34059 Wilson's Dynamo Electric Machine.



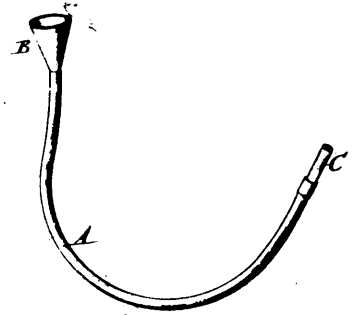
34060 Seiberling's Grain Binder.



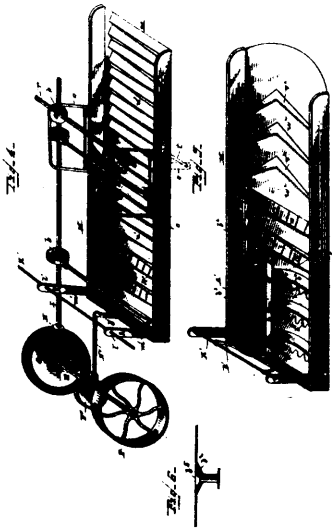
34062 Smart's Plant Protector.



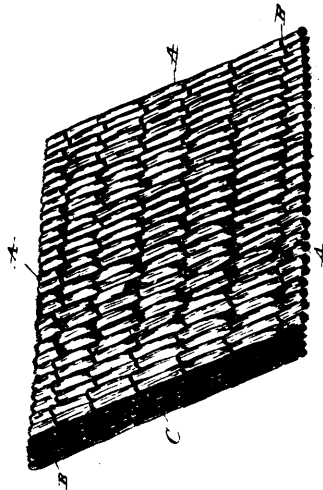
34063 Creigh's Cant Hook.



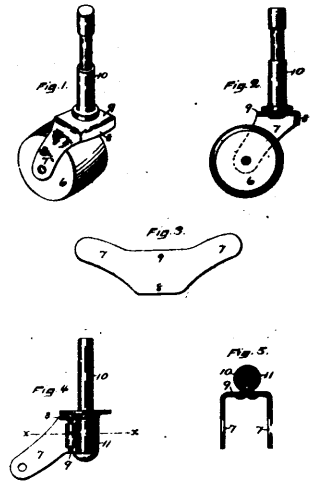
34064 Harding's Insufflator.



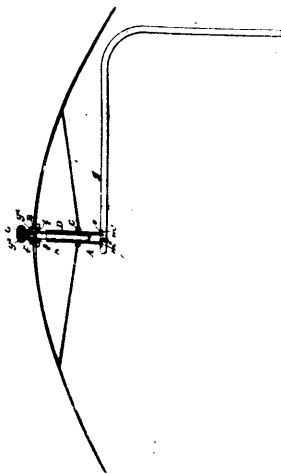
34065 Van Derveer's Ore Concentrator.



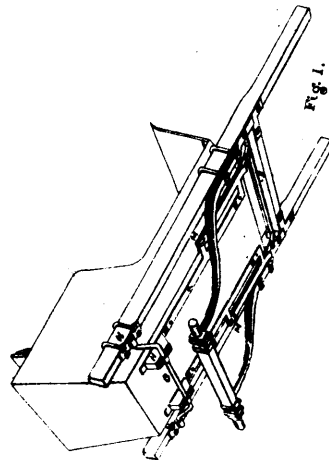
34066 Gregg, Jr.'s Carpet Lining.



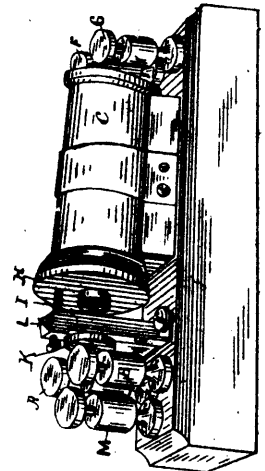
34067 Clark's Caster.



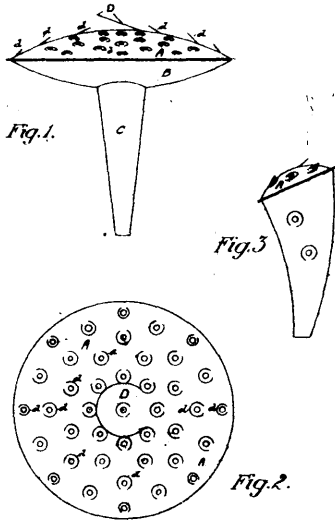
34068 Smith's Parasol for Children's Carriages.



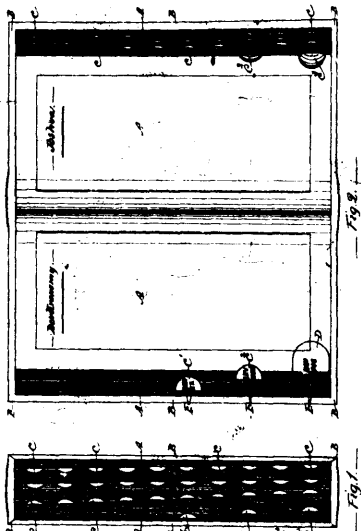
34069 Robertson's Gear for Vehicles.



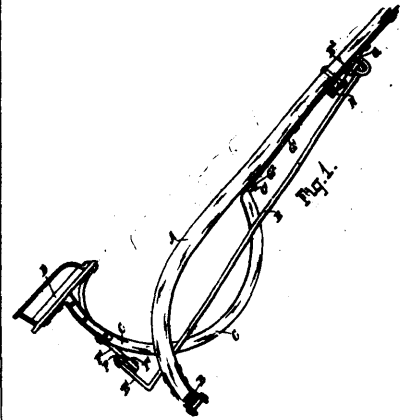
34070 Forster's Electro Magnetic Cut Out.



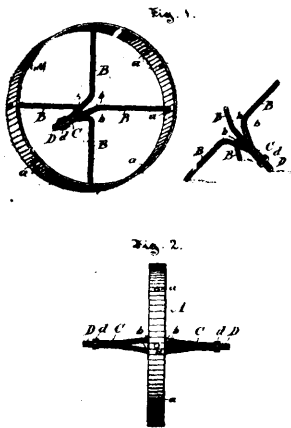
34071 Christie's Holder for Plants, etc.



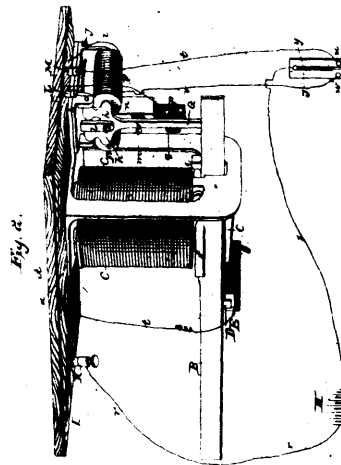
34072 Laing's Index for Bibles.



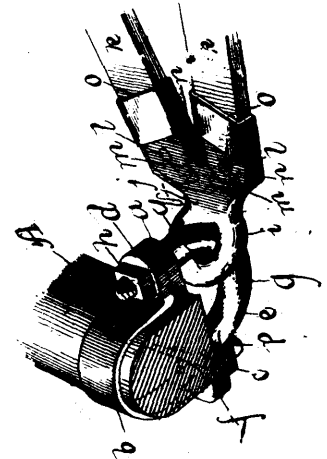
34073 Stringer's Vehicle Spring.



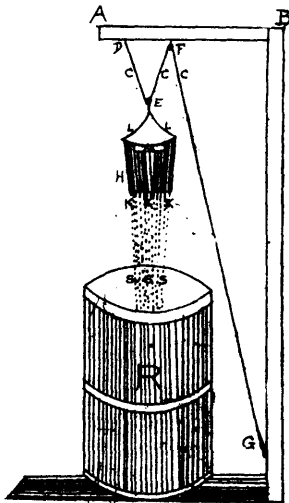
34074 Scotte's Wheel Barrow Wheel.



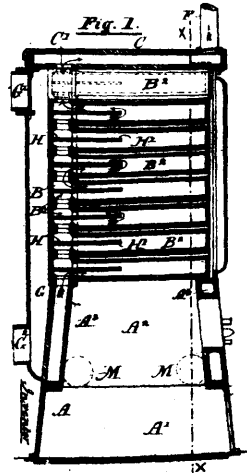
34075 Stout's Electro Magnetic Temperature Regulator.



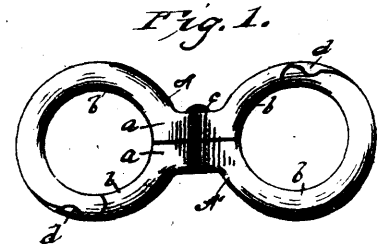
34076 Wyeth's Fifth Wheel.



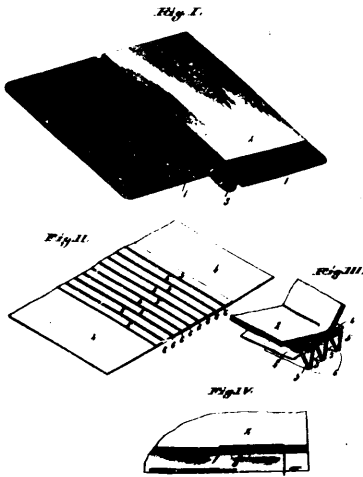
34077 Alford's Milk Aerator.



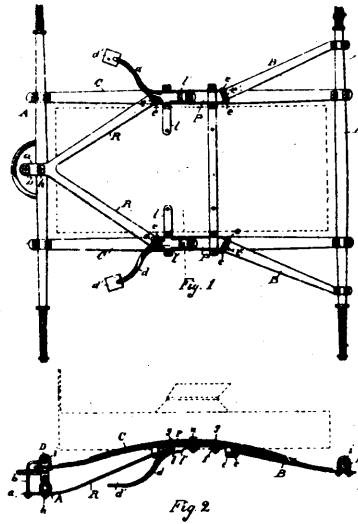
34078 Dwinell's Hot Water Boiler.



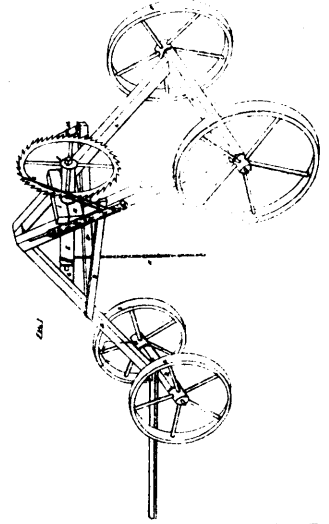
34079 Baker's Link.



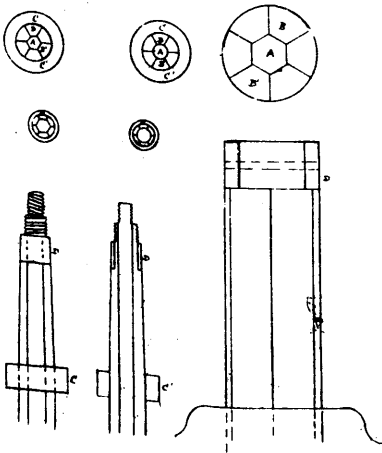
34080 Frey & Buscher's Book Binding.



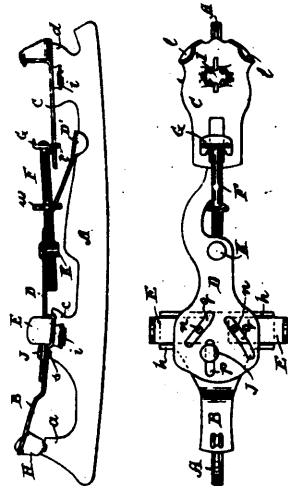
34081 Whitney's Spring Vehicle.



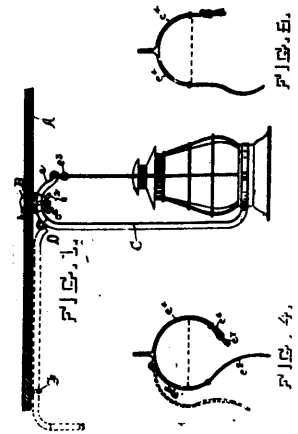
34083 Thibault's Machine for Extracting Tree Stumps, etc.



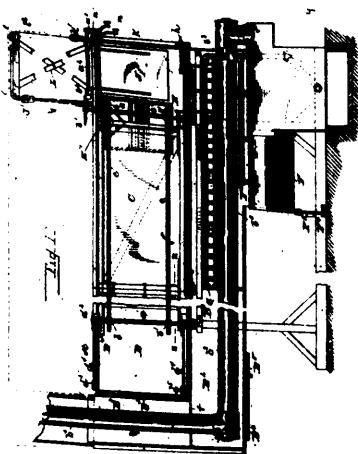
34084 Rogers' Axle.



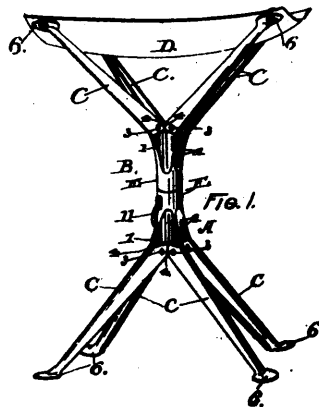
34085 Whelpley's Skate.



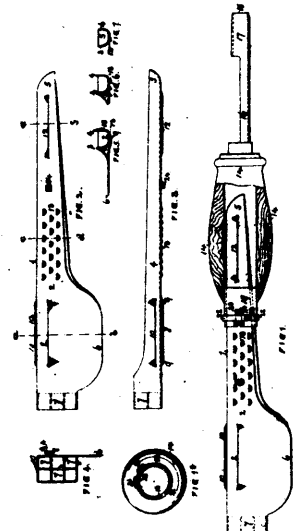
34086 Ellicott's Lamp Holder.



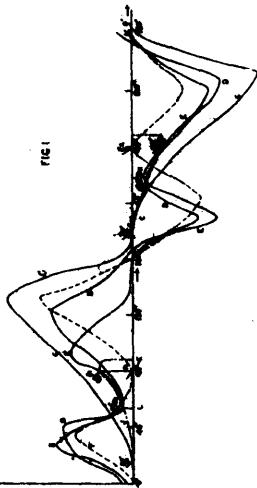
34087 Frick's Drier for Fruit.



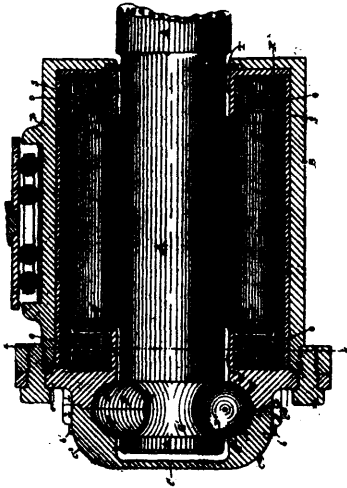
34088 Lang's Camp Stool.



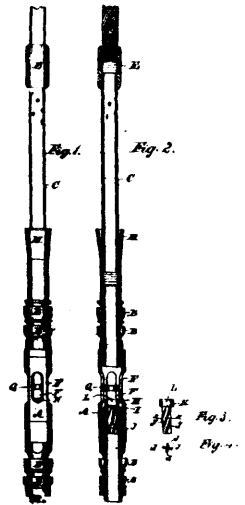
34089 Dawson & Goodwin's Apparatus for Peeling and Slicing Potatoes, etc.



34080 Statter's Pole Piece of Dynamo Electric Machines.



34081 Meneely & Gibbons' Roller Bearing.



34082 McGregor's Pump Valve.

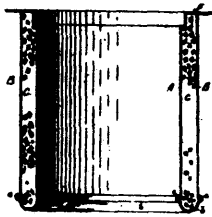


Fig. 1.

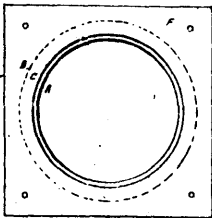
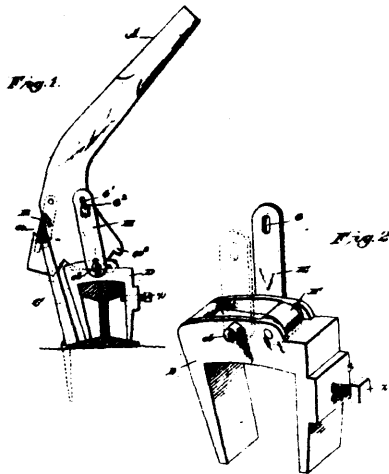
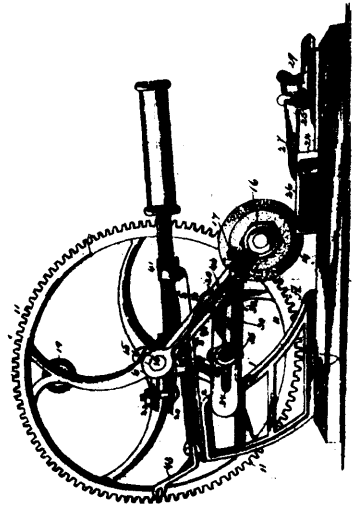


Fig. 2.

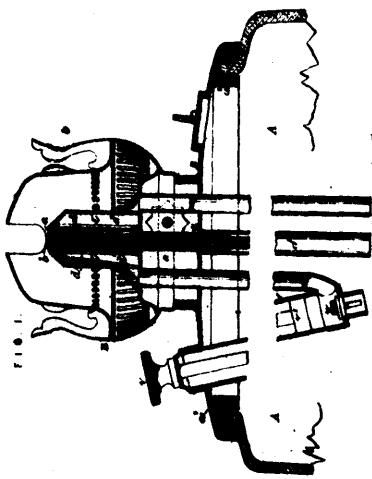
34083 Fairgrieve's Stove Pipe Thimble.



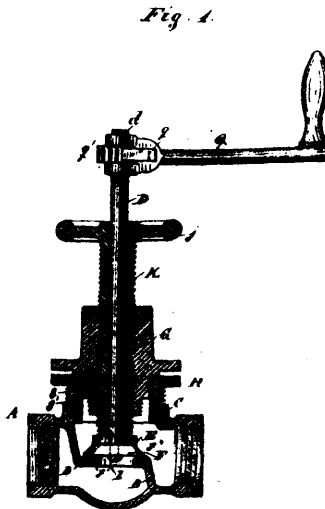
34084 West's Spike Extractor.



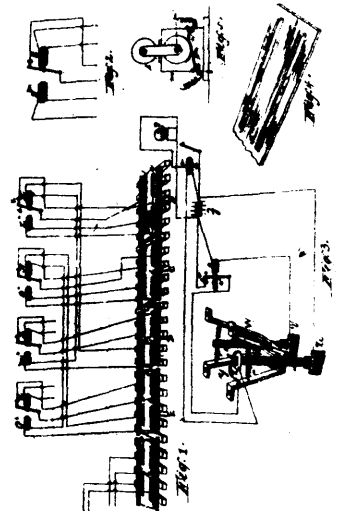
34085 Parker's Grinding Machine.



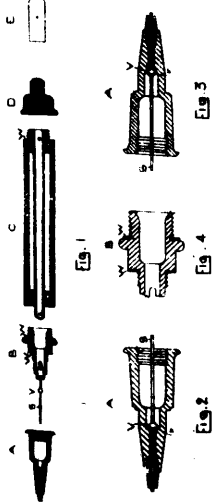
34086 Penn's Oil Lamp.



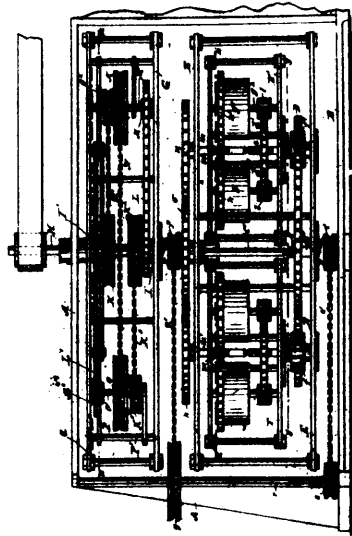
34088 Wright's Valve Reseating Tool.



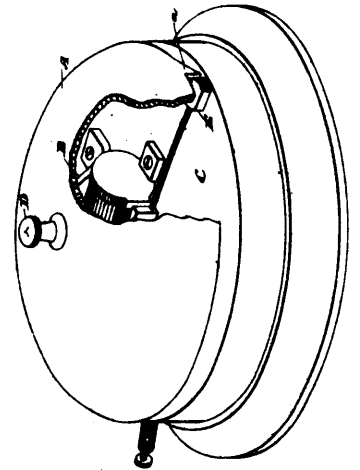
34089 Palmer's Electric Signalling Apparatus.



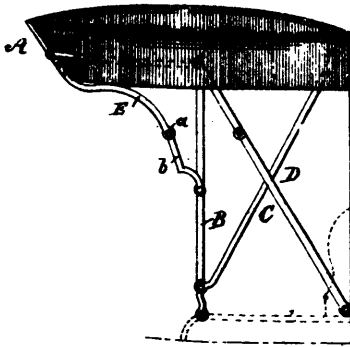
34100 Norgate's Stylographic Pen.



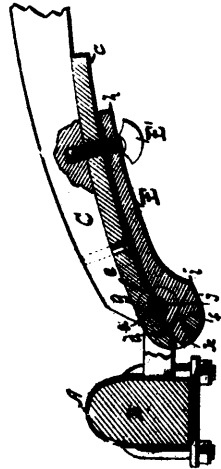
34101 Belchard's Spring Motor.



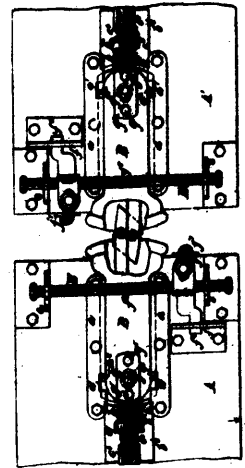
34102 Stevens & Harris' Electric Gong.



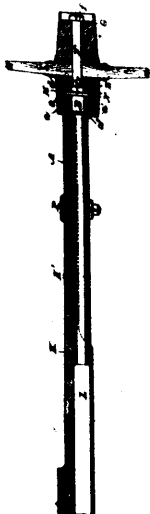
34103 Kierolf's Carriage Top.



34104 Compton & Longcoy's Thill Coupling.



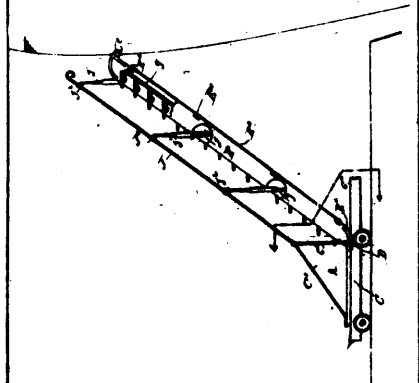
34105 Watson's Car Coupling.



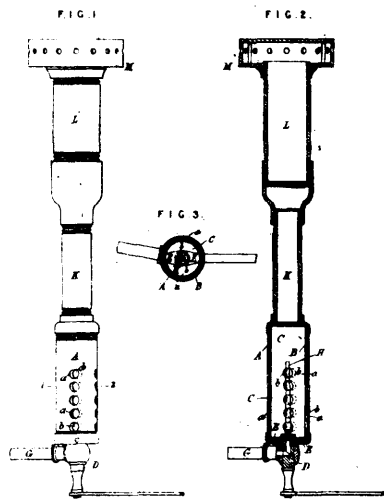
34106 Chapman's Axle.



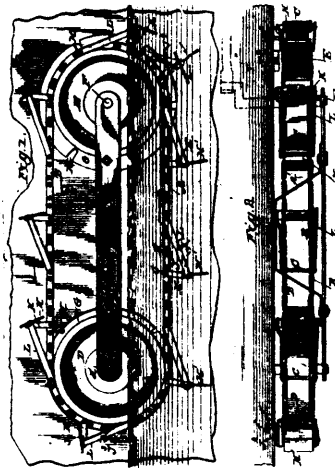
34107 McKechnie's Boot or Shoe, etc.



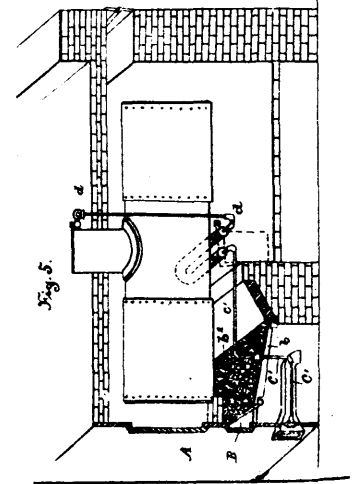
34108 Thomson's Passenger Gangway, etc.



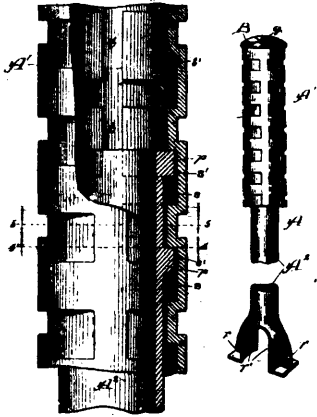
34109 Cox's Gas Burner.



34110 French's Chain Propeller, etc.



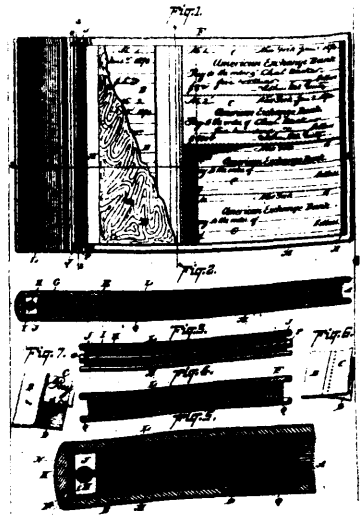
34111 Cornell's Method and Apparatus for Heating in Furnaces.



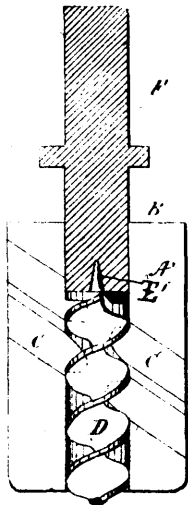
34112 Gundermann's Stop Cock Box.



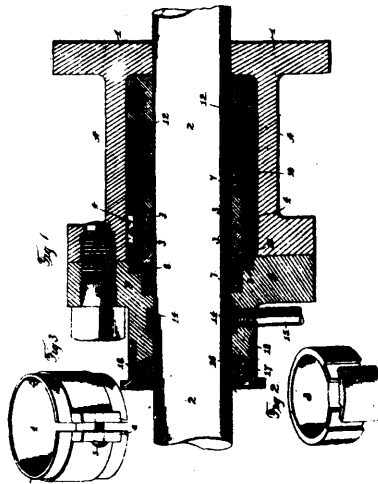
34113 Levy's Corset Busk.



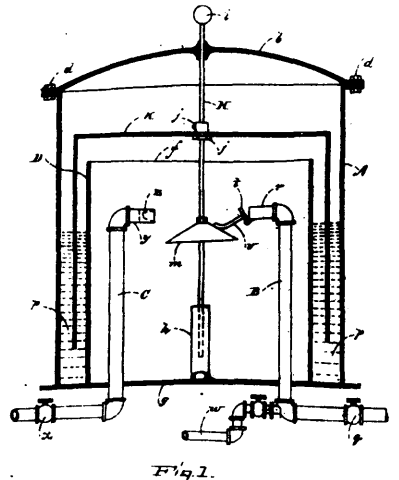
34114 Evans' Check Book, &c.



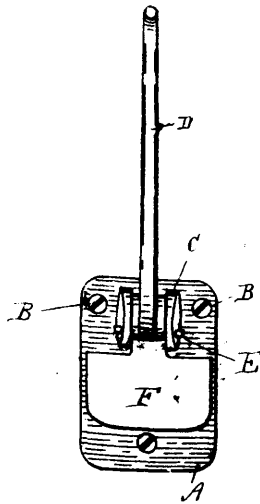
34115 Crowther's Manufacture of Auger Bits, etc.



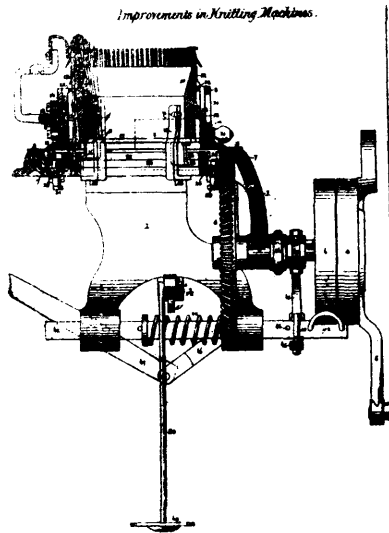
34116 Jerome's Piston Rod Packing.



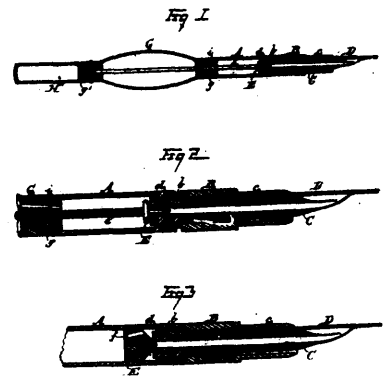
34117 Rossney & Cutter's Gas Regulator, etc.



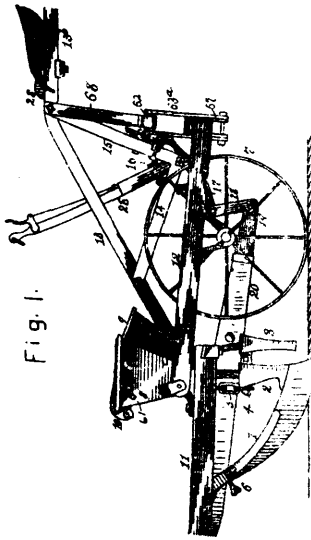
34118 Drouillard's Clothes and Hat Holder.



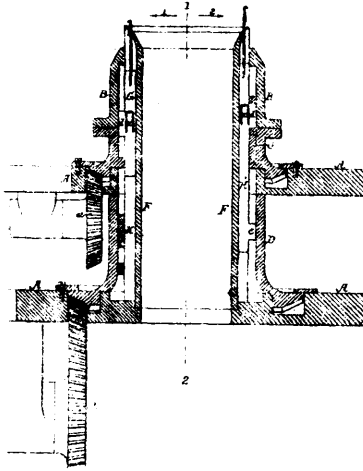
34119 Franck's Knitting Machine.



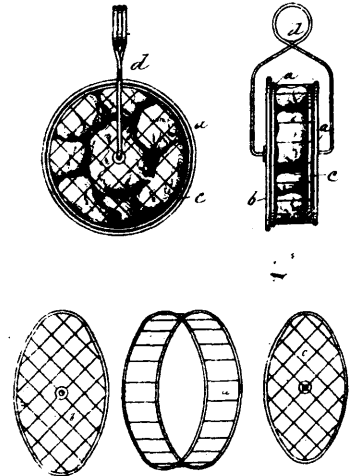
34120 Bray's Fountain Pen.



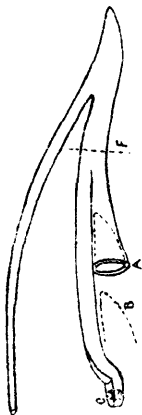
34121 Rhodes' Grain Drill.



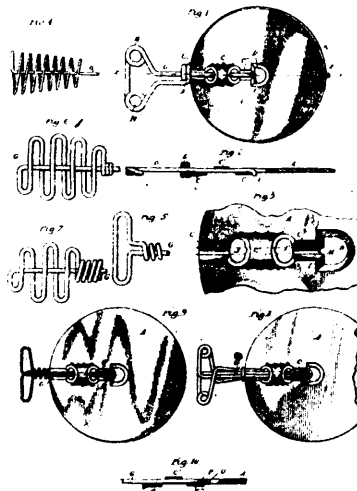
34122 Gilbert's Knitting Machine.



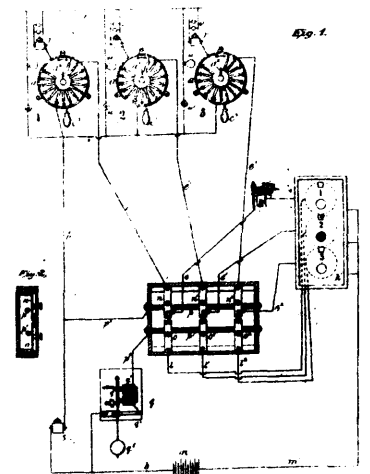
34123 Ams' Process of Preserving Fish and Meat.



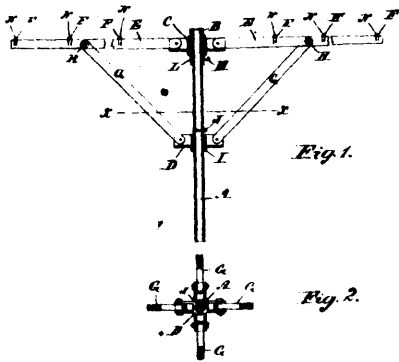
34124 Hamilton's Pea Harvester Guard.



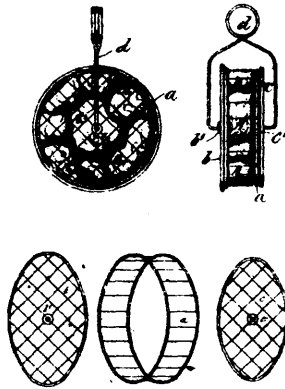
34125 Hance's Damper.



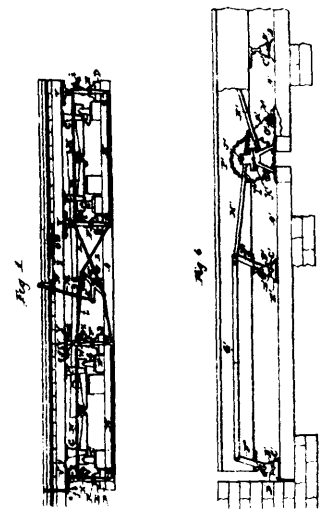
34126 Holcombe's Electrical Communicative System.



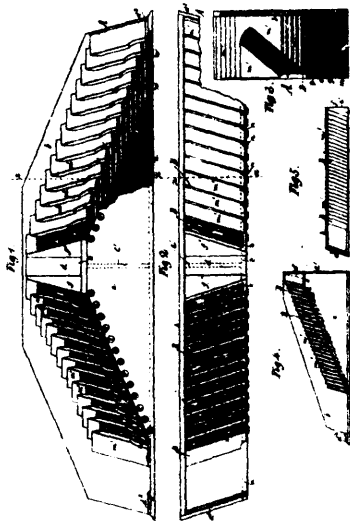
34127 Richmond's Clothes Drying Reel.



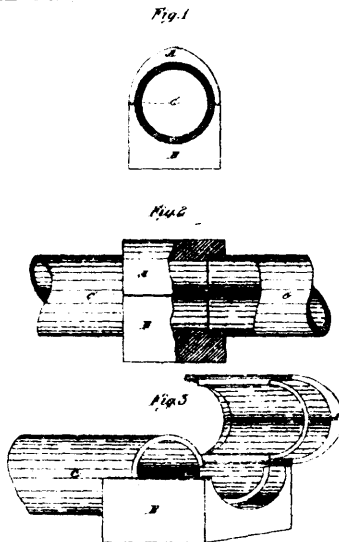
34128 Ams' Apparatus for Smoking Fish and Meat.



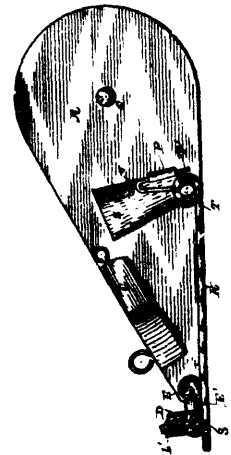
34129 Ballard & Fisher's Railroad Scales.



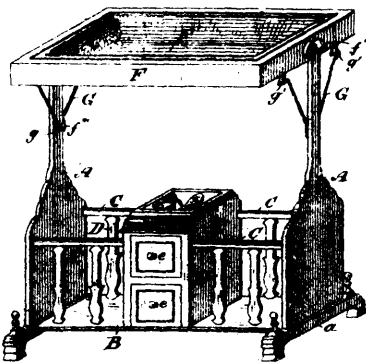
34130 Wilson's Account and Record Holding Case, etc.



34131 Ford's Drain Pipe Connector.



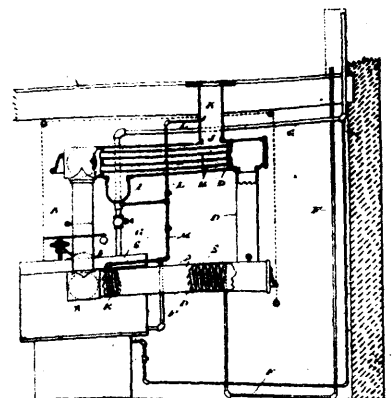
34132 Dick's Addressing Machine.



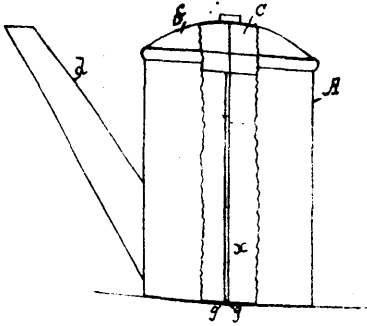
34133 Stratton's Infants' Toilet Case and Bath.



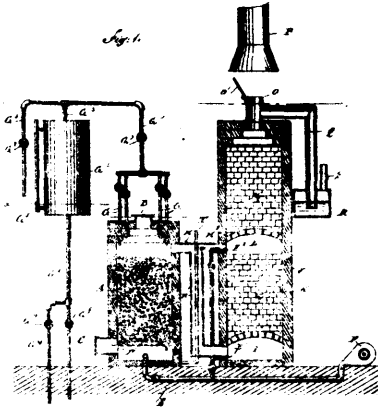
34134 Field's Feed Water Heater, etc.



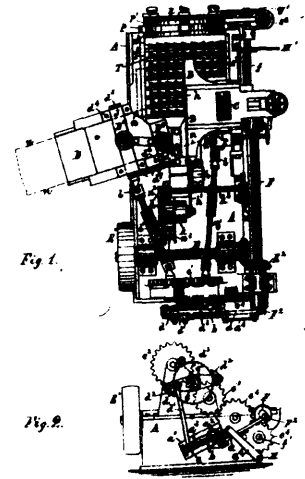
34135 King's Steam Heating Apparatus.



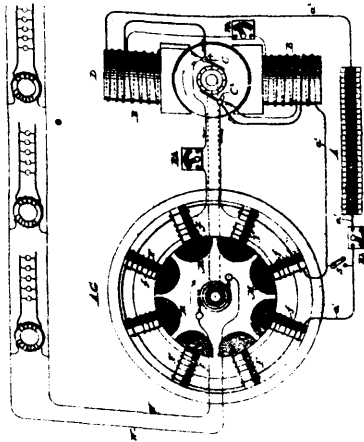
34136 Oould's Tea and Coffee Pot.



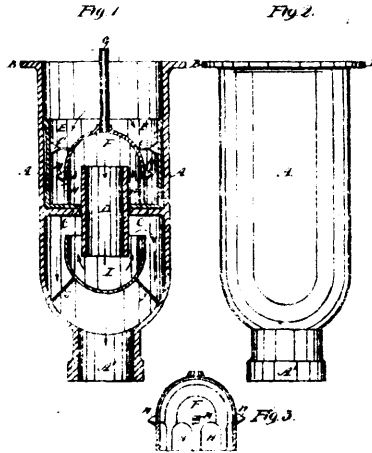
34137 McCollum's Apparatus for the Manufacture of Gas.



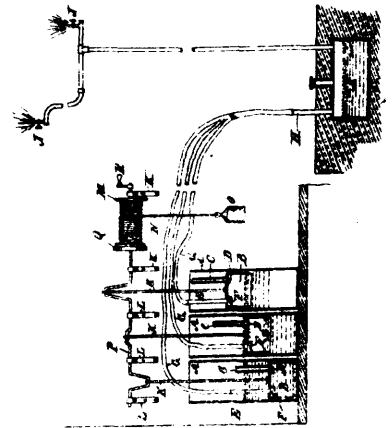
34138 Green's Spiral Welding Machine.



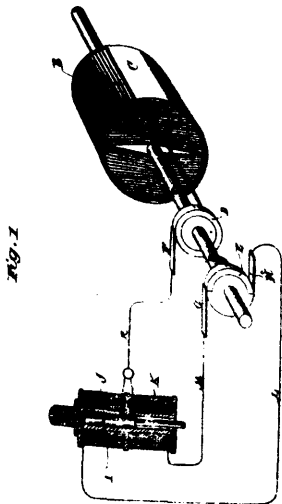
34139 Currie's Electrical Distribution.



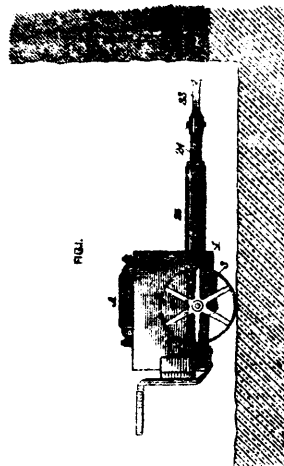
34140 Baker's Water Trap.



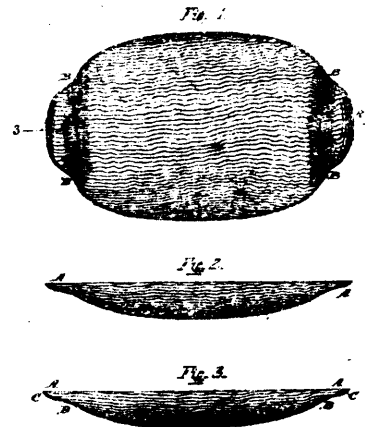
34141 Brotherston's Air Gas Machine.



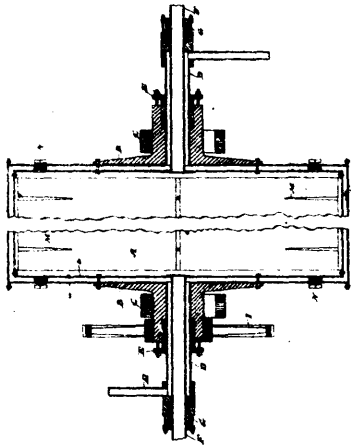
34142 Marvin's Electrically Reciprocated Tool.



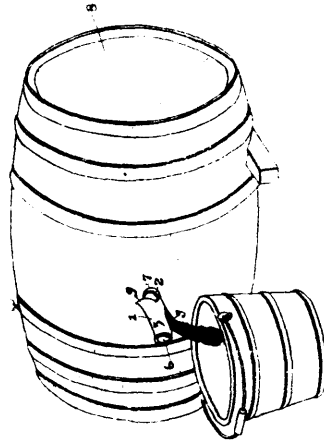
34143 Michales' Mining Machine.



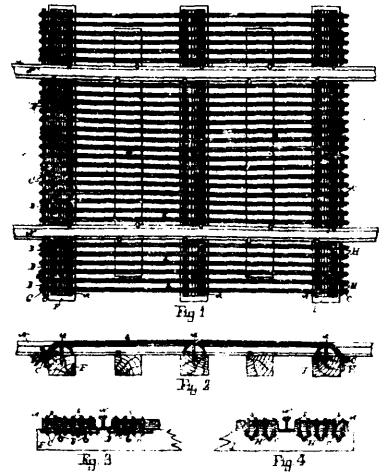
34144 Johnson's Wooden Dish.



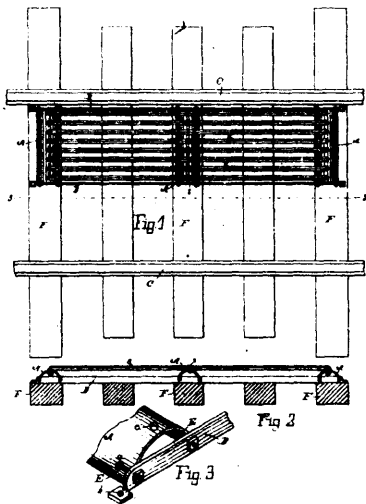
34145 Pedder's Carbonizing and Drying Machine.



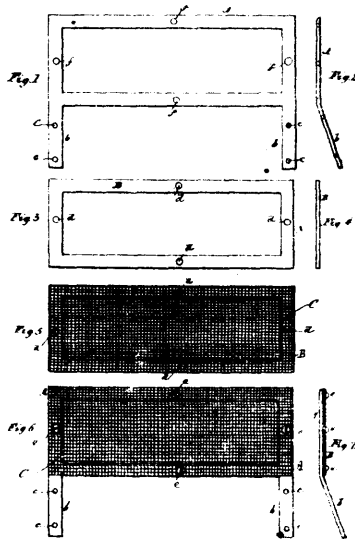
34146 Bowyer & Loar's Bung Spout for Barrels.



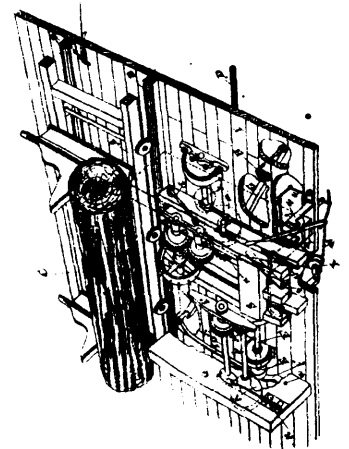
34147 Merrill's Cattle Guard.



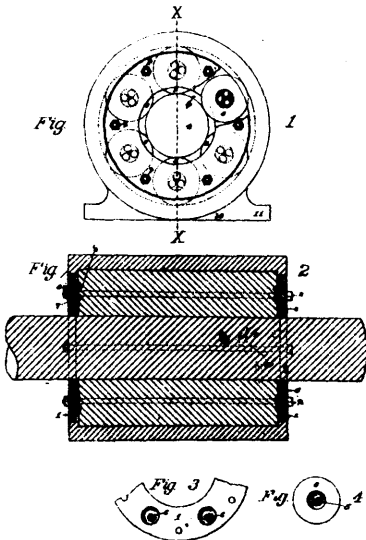
34148 Merrill's Cattle Guard.



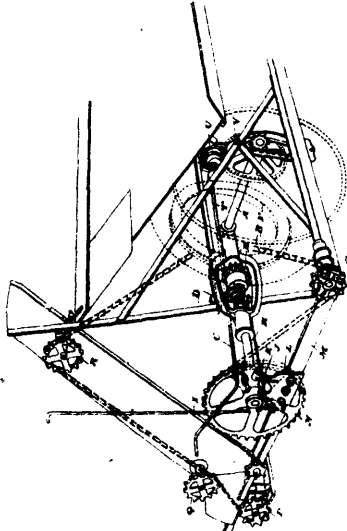
34149 Phillips' Dash Board.



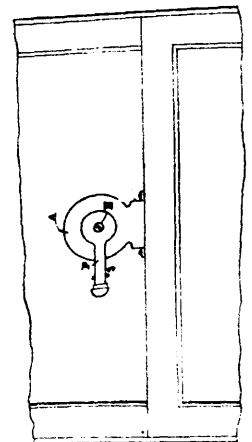
34150 Wardell's Log Canter.



34151 Moffett's Journal Box.



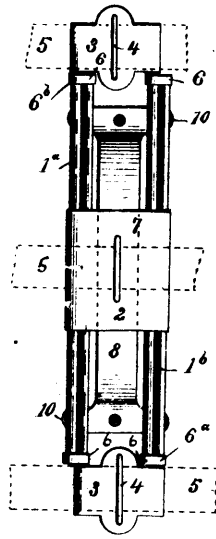
34152 McLachlan's Driving Mechanism for Harvester-Binders.



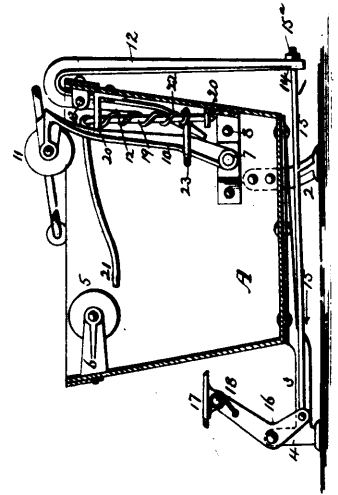
34153 Livermore's Fastener for the Meeting Rails of Sashes.



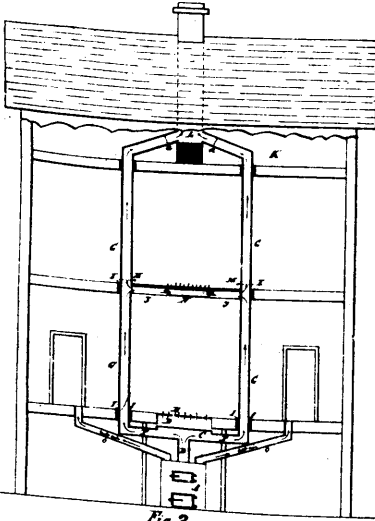
34154 De Lancetti's Beveling Square.



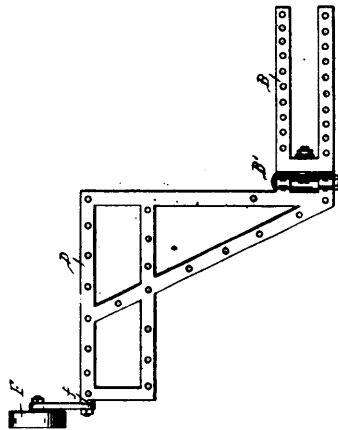
34155 Morris' Strap Holder for Parcels



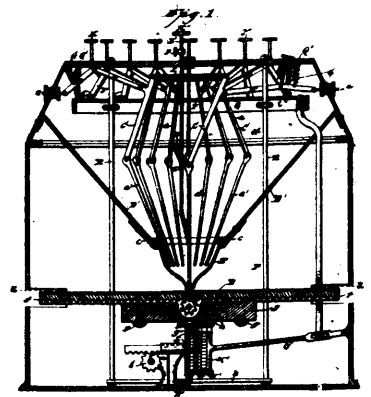
34156 Burnham's Mop Wringer.



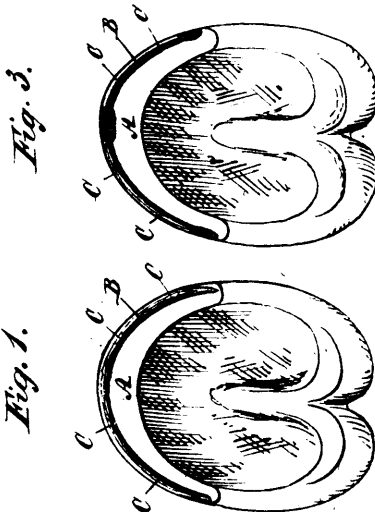
34157 Moore's Heating Apparatus, etc.



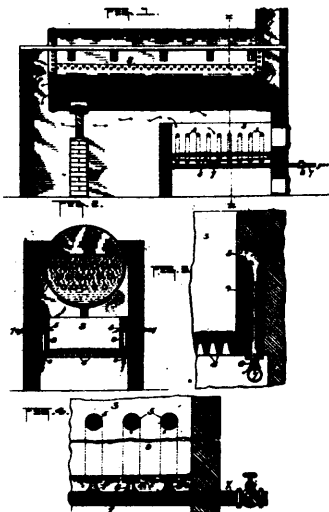
34158 Berlin's Harrow Attachment.



34159 Rennyson's Matrix Making and Type Writing Machine.



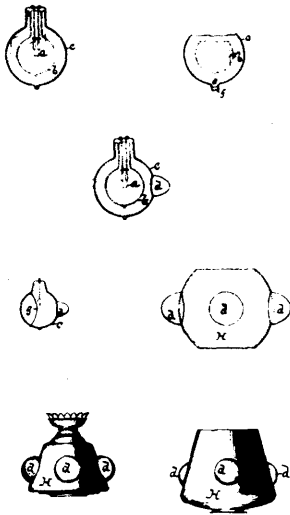
34160 Rankin's Horse Shoeing.



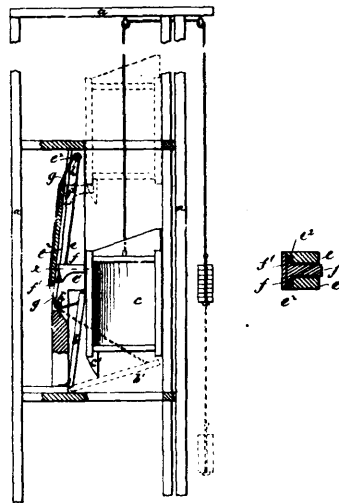
34161 Whysall & Lambing's Gas Furnace.



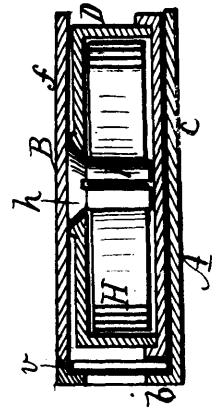
34162 Dixon's Skirt Protector.



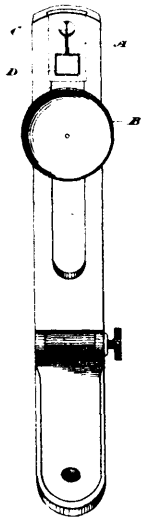
34163 Böhm & Power's Lamp Glass.



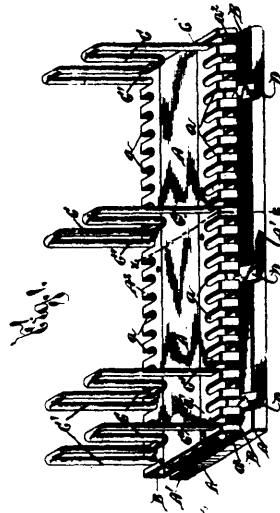
34164 Stoneham's Hatch Operating Mechanism.



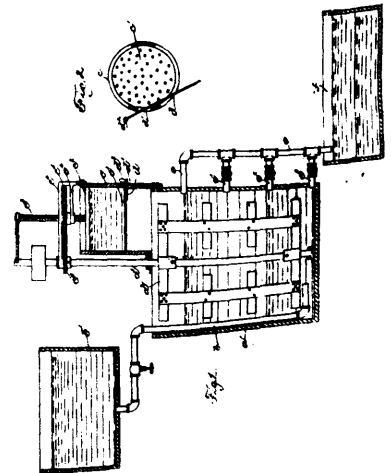
34165 Rosentreter's Sash Balance.



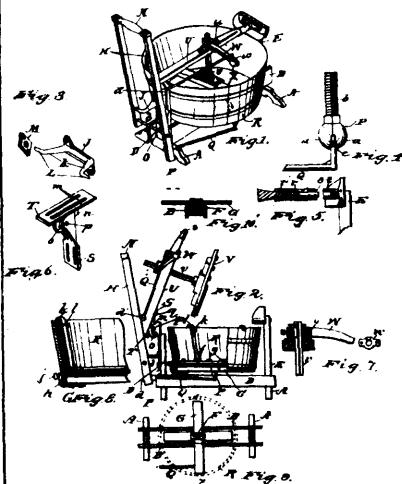
34167 Nelson's Rifle Sight.



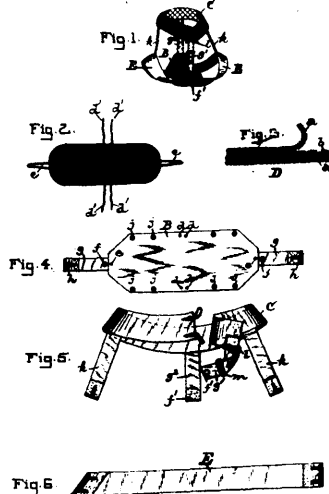
34168 Wells' File.



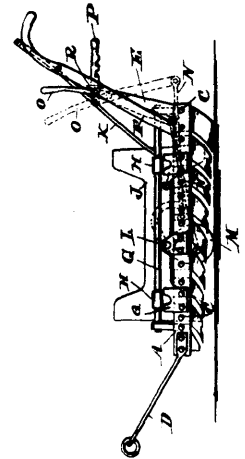
34169 Barker's Method of obtaining Gluten, etc.



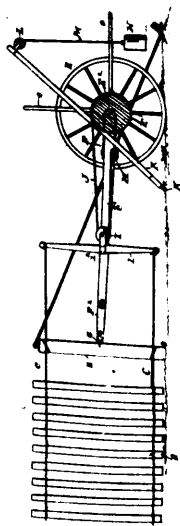
34170 Brobet's Washing Machine.



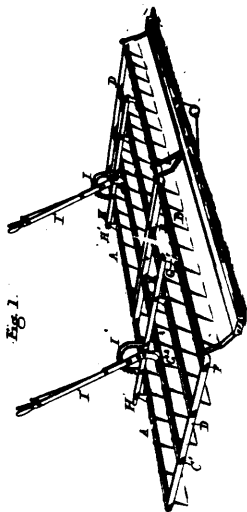
34171 Steimmetz's Catamenial Bandage.



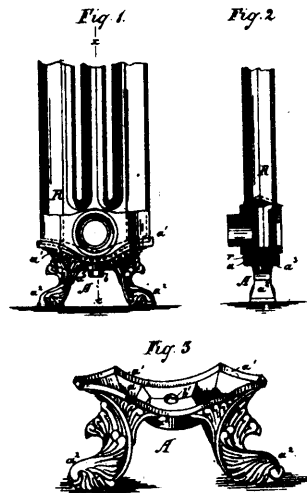
34172 Fischer's Ice Marker.



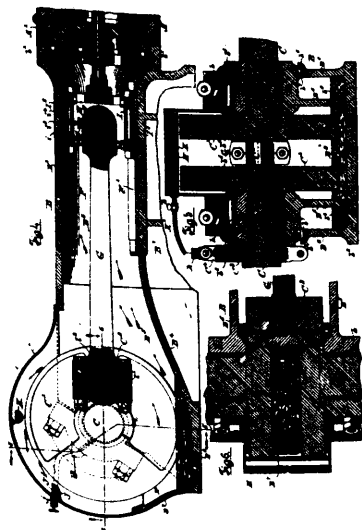
34173 Hightrees Tension Machine for Constructing Fences.



34174 Hendricks' Harrow.



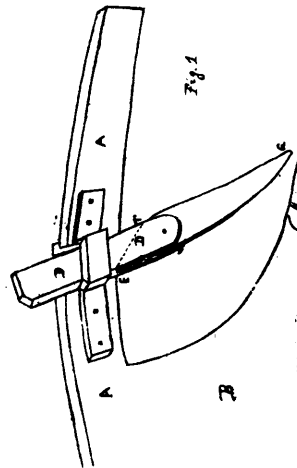
34175 Tomkins & Williams' Radiator.



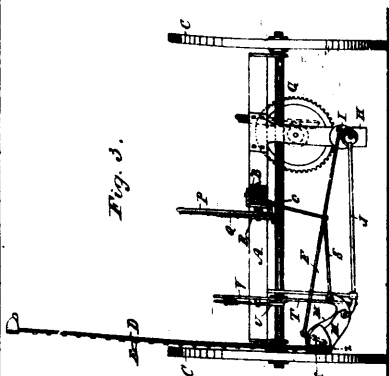
34176 Ide's Lubricating Device.



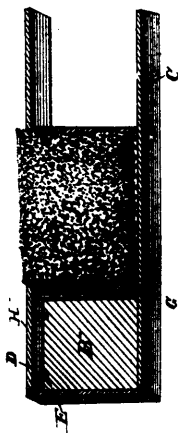
34177 Rice's Apparatus for Burning Prairie Grass.



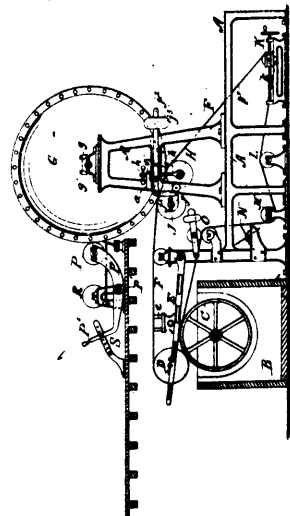
34178 Wilton's Plough Coulters.



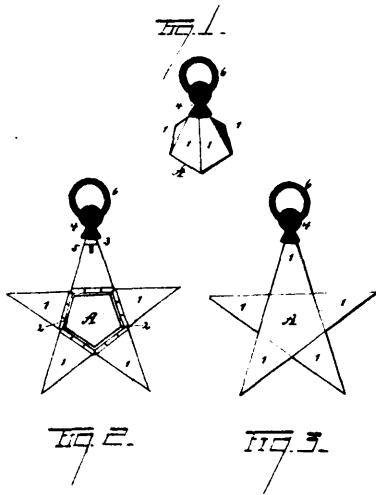
34179 Craig's Mowing Machine.



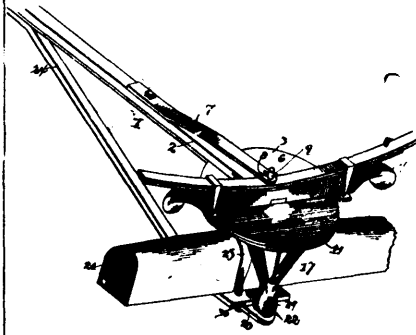
34180 Landrieu's Wash Board.



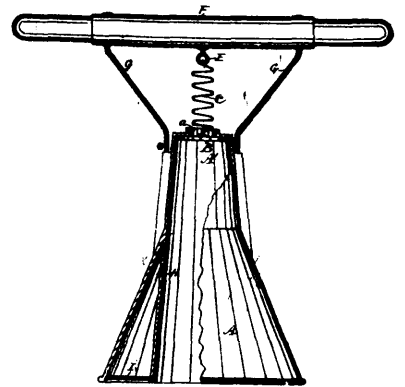
34181 Riley's Paper Making Machinery.



34182 Blasing's Ornament for Jewelry.

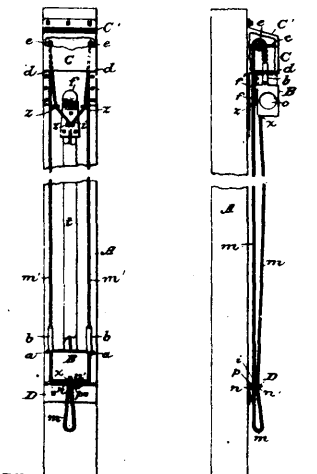


34183 Williams & Capps' Fifth Wheel.

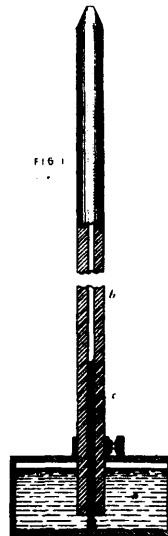


34184 Coleman's Washing Machine.

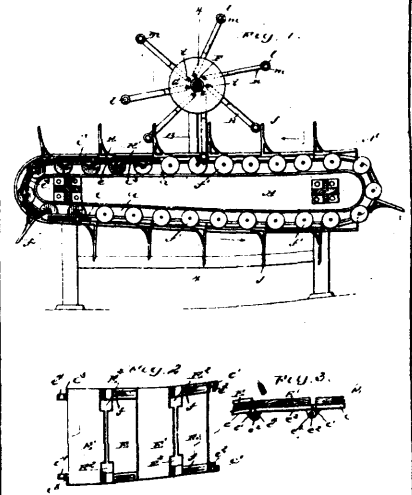
Fig. 1. Fig. 2.



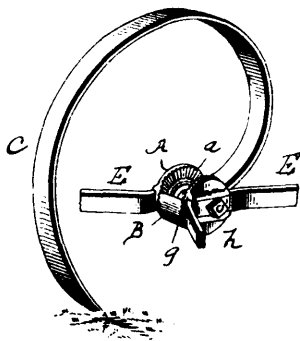
34185 Barnes' Signal Appliance.



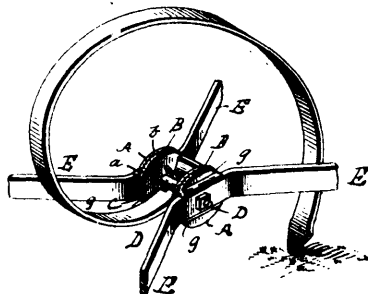
34186 Saunderson's Electric Arc Lighting.



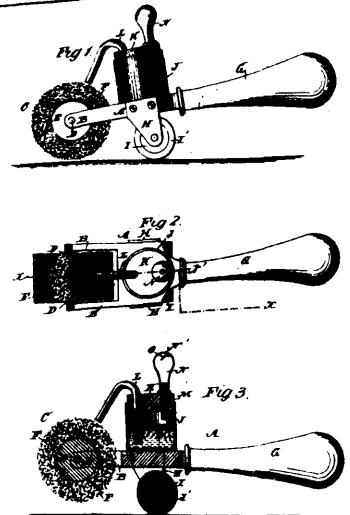
34187 Bensing's Tile or Brick Cutting Table.



34188 Hench & Dromgold's Harrow.



34189 Hench & Dromgold's Harrow.



34190 Hathaway's Apparatus for Sealing Gummed Paper.