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### INVENTIONS PATENTED.

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

#### No. 18,747. Broom Support. (*Porte-Balai.*)

William T. Shaffer, Evanstown, Wyoming, U. S., 1st March, 1884; 5 years.

*Claim.*—As an improved article of manufacture, the broom pocket A made similar in shape to the brush of a broom, and provided with a closed bottom, having a central aperture *a*, neck B around said aperture, and the slot C extending from the top down to, and through the neck, the said slot being of a uniform width throughout, and of a width greater than the diameter of a broom-handle, as set forth.

#### No. 18,748. Fire-Escape. (*Sauveteur d'Incendie.*)

John Osborne, Arnprior, Ont., 1st March, 1884; 5 years.

*Claim.*—1st. In a reversible fire-escape, the sliding arm or guide provided with friction blocks B, and also provided, at one of its two ends, with a suspension device H and a friction brake C<sub>1</sub>, the latter as described, with an actuating spring, and also adapted to be operated by hand, either brake, whereby the attendant is enabled to grasp and operate by means of its springs. 2nd. In a fire-escape, the frame or body provided with the fixed friction surfaces B and C<sub>1</sub>, the two pivoted brakes C<sub>2</sub> and springs applied to actuate said brakes, whereby the action of both brakes is secured automatically independently of the control of the operator. 3rd. In a fire-escape, the combination, with the frame having the stationary friction surface C<sub>1</sub>, of the pivoted brake C<sub>2</sub> and the elastic encircling band E, the parts being provided, as described, with a series of notches to admit of the band being secured in different positions. 4th. The combination of elastic bands E with the bar and the brake blocks C, C<sub>2</sub>, all substantially as described and for the purpose set forth.

#### No. 18,749. Oil Stove. (*Poêle à Huile.*)

John E. Fleming, Minneapolis, Min., U. S., 1st March, 1884; 5 years.

*Claim.*—1st. The cone supporter N having legs of unequal length, in combination with an argand burner for the purpose of resting against the sides of the air tube and of supporting the cone, substantially as shown and described. 2nd. In an argand burner, the combination of the cone M having lugs *i, i*, and cone supporter N having slots *e, e*, and inclined surface *t, t*, for the purpose of attaching and detaching the cone from its supporter, substantially as shown and described. 3rd. In a burner, the combination of the slotted wick-raiser H, armed with annular diaphragm Q, substantially as shown. 4th. The combination and arrangement of the air tube E, wick tube F and wick-raiser H, with the removable or adjustable cone M, substantially as and for the purpose described. 5th. The combination of the drum D and dome V of an oil stove, with an argand burner having the re-usable cone M, the adjustable cone supporter N and internal air ring J, substantially as shown and described. 6th. In combination with the wick-feeding mechanism of an argand burner, a detachable or adjustable central air-supplying cone M, provided with a perforated diaphragm Q, substantially as and for the purposes described.

#### No. 18,750. Hydro-Carbon Lamp. (*Lampe à Hydrocarbone.*)

Thomas Walsh, Montreal, Que., 1st March, 1884; 5 years.

*Claim.*—1st. The combination of the pipe F, nozzle H, thimble K and plate L, having opening M, constructed, arranged and operated,

substantially as described. 2nd. The combination of the vessel A stop-cock E, pipe F, nozzle H, thimble K and plate L having opening M, the whole substantially as described. 3rd. The combination of the vessel A having valve N and pipe O, with the pipes D and F, nozzle H, stop-cock K and plate L having opening M, the whole substantially as described.

#### No. 18,751. Rock Drill. (*Foret de Mine.*)

Edwin A. Armstrong, Detroit, Mich., U. S., 1st March, 1884; 5 years.

*Claim.*—1st. In a rock-drill and in combination with the frame A thereof, the cross-head G provided with means for automatically feeding said cross-head within the frame A, substantially as set forth. 2nd. In a rock-drill and in combination with the frame A mounted upon trunions, substantially as described, the cross-head G actuated by the feed shaft H, which carries a crown ratchet I, which in turn is actuated and engages with pawls Y operated by the lever W, and the wipe V upon the main shaft L, substantially as described. 3rd. In a rock-drill and as a means for controlling the rotation of the drill shaft or bar, the ratchet wheels R, R<sub>1</sub>, provided with spiral and straight splines *k, l*, respectively, which engage with proper channels in the periphery of the drill-bar, substantially as and for the purposes specified. 4th. As a means for regulating or throwing off the feed lever *w*, and in combination therewith, the thumb regulator screw Z, substantially as set forth. 5th. In a rock-drill and in combination with the frame A and tripod E thereof, the trunions *a*, clip box B, trunions C and boxes D for securing adjustment to the frame A, substantially as and for the purposes specified. 6th. A tripod for supporting a rock-drill, the legs of which terminate in feet or knees adapted to receive divided balls or spheres for embracing extension legs D<sub>1</sub> and H<sub>1</sub>, substantially as specified. 7th. A rock-drill, wherein the blow of the drill is compelled by the expansion of a coil spring, adapted to be retracted by means of a cam upon the main driving shaft, substantially as described.

#### No. 18,752. Grain Cleaner. (*Nettoyeur des Grains.*)

Elnathan Phelps, Hartford, Mich., U. S., 1st March, 1884; 5 years.

*Claim.*—1st. The herein-described grain-cleaner, consisting of the frame A and vertical shaft B provided with the suction fan D, distributing beater-blades E, brush-frames J, I and J<sub>1</sub>, in combination with the chamber C, perforated casing G, vertical rods F, inclined shelves H, H<sub>1</sub> and air-chambers and discharge spouts, substantially as shown and for the purpose specified. 2nd. The inclined distributing beater-blades E, arranged one above the other, in combination with the vertical rods F, inclined shelves H, H<sub>1</sub> and perforated casing G, substantially as shown and described.

#### No. 18,753. Steam Boiler. (*Chaudière à Vapeur.*)

Patrick Fitzgibbons, Oswego, N. Y., U. S., 1st March, 1884; 5 years.

*Claim.*—In a return flue boiler having a rear end extension with a man-hole in the bottom thereof, a water jacketed combustion chamber constructed of the rear flue sheet and inner water back sheet, having their edges flanged toward the combustion chamber, and their bottom flange rivetted directly to the boiler shell extension, at opposite edges of the man-hole, and the crown sheet extended to, and terminating at said man-hole, and rivetted to the exterior of the flanges of the aforesaid flue-sheet and water-back sheet, and directly to the bottom portion of the boiler shell extension, the whole constructed and combined substantially as described and shown.

#### No. 18,754. Grain Feeder and Band Cutter for Thrashing Machines. (*Alimentateur et Tranche-Hart pour Machines à Battre.*)

Orrin C. Van Ness, Pomme de Terre, Minn., U. S., 1st March, 1884; 5 years.

*Claim.*—1st. The combination, with a thrashing machine, of a roll B journaled at the feed end of the machine, side pieces C pivoted at one end adjacent to the roll, side pieces C<sub>1</sub> hinged to the other ends of the pivoted side pieces, a roll D journaled at the outer ends of the hinged side pieces, a travelling grain carrier mounted on the rolls, a travelling band-cutter carrier arranged above the delivery end of the

carrier, and a cutter secured to said cutter carrier, substantially as described. 2nd. The combination, with a thrashing machine, of a folding grain carrier frame pivoted adjacent to the feed opening of the machine, a band-cutter carrier pivoted above and adjacent to the said feed opening, the grain carrier and cutter carrier being capable of folding up against the feed end of the machine, and means for holding the carriers in such position for transportation, substantially as described. 3rd. The combination, with a thrashing machine, of an endless travelling grain carrier, and an endless travelling band-cutter carrier converging toward each other, and both pivoted to the feed end of the machine, to fold up for transportation, and means for holding the carriers in such position, substantially as described. 4th. The combination, with the thrashing machine, of the carrier having a jointed extension frame, and the bars supporting said frame having forked ends to receive the journals of the roll carrying the apron, substantially as described. 5th. The combination, with the grain carrier having inclined spikes, of the band-cutter and straw-spreader, said carrier and band-cutter converging toward each other, and the band-cutter travelling at a greater speed than the grain-carrier, substantially as described.

### No. 18,755. Pipe Organ. (*Orgue.*)

William H. Young and Bernard MacMaekin, Wilmington, Del., U. S., 1st March, 1884; 5 years.

*Claim.*—1st. In a pipe-organ, the combination, with the wind-chest situated at the bottom of the herein described bellows, consisting of a partition Q projecting diagonally upward from the wind-chest, and provided with a reservoir and feeders hinged on the sides of said partition, substantially as set forth. 2nd. In a pipe-organ, the combination, with the wind-chest situated at the bottom of the bass-pipes, situated above the wind-chest and arranged horizontally in a vertical row, with the smaller at the bottom and the larger successively above them, and the feet of said bass-pipes arranged to be within the vertical planes of said bass-pipes, substantially as set forth. 3rd. In a pipe-organ, a row of stopped bass-pipes arranged horizontally one above the other, to have their receiving ends in different vertical lines, in combination with a series of separate conveyances or feet respectively communicating with said bass-pipes, substantially as set forth.

### No. 18,756. Hand Saw Filing Machine.

(*Machine pour Limer les Scies.*)

David Chambers and Sturgis S. Cushman, Hull, Que., 1st March, 1884; 5 years.

*Claim.*—1st. A bed having longitudinal slot for the admission of a saw blade, said bed provided with suitable gripping device or vice to hold the saw blade, and with leg or other suitable means for securing the same to a bench or other object, a carriage sliding upon said bed and carrying a shaft with spur wheel gearing into rack-teeth, at the underside of the bed, for moving the same, also a spring catch engaging notches in a bar adjustably secured to the bed, and the pitch of the notches corresponding to the pitch of the saw teeth, a file guiding device suspended from the upper part of said carriage and consisting of a swing bracket pivoted to a cross head having a screw stem passing through the bar of the carriage, and provided with nut and jam nut for adjustment for height and angle, a double handled file-holder consisting of a flat slotted bar guided longitudinally in said swing bracket and having vertical play, the file being clamped to the lower edge. 2nd. The bed A, consisting of the plates A', A'', forming longitudinal slot  $\alpha$  with raised lip  $\alpha'$  to form abutment for the jaw B, to which a compound movement is imparted in drawing the same longitudinally by means of a nut  $b$  working upon the screw stem  $b'$  projecting through the slotted end of the bed, and guided transversely by studs  $c$  projecting into oblique slots  $b'$ , the underside of the front part A'' provided with rack teeth  $a$ , a notched bar A' adjustably secured to the top by means of screws or bolts as passed through slots in the bar, said bed provided with a slotted trunk C having lugs  $c$  with eyes to admit bolts or screws. 3rd. The carriage D consisting of two branched legs  $d$  rigidly connected at the top, the rear branches  $d'$  connected in rear of the bed, and the front branches  $d''$  connected by a bracket D', projecting outwards and downwards. 4th. In combination with the carriage D, the basket D' carrying the shaft E, spur-wheel E' and hand wheel E'', or equivalent, also bracket E' with spring sliding catch  $f$ . 5th. In combination with the carriage D, the bracket D' with the propelling shaft E' journaled therein, and carrying the spring catch  $f$ , and the saw-set G G'  $p$ . 6th. In combination with the carriage E, the file guiding device consisting of the cross head H, with screw spindle H' adjustably secured for height and angle in the upper portion of the carriage by the nuts  $h$ ,  $h'$ , the swing guide bracket I pivoted to the cross head and adjustable for inclination by the nut  $h_2$  upon the screwed pivot, the file-holder K running in the slot  $z$  and having long wide slot  $k$  through which pass small pins  $i$ ,  $i'$ , and provided with the lever clips M adjusted by the set screws  $m$ . 7th. The file-holder K consisting of a flat bar, with handle at each end, provided with long slot  $k$ , the lever clips M pivoted near the handles and adjustable by set screws  $m$ , for holding a three-cornered file L to the lower edge of the holder, all substantially as described and for the purpose set forth.

### No. 18,757. Boot. (*Botte.*)

Thomas Kennedy, jr., Henry C. Fortier and William H. Best, (Assignees of Samuel McCullough,) Toronto, Ont., 1st March, 1884; 5 years.

*Claim.*—1st. An upper A, lasted to a wooden sole B, in combination with a flexible shank C. 2nd. In a boot having a wooden sole lasted to the upper, a shank made of leather or other flexible material bound at one end to the wooden sole, its other end extending below the wooden heel D, which is secured to it, substantially as and for the purpose specified. 3rd. In a boot having a wooden sole lasted to the upper, the shank C made of leather or other flexible material, and having a flange  $a$  formed on its front end, in combination with the band E arranged to bind the shank C to the sole B, substantially as and for the purpose specified.

### No. 18,758. Electrical Exercising Apparatus. (*Appareil Electrique de Gymnastique.*)

James H. Shaw, (Assignee of William T. McGinnis,) New York, N. Y., U. S., 1st March, 1884; 5 years.

*Claim.*—The combination of a sealed voltaic cell A, an induction coil G and a vibrating rheotome L M, inclosed within the body or handle of a dumb-bell, or other apparatus, adapted for manual use with conducting surfaces or strips K, K', K'' secured upon the handle in position to be clasped by the hand, and wires connecting the cell coil and rheotome with each other and with said strips K, K', K'', all substantially in the manner and for the purposes herein set forth.

### No. 18,759. Plastic Process for Metallizing Wood, &c. (*Procédé Plastique de Metallisation du Bois, &c.*)

Louis Brown, New York, and Lucy N. White, Rye, N. Y., U. S., 1st March, 1884; 5 years.

*Claim.*—1st. The art of surfacing wood or other material with metallic zinc, by means of a plastic composition of sublimed zinc and a suitable vehicle, substantially as described. 2nd. In the art of coating wood or other material with metallic zinc, the use of sublimed zinc applied to the surface of the wood or other material, as described, and then polished, all substantially as and for the purposes set forth. 3rd. In the art of applying metallic zinc to wood or other surfaces, the coating thereof with thin plastic composition containing zinc dust of the character described, and polishing said coating, as set forth, and then varnishing the same, all substantially as and for the purposes specified. 4th. The composition consisting of zinc dust, of the character described, mixed with any suitable vehicle and colored or not as specified, all substantially as and for the purposes set forth. 5th. As an improved article of manufacture, wood or other metallic surface covered with metallic zinc applied in a plastic state, all substantially as and for the purposes set forth. 6th. Wood or other material surface covered with metallic zinc applied in a plastic state and afterwards polished or burnished, all substantially as described.

### No. 18,760. Grate. (*Grille.*)

Lemuel Bannister, Philadelphia, Pa., U. S., 3rd March, 1884; 5 years.

*Claim.*—1st. A grate-bar constructed, as described, with a flat top and the upper parts of its sides concave. 2nd. A grate-bar constructed, as described, with a flat top, vertical perforations therein, and the upper parts of its sides concave. 3rd. A grate-bar constructed, as described, with a flat top, longitudinal grooves and vertical perforations therein, and the upper parts of its sides concave. 4th. A grate-bar constructed, as described, with a flat top, the upper parts of its sides concave, and downwardly tapering convex lower sides. 5th. A grate-bar constructed, as described, with a flat top, laterally projecting lugs or teeth, the upper parts of its sides concave between the teeth and downwardly tapering convex lower sides. 6th. A grate-bar constructed, as described, with a flat top, vertical perforations, laterally projecting lugs or teeth, the upper parts of its sides concave between the teeth, and downwardly tapering convex lower sides. 7th. A grate-bar constructed, as described, with a flat top, vertical perforations, laterally projecting vertically perforated lugs or teeth, the upper parts of its sides concave between the teeth and downwardly tapering convex lower sides, and a rounded bottom. 8th. The combination, substantially as herein set forth, of a series of grate-bars constructed, as described, with flat tops, vertical perforations, laterally projecting interlapping lugs or teeth, the upper parts of its sides concave between the teeth, and downwardly tapering lower sides. 9th. The combination, substantially as set forth, of the bar and the laterally projecting teeth, formed with a double bevel on each side. 10th. The combination, substantially as set forth, with a bevel  $x$  and a concave bevel  $z$ . 11th. The combination of the bar formed with the upper parts of its sides concave, and the laterally projecting teeth formed with concave bevels  $x$ , substantially as and for the purpose specified. 12th. A grate-bar, having laterally projecting perforated teeth made wide at their ends and curved from top to bottom.

### No. 18,761. Machine for Cutting Sod.

(*Machine à Trancher le Gazon.*)

Alpheus Test, Richmond, Ind., U. S., 3rd March, 1884; 5 years.

*Claim.*—1st. In a sod-cutter, the runners A, A', having bearing surfaces curved as described, in combination with the detachable supporting runner or shoe of a corresponding shape, adapted to be secured to either of said bearing faces, for the purpose set forth. 2nd. In a sod-cutter, the crescent-shaped cutter D, the cutter B combined with the runners A, A', substantially as herein set forth and described. 3rd. The guide G, handle E and loop F, in combination with the runner A, as and for the purposes set forth.

### No. 18,762. Vehicle Spring. (*Resort de Voiture.*)

Morris W. Tucker, Sumner, Mich., U. S., 3rd March, 1884; 5 years.

*Claim.*—1st. A vehicle spring consisting of a semi-elliptic section A and an inverted semi-elliptic section A', the concavities being toward each other, and section A' brought at its middle point in against or nearly against the middle of the section A, substantially as described. 2nd. The combination, with a vehicle, of one or more semi-elliptic spring-sections A, and one or more inverted spring-sections A', the middle of the latter sections being brought up to, or nearly to, the vehicle-body and secured thereto, substantially as described. 3rd. The combination, with a semi-elliptic section A, of the inverted semi-elliptic section A', the middle of the latter being forced upward until its natural curvature is reversed, and there secured by an adjustable fastening, substantially as described.

**No. 18,763. Fire-Escape.** (*Sauveteur d'Incendie.*)

Oscar F. Davis, Topeka, Ks., U. S., 3rd March, 1884; 5 years.  
*Claim.*—1st. The combination, in a friction-box B, of the posts L, with the friction shoulders P, P', P'', P''', brake-blocks N, N', opposing shoulders M, O and Mr. Or, handles F, Fr, springs D, Di, ears E, Et and small screws I, all constructed and operating as and for the purpose hereinbefore described. 2nd. The combination of the friction-box B, constructed as described, in combination with the rope A having looped ends Ar, seat strap K, back strap K1, off-holding wire k, all constructed as and for the purpose hereinbefore described. 3rd. The combination of the friction-box B and its attachments, as already described, with the support-hook Q, constructed and operating as and for the purpose hereinbefore described.

**No. 18,764. Electric Cable or Conductor.**

(*Cable ou Conducteur Electrique.*)

Louis A. F. Herrmann, Paris, France, 3rd March, 1884; 15 years.  
*Claim.*—1st. An electric conductor or cable, consisting in the combination, with the conducting wire or wires, of bead-like lengths, pieces or cylinders of insulating material strung thereon, and of an outer tubular covering (conducting or otherwise) enclosing said bead-like pieces, so as to permit the free circulation of a gas or liquid, substantially as shown and described. 2nd. The modes of splicing the cables hereinbefore specified, substantially as shown in the drawings. 3rd. The grouping of a number of wires or cables in the same envelope, each having bead-like lengths of insulating material strung upon it, substantially as described.

**No. 18,765. Combined Wardrobe and Bedstead.** (*Garde-Robe et Lit Combines.*)

Robert M. Huston, Toronto, Ont., 3rd March, 1884; 5 years.  
*Claim.*—1st. In a combined wardrobe and bedstead in which the bedstead is designed to fold into the wardrobe when not in use, the pivot pins b fixed to the wardrobe, in combination with slanting grooves c made on the side boards F, of the bedstead, substantially as and for the purpose specified. 2nd. In a combined wardrobe and bedstead in which the bedstead is designed to fold into the wardrobe when not in use, the pivot pins b fixed to the wardrobe, in combination with the slanting-grooves c made on the side boards F, and having curved ends f, substantially as and for the purpose specified. 3rd. In a combined wardrobe and bedstead in which the bedstead is designed to fold into the wardrobe when not in use, the combination of hinges C hinged to the front of the wardrobe, the head board D hinged to the top of the bedstead, and the bottom panel E hinged to the bottom side of the head end of the bedstead, the whole being arranged substantially as and for the purpose specified. 4th. In a combined wardrobe and bedstead in which the bedstead is designed to fold into the wardrobe when not in use, the combination of a bedstead having head and foot boards with hinged legs, all being arranged to fold into small compass when the bedstead is to be closed into the wardrobe.

**No. 18,766. Cartridge Reloading Machine.**

(*Machine à Recharger les Cartouches.*)

Frederick A. Winter, Thomson, Ga., U. S., 3rd March, 1884; 5 years.  
*Claim.*—1st. The combination, in a cartridge-loader, of the inter-mingling rotating cell disk b, base a and a rammer i, the said cell and said base having the cap groove p, substantially as described. 2nd. In a cartridge-loader, the combination of the crown-wheel j, supported on suitable bearings and having pointed and oblique teeth j on its upper surface, and the lever j pivoted to the upright post q, and crown-wheel teeth being arranged in relation to each other, whereby the lever, working vertically to actuate the rammer, turns the disk horizontally as described. 3rd. In a cartridge-loader, the vertically operating lever j pivoted to the upright post q, jointed feed pawl u attached thereto, and the obliquely toothed horizontal feed wheel v suitably supported, combined and arranged, substantially as described. 4th. In a cartridge-loader, the combination, with the feed-wheel j, suitably supported and provided with oblique teeth v, and the lever j pivoted to the post q, of the jointed pawl u adjustably secured to the said lever and having shoulder w at its joint, substantially as herein shown and described. 5th. In a cartridge-loader, the combination, with the tilting cartridge stud g1, of the crimping dies i, j1, provided with the crimping ribs m1 and the lever k1, substantially as herein shown and described. 6th. In a cartridge loader, the combination of the socket p1 provided with the aperture n1 in its bottom, and arranged in front of the crimping dies, the lever k1 carrying one die and pivoted to the head-piece of the other of said dies, and the push-rod q1 pivoted to the lever k1 above the cartridge supporting, capping and crimping the cartridge, substantially as herein shown and described. 7th. In a cartridge-loader, the combination, with the crimping-lever k arranged to project over the cartridge-recesses n1 and provided with the recess n on its underside, the side recesses n1 and the pivot-stud u1, of the uncapping pusher q1 provided with the loops o1 fitting into the side recesses and over the pivot-can be held to the crimping lever when not in use, as set forth. 8th. In a cartridge-loader, the combination, with the cartridge-holding post, and the charging flasks a2, b2, pivoted between said supports, substantially as herein shown and described. 9th. In a cartridge-loader, the combination, with a wad-seater or ball rammer on which a rack is formed, of a segmental rack engaging with the rack on the wad-seater and secured on a pivoted lever, substantially as herein shown and described. 10th. In a cartridge-loader, the combination, with an automatic shifting device, of a shell disk and of a wad-seating device or ball-rammer, substantially as herein shown and described. 11th. In a cartridge-loader, the combination, with a ratchet wheel

on the central shaft c, of a pawl engaging with the ratchet wheel, a pivoted lever and means for operating the pawl from the said pivoted lever, substantially as herein shown and described. 12th. In a cartridge loader, the combination, with the fork M, of the pawl O, the lever F and the ratchet wheel N on the central shaft c, substantially as herein shown and described. 13th. In a cartridge loader, the combination, with the fork M, of the lever F, the ratchet wheel N, the block S, the pawl O and means for adjusting the block S on the fork M, substantially as herein shown and described. 14th. In a cartridge loader, the combination, with the fork M, of the lever F, the ratchet wheel N, the block S, the pawl O, and the screw T passing through the end of the fork and through the block S, for the purpose of adjusting the block on the fork, substantially as herein shown and described.

**No. 18,767. Hen House.** (*Poulailler.*)

Samuel Rawson, Peoria, Ill., U. S., 3rd March, 1884; 5 years.  
*Claim.*—The device for automatically closing and opening the door, consisting of the treadle T, pulleys t, v, w and x, the hinged arms N and P, and the cord s at its respective ends to opposite end of the tilting treadle and carried around the said pulleys, which are located above the entrance passage, substantially as specified.

**No. 18,768. Feathering Paddle Wheel.**

(*Roue à Palettes Articulées.*)

Christian L. Peterson, Boston, Mass., U. S., 3rd March, 1884; 5 years.  
*Claim.*—1st. The feathering paddle wheel, herein shown and described, consisting of the frames A secured on shaft B, and blades D hinged at their inner edges, and adapted to be held to their work by the rods F, placed radially beyond the pivots of the blades and near their outer edges, substantially as shown and described. 2nd. In a feathering paddle wheel, the blades D hinged at their inner edges and adapted to act against stops near their outer edges, substantially as shown and described.

**No. 18,769. Electro-Magnetic Retarding Device in Electric Lamps, &c.** (*Appareil Electro-Magnétique de Recul pour Lampes Electriques, &c.*)

Elihu Thomson, Lynn, Mass., U.S., 3rd March, 1884; 5 years.  
*Claim.*—1st. The combination of a clamp, clutch or detent, an actuating electro-magnet therefor, and means for closing a derived or shunt circuit around said magnet automatically, at the instant that the parts of the clamp, clutch, or detent are brought into engagement. 2nd. An automatic retardation feed device, consisting of a clamp, clutch, or detent, an actuating electro-magnet therefor, and a shunt or derived circuit to said electro-magnet formed through the surface of engagement of the clamp, clutch, or detent. 3rd. The combination of a friction-wheel, a clamp engaging with, and controlling the movement thereof, an actuating electro-magnet for said clamp, and a shunt or derived circuit around said electro-magnet formed through the surface of engagement of the clamp and wheel. 4th. An automatic retardation feed device consisting of a clamp, clutch, or detent, and an actuating electro-magnet therefor, having a shunt, or derived circuit, through the surface of engagement of the clamp, clutch, or detent. 5th. The combination of a friction-wheel, a clamp engaging with, and controlling the movement thereof, an actuating electro-magnet and a shunt or derived circuit through the surface of engagement of the clamp and wheel. 6th. The combination, substantially as described, of a friction-wheel, a carbon-carrier connected thereto, a clutch device acting upon the friction wheel, an electro-magnet in circuit with the carbon and operating the clutch, and a derived circuit around said electro-magnet, a portion of which circuit is through the frictional contact-surface of the clutch and wheel. 7th. The combination of a carbon-carrier, a clutch, or clamp, actuated by an electro-magnet in the main circuit, an electro-magnet in a derived circuit around the arc, a variable resistance device actuated thereby, and a shunt or derived circuit around the clamp electro-magnet, said circuit including the variable resistance and the surfaces of engagement of the clamp. 8th. The combination, with the feed-controlling electro-magnet and the clutch mechanism actuated thereby, of a derived or shunt circuit passing through a variable resistance automatically controlled in accordance with the length of the arc, and through the surfaces of engagement of the clamp mechanism.

**No. 18,770. Color Printing Press.**

(*Presse à Imprimer en Couleurs.*)

Henry P. Feister, Philadelphia, Pa., U. S., 3rd March, 1884; 5 years.  
*Claim.*—1st. In a printing press, two oscillating heads, one of which is provided with a series of forms of type, and the other with corresponding make-readies, in combination with automatic mechanism, substantially as described, to oscillate said heads to and from each other and mechanism, substantially as described, to automatically and successively bring said type forms and their corresponding make-readies into printing register. 2nd. In a printing press, two oscillating heads, one of which is provided with type forms, and the other with corresponding make-readies, in combination with mechanism, substantially as described, to oscillate both of said heads to and from each other, and a stationary double frisket arranged between said heads, and through which the paper to be printed is fed. 3rd. In a printing press, two oscillating heads, one of which is provided with a series of type forms, and the other with corresponding make-readies, in combination with automatic mechanism, substantially as described, to oscillate said heads to and from each other, mechanism, substantially as described, to successively bring said type forms and their corresponding make-readies into printing register, a stationary double frisket arranged between said heads, and through which the paper to be printed is fed, and an inking mechanism, substantially as described, to ink said type forms. 4th. In a printing press, the combination of heads C, C1, journalled in oscillating arms D, D1, and respectively carrying type forms C2 and make-readies C3, means, substantially as de-



scribed, to oscillate said heads to and from each other, shaft T carrying the series of color-making rolls *t*, means, substantially as described, to intermittently rotate said shaft and heads, guides S and adjustable guides S<sup>r</sup>.

### No. 18,771. Self-Closing Faucet.

(*Robinet Fermant Automatiquement.*)

Anton Prier, Charles Doherty and Pierce E. Everett, Kansas, Mo., U.S., 3rd March, 1884; 5 years.

*Claim.*—1st. A self-closing faucet, made up of a vertical pipe or body having an outlet, and valve seat located level with said outlet, a vertical valve stem and valve fitting said seat, a flexible compressible cushion and an actuating lever, substantially as and for the purpose set forth. 2nd. In a faucet, the combination, with the vertical pipe or body A having suitable outlet, and the valve seat, the valve and its stem, of the flange D having aperture *d*, the elastic cushion or spring and an actuating lever serving to compress said cushion and open the valve, substantially as specified. 3rd. The combination of the body A having valve seat *a* and apertured flange D, valve stem C, the valve C<sup>r</sup>, inverted cup-shaped cushion or spring E, collar *h*, nut or washer H and actuating lever G, all combined and arranged substantially as and for the purpose described. 4th. The combination, with the double headed actuating lever G having inclines *g*, *g*, *g*, *g* on its hub, of the cap F having angular projections *f*, *f*, *f*, *f*, substantially as and for the purpose specified. 5th. The combination, with the valve stem C, of the spherical flexible valve C<sup>r</sup> arranged to be reversed, as and for the purpose described. 6th. In a faucet, the combination, with the vertical pipe A having valve seat, and the valve and its stem, of the nozzle or outlet A arranged on the same level as the said valve seat, as and for the purpose described.

### No. 18,772. Composition of Matter for General Use as a Fire-Proof Non-Conductor of Heat and Sound.

(*Composition de Matières pour Servir Générale-ment de Non-Conducteur Réfractaire de la Chaleur et du Son.*)

John F. Torrance, Ottawa, Ont., 4th March, 1884; 5 years.

*Claim.*—A composition composed of infusorial earth, asbestos and glue, in about the proportions and for the purposes set forth.

### No. 18,773. Photographic Printing.

(*Impression Photographique.*)

Redfield B. West, Guilford, Ct., U.S., 5th March, 1884; 5 years.

*Claim.*—1st. The herein described improvement in the process of photographic printing, consisting in subjecting the paper to be printed upon to a bath composed of potassium bichromate, magnesium sulphate and mercuric chloride, in the proportions and substantially as described. 2nd. The herein described improvement in photographic printing, consisting in subjecting the print to a bath composed of gallic acid, ferrous sulphate, aluminum and ammonium sulphate and sodium hypo sulphite, in the proportions and substantially as described. 3rd. The herein described improvement in the process of photographic printing, consisting in subjecting the paper upon which the print is to be made to a bath composed of potassium, bi-chromate magnesium, sulphate mercuric chloride, and then, after printing, to a bath composed of gallic acid, ferrous sulphate, aluminum and ammonium sulphate and sodium hypo sulphite, in the manner, and the said baths in the proportions, substantially as described.

### No. 18,774. Fountain Pen. (*Plume-Fontaine.*)

Lewis E. Waterman, Brooklyn, N.Y., U.S., 5th March, 1884; 5 years.

*Claim.*—1st. An ink-duct for a fountain pen, consisting of a bar having a longitudinal groove formed in its surface, and one or more longitudinal fissures in the side or sides of said groove, substantially as set forth. 2nd. An ink-duct for a fountain pen, consisting of a bar having one or more longitudinal grooves in its side, which is to be in proximity to the pen, each of said grooves having one or more longitudinal fissures in its side or sides, and one or more additional longitudinal grooves, whereby air may be admitted to the reservoir independently of the ink-conveying groove, substantially as hereinbefore set forth. 3rd. In a fountain pen, the combination, substantially as hereinbefore set forth, of a barrel or ink reservoir, a tube connected therewith, an ink-duct supported within said tube, and consisting of a bar having one or more longitudinal grooves formed in that portion of its surface which is in proximity to the pen, with one or more longitudinal fissures in the side or sides of said groove or grooves, and a pen secured between said tube and ink-duct. 4th. An ink-duct for a fountain pen, having one or more longitudinal fissures in its walls for facilitating the passage of the ink through said duct. 5th. In a fountain pen, the combination, substantially as hereinbefore set forth, of a barrel or ink reservoir, a pen united thereto, and an ink-duct consisting of a bar having one or more longitudinal grooves formed in that portion of its surface which is in proximity to the pen, and one or more additional longitudinal grooves, whereby air may be admitted to the reservoir independently of the ink-conveying groove.

### No. 18,775. Governor for Steam Engines, Water-Wheels and Wind-Mills. (*Gouverneur pour Machines à Vapeur, Roues Hydrauliques et Moulins à Vent.*)

Mathias I. Beaudreau, Fond du Lac, Wis., U.S., 5th March 1884; 5 years.

*Claim.*—In a governor, the combination of the fans F, cross-head C and chains K, so arranged that the fans F are connected to the cross-head C and are revolved and lifted by the chains K, substantially as described.

### No. 18,776. Eye-Glass. (*Lunette.*)

Dudley L. Tice, Reading, Penn., U.S., 5th March, 1884; 5 years.

*Claim.*—1st. As an improvement in eye-glasses, the handle slotted or bifurcated at its upper end, in combination with the eye-glass frames formed with an extension fitting in the slotted end of the handle, and an upwardly-projecting pin or stop connecting the parts, as and for the purpose set forth. 2nd. In eye-glasses, the combination, with the nose-pieces and eye-glass frames, of plates secured to the upper ends of the nose-pieces, and the bow pivoted at its ends to the said plates, as set forth. 3rd. In eye-glasses, the combination, with the nose-pieces and eye-glass frames, of plates secured to the upper ends of the nose-pieces, a rod extending across and within the plates, and the bow pivoted at its ends to said rod, as and for the purpose set forth. 4th. As an improvement in eye-glasses, the combination, with the nose-pieces and eye-glass frames, of plates secured to the upper ends of the nose-pieces and formed with lugs *e*, a rod extending across and connecting the lugs, and the bow pivoted at its ends to said rod, as and for the purpose set forth.

### No. 18,777. Flexible Tube for Air Brakes, &c. (*Tube Elastique pour Freins Atmosphériques, &c.*)

Frank A. Mogowan, Trenton, N. J., U.S., 5th March, 1884; 5 years.

*Claim.*—1st. The combination of an inner and an outer flexible tube for air brakes or other purposes, with an attachment having a tubular stem or tail piece to which both tubes are secured, substantially as set forth. 2nd. The combination of an inner and outer tube for air brakes or other purposes, and a stem or tail piece constructed for attachment to both tubes, with a signalling device actuated by air or other fluid under pressure, which may gain access to the annular space between the two tubes, substantially as specified.

### No. 18,778. Horse Rake. (*Râteau à Cheval.*)

Louis H. Hébert, St. John, Que., and Joseph Coursolle, Ottawa, Ont., 5th March, 1884; 5 years.

*Claim.*—1st. In a horse hay rake, the main lever E having a staple-shaped portion and the whiffletree connection attached to the outer leg of the same, substantially as described. 2nd. The main lever E, fulcrumed in the knuckle *c*, substantially as shown and described. 3rd. The connecting link H, extending past its connection with *i*, short arm *g*, and carrying the set screw *h* with its tightening nut *i*, substantially as shown and described. 4th. In a horse hay rake, the combination of the main lever E having the staple-shaped portion shown, and the holes *d* made in the outer leg of the same, with the hand lever shown having the long arm *f* and short arm *g*, and the connecting link H having the set screw *h*, substantially as shown and described and for the purpose set forth.

### No. 18,779. Mould for Pressed Glass-Ware. (*Moule de Verrerie.*)

William Haley, Ravenna, Ohio, U.S., 5th March, 1884; 5 years.

*Claim.*—1st. In moulds for pressed glass-ware, the plunger, in combination with a sliding plug to form an opening through the glass, having its upper end above the molten glass to be pressed and closely fitting the plunger, while the latter is forcing down the plug and molding the glass, substantially as described. 2nd. In moulds for pressing glass-ware, the plunger *a* and sliding plug *c*, having their ends closely fitted to each other, and a sliding sleeve *e* surrounding and closely fitting the plug, and each having vertical movement independent of the other, in combination with bottom-plate *d* connected with, and supporting both the plug and sleeve, substantially as described. 3rd. In moulds for pressing glass-ware, the plug *c* and its sleeve *e*, each having vertical movement independent of the other, in combination with the weighted lever *l*, sliding-bar *e*<sup>t</sup>, bottom plate *d*, hinged half-rings *s* *s*<sup>t</sup> and plunger *a*, the sliding plug *c* extending above the molten glass to be pressed, and its upper end closely fitting the bottom of plunger *a*, substantially as described.

### No. 18,780. Flexible Urinal. (*Urinal Flexible.*)

Carrie S. Murphy, Dayton, Ohio, U.S., 5th March, 1884; 5 years.

*Claim.*—The urinal, substantially as set forth, having a shallow rigid cup with neck for the attachment of the elastic receptacle, and having a flexible handle with one end attached to the neck of said receptacle, and the other to the body of the same.

### No. 18,781. Expanding Reamer. (*Foret à Mèche Variable.*)

Peter Gendron, Toledo, Ohio, U.S., 5th March, 1884; 5 years.

*Claim.*—1st. In an expanding reamer, wherein the head is provided with lengthwise adjustable cutters having inclined ends, and in combination therewith, the dish *u*, substantially as and for the purpose specified. 2nd. In an expanding reamer provided with lengthwise adjustable cutters, and in combination therewith, the supporting nut G and retaining nut H, substantially as specified. 3rd. A reamer constructed substantially as described, and in combination therewith, the supporting nut G as a means of supporting the outer ends of the cutters, substantially as set forth. 4th. An expanding reamer consisting of the shank A, longitudinally channelled head B, reaper cutters D, collar or sleeve E, nut F, supporting nut G and retaining nut H, when constructed, arranged and operating substantially as and for the purposes set forth.

### No. 18,782. Reed Organ. (*Orgue.*)

Charles R. Ford, Boston, Mass., U.S., 5th March, 1884; 5 years.

*Claim.*—1st. In combination with the reeds and the keys for operating the valves thereof, the series of mutes and their levers, and oblique fingers arranged and adapted to operate substantially as described, and provided with mechanism for effecting depression of

the said levers by means of the keys, as explained. 2nd. The combination of the muters, their operative levers and the series of oblique fingers and their depressing wires, all being arranged and adapted substantially to operate as set forth.

**No. 18,783. Means of Preventing the Withdrawal of Draw-Bars for Coupling Cars.** (*Moyens d'Empêcher la Retraite des Barres d'Attelage en Accouplant les Chars.*)

George J. Johnson and Eugene H. Thomas, LaCrosse, Wis., U. S., 5th March, 1884; 5 years.

*Claim.*—In a draw-bar for connecting cars together, the sills A, A having the lugs C, C, the pieces I, I connected by straps or plates II, II forming rectangular slots, in combination with the sliding cross-pieces H, H and spring F, the cap-piece E connected to the top and bottom of the draw-bar, the rod or bolt G and the lugs D, D, all substantially as described and for the purpose set forth.

**No. 18,784. Composition of Matter for the Manufacture of Soft Soap.** (*Composition de Matières pour la Fabrication du Savon Mou.*)

Alexander Lafontaine, St. Albans, Vt., U. S., 6th March, 1884; 5 years.

*Claim.*—The compound composed of common soap, salsoda, starch, salammonia, glycerine and cantharides, in the proportions and in the manner set forth, to produce a cheap washing and erasive soap.

**No. 18,785. Detachable Steps for Waggon.** (*Marchepied Mobile pour Wagons*)

James Hallett, Hannibal, Mo., U. S., 6th March, 1884; 5 years.

*Claim.*—The herein described detachable and adjustable wagon-step, consisting of shank and step formed in one piece, the shank having shoulders H, and the supporting or attaching plate having notched recesses D and F, all combined, arranged and operating substantially as shown and for the purposes set forth.

**No. 18,786. Combined Easy Chair and Sofa Bed.** (*Bergère et Lit-Canapé Combinés.*)

Wesley P. Bean, San Francisco, Cal., U. S., 6th March, 1884; 5 years.

*Claim.*—1st. In combined easy-chair and sofa bed, the lever pivot composed of the pivot plate N, the lever-arm O, the journal Q, the wrist P<sub>1</sub> with head P, to operate in the socket R of the plate Q, in combination with the back F and projection or hook piece F<sub>1</sub> and seat S<sub>1</sub>, pivoted to the bolt T, and having the foot piece L, with the upholstered part G, for the purpose of securing the back and seat firmly in position, constructed substantially as and for the purposes set forth. 2nd. In combined easy-chair and sofa bed, the lever pivot composed of the pivot plate N, the lever arm O, the journal Q, the wrist P<sub>1</sub>, the head P pivoted on the bolt T, in combination with the back F, having the spring S<sub>2</sub> and step molding X, and the seat H, having the spring S<sub>3</sub> and rest molding Y, and the pivot bolt T, for the purpose of forming an elastic spring bed, constructed and operated substantially as and for the purposes set forth. 3rd. In combined easy-chair and sofa-bed, the pivot bolt T, with right and left binding threads and lock notch V, and lock screw V<sub>2</sub>, for the purpose of substantially as and for the purposes set forth. 4th. In combined easy-chair and sofa-bed, the lock plate L<sub>2</sub>, the guide-groove K<sub>4</sub>, the head-piece K, constructed and operated for the purpose of adjusting the purpose set forth. 5th. In combined easy-chair and sofa-bed, the arm I<sub>1</sub> with leaf J, and depressions N<sub>2</sub>, O<sub>2</sub>, D<sub>2</sub>, and E<sub>2</sub>, for the purpose of forming an invalid or night table, constructed and operated as and for the purposes set forth. 6th. In combined easy-chair and sofa-bed, the cam leaf support C, with knob K<sub>3</sub>, in combination with the leaf C<sub>3</sub> for the purpose of locking and supporting the leaf J, constructed and operated substantially as and for the purposes set forth. 7th. In combined easy-chair and sofa-bed, the back F, with spring S<sub>2</sub>, lever pivot composed of the parts O, O<sub>1</sub>, P, P<sub>1</sub>, the seat H, with pivot bolt T, arranged to swing the front of the seat H above and back of the front rail D, and having the foot piece L with upholstered part G, or soft or an ornamental foot-board and a subsidiary part of the chair or sofa back, the projection or hook F<sub>3</sub>, the head piece K, with the wrist K<sub>2</sub>, and lock plate L, and groove K<sub>4</sub> and adjusting or lock screw M<sub>2</sub>, the whole being combined and operated substantially as and for the purposes set forth.

**No. 18,787. Machine for Planting Corn and Beans.** (*Machinè pour Semer le Blé d'Inde et les Fèves.*)

Luther M. Bissell, Addison, Ont., 6th March, 1884; 5 years.

*Claim.*—The vibrating slides A and F, in connection with the spring C, and the mode of operation of the cord or string d, attached to slide A, running through eye E on box B, which has blocks i, i, one on each side of passage J.

**No. 18,788. Washboard.** (*Planche à Savonner.*)

Charles Boeckh, Toronto, Ont., 6th March, 1884; 5 years.

*Claim.*—1st. A wash-board having its rubbing surface pivoted within a frame, so that the rubbing surface can be reversed without moving the wash-board. 2nd. A wash-board having on one side a corrugated zinc rubbing surface, and on the other side a rubbing surface composed of bristle or any other flexible material, the back holding these two rubbing surfaces being pivoted within a frame of the wash-board, substantially as and for the purpose specified. 3rd. The wash-board frame A, braced together by the rails B and C, and

having pivoted within it a back F holding the rubbing surfaces D and E, in combination with the catch O arranged to hold the pivoted back in position, substantially as and for the purpose specified.

**No. 18,789. Street Lamp.** (*Réverbère.*)

Leonard Henkle, Rochester, N. Y., U. S., 6th March, 1884; 5 years.

*Claim.*—1st. A lamp having side pipes C, C<sub>1</sub>, through which air flows to supply the flame, said pipes opening at their respective upper or outer ends into a space covered or inclosed by a screen or perforated sheet I, substantially as shown and described. 2nd. A street lamp having side pipes C, C<sub>1</sub>, through which air flows to supply the flame, said pipes opening at their respective upper or outer ends into a space inclosed between the chimney of the lamp, and an outer perforated sheet or screen I, substantially as and for the purpose set forth. 3rd. A street lamp having side pipes C, C<sub>1</sub>, each having two openings *u<sub>1</sub>*, *o<sub>1</sub>* at their respective upper or outer ends, one of said openings opening into a space covered or inclosed by a screen or perforated plate I, and the other opening into the outer air, substantially as shown and described. 4th. The combination, in a street lamp, with the side pipes C, C<sub>1</sub>, of the screen I, horizontal plate *p<sub>1</sub>* and vertical plates *r<sub>1</sub>* crossing the openings or communications between the interior of said side pipes and screen, substantially as described and shown. 5th. The combination of the screen I and chimney *d<sub>1</sub>* of a lamp, enclosing an air-space V<sub>1</sub> and an oil chamber D, with air supply pipes C, C<sub>1</sub> leading from said space V<sub>1</sub> through the oil chamber, substantially as and for the purpose set forth. 6th. In a lamp, the air chamber F around the burner, having an outer perforated wall *d* and an inner perforated wall *h*, with a space *u<sub>1</sub>* between the wall *h* and the outer tube of the burner, through which to allow the air to flow to the flame, substantially as shown. 7th. A lamp having an air chamber B beneath the oil chamber, and an air chamber F above the oil chamber, with tubes or passages *g*, for the air communicating between said air chambers passing through the oil chamber, substantially as specified. 8th. The combination of the side pipes C, C<sub>1</sub> of a lamp, with the air chamber B and F and oil chamber D provided with tube *g* for the air, connecting said air chambers, substantially as set forth. 9th. In a street lamp, the combination of the rests *v* and *r*, with the transmitter for the light consisting of a sheet *f* of mica, strengthened or supported at its ends with metallic bands *c<sub>1</sub>*, substantially as described. 10th. The combination, in a lamp, of the chimney *d<sub>1</sub>* and screen or plate I inclosing the same, with an annular head *f<sub>1</sub>* to cover the annular space between said chimney and screen, annular plate *g<sub>1</sub>* and canopy *h<sub>1</sub>*, said head *f<sub>1</sub>*, and plate *g<sub>1</sub>* and canopy *h<sub>1</sub>* arranged one above the other and above the top of the chimney, substantially as shown and described. 11th. A burner G for a lamp, provided with a perforated tube *p* extending into the oil chamber, and a wick *b<sub>2</sub>* lying against said tube, in combination with a tube or wall *b* separated from the perforated tube *p* so as to allow oil to be carried up the space between them by the force of the capillary attraction, substantially as set forth.

**No. 18,790. Car-Coupler.** (*Accouplage de Wagons.*)

Albert A. Dailey, Wilson, N. Y., U. S., 6th March, 1884; 5 years.

*Claim.*—1st. The draw-head having elongated recess, and provided with automatic tumbler and coupling-pin having projection for engagement therewith, substantially as and for the purpose set forth. 2nd. The transverse horizontal lifter and the vertical lifter, connecting with each other and the coupling-pin, substantially as and for the purpose set forth. 3rd. The rock-shaft having locking cam or trigger, substantially as and for the purpose set forth.

**No. 18,791. Car-Coupling.** (*Accouplage de Wagons.*)

Thomas C. Jones, Woodland, Cal., U. S., 6th March, 1884; 5 years.

*Claim.*—1st. A car-coupling constructed, substantially as herein shown and described, and consisting of the draw-head A, the U-shaped draw-bar D, the spring-pressed coupling-hook J, the bow and yoke N O and a mechanism for raising the coupling-hook, as set forth. 2nd. In a car-coupling, the combination, with the draw-head A, the U-shaped draw-bar D, the spring coupling-hook J, the bow N and the yoke O, of the lifting bar Q and the bar Y, substantially as shown and described. 3rd. In a car-coupling, the combination, with the draw-head A and the U-shaped draw-bar D, of the coupling-hook J provided with a recess at its rear end, spring M, bow N, yoke O, draw-rod E, cross-bars F, slides G, and springs H, substantially as shown and described. 4th. In a car-coupling, the combination, with the draw-head A, the U-shaped draw-bar D, the coupling-hook J, the bow N and yoke O, of the lifting-bar Q, the lever T, the catch-bar X, keeper W, slotted bar Y and foot-lever *b*, substantially as shown and described.

**No. 18,792. Electric Railway Signal.**

(*Signal Electrique de Chemin de Fer.*)

John P. Rogers, Elmsdale, N. S., and James C. Upham, North Sydney, C. B., 6th March, 1884; 5 years.

*Claim.*—1st. The paddle-wheel contacts *f*, having sharp edges, in combination with the supporting frames S hinged at *f<sub>1</sub>*, and insulated from the upper frames R, as shown and described. 2nd. The combination, on locomotives, with the instruments W<sub>1</sub>, W<sub>2</sub> and circuit closers *f*, of the lever L connected to the axle segments *n*, *p* and connections *n<sub>1</sub>*, *p<sub>1</sub>*, substantially as described, for bringing these instruments in direct connection with the axle, as set forth.

**No. 18,793. Lubricator for Steam Cylinders and their Valves.** (*Graisseur pour Cylindres de Vapeur et leurs Soupapes.*)

Allen W. Swift, Elmira, N. Y., U. S., 6th March, 1883; 5 years.

*Claim.*—1st. The combination, with a steam cylinder and its valve, of a steam-duct communicating therewith, and a partly choked throat, and a lubricant cup having its delivery connected with said duct at a point between the choked throat and steam receiving end

thereof, substantially as shown. 2nd. The combination, with a steam cylinder and its valve, of a steam duct having a partly choked throat, a lubricant cup having its discharge communicating with the steam-duct back of the choked throat thereof, and a steam condenser delivering the water of condensation to the interior of the lubricant-cup, for displacing the lubricant and forcing the same into the afore-said steam-duct, substantially as described and shown. 3rd. In combination with the lubricant duct *a* having its extremities communicating respectively with the boiler and steam-chest of the engine, and the lubricant cup having its discharge connected with said duct, the disk *b* arranged within the duct *a* and having the projections *d* and the channel *c*, for the passage of the lubricant through said disk, substantially as described and shown and for the purpose specified.

### No. 18,794. Electric Clock not Requiring Winding up. (*Horloge Electrique ne se Remontant pas.*)

Solomon Schisgall, St. Petersburg, Russia, 6th March, 1884; 5 years.

*Claim.*—1st. An electric clock not requiring winding up, wherein the oscillating of the pendulum is produced by the action of an electro-magnet, alternately magnetized and demagnetized automatically by the action of the clock-work. 2nd. The combination of the electro-magnet with a lever or armature connected with the pendulum, and ending into a tooth which, through the oscillations of the pendulum, is alternately brought in contact and out of contact with the teeth of the seconds' wheel. 3rd. The combination, in an electric clock, of the clockwork's toothed wheels with springs ending in heads so shaped that, when the wheel is turned for half a tooth (by the action of the electro-magnet), the said head of the spring leaps over the tooth and, thereupon pressing against the same, compels the wheel to move on for the other half. 4th. The combination of the wheels of the electric clock with a commutator consisting of two isolated semi-circles, and serving to more economically utilize the power of the galvanic batteries or elements. 5th. The combination of the electro-magnet with a battery of superior force than that required for complete saturation of the electro-magnet, in order to maintain continuous magnetism in the electro-magnets.

### No. 18,795. Fur Clipping Machine.

(*Machine à Tondre les Fourrures.*)

Otto Simonson and William Schott, New York, N. Y., U. S., 6th March, 1884; 5 years.

*Claim.*—1st. A fur-clipping machine comprising the following elements: a cutter-bar adapted to be reciprocated forward and backward, a cutter-bar adapted to be reciprocated forward, backward and laterally, a device adapted to give a continuous air blast, an adjustable straining frame, an adjustable straining bar and suitable mechanism for feeding and straining the skin or fur, all constructed and arranged substantially as set forth. 2nd. In a fur-clipping machine, as a means for removing the water hairs from skins or furs, toothed cutter-bars adapted to be reciprocated, substantially as set forth. 3rd. In a fur-clipping machine, a device for supplying a continuous air blast provided with a nozzle narrowing or tapering flatwise to its mouth, substantially as herein shown and described, said nozzle being designed for equalizing the air pressure along the line of delivery, as set forth. 4th. In a fur-clipping machine, the combination, with reciprocating cutter-bars adapted for clipping coarse hairs from furs or skins, of a device for delivering a continuous and regulated air blast of even pressure, substantially as set forth. 5th. In a fur-clipping machine, a straining frame adapted and arranged to be swung downward, substantially as and for the purpose described. 6th. In a fur-clipping machine, the combination, with a suitable supporting frame, of a straining bar adapted to be vertically adjusted, substantially as herein shown and described. 7th. In a fur-clipping machine, means, substantially as herein shown and described, of straining a fur or skin over the straining bar consisting of movable endless chains *N*, *N*, clamp *R*, hooks *q* and weights *s*, all arranged and operating as set forth.

### No. 18,796. Water Closet. (*Latrines à l'eau.*)

James Muirhead, Pawtucket, R. I., U. S., 6th March, 1884; 5 years.

*Claim.*—The combination of the bowl *A*, case *B* provided with ways *i*, *l*, gate *a*, packing *V*, rod *g*, arm *t* and shaft *d*, substantially as described and for the purpose set forth.

### No. 18,797. Grain Elevator. (*Elevateur à Grain.*)

Marquis F. Seeley, Freemont, Neb., U. S., 6th March, 1884; 5 years.

*Claim.*—1st. In a building for storing grain, the combination, with means for elevating the grain, of a series of bins having a substantially unitary hopper-bottom common to all the bins of the series, and sloping toward a central pit in which the lower end of the elevating device is placed, substantially as described and for the purpose set forth. 2nd. In a building for storing grain, the combination, with means for elevating the grain, of a unitary hopper structure forming the bottoms of a series of bins, and radial partitions between said bins, whereby the grain may be discharged at a central point to the elevating device, substantially as described. 3rd. In the elevator structure described, the combination of two elevating devices, two or more storage bins *C* constructed to discharge to either of the several elevating devices, substantially as and for the purpose set forth. 4th. In a building for storing grain, the combination of two elevator-belts, receiving-bins *G* and storage-bins *C* arranged to discharge to the said elevator-belts, a cleaner, a bin *I* constructed to discharge to either elevator-belt, means for conveying the grain from the top of each elevator-belt to the cleaner and bin *I*, and means for conveying the grain from the top of the elevator-belts to the storage-bins or outside of the building, substantially as described. 5th. The combination, with the elevator-belts *D* and storage-bins *C*, of bins *K* arranged to discharge into a grain cleaner bins *M*, arranged to discharge into a weighing hopper, and means for conveying the grain from the top of each elevator-belt to the said bins *C*, *K* and *M*, substantially as and

for the purposes set forth. 6th. In a building for storing grain, an elevator having its casings or legs constructed to form the supporting frame upon which the several operative parts are mounted, substantially as described. 7th. The combination, with the floor, of the drive-way *F* having an aperture *f*, of means for directing grain discharged through said aperture into either of the bins *G*, as described. 8th. The combination, with the floor *F* having an aperture *f*, and the partition *G*, of the pivoted board *f*, substantially as and for the purposes set forth. 9th. In a device for dumping grain, the combination with a floor *F*, of a roller *g*, located and operating substantially as described and for the purposes set forth. 10th. The combination, with the floor *F* and the dumping timbers *Q*, of rollers *g* having bearings in the said floor at the end of the dumping timbers, substantially as described and for the purpose set forth. 11th. In a structure for elevating and storing grain, a working floor *E* supported from the ground independently of the other parts of the building, substantially as described. 12th. The combination, with the floor *F* and the bin *A*, of a weighing hopper *N* placed above a scale platform resting on said floor and supported by standards *n* therefrom, substantially as described and for the purposes set forth. 13th. The combination, with an elevator-belt, of a receiving hopper *o* having a depending flange *o*, a turn-spout *O* constructed to fit at its upper end over the flange *o* so as to rotate thereon, and a rod *ol* supported in a suitable bearing and attached to, and constructed to uphold said turn-spout, substantially as described and for the purpose set forth.

### No. 18,798. Railway Car Replacer. (*Appareil pour remettre les Chars de Chemin de Fer.*)

William Toombs and George W. Thatcher, Logan, Utah, U. S., 6th March, 1884; 5 years.

*Claim.*—1st. A reversible placer-frog consisting of the elongated rails *a*, centre block *b*, base-plate *c*, and the double-arched hook *D* having set screws in its hook-wings, substantially as specified. 2nd. The combination, with the reversible placer frog *A* having the double-arched hook-connection *D* and set screws *e*, of the single rail-replacer *P* having the arch *m*, and the reversible double-hook connection *D*, substantially as specified.

### No. 18,799. Method for Extracting Stumps. (*Méthode pour Extraire les Souches.*)

Torrence W. Russell and Charles E. Tucker, Bradford, Penn., (assignees of Harry D. Van Campen, Belmont, N. Y.), U. S., 6th March, 1884; 5 years.

*Claim.*—As an improvement in the art of extracting stumps, the method herein described of extracting the stump and its roots simultaneously, which consists in making a hole in the earth beneath the stump at a sufficient distance under it to leave a cushion of earth between the stump and the hole, then inserting in said hole an explosive which is afterwards tamped and fired, whereby the force of the explosion is diffused over a large surface, and the stump and its roots pushed out of the ground by the cushion of earth, substantially as described.

### No. 18,800. Manufacture of Barrels and the like from Pulp. (*Fabrication des Barils et Autres Objets Semblables avec de la Pâte à Papier.*)

The American Paper Barrel Company (Assignees of George W. Laraway), Hartford, Ct., U. S., 6th March, 1884; 5 years.

*Claim.*—1st. A mold for the fabrication from pulp, of barrels and other similar articles, said mold being composed of an outer and inner set of staves or sections, in the space between which the barrel or other article is formed under pressure exerted upon the pulp before set of the set of staves or sections, substantially as hereinbefore set forth. 2nd. A mold for the fabrication from pulp, of barrels and other similar articles, said mold being composed of an outer and inner set of staves or sections, in the space between which the barrel or other article is formed under pressure, from without, exerted inwardly upon the outer staves or sections, substantially as hereinbefore set forth and for the purposes described. 3rd. A mold for the fabrication from pulp, of barrels and other similar articles, said mold being composed of an outer and inner set of perforated staves or sections, in the space between which the barrel or other article is formed under pressure, from without, exerted inwardly upon the outer staves or sections, substantially as hereinbefore set forth and for the purposes described. 4th. A mold for the fabrication from pulp, of barrels and other similar articles, said mold being composed of an outer and inner set of staves or sections, having their working faces grooved and covered with finely-perforated mold-face, substantially as hereinbefore set forth and for the purposes described. 5th. In a mold for the fabrication from pulp, of barrels and other similar articles, a collapsing core of bilged form for shaping the interior of the package, substantially as shown and described.

### No. 18,801. Knitting Machine.

(*Machine à Tricoter.*)

George A. Leighton, Manchester, N. H., U. S., 6th March, 1884; 5 years.

*Claim.*—1st. The needle-cylinder, cylinder-needles, and cam cylinder provided with two grooves for the reception of the butts of the said needles, and a reciprocating switch, combined with a pattern surface, and intermediate connections between it and the said switch, whereby the switch may be moved automatically to direct the butts of the cylinder needles into one or the other of the said grooves, substantially as described. 2nd. The needle-bed, plate-needles, and cam-plate having two grooves for the reception of the butts of the plate-needles, and a switch cam, combined with a pattern surface and intermediate connections, substantially as described, between the said pattern surface and switch cam, whereby the switch cam may be moved automatically to place the butts of the needles in either of the said grooves, substantially as described. 3rd. The needle-bed,

plate-needles, the grooved cam-plate, its attached cams and switch cam, to throw the plate-needles into and out of operation, means to rotate the cam-plate, the needle-cylinder, cylinder-needles, the grooved cam-cylinder, its cam and switch to actuate the cylinder-needles, a pattern surface and connecting devices between the said cams, switch cams and switch to operate the said needles, automatically combined with cams, and with means between the said cams and needle-cylinder to shog the needle-cylinder and cylinder-needles according to the requirements of the pattern surface, substantially as described.

4th. The needle-bed to contain the plate-needles, the cam-plate, the cam 29, to draw in the needles to form loops in the yarn, and the slide rod  $a^2$ , and means to connect it with the said cam, combined with the slide block  $a^4$ , and its cams  $a^5$ , to operate the said slide rod and through it the cam 29, substantially as described.

5th. The needle-bed to contain the plate-needles, the plate-needles, the cam-plate, the cam 29 to draw in the needles to form loops in the yarn, the slide rod  $a^2$ , and means to connect it with the said cam, and the slide block  $a^4$ , and its attached cams, combined with the slide to move the slide block and pattern surface or chain to actuate the said slide, substantially as described.

6th. The needle-bed, the plate-needles, the cam-plate, the needle drawing in cam 29, the slide rod  $a^2$ , means to connect it with the said cam, the slide block  $a^4$ , its cams  $a^5$ , and the slide  $a$  to move it, combined with the pattern surfaces or chains, and their projections made adjustable as to their protection from the bars of the pattern chain to place the cams  $a^5$ ,  $a^6$ , in the desired position, according to the length of loop desired, substantially as described.

7th. The needle-bed, plate-needles, the cam plate, its auxiliary throwing out cam, and the connected slide rod  $b^4$ , combined with the slide block  $d^4$  and cam link 81, to move the slide rod and, through it, the said auxiliary throwing out cam into its position farthest away from the centre of the cam-plate, substantially as described.

8th. The needle-bed, plate-needles, the cam-plate, its auxiliary throwing out cam and the connected slide rod  $b^4$ , combined with the slide block  $d^4$ , and its cam  $b^7$  to move the slide rod and, through it, the auxiliary throwing out cam into its position nearest the centre of the cam-plate, substantially as and for the purpose described.

9th. The needle-bed, plate-needles, the cam-plate, its auxiliary throwing out cam, and the connected slide rod  $b^4$ , combined with the slide block  $d^4$  and cam link 31 to move the said slide rod and, through it, the auxiliary throwing out cam into its position farthest away from the centre of the cam-plate, and with the slide  $d$  for moving block  $d^4$ , and pattern surface to actuate the said slide, substantially as described.

10th. The needle-bed, plate-needles, the cam-plate, its auxiliary throwing out cam, and the connected slide rod  $b^4$ , combined with the slide block  $d^4$  and its cam  $b^7$ , to move the slide rod and, through it, the auxiliary throwing out cam into its position nearest the centre of the cam-plate, and with the slide  $d$  for moving the block  $d^4$ , and pattern surface to actuate the said cam 132 and the slide rod  $g$ , combined with the slide block  $g^5$ , and cams  $g^3$ ,  $g^4$  thereon, substantially as described.

12th. The cam-plate, its switch-cam 132, the slide rod  $g$ , and the slide block  $g^5$  and cams  $g^3$ ,  $g^4$  thereon, combined with the slide  $c$ , for moving block  $g^5$ , and pattern surface to move the said slide, substantially as described.

13th. The cam-plate, its switch-cam 31, the lever 39, and the slide rod  $d^4$ , combined with the slide block  $d^4$  and cam links 81, 41, the cam, substantially as described.

14th. The cam-plate, the switch-cam 31, the slide rod  $d^4$ , and links 81, 41 thereon, combined with the slide  $d$ , for moving the slide block  $d^4$ , and pattern surface to move the said plate, substantially as and for the purpose described.

15th. The needle-cylinder, cylinder-needles, cam cylinder, and its switch, provided with the rod 23 and the connected slide bar  $c^2$ , combined with the slide block  $c^4$  and its cam  $c^7$ , to move the said slide rod and through it the switch, substantially as described.

16th. The needle-cylinder, cylinder-needles, cam-cylinder, its switch provided with rod 23, the slide rod  $c^2$  connected therewith, and the slide block  $c^4$ , and pattern surface to move the said slide, substantially as described.

17th. The needle-cylinder, cylinder-needles, cam-cylinder provided with grooves  $N^4$ ,  $N^5$ , and the switch between them, and means, substantially as described, to automatically place the said switch in its intermediate position, as set forth, to obviate the introduction of yarn into the hooks of the cylinder-needles, combined with the needle-bed, cam-plate, plate-needles, and cams to actuate them, whereby a separating course may be introduced, substantially as described.

18th. The needle-cylinder, cylinder-needles, grooved cam-cylinder, and knitting cam drawing down cam  $p^2$  and its rod 24, combined with the slide  $f$ , the slide block  $f^5$ , and its cam  $f^3$ ,  $f^4$ , substantially as described.

19th. The needle-cylinder, cylinder-needles, grooved cam-cylinder, and knitting or drawing down cam  $p^2$ , and its rod 24, combined with the slide rod  $f$ , slide block  $f^5$ , and its cam  $f^3$ ,  $f^4$ , combined with the slide  $b$ , for moving the slide block  $f^5$ , and pattern surface to actuate the same, substantially as described.

20th. A guide box, a slide rod therein provided with teeth, by a roller-stud carried by the slide rod, a spring lifting slide  $a^2$  carried by the slide rod, and its roller-stud  $a^1$  combined with cams or inclined surfaces, substantially as described, to first move the spring-lifting slide and then the slide rod, to actuate the cam, and means to connect the same with the slide rod, substantially as and for the purpose set forth.

21st. In combination, the needle-bed, plate-needles, cam-plate, its cams 29, 30, and switch cams 31, 132, the needle-cylinder, cylinder-needles, cam-cylinder, its switch and knitting cam, the pattern surfaces and means, substantially as described, between the said slide rods and pattern surfaces to actuate the said slide rods, and automatically, according to the requirements of the pattern surface, to draw cam  $p^2$  and its rod 24, combined with the slide  $f$ , slide blocks  $d^4$ , and its cam  $f^3$ ,  $f^4$ , combined with the slide  $b$ , for moving the slide block  $f^5$ , and pattern surface to actuate the same, substantially as described.

22nd. The needle-bed, plate-needles, cam-plate, switch-cam 31, auxiliary throwing out cam 30, their slide rods  $d^2$ ,  $d^4$ , slide blocks  $d^4$ , and cam-links 81, 41, and slide  $d$ , combined with pattern surfaces, to actuate the slide  $d$ , as and for the purpose set forth.

23rd. The needle-bed, plate-needles, cam-plate, switch cam 31, auxiliary throwing out cam, their slide rods  $d^2$ ,  $d^4$ , slide block  $d^4$ , cam links 81, 41, and pattern surface to actuate it, the needle-cylinder, cylinder-needles and cam-cylinder, combined with means, substantially as described, to automatically shog the needle-cylinder and cylinder-needles, while the point of the switch cam 31 nearest the centre of the cam-plate and the point of the auxiliary cam 30 is in its position most remote from the centre of the cam-plate, the plate-needles being then drawn back and holding loops of their own thread.

24th. The

cam-cylinder, cylinder-needles, needle-cylinder provided with dogs, and the ring 51 provided with forks 49 to engage the said dogs, combined with cams to automatically operate the said ring, and through it shog the needle-cylinder, substantially as and for the purpose described.

25th. The main shaft, its small fast pulley and flange clutch pulley  $E^3$ , and means to connect it with the said flange, and the small and large loose pulleys, and the bevel pinion  $M^2$ , combined with the cam-plate and adapted to drive it at different speeds, substantially as described.

26th. In combination, the main shaft, its small fast pulley and flange  $E^3$ , clutch pulley  $E^3$ , and means to connect it with the said flange, the small and large loose pulleys  $E^7$ ,  $E^8$ , pinion  $M^2$ , cam plate actuated by it, belt  $E^5$ ,  $E^6$ , means to move them, belt controller  $H^5$ , pattern surface and intermediate mechanism to actuate the belt-controller from the pattern surface, to change the speed of rotation of the cam-plate, substantially as set forth.

27th. The main shaft, the clutch pulley  $E^3$  loose loose on the main shaft, the shaft  $G^8$ , means to connect it and the sleeve of the clutch pulley  $E^3$ , the cams  $G^5$  and  $G^7$ , a pawl carrier and pawl actuated by the said cams, and a ratchet wheel and the shaft  $G^2$ , with which it is connected, combined with the shaft  $E^2$ , pattern surface or chain and connections between the said two shafts, whereby the pattern surface may be driven while the main shaft is at rest, substantially as set forth.

28th. In combination, the pawl carrier  $G^5$ , the cam  $G^7$ , means to actuate it, the forked arm  $I^6$  engaging a part of said cam, a rod to move the said arm, and pattern surface to actuate the said rod, substantially as described.

29th. The shaft  $G^8$  and the cam  $G^7$ , means to connect it with the said shaft, the pawl carrier  $G^5$ , its roll 4 and the arm 16, having its hub placed loosely on the rod 17, combined with the said rod, its lug 18, spring 19 and with the pattern surface to move the said rod, to operate substantially as described.

30th. In combination, the cam-plate, its attached bevelled stop  $J$ , the pin  $n^5$ , the lever  $n^7$ , connections between it and the said pin, the rod  $n^8$ , lever  $E^2$ , main shaft, hub  $E^1$  thereon, its pin 2, the flange  $E^3$ , and clutch pulley  $E^3$ , whereby the said bevelled stop, through the devices herein described, is enabled to withdraw the pin 2 from the flange to leave the main shaft at rest, substantially as and for the purpose set forth.

31st. The cam-plate, the bevelled stop  $J$ , the pin  $n^5$ , wedge or incline  $n^3$  to support it, the pin  $n^4$ , elbow-lever  $n^7$ , against which the pin  $n^4$  rests, and which is moved by the said pin, combined with the plunger  $n^1$ , cam to move it and the said wedge or incline, and means to actuate the said cam, the said wedge or incline being loosely connected with the said plunger, substantially as described.

32nd. The cam-plate, its stop  $J$ , the pin 65 and arm 63 to carry it, combined with a spring to lift the pin in front of the stop, to arrest the movement of the cam-plate, substantially as set forth.

33rd. The cam-plate, its stop  $J$ , the pin 65, means to move it, a cam to effect the withdrawal of the said pin at the proper time, and means to move the said cam, substantially as described.

34th. The main shaft  $E^4$ , the cam-plate, means to actuate it, a pattern surface, means to actuate it, the means substantially as described, actuated by the pattern surface, to first effect the stoppage of the main shaft and then of the cam-plate, substantially as described.

35th. The bobbin support  $C$ , the detecting lever  $C^1$  pivoted therein, and adapted to enter a slot in the bobbin and be held in upright position by the yarn thereon, and the rod  $C^3$  combined with the frame  $A$ , the semi-circular slide, the lever  $B$ , the steel  $B^7$ , the latch  $B^8$  and the shipper lever, substantially as and for the purpose described.

36th. The counter shaft, means to drive it, the pulleys at one end of the counter shaft, the main shaft and means to connect it with the counter shaft, and the take-up and means to connect it with, and actuate it from the counter shaft, substantially as and for the purpose set forth.

37th. The needle-bed, plate-needles, cam-plate, and cams thereon to actuate the plate-needles, the needle-cylinder, cylinder-needles, cam-cylinder, and its cam and switch, combined with a pattern surface and intermediate devices to actuate the said cam, and with means to rotate the said plate and cylinder, substantially as and for the purpose described.

38th. In combination, the main shaft, means to operate it, the cam-plate, and intermediate connections between it and the said shaft, a stop on the cam-plate, a pulley adapted to be made fast or to run loosely with relation to the said shaft, means to move the pulley, a pattern surface, and means between it and the said pulley to turn the pattern surface while the main shaft is at rest, substantially as described.

39th. In combination, the main shaft, means to operate it, the cam-plate and intermediate connections between it and the said shaft, a pulley adapted to be made fast or run loosely with relation to the said shaft, means to move the pulley, a pattern surface, and means between it and the said pulley to turn the pattern surface while the main shaft is at rest, a pin to engage the cam-plate, and a cam actuated by the said pattern surface to control the times of movement of the said pin, for the purpose set forth.

40th. The needle-cylinder having dogs, and the ring 51 having forks, and the arm 52, combined with cams 54, 55, and with a pattern surface to actuate the same to shog the needle-cylinder, substantially as described.

41st. The cam-cylinder, cylinder-needles, needle-cylinder, cam-plate, means to move it, its yoke and the cylinder-needle yarn guide and yarn cutter attached to the said yoke, combined with the cutter to cut the yarn leading to the cylinder-needles, substantially as described.

42nd. That improvement in the art or method of preventing ribbed one-and-one knitted fabric from unravelling, which consists in changing the one-and-one stitch to cardigan stitch by introducing yarn from the cylinder-needle yarn guide in the hooks of the cylinder-needles, knitting one or more courses of cardigan stitch by means of two yarns, and drawing the yarn taken from the cylinder-needle yarn guide into long loops while knitting the last course of cardigan, all substantially as set forth.

No. 18,802. Fruit Dryer. (Eluer à Fruits.)

William R. Phillips, Milford, Del., U. S., 6th March, 1884; 5 years.

Claim.—1st. In combination with the outer casing having doors  $G$  and opposite thereto, the tray-supporting rollers  $l$  and guides  $h$ , the depending stationary bars  $e$  and movable bars  $e^1$ , and the gravity catches  $f$  pivoted in slots in said bars and having ribs  $f^1$ , as set forth.

2nd. In combination with the stack having depending bars  $e, e^1$ , the gravity-catches  $f$  having ribs  $f^1$ , adapted to limit the upward and downward movements of the catches by encountering the fronts of the bars, as set forth.

### No. 18,803. Construction of Butter or other similar Dishes. (*Fabrication des Beurriers ou autres Ustensiles semblables.*)

Joseph D. Lucas, Toronto, Ont., 6th March, 1884; 5 years.

*Claim.*—1st. In combination with a dish of any suitable design, a divided ring B designed to fit the edge of the dish and provided with claws *b*, arranged to grasp the edge of the dish when the ends of the divided ring are clamped together, as specified. 2nd. A divided ring B having the knife-holder E, handle C and claws *a* attached to it, in combination with lugs *f* formed on the ends of the ring and clamped together, substantially as and for the purpose specified.

### No. 18,804. Air Compressing Machinery.

(*Appareil pour Comprimer l'Air.*)

George R. Cullingworth, New York, N. Y., U. S., 6th March, 1884; 5 years.

*Claim.*—1st. The combination, with the cylinder of a double-acting air compressor, of pipes or conduits connecting the ends thereof, and a pressure regulator capable of operation by an excess of air pressure and serving to control communication between the ends of said cylinders through said pipes or conduits, substantially as described and for the purpose set forth. 2nd. The combination, with the cylinder of a double-acting air compressor provided with pipes or conduits for connecting its ends, and a pressure regulator capable of operation by an excess of air pressure for controlling communication between the ends of the cylinder through said pipes or conduits, of an operating engine provided with a throttle valve and connection through which the said regulator effects the closing or partial closing of said throttle valve, when it places the ends of the cylinder in communication, substantially as described and for the purpose set forth. 3rd. The combination, with the cylinder of a double-acting air compressor provided with pipes or conduits connecting its ends, and a pump for supplying cooling water to the cylinder, of a pressure regulator capable of operation by an excess of air pressure to place the ends of the cylinder in communication through said pipes or conduits, and a valve which is capable of operation by the regulator at the same time, and which serves to admit air to the suction of the pump, substantially as described and for the purpose set forth. 4th. The combination, with the cylinder of a double-acting air compressor provided with conduits connecting its ends, and a pressure regulator capable of operation by an excess of air pressure to place the ends of the cylinder in communication through said pipes or conduits, of an operating engine for the compression provided with a throttle valve, a pump for supplying cooling water to the compressor cylinder provided with an air inlet valve in its suction, and connections through which the said regulator closes, or partly closes the throttle valve and opens the said air valve, when acting to place the ends of said cylinder in communication with each other, substantially as described and for the purpose set forth. 5th. The inlet valve, herein shown and described, for an air compressor, consisting of hollow cylinder or sleeve and a head connected therewith by a skeleton bridge, and having an annular opening between said cylinder or sleeve and said head, substantially as described and for the purpose set forth. 6th. The combination, with the air chest or chamber for containing the discharge or outlet valves of a compressor, of a valve casing consisting of a hollow cylinder and a seat-ring connecting with the cylinder by wings or ribs, so as to leave an annular space between them and a cap for the casing, all being supported in openings in the inner and outer walls of the air chest or chamber, a bonnet for closing the opening in said outer wall, and a screw passing through the bonnet and bearing against the cap of the valve casing, substantially as shown and described. 7th. The combination, with a hollow cylindrical discharge or outlet valve for an air compressor, of a closing spring arranged within the valve and guided externally by the interior of a guide or bushing placed in the valve, substantially as shown and described. 8th. The combination, with a hollow cylindrical discharge or outlet valve for an air compressor, and a casing containing a seat for the valve and provided with a cap or cover, of a spiral spring arranged within the valve and having its ends fitted to bearings in the valve and in the cap or cover of the casing, and a bushing inserted in said valve and serving as a guide to the exterior of the spring, substantially as shown and described. 9th. The combination, in a journal box, of brasses or linings made up of top, bottom and side sections, hollow or tubular bolts for holding down and adjusting the cap wedges, for adjusting the said side sections, and screws working through said hollow or tubular bolts for adjusting the wedges to tighten the said side sections, substantially as described and for the purpose set forth. 10th. The combination, in a journal box for air compressor engines and other purposes, of brasses or linings made up of top, bottom and side sections, hollow or tubular bolts for holding down and adjusting the cap wedges, for tightening said side sections, screws working through said hollow or tubular bolts, for adjusting said wedges to tighten said side sections, and springs acting upon the wedges to loosen them, when the said screws are relaxed, substantially as described and for the purpose set forth.

### No. 18,805. Combined Butter Dish and Package. (*Beurrier et Boîte à Beurre Combinés.*)

Alfred Edwards, New Haven, Ct., U.S., 6th March, 1884; 5 years.

*Claim.*—1st. As an article of manufacture, a butter-package consisting of two parts or halves adapted to be fitted together with their open ends, and having a circular groove or channel adapted to receive a strip of paper or equivalent material, for connecting or uniting the parts into one body or package, substantially as and for the purpose shown and set forth. 2nd. A package for butter comprising the two ornamental parts or sections A and A', each adapted to contain a given quantity of butter, having a central groove or channel formed by the flanges *c*, *c'*, and united by a strip or band C cemented into the said channel flush with the body of the package, as set forth. 3rd. A package for butter comprising the two ornamental parts or sections A and A', each adapted to contain a given quantity of butter, having a central groove or channel formed by the flanges *c*, *c'*,

and united by a strip or band C cemented into the said channel flush with the body of the package, said sections A and A' of the complete package having one or more openings *b* provided with removable stoppers B, substantially as and for the purpose shown and described.

### No. 18,806. Gas Engine. (*Machine à Gaz.*)

Cyrus W. Baldwin, Chicago, Ill., U. S., 6th March, 1884; 5 years.

*Claim.*—1st. In a gas engine, the combination of a working cylinder, two pistons and appliances, substantially as described, for operating them independently, and air and gas ports and channels, substantially as set forth, whereby the charge of explosive gases is compressed in front of the working piston and then transferred to the rear thereof and exploded, substantially as specified. 2nd. The combination of the cylinder, its pistons B, B', air and gas ports and channels and appliances, substantially as described, whereby the piston B is moved from the rear of the cylinder to the piston B', and the gases thereby forced from the front to the rear of the piston B', and the pistons then separated while both travelling forward to receive between them a second charge of gases, substantially as set forth. 3rd. The combination of the cylinder pistons B, B' and ports, passages and valves and operating devices, substantially as described, whereby the two pistons are separated while travelling forward to receive a charge of gases between them, and are then brought toward each other while travelling back to compress said charge until the piston B reaches the limit of its motion, and said piston is then brought against the piston B' to force the charge to the opposite side of the piston B, substantially as set forth. 4th. The combination, with the cylinder A and its ports and passages, and with the piston B, rod *a*, connecting-rod *b* and shaft C and crank *c*, of the piston B', rods *d*, connecting-rod *d'* and supplemental crank D', substantially as set forth. 5th. The combination of the cylinder, its ports and valves, and pistons B, B' connected together, and intermediate and independently operating piston B', substantially as set forth. 6th. The combination of the cylinder piston B, piston B' connected thereto and provided with a trunk, and piston B' connected to rods extending through the piston B' and attached to a cross-head sliding in guides of the trunk, substantially as set forth. 7th. The combination, with a gas engine, of ports arranged at opposite portions of the working cylinder, and air passages and valves, substantially as set forth, whereby a charge of air is carried through the cylinder away from the piston, when the latter is at the limit of its forward motion, after the explosion of the gases and prior to the admission of a new charge, substantially as set forth. 8th. The combination, with the working cylinder and piston of a gas engine, of exhaust and air ports and passages arranged to admit a charge of air after the explosion, and then to permit the same to be expelled by the backward movement of the piston, as set forth. 9th. The combination of the cylinder, connected pistons B, B', intermediate piston B' and ports and passages arranged to carry the air from between the pistons B, B' to the rear of the piston B', substantially as set forth. 10th. The combination of the cylinder, having the exhaust port *e*, communicating air ports *f*, *f'*, igniting opening *g* and gas port *h*, arranged and provided with valves, substantially as set forth, and working piston B, piston B' provided with air-openings and valves, and intermediate piston B', substantially as set forth. 11th. The combination of the gas inlet valve and operating appliances, a reciprocating rod *i*, constituting part of said operating appliances, and a governor and connections, whereby said rod is thrown out of connection with the other parts, when the speed of the engine becomes excessive, substantially as set forth.

### No. 18,807. Horse Shoe. (*Fer à Cheval.*)

John W. Fierheller, Newmarket, Ont., 6th March, 1884; 5 years.

*Claim.*—An improved horse-shoe in which the ends forming the heel are bifurcated, so as to make that portion of the shoe elastic, substantially as and for the purpose specified.

### No. 18,808. Manufacture of Buttons.

(*Fabrication des Boutons.*)

Charles E. Bailey and William R. Talbot, Providence, R.I., U.S., 6th March, 1884; 5 years.

*Claim.*—The herein described method of constructing buttons, consisting in forcing the prongs of the shank B up through the material which is to compose the button-head, and then forming said head and clinching the prongs of the shank into the top surface thereof at one and the same operation, substantially as and for the purpose specified.

### No. 18,809. Edger. (*Machine à Scier les Flaches.*)

James A. Robb, San Francisco, Cal., U. S., 6th March, 1884; 5 years.

*Claim.*—1st. In a gang edger having a series of saws mounted upon a driving shaft or arbor, a means for adjusting the same to any desired distance apart consisting of a series of setting levers fitted to transverse guides and connected with the grooved collars of the saws, in combination with a notched scale bar or rack into which spring catches upon the lever arms may fall, substantially as herein described. 2nd. In a gang edger, means for raising or lowering the upper feed rolls consisting of vertically sliding journal boxes at each end of the rolls, eccentric or cranked disks mounted upon shafts, having their cranks connected with the sliding by rods or pinion shafts, rack and pinion, and a means for rotating the disk or pinion shaft, substantially as herein described. 3rd. In a gang edger, means for raising and depressing the upper feed rolls consisting of eccentric or cranked disks connected with the vertically sliding boxes, of the feed rolls, the disk shafts having gears upon one end, which are both engaged by a pinion upon a centrally placed actuating shaft, in combination as herein described. 4th. In a gang edger and in combination with the means for raising and depressing the upper feed rolls, as shown, a flanged belt pulley V upon the pinion shaft U, the flanged pulley X upon the driving shaft Y and the belt Z, together with the tightening pulley *h* mounted upon the lever arm *d* of the shaft *c*, and the handle bar or rod *k*, substantially as herein described. 5th. In a



gang edger and in combination with the vertically adjustable upper feed rolls, and mechanism for operating them, the pinions *m* and *t* and the uniting links *p*, by which the pinions are held in gear and an extension is permitted, substantially as herein described. 6th. The slotted beam *F* notched and graduated, as described, and having the slides *G* with their levers *H*, I arranged as adjusted therein, in combination with the saw collars *E* with their grooves *a*, substantially as above specified. 7th. The combination of the upper feed rolls *S* journaled in the sliding blocks *J*, the depending rack bars *K*, the shaft *M* with its pinions *L*, *L*, and friction wheel *N*, the driving shaft *O* having one end mounted on a shifting box *P*, and an operating mechanism, all combined to operate, substantially as and for the purpose herein described. 8th. In a gang edger, the combination, with the upper feed rolls journaled in sliding boxes *F* of the shafts *i* with their friction wheels, the disks *g*, *g* having wrist pins *i*, the connection rods *J*, *J* the shaft with friction pulley *K* and mechanism, substantially as herein described, for shifting or laterally throwing one end of said shafts toward either of the said shafts *G*, *G* for the purposes set forth. 9th. The combination, with the shifting box *m*, of the rock shaft *N*, fixed arm and link *r*, the lever *S* in said rock shaft, and the secondary lever *S* pivoted at *t* to the frame, and having the inner end of the lever *S* attached to it, at a point in front of its fulcrum, substantially as described. 10th. The combination of the slotted bar *T* with the end of the setting lever *L* having the T-slot, the handle with a threaded shank and the nuts *q*, *q*, substantially as described. 11th. In combination with the setting lever *L*, the detachable nose piece *L'*, formed of two plates, which are provided with a spreading or setting means, whereby they are moved from each other and held in such position, substantially as and for the purpose set forth. 12th. The detachable nose piece for the ends of the setting levers in edgers, consisting of the two separable plates *L* and the separating screws 2, 3, 4, by which the upper edges of the plates can be spread and held apart to a greater extent than the lower portion thereof, in combination with grooved saw collars, substantially as described for the purposes set forth. 13th. In combination with the grooved saw collars and the separable plate *L* forming the nose piece, as described, the clamp *W* and lubricator material, applied substantially as described for the purpose specified. 14th. In combination, with the upright end of the setting lever *L*, the saw dust spout having the adjustable saw stops *G*, *G*, substantially as described.

**No. 18,810. Explosive Compound.**  
(Composition Explosible.)

The Rend Rock Powder Company, of New Jersey, (Assignee of Silas R. Divins, Look Sheldrake, N.Y., U.S., 7th March, 1884; 5 years.

Claim.—The explosive compound composed of a solid ingredient such as chlorate of potash, and a liquid ingredient consisting of turpentine mechanically united, substantially in the proportions and as specified.

**No. 18,811. Explosive Compound.**  
(Composition Explosible.)

The Rend Rock Powder Company, of New Jersey, (Assignee of Silas R. Divins, Look Sheldrake, N.Y., U.S., 7th March, 1884; 5 years.

Claim.—The explosive compound composed of a solid ingredient such as chlorate of potash, and a liquid ingredient consisting of a non-volatile free fluid hydro-carbon, such as the heavy oil of coal-tar, and a nitro-compound such as nitro-benzole, mechanically united in substantially the proportions and as specified.

**No. 18,812. Knitting Machine.**  
(Machine à Tricoter.)

George A. Leighton, Manchester, N.H., (Assignee of William Carter, Highlandville, Mass.,) U.S., 7th March, 1884; 5 years.

Claim.—1st. The series of horizontal or plate needles, means to actuate them, and a thread-guide to supply with thread only the hooks of the plate-needles, combined with a series of vertical needles, their holding-bed and actuating cam-cylinder, and the thread-guide to supply with thread only the hooks of the vertical needles, and with means to move the thread-guide for the vertical needles into and out of action or position with relation to the vertical needles, when it is desired to change to cuff-work, substantially as and for the purposes described. 2nd. In an organized circular knitting-machine, a cam-cylinder and needle-bed for the vertical needles, and a series of vertical needles combined with a series of plate-needles, a grooved plate *a* and its drawing back cam, throwing-out cam and means to throw forward the butts of the plate needles at the rear of the said throwing-out cam, whereby the introduction of yarn into the hooks of all the vertical and plate-needles is insured during the first course after shogging the vertical needles, to thus bind or finish a cuff, substantially as described. 3rd. The cam-cylinder and needle-bed for the vertical needles, and the vertical needles, the series of plate needles and two yarn-guides, one for each set of needles, combined with the cam-plate *a*, its drawing-back cam, two independent throwing-out cams and means to move forward the butts of all the plate-needles left at the rear of the throwing-out cam *c*, to insure the introduction of yarn into the hooks of all the vertical and plate-needles during the first course after shogging the vertical needles, to bind or finish meridian work, substantially as described. 4th. The herein described method of binding or finishing the commencing course of tubular rib-knitted work composed of two threads, one for the outer side and the other for the inner side of the fabric, which consists in tying to the knitting yarn one or more smooth threads to be afterward withdrawn, knitting one or more courses with the smooth threads and one or more courses with the knitting-yarns, and immediately thereafter shogging a series of needles past the other the distance of the space between adjacent needles, thus crossing the stitch, and then knitting on all the needles at the next course to finish and bind the commencing course, substantially as described. 5th. The herein described method of finishing or binding the commencing end of a tubular rib-knitted cuff, which consists in tying to the yarn of the plate-needles a smooth thread to be subsequently withdrawn, knitting one or more courses

with it, and then attaching to it the regular yarn to knit one course only for the fabric, and then shogging the needles holding the last course of loops made, crossing the stitch and then knitting on all the needles at the next course to finish and bind the commencing course, substantially as and for the purpose described. 6th. In combination, the series of horizontal or plate needles, their holding bed, means to actuate the said needles, a thread-guide to supply with thread only the hooks of the plate needles, a series of vertical needles, their holding bed cam cylinder to actuate the said vertical needles, a thread guide to supply with thread only the hooks of the vertical needles, means to move the thread guide for the vertical needles into or out of action or position with relation to said needles at certain times, the stitch-forming cam for the vertical needles and the cam lifting rod *f* extended upward above the plane in which the plate needles reciprocate, all as and for the purposes set forth.

**No. 18,813. Manufacture of Articles from Paper Pulp.** (Fabrication d'Objets en Pâte à Papier.)

The American Paper Barrel Company, (Assignees of George W. Laraway,) Hartford, Ct., U.S., 7th March, 1884; 5 years.

Claim.—1st. In an apparatus for forming and compressing pulp, a continuous series of perforated external side compressors, substantially as and for the purposes set forth. 2nd. In an apparatus for forming and compressing pulp, a continuous series of perforated external side compressors having their inner surfaces coated with a finely perforated mold-face, substantially as and for the purposes set forth. 3rd. In an apparatus for forming and compressing pulp, a continuous series of external side compressors having their inner surfaces grooved and covered with a finely perforated mold face, substantially as and for the purposes set forth.

**No. 18,814. Machine for Forming Eyebolts.**  
(Machine pour faire les Chevilles à Oeillets.)

Laurids J. M. Mortensen and Niels Nielson, Racine, Wis., U.S., 7th March, 1884; 5 years.

Claim.—1st. The combination of the rod *l*, provided with the piece *h* having the projection or former *h*11, the rod *m* and the slides *g* carrying welded dies *r*, substantially as described, for operation in holding, bending and welding a heated rod to form an eyebolt. 2nd. In machines for welding eyebolts, the combination of the mechanism, substantially as described, consisting of an endwise moving rod and a former between which the rod to be welded is clamped, supports for holding the rod while being bent, and reciprocating dies for welding the rod after being bent, so as to bend and weld an eyebolt at one heat. 3rd. The combination, with the rod *l* having former *h*11, of the supports *v*, *v*, the gage *v*1, the cam *c* and the lever *k*, whereby the rod may be bent around the former, as described. 4th. The combination, with the rod *l*, of the lever *s*, connection *s*1 and dog *u*, to give a quarter turn to the rod, as described.

**No. 18,815. Smoothing Iron.** (Fer à Repasser.)

Alphonse T. A. Chagnon, Montreal, Que., 7th March, 1884; 5 years.

Reclame.—Dans un fer à repasser, le tuyau *A a a*1, en combinaison avec la poignée *B b b*1, le nez *c* et la partie polie *C*, le tout tel que ci-dessus décrit et pour les fins sus mentionnées.

**No. 18,816. Wrench.** (Clé à Erou.)

John A. Dodge, Somerville, Mass., U.S., 8th March, 1884; 5 years.

Claim.—1st. The combination, in a wrench, of a stationary jaw *B*, a bar *D* loosely carried by the same, a jaw *C* movable with, and adjustable along the bar, and a handle *A* pivotally connected with the stationary jaw for moving the bar, substantially as described. 2nd. The combination, in a wrench, of a stationary jaw *B*, a screw-threaded bar *D* loosely carried by the same and provided near its outer end with a notch or recess, a jaw *C* movable with, and adjustable along the bar, and a handle *A* pivoted to the stationary jaw and provided with a tooth engaging the notch or recess in the bar, substantially as described. 3rd. In a wrench, the stationary jaw *B* provided with ears *b*, *b*, and the bar *D* and movable jaw *C* adjustable thereon, the said bar passing loosely through the jaw *B* and being notched as described, combined with the handle lever fulcrumed upon the said stationary jaw and provided with a tooth entering the notch of the bar *D*, whereby the movement of the handle on its fulcrum causes the movable jaw to slide along the ears, towards the gripping face of the fixed jaw, substantially as and for the purpose described.

**No. 18,817. Hoe.** (Houe.)

Dennison Humphrey, Croyden, N.H., U.S., 8th March, 1884; 10 years.

Claim.—The hoe consisting of the back portion *A*, having a series of prongs *B* formed tapering from their lower ends *E* upward, and with oval front faces and rectangular ends bevelled from front to rear, substantially as shown and described, as and for the purposes set forth.

**No. 18,818. Machine for Cultivating and Harvesting Beans.** (Machine pour Cultiver et Récolter les Fèves.)

William Carver, Scottsville, N.Y., U.S., 8th March, 1884; 5 years.

Claim.—1st. In a cultivator, the combination, with the rail *A* of the bar *C* adapted to be swung around upon said rail and made laterally adjustable thereon, and the vertical wheel-post *f* secured to said bar *C* and adapted to be rotated and vertically adjusted in its bearing, substantially as shown and described. 2nd. In combination with the rail *A*, the bar *C* and swivel-clamp *d*, with means to secure said bar and swivel-clamp to the rail, and the adjustable post *f* and wheel *D*, with the clamping bolt *i* for the post, substantially as and for the purposes set forth.



**No. 18,819. Electric Lamp. (Lampe Electrique.)**

Elihu Thompson, Lynn, Mass., U. S., 8th March, 1884; 5 years.

*Claim*.—1st. The combination, with two carbons or carbon-carriers, of mechanism for locking or holding one of said carriers from movement, and a device connected to, or moving with the other carrier, and arranged to cause either directly or indirectly the release of said mechanism, so as to allow the first named carrier to feed when the carbon of the other is consumed. 2nd. The combination, with two sets of carbons or carbon-carriers, of mechanism for holding one of said carbons or carriers in lifting position, and a stud projection or its equivalent connected to, or moving with the other carrier and arranged in the manner described, when the carbon is nearly consumed, to directly or indirectly cause the release of the first-named carrier. 3rd. The combination, with two carbon-carriers, of separate feed clamps or clutches, mechanism for holding the feed-clamp for one carrier in position where it will prevent said carrier from feeding, and a releasing-lug projection or other suitable device connected to, or moving with the other carrier. 4th. The combination, with two carbon-carriers, of feed-controlling mechanisms for said carriers, a feed-shifting lever arranged to act in turn upon the feed-controlling mechanisms, and means for causing the operation of said lever when one of said carriers has completed its feed movement. 5th. In an electric lamp having two sets of carbons, the combination, with two clamps or clutches, one for each upper carbon, of a transfer-lever L and a button or projection upon the first acting carbon-holder operating directly or indirectly to cause said lever to shift. 6th. In a double electric-arc lamp, the combination of a pivoted lever, clamps or clutches supported at opposite ends thereof, so that they may be raised or lowered in turn thereby, and a support for said lever connected to, or operated by a lamp magnet. 7th. The combination, with two carbon rods or carriers, of clamps or clutches, one for each carrier, a lever connected to both clutches and supported at its middle portion by the operating devices of the lamp, and a transfer-lever and detent therefor. 8th. The combination, with a double system of lifting and feeding devices, of a spring-actuated transfer-lever L, detent *d*, carbon-carrier R and button B. 9th. The combination, with two sets of feed-controlling devices, of a spring-actuated transfer-lever, a detent or catch for the same, and actuated rod or bar connected to the lever for setting the same. 10th. The combination, with the clutches for two independent carbons, of a pivoted lever adapted to act on the clutches and cause them to engage with, or disengage from the carbons, and means for shifting said lever, as and for the purpose described. 11th. The combination of the lever A supported from the armature-lever, the clutches mounted in opposite ends thereof, and the lever L arranged to lift one or the other of the clutches, according to its position. 12th. The combination, with two carbon carriers, of separate feed clamps or clutches connected to a common pivoted support, a feed-controlling magnet operating the latter, and mechanism for operating the common support, so as to cause one or the other of the clamps to be put into operative condition controlled by the descent of a carbon-carrier.

**No. 18,820. Turbine Water Wheel. (Turbine Hydraulique.)**

Henry R. Austin, Norwood, N. Y., U. S., 8th March, 1884; 5 years.

*Claim*.—1st. A turbine water wheel having elevated conical hub F provided with spiral grooves G, buckets B and the removable block D, substantially as and for the purpose hereinbefore set forth. 2nd. In combination with the turbine water wheel A having buckets B and conical hub F, the removable block D, substantially as and for the purpose hereinbefore set forth.

**No. 18,821. Car-Coupling. (Accouplage de Wagons.)**

Charles E. Mark, Flint, Mich., U. S., 8th March, 1884; 15 years.

*Claim*.—1st. A car-coupling device wherein the draw-bar is enclosed within a box, the two parts being pivotally secured together and the box adapted to perform the functions of a buffer, substantially as and for the purposes described. 2nd. In a car-coupling device and in combination, with a draw-bar enclosed therein and pivoted thereto, a buffer box supported upon a fulcrum plate and provided with a spring by means of which the vertical working movement of said buffer is limited, substantially as set forth. 3rd. In a car coupling device, the combination of the hooked draw-bar A enclosed with the buffer box D and pivotally secured thereto, spring K, follower L and resistance plate M, the parts being constructed, arranged and operating, substantially as and for the purposes described.

**No. 18,822. Car Stove. (Poêle de Wagon.)**

Kinsey Fife and James N. Pickenpaugh, Morgantown, W. V., U. S., 8th March, 1884; 5 years.

*Claim*.—1st. The combination, with the valve ball and the tapering thimble connected to the stove-top, of the basket and rest for the ball below the thimble, and the pivoted prop-arms adapted to engage the valve-ball when in the thimble, and prevent it escaping therefrom, substantially as specified.

**No. 18,823. Rake Attachment for Ploughs. (Ajustage des Râteaux aux Charrues.)**

Valentine Wood, Peru, Ind., U. S., 8th March, 1884; 5 years.

*Claim*.—1st. In combination with a plow, the harrow attachment constructed, substantially as shown and described, and consisting of the rod having oblique tooth sockets or perforations, and bent slotted portion or extremity attached to the plow standard, the slotted eye-piece arranged midway upon the rod and adjustably attached to the mold-board, and the harrow-teeth adjustably secured in the oblique sockets or perforations, whereby the rod and the teeth may be elevated together, or the teeth receive independent vertical adjustment, the latter having both an outward and a backward inclination, as and for the purpose set forth. 2nd. In combination with a plow and the harrow attachment, the combination of the adjustable slotted eye-bearings, the short arm, the rod extending forward to, and connecting

with an upright lever, the series of graduated notches and the lever extending upward alongside of the plow handle, as and for the purposes set forth.

**No. 18,824. Hydro-Pneumatic Engine. (Machine Hydro-Pneumatique.)**

Levi G. Cook, Mapleville, R. I., U. S., 8th March, 1884; 5 years.

*Claim*.—1st. In a hydro-pneumatic engine, the combination of two or more still liquid tanks A, A<sub>1</sub>, A<sub>2</sub>, one or more motors arranged in each of said tanks for operation by air or gas under pressure, rising through said liquid, and one or more pipes I arranged to connect the upper portion of one tank with the bottom of the next succeeding tank or chamber connected therewith, whereby the air or gas collecting in the upper portion of one tank is transmitted for further utilization within a succeeding tank, substantially as specified. 2nd. In a hydro-pneumatic engine, the combination, with one or more rotating wheels or motors arranged within a still-liquid tank for operation by air or gas under pressure, rising through said liquid, of the diverging ducts *t*, *i*, and valve *h* controlling the same, for reversing the action of the motors, when required, by conducting the air or gas to act upon the opposite sides of the axis of the motors, essentially as described. 3rd. The combination of one or more automatic deflectors *k* with the wheels or motors C, C or C<sub>1</sub>, C<sub>2</sub>, J, and the curbs D, D, substantially as and for the purpose herein set forth. 4th. In combination with the wheels or motors C, C or C<sub>1</sub>, C<sub>2</sub>, J and still-liquid tank or tanks in which said motors work, the curb or guides D, D made adjustably toward or from said motors on opposite sides of their axis, essentially as described. 5th. In a hydro-pneumatic engine, the combination, with a blower E, or other air or gas forcing means, and with a series of connected still-liquid tanks A, A<sub>1</sub>, A<sub>2</sub>, A<sub>3</sub> having motors arranged within them for operation by air or gas from the blower, as described, of the chambers G, G<sub>1</sub>, G<sub>2</sub>, G<sub>3</sub>, the supply pipes *g*, *k*, the valves *f*, *r* and the delivery pipe L with its branches L<sub>1</sub>, L<sub>2</sub>, the connections *s* and the valves *u*, *v*, substantially as and for the purpose herein set forth. 6th. In a hydro-pneumatic engine, the combination of a circular series of connected still-liquid tanks, a series of motors within said tanks, for operation by the continuous flow of the air or gas within said tanks successively, a driving-shaft arranged to occupy a central portion relatively to said tanks, and gears connecting said central shaft with the motors in the tanks, essentially as specified.

**No. 18,825. Mechanism for Driving Dynamo-Electric Machines. (Mécanisme pour faire jonctionner les machines Dynamo-Electriques.)**

John R. Markle and James B. Wayne, Detroit, Mich., U. S., 8th March, 1884; 5 years.

*Claim*.—The combination, with the crank-shaft of a reciprocating steam engine, of a counter-shaft driven from the crank shaft and having thereon a fly-wheel, substantially as and for the purposes set forth.

**No. 18,826. Flour-Dressing Machine. (Blutoir.)**

William D. Gray, Milwaukee, Wis., U. S., 8th March, 1884; 5 years.

*Claim*.—1st. The revolving reel or cylinder, provided with the smooth cylindrical, and the toothed surfaces encircling the same, in combination with supporting pulleys provided with corresponding smooth and toothed surfaces. 2nd. A horizontal bolting reel encircled by a smooth track or flange and also by a line of gear teeth, in combination with a wheel provided with teeth engaging with teeth of the track and also with a smooth supporting surface bearing beneath the track or flange of the reel, substantially as described and shown, whereby said pulley is adapted to serve the two-fold purpose of supporting and driving the reel. 3rd. In combination with the bolting reel or cylinder having the flange *a* and teeth *b*, the supporting driving pulley provided with the teeth *c*, surfaces *d* and flange *g*, as and for the purpose described. 4th. The reel having the smooth encircling pulleys or bearing *a* and adjacent teeth *b*, combined with supporting pulleys provided with corresponding smooth surfaces and teeth, the smooth surfaces on both the reel and the pulley coinciding with the pitch lines of the gear teeth, whereby the two smooth surfaces are caused to travel at equal speeds without slip or friction upon each other. 5th. The bolting reel provided with smooth encircling tracks or flanges and gear teeth at both ends, in combination with two longitudinal shafts and two supporting and driving pulleys mounted on each shaft and located beneath opposite ends of the reel, each pulley having a smooth supporting surface and a series of driving teeth, as described and shown, whereby a smooth positive motion is imparted to both ends of the reel. 6th. The metallic ring or hoop forming *a* and teeth *b*, the bolting cylinder, provided with the smooth flange *a*, provided in combination with the driving and supporting pulley E, provided with a smooth surface *d* and toothed surface *e*. 7th. In combination with a bolting reel and devices, substantially such as shown, for sustaining the same and preventing its longitudinal motion, a smooth encircling flange applied to the opposite end of said reel, and a supporting pulley for said flange having its surface adapted, as described, to permit the adjustment of the flange thereon in the direction of the axis of the pulley. 8th. A bolting reel or cylinder having one end or head movable in the direction of its axis, for the purpose of flange or ing the bolting cloth, in combination with an encircling flange, said track thereon and smooth supporting pulleys beneath said flange, to permit pulleys having widened or extended surfaces, as described, to permit the movement of the flange thereon as the head of the reel is adjusted. 9th. In combination with a horizontal bolting reel or cylinder, supporting rolls located beneath its opposite ends, the roll at one end being flanged and arranged to engage with a corresponding flange upon the reel, to prevent the longitudinal motion of the latter, and the rolls at the opposite end being made with smooth extended surfaces adapted to permit the end of the reel to slide lengthwise thereon. 10th. In combination with the bolting reel, the supporting and driving pulleys, constructed as described, and located beneath the end of the same, the smooth supporting pulleys located beneath the opposite end of the same, and the driving shaft G extended endwise

through the machine, and each provided with pulleys at both ends of the reel, as and for the purpose described. 11th. In a flour dressing machine, the combination of the reel, the beaters, the pulley on the beater shaft, the pulley on the conveyor shaft, the two pulleys upon the respective shafts of the reel, driving and supporting rolls and a single chain or belt K, engaging with the four pulleys, as and for the purpose described. 12th. In a flour dressing machine, the combination of the horizontal reel, the beater shaft, the rolls sustaining the said reel, and gearing, substantially as described, connecting said rolls with the beater shaft. 13th. The combination of the beater shaft, the bolting reel or cylinder, the two shafts provided with pulleys sustaining said reel, and a single driving chain extending from a pulley on the beater shaft to pulleys upon the two roller shafts, as described, whereby motion is communicated from the beater shaft through a single connection to all the supporting rolls of the reel. 14th. In combination with the bolting reel and the rotary spiral beaters therein, the enclosing case or body A provided with the end opening for the admission of air, and with the top h opening to permit the escape of the same, whereby a continuous outward draft is produced through the bolting surface during the action of the machine. 15th. In a bolting reel, the combination of two end hoops or rings, a series of longitudinal ribbed portions of T-form having flat ends extended beyond the ribbed portions, said ends being applied and bolted to the inner surface of the rings with the ribs extending outwardly, as described and shown. 16th. In a bolting reel, the two end hoops, the longitudinal ribbed bars having their ends flattened and bolted to the inner surface of the hoops, and the ribs presented outward, in combination with the segmental cloth covered frames applied externally to the ribs and hoops and secured thereto, as described and shown. 17th. In a flour dressing machine, the combination, with the beater shaft, of the boxes of spheroidal form mounted loosely in bearings, substantially such as described and shown. 18th. In combination with the cylindrical bolting cloth, the cloth sustaining hoop, the series of movable inclines arranged to move the hoop outward, and a suitable support for said rings, substantially as described and shown. 19th. In combination with the reel head, the ring mounted thereon and provided with inclines, the hoop supported by said inclines, and the bolting cloth attached to the hoop. 20th. In combination with the cloth supporting hoop and the head of the reel, the adjustable ring provided with the inclines and the rack, and the adjusting pinion mounted upon the head of the reel and engaging with said rack. 21st. In a bolting reel, the combination of the adjustable ring G, constructed and operating as described, the adjusting pinion and the locking dog K<sub>1</sub> engaging with the rack, as shown.

**No. 18,827. Combined Gridiron and Toaster.**  
(*Gril et Fourchette à Rotie Combines.*)

Julie R. Loemans, Hamilton, Ont., 8th March, 1884; 5 years.  
Claim.—A combined gridiron and toaster, consisting of three sections hinged together by loops, rings, or their equivalent, the central section wires a a a, and the end wires b hinged thereto at one end, and the wires b<sub>1</sub> to the other end of the central section a a a, so as to be capable of being placed in various positions, one end section being provided with a hook d, all constructed substantially as and for the purpose specified.

**No. 18,828. Thill-Coupling.** (*Armon de Limonière.*)

Gaylord W. Beebe, Swanton, Vt., U.S., 10th March, 1884; 5 years.  
Claim.—1st. In a thill-coupling, the cap A provided with the front arm C, in combination with the pin D having a flat lug E at each end, and a thill fork F having enlargements H, with apertures K in the recesses J, as shown and described. 2nd. In a thill-coupling, the combination, with the axle B and the thill G, of the axle clip A provided thereon with an arm C having a transverse pin D with flattened ends E secured thereon, the fork F having its ends provided with cylindrical recesses J terminating in cavities K, and the spring L attached to the thill and having its ends bent up between the shanks of the fork F, substantially as herein shown and described and for the purposes set forth.

**No. 18,829. Friction Clutch.**  
(*Embrayage à Friction.*)

James H. Blessing, Albany, N.Y., U.S., 10th March, 1884; 5 years.  
Claim.—1st. In a friction clutch, a collar adjustable longitudinally upon the shaft, the same being connected with a rock shaft hinged upon the spur wheel, a second rock shaft engaging with the friction belt, and a rod or bar connecting the two, these parts being combined for operation substantially as shown and described. 2nd. In a friction clutch mechanism, a steam cylinder and piston, arranged as described to move the clutch by steam power, the cylinder being located as explained, so that the cross-head carrying the connecting bars or rods shall be upon the side furthest from the bed plate or frame, for the purposes and objects named. 3rd. In a friction clutch mechanism, the steam actuated piston and the cushion piston or pistons located in their respective cylinders, said pistons being united through the medium of cross-head and arranged for joint operation, substantially in the manner and for the purposes set forth. 4th. In a friction clutch mechanism, the combination of the steam actuated piston and a cushion piston connected therewith, the cylinder containing the cushion piston being provided with a water-way or run around connecting the spaces upon opposite sides of said piston, substantially as and for the purposes set forth. 5th. In a friction clutch mechanism provided with a cushion cylinder and cushion piston, the combination, with the water-way or run around connecting the spaces on opposite sides of the cushion piston, of a valve arranged to regulate the size of said water-way, substantially as shown and described herein for the objects named. 6th. In an apparatus of the character herein set forth, wherein the pressure piston and cushion piston are united for the purposes explained, the steam cylinder and cushion cylinder arranged in the same line and connected by an open bridge, substantially as and for the purposes set forth. 7th. In a friction clutch, the combination of the movable collar mounted upon the shaft, having the rock shaft connected therewith, and the connecting pin or bolt for the roller thereon, substantially as shown and described and for the purpose set forth.

**No. 18,830. Securing Barrel Heads.**  
(*Ajustage des Fonds de Barils.*)

Frank L. Tetamore and Sidney E. Fordham, Brooklyn, N. Y., U. S., 10th March, 1884; 5 years.

Claim.—1st. The mode of securing heads and ends in barrels by means of plates fastened to the inner sides of the staves and bent over the heads, substantially as described. 2nd. A device for fastening barrel heads in place, consisting of a metal plate or strip having a notch X, and an arm g adapted to be bent down over the head, as specified. 3rd. A barrel and fastening device, consisting of a strip having a notch X, an arm g and a projection F, substantially as described. 4th. The mode of securing fasteners to barrels, consisting in applying the same to the inner sides of the staves and embedding them by pressure therein, substantially as described. 5th. An implement for securing fasteners to barrels, consisting of a frame supporting a fixed jaw and a movable jaw, one of them conforming to the fastening device, and means for bringing the jaws together with a powerful pressure, substantially as described. 6th. The combination of the frame A, fixed jaw A, movable jaw D and lever connected to operate the movable jaw, substantially as described. 7th. The combination of the frame, jaws and operating devices, and gauge M, substantially as described. 8th. The combination of the frame jaws, operating devices and gauge P, substantially as described.

**No. 18,831. Fastener for Gloves, &c.**  
(*Fermeoir pour Gants, &c.*)

Edward F. Rate, Chicago, Ill., U.S., 10th March, 1884; 5 years.

Claim.—The improved glove fastening herein described, consisting of the lever-plate A pivotally attached by a stud c, on which it can turn on one side of the wrist-opening, and constructed with the curved slot, as described, and a pin fixed on the opposite side of the wrist-opening and arranged to slide in the curved slot, whereby the turning of the lever-plate on its pivot will cause the curved slot and the fixed pin to co-act and draw the edges of the wrist-opening together, as set forth.

**No. 18,832. Automatic Fire-Extinguisher.**  
(*Extincteur d'Incendie Automatique.*)

Caleb C. Walworth, Boston, and Osborn B. Hall, Malden, Mass., U.S., 10th March, 1884; 5 years.

Claim.—1st. In automatic fire-extinguishers, the combination, with a supporting frame, of a rock-shaft or pivotal support arranged at one side of the vertical axis of the valve, a short arm or projection arranged on said shaft to support the valve when closed, and a longer supporting arm connected with said shaft and arranged at the side of said frame, and to be thereto secured by fusible metal, substantially as specified. 2nd. In automatic fire-extinguishers, a rock-shaft or pivotal support arranged in bearings at the lower part of the supporting frame, at one side of the axis of the valve, an arm or projection arranged on said shaft beneath the valve, to support the same, and a longer arm arranged on said shaft and to be secured to the frame by fusible metal above the valve, substantially as specified. 3rd. In an automatic fire-extinguisher, the combination, with the valve and supporting frame, of a rock-shaft or pivotal support arranged at one side of the vertical axis of the valve, an arm or projection of said shaft arranged beneath, and to support the valve, a longer arm arranged upon, and to hold said shaft from rotation, and a projection or stud on the frame arranged to receive a fusible link in common with said longer arm, whereby said arm is held vertical and the valve supported in position, substantially as specified. 4th. In automatic fire-extinguishers, a rock shaft or pivotal support arranged at right angles to the axis of the valve and at one side thereof, a short arm or projection of said shaft arranged to support the valve, and a longer arm supported on said shaft and arranged to secure the same from rotation and so arranged relatively to said frame as to be thereto secured by fusible metal at varying distances above the axis of said shaft, whereby the sensitiveness of the device may be varied as desired, substantially as specified. 5th. In an automatic fire-extinguisher, the combination, with the valve, of a rock shaft or pivotal support arranged at one side of the vertical axis of the valve, a short arm or projection arranged on said shaft to support the valve when closed, and a longer arm arranged on said shaft at one side of the valve, and to be secured by fusible metal, substantially as specified. 6th. In an automatic fire-extinguisher, the combination of nipple a, valve f, a supporting frame, the rock shaft or pivot k, its valve supporting arm l and retaining arm n arranged to be secured to the frame by fusible metal, substantially as specified. 7th. In an automatic fire-extinguishing apparatus, the combination of a water supply pipe with distributing branches connected therewith, and provided with extinguishers adapted to be opened and rendered operative by heat at the danger point thereof, a water excluding valve arranged in said supply pipe, a tank supported by compressed air or gas with connections by which the air also communicates with, and fills the water distributing pipes so as to be liberated by the opening of an extinguisher, and devices connecting said tank and water excluding valve and adapted to open the valve and admit the water by the falling of the tank, at the liberation and escape of the air therein, by the opening of an extinguisher, substantially as specified. 8th. In an automatic fire-extinguishing apparatus, the combination of supply pipe C, its branches B and automatic extinguishers W thereon arranged, a water excluding valve E arranged in said supply pipe, an air tank L arranged to be supported by compressed air and with devices for compressing and confining the air therein, a pipe M communicating with said air supply devices and with the water distributing pipes, a cord K supported by sheave P and attached to said tank, a weight L<sub>1</sub> suspended by said cord, and a valve weighting lever G arranged to be actuated by said cord and its weight, and to thereby open the valves and liberate the water, when the tank falls by reason of the escape of the air or gas therein, at the liberation of an extinguisher by heat, substantially as specified. 9th. In combination with valve E and lever G, the latter pivotally connected with the valve stem, and means to actuate said lever, the fulcrum H arranged at different distances from the valve stem, to vary the relative lengths of the arms of the lever at, and after the commencement of the rising movement of the valve, substantially as specified.

**No. 18,833. Explosive Compound.***(Composition Explosible.)*

The Rend Rock Powder Company, of New Jersey, (assignee of Silas R. Divine, Loch Sheldrake, N. Y.,) U. S., 10th March, 1884; 5 years.

*Claim.*—The explosive compound which consists of a solid ingredient such as chlorate of potash, and a liquid ingredient such as the heavy oil of coal tar mechanically united, substantially as in the proportions and as specified.

**No. 18,834. Nail Plate Feeder.***(Alimentateur de Machine à Clou.)*

John C. Gould, Chicago, Ill., U. S., 10th March, 1884; 5 years.

*Claim.*—1st. The combination, with the vibrating segment and its operating devices, of the oscillating rod by which said devices are actuated when said rod is provided with a detachable head, substantially as set forth. 2nd. The combination, with the grippers, of the intermediate wedge-piece, and the stop rod actuating said wedge-piece, substantially as specified. 3rd. The combination, with the grippers, of the intermediate piece having a wedge for spreading the lower ends of the grippers, and a spring *t* for spreading the upper ends of the grippers, substantially as specified. 4th. The combination, with the grippers, of the intermediate piece, for opening and closing the grippers and forming a support for the plate rod, substantially as specified. 5th. The combination, with the saddle, pivoted as specified, of the foot *D* pivoted upon the saddle, the bar-*el* support *D*<sub>1</sub>, the barrel, the vibrating segment *F* having the retaining piece *f*, the lever *G*, the connecting arm *g* and the oscillating rod *H*, substantially as specified. 6th. The combination, with the pivotal saddle and the parts borne thereon, of the bracket extension *B*<sub>1</sub>, substantially as and for the purpose specified. 7th. The combination of the grippers *O*, *O*<sub>1</sub>, both pivoted, as set forth, upon pivot *o*, with the wedging piece *R* loosely encircling the same pivot, and the stop rod for causing the wedging movement, substantially as specified.

**No. 18,835. Gate. (Barrière.)**

Jonathan Follitt, Eversley, Ont., 10th March, 1884; 5 years.

*Claim.*—1st. In a swinging gate, the gate cords *a*, *a*, passing over the pulleys *E*, *E*, behind the pulleys *D*, *D*, and around the front or gate side of the pivot pulley *C*, and attached to the same, substantially as described. 2nd. In a swinging gate, the latch-cords *c*, *c*, passing behind the roller *F* and attached to the spring latch *d*, substantially as described. 3rd. The combination of the gate *A*, pivot post *B*, pivot pulley *C*, pulleys *D* and *E*, with the gate cords *a*, handles *b*, latch-cords *c*, spring latch *d* and keeper *e*, substantially as shown and described and for the purpose set forth.

**No. 18,836. Clothing Sample.***(Echantillon de Hârde.)*

Edward Clayton and William J. Clayton, Halifax, N. S., 10th March, 1884; 5 years.

*Claim.*—1st. A clothing sample consisting of a piece of cloth on which the buttons, lining, trimmings, etc., of a garment are fastened, substantially as herein shown and described. 2nd. In a clothing sample, the combination, with a piece of fabric *A* in which a button-hole *C* is formed, of the buttons *B* secured on the piece *A*, the lining *L*, the hanger *E*, the size card *F* and the price card *G*, substantially as herein shown and described.

**No. 18,837. Nut Lock. (Arrête-Ecrou.)**

Samuel Gissing, Pittsburg, Pa., U. S., 10th March, 1884; 5 years.

*Claim.*—1st. As a nut-lock, the combination of a metallic locking-plate having a plain knuckle of a hinge formed at its upper edge, with a rod or wire forming the pintle of the hinge and bent around at each end, so as to form washers for nuts, substantially as hereinbefore described. 2nd. The combination, in a nut-lock for fish-bars, of a spring wire bent at each end, so as to form washers to encircle two adjacent bolts, and a locking plate hinged to said wire by a knuckle formed on the upper edge of said plate and passing around said wire as its pintle, the wire including the washers being normally adopted to stand away from the fish-bar by the interposition of the knuckle between the wire and the fish-bar, whereby the screwing down of the nuts against said washers shall deflect the wire, thus causing it to act as a spring both on the locking-plate and on the underside of the nuts, substantially as described.

**No. 18,838. Mailing Machine.***(Machine pour Expédier par la Malle.)*

Robert Dick, Buffalo, N. Y., U. S., 10th March, 1884; 5 years.

*Claim.*—1st. In a mailing or addressing machine, the bearings *P*, *Q*, for the several rollers employed, arranged on the inside surface of the shell *A* and proportioned, as described, relative to the diameter of the respective rollers in order that the belt may travel close to the sides of the shell, without liability of contact with the bearings, substantially as described. 2nd. The sliding plate *R* arranged contiguous to the paste distributor *H* and adapted to partially or entirely cover the serrated edge of the same, whereby the supply of paste may be controlled, substantially as shown and described.

**No. 18,839. Oil Can. (Bidon à Huile.)**

John W. Jackson, Sharpsville, Pa., U. S., 10th March, 1884; 5 years.

*Claim.*—1st. In combination with a self-closing oil can, a valve operating mechanism attached to the body of the oil can consisting of a rod *H* having a disk *k*, with groove *k*<sub>1</sub> and supporting-pieces *g*, the parts having the slots *g*, *g*<sub>1</sub>, substantially as shown and described and for the purpose set forth. 2nd. In an oil can, the means for closing the spout consisting of the conical portion *D*, perforated at its lower end and having a valve-seat *E*<sub>1</sub> and bail *e*, and valve-carrying rod *E*

provided with a spiral spring *F*, in combination with the hollow side pieces *G* supporting a lever *H* with grooved disk *k*<sub>1</sub>, the parts having slots *g*, *g*<sub>1</sub>, the parts being organized, substantially as described and for the purpose set forth.

**No. 18,840. Imitation Stained Glass.***(Imitation de Peinture sur Verre.)*

F. Benedict Herzog, New York, N. Y., U. S., 10th March, 1884; 5 years.

*Claim.*—1st. Imitation stained glass formed of glass coated directly on one face with the leaded lines and intermediate coloring, as shown and described. 2nd. A method of forming the leads on imitation stained glass, which consists in, first, placing a glass plate upon a pattern or design, and then depositing upon the glass, and directly over the lines of the pattern, a suitable substance which shall adhere to, and project above the surface of the glass, as described. 3rd. A method of manufacturing imitation stained glass, which consists in, first, forming the lead lines, and then applying to the spaces between said lead lines transparent, or translucent varnish, or lacquer, colored or tinted, as described. 4th. Imitation stained glass formed of two glass plates with intermediate lead lines and colored spaces, as shown and described. 5th. A plate of glass having upon it a design or outline projecting from its surface produced by applying to the glass an adhesive deposit of any suitable substance, substantially as and for the purpose set forth. 6th. Imitation stained glass consisting of glass coated on both sides with coincident leaded lines and intermediate colored spaces, as shown and described. 7th. The described method of binding the colored, or tinted material in its recess, consisting in applying an external coat of varnish after the colored, or tinted material has been applied to the glass, as set forth. 8th. The described method of manufacturing imitation stained glass consisting in melting the substance to be used for the leads, applying the same in raised lines to the glass, applying to the glass, within the recesses thus produced, a colored or tinted varnish or lacquer and coating the entire plate thus prepared with a protecting material.

**No. 18,841. Harvester Cutter. (Lame de Moissonneuse.)**

Harvey L. Hopkins, Chicago, Ill., U. S., 10th March, 1884; 5 years.

*Claim.*—1st. In a harvester-cutting apparatus, an elastic cap attached at its front end to the guard-finger extending backward partly over the cutter-bar, and with its rear end free and resting upon or nearly in contact with the rear ends of the knives, leaving a free space in rear of the cap, substantially as and for the purposes set forth. 2nd. The guard-finger in combination with the cutters, the spring plate cap attached at its front end to the finger extending backward and bent downward at its rear end to touch, or nearly so, the rear ends of the knives, and the knife-rivets provided with long projecting heads, substantially as and for the purposes set forth. 3rd. The guard-fingers in combination with the reciprocating cutters, the spring cap with its rear end free and resting on the rear end of the knives, the pitman composed of two independent twisted bars *K*, *K*, and an adjusting device, substantially as and for the purposes set forth. 4th. The guard-fingers *B*, in combination with the cutter bar *C*, provided with a ball *c*, knives *D*, knife-rivets *E* having long projecting heads *e*, spring cap *H* attached at one end to the guard-finger extending backward and bent down at its rear end to rest on the knives, the two twisted independent pitman bars *K*, *K*, the bolt *M* provided with nut *m*, and the spring *m*, substantially as and for the purposes set forth.

**No. 18,842. Sliding Gate. (Barrière en Couliasse.)**

William R. White, Neoga, Ill., U. S., 10th March, 1884; 5 years.

*Claim.*—1st. The gate *D* having its top rail *F* fastened to a broader rail *E*, extending beyond the gate and travelling upon rollers *G* and upper roller *H* pivoted to the fence or line posts *B*, *C*, whereby the gate is hung to slide open parallel to the fence and of the full width of the opening, as set forth. 2nd. The rolling or sliding gate *D* having above its top rail a jointed bar *J* pivoted at one end to the forward end of the gate, and the opposite end terminating in an elbow *W* pivoted at the angle to a fixture and operated by levers *M*, *N*, or equivalent means, substantially as set forth, whereby, when the gate is closed, the jointed bar, by straightening, increases its height.

**No. 18,843. Meat-Cutter. (Hache-Viande.)**

William G. Bell, Boston, Mass., U. S., 10th March, 1884; 5 years.

*Claim.*—1st. In a meat-cutter, a vertical meat-receiving cylinder, cast with two arms forming horizontal bearings for the counter-shaft, the said arms being connected transversely by a vertical bearing for the cutter-shaft, substantially as and for the purpose set forth. 2nd. In a meat-cutter, a vertical meat-receiving cylinder formed with longitudinal pockets for the stationary cutters, and provided with a rotatable end cap or head carrying rods on which said cutters are placed for insertion in said pockets, in combination with a series of rotary cutters mounted on a shaft having a central bearing in, and a bottom support from said head, substantially as set forth. 3rd. In a meat-cutter, the vertical meat-receiving cylinder *A*, cast integral with two arms *C*, *C*, which support the bearings for the driving shaft and the cutter shaft, in combination with the bevel gears *F*, *e* and *f* connecting said shafts, and with the detachable bearing *F*, substantially as and for the purpose set forth. 4th. In a meat-cutter machine, two or more series of stationary cutters *M*, each cutter attached to a space block *m*, and each series secured in place by a rod *L*, in combination with the head *H* having radial slots *l*, for the reception of said rods, substantially as set forth. 5th. In a meat-cutter machine, a perforated strainer plate secured upon the cutter shaft below the rotary cutters, so as to revolve therewith, in combination with stationary clearing knives adjustable upon the faces of said plate, for the purpose set forth. 6th. In a meat-cutter machine, a perforated strainer plate secured for rotation with the cutter shaft and provided with one or two clearing knives, in combination with a threaded sleeve having a lateral or oblique wing, substantially as and for the purposes set forth.

**No. 18,844. Can-Ending Machine.**

(Machine pour Foncer les Boîtes Métalliques.)

Edwin Norton (co-inventor with John G. Hodgson), and Oliver W. Norton, Chicago, Ill., U.S., 11th March, 1884; 5 years.

*Claim.*—1st. In a machine for heading cans, the combination of a device for applying the head to the can body, with a device for sizing and clamping the can body while the head is being applied, consisting of an intermittingly revolving wheel provided with a series of half-molds upon its periphery, and a reciprocating half-mold mounted on the stationary bed or frame-work of the machine, substantially as specified. 2nd. The combination of an intermittingly revolving wheel, provided with half-molds upon its periphery, with a curved guard for holding the can bodies in the half-molds, and a reciprocating half-mold provided with a transverse slot or opening for said guard, substantially as specified. 3rd. The combination of a wheel having half-molds upon its periphery, a chute for delivering the can bodies thereto, a curved guard and a reciprocating half-mold provided with a slot or opening for said guard, whereby the can body may be clamped in the mold without causing the guard to indent or press against the can body, substantially as described. 4th. The combination of the half-mold wheel, chute for can-bodies, guard, movable half-mold, can head supply chute and piston for forcing the can-head upon the can body, substantially as specified. 5th. The combination, with a can body clamping device, of a chute for automatically delivering the can heads at the mouth of the same, and a piston for applying said heads to them, having a thick head or projection for supporting the can heads in the chute while said piston makes its forward stroke, substantially as specified. 6th. The combination of the can body clamping device or mold, with a chute for the can-heads, a reciprocating head or piston at the base of said chute for automatically feeding the can heads to the mouth of the mold and applying the same to the can-body, and a spring pin or device for holding the can-head in position at the mouth of the mold, substantially as specified. 7th. The combination, with a can body clamping device or mold, with a chute or device for delivering the can bodies thereto, a chute or device for delivering the can heads at the mouth of said clamping device or mold, and a piston or device for applying the heads to the can bodies, substantially as specified. 8th. The combination of the delivery chute wheel having half-molds upon its periphery, reciprocating half mold chute for the can heads, piston for applying the same to the can bodies and discharging chute, substantially as specified. 9th. The combination, with a wheel having half-molds upon its periphery provided with plugs for ejecting the can heads therefrom, of a reciprocating half-mold provided with a device for stripping or ejecting the can therefrom as the half-mold is withdrawn, substantially as specified. 10th. The combination, with the shaft B<sub>1</sub>, of the swinging arm L, journalled on said shaft and provided with pawl *l* and projecting cam *m*<sub>3</sub>, reciprocating pitman *l*<sub>2</sub>, ratchet wheel *h*, check-wheel *m*<sub>2</sub>, provided with notches *m*<sub>1</sub>, and spring check-bolt *m*, substantially as specified. 11th. The combination of a wheel having half-molds upon its periphery, a device for delivering the can bodies thereto, curved guard guides for centering the can body longitudinally in the mold, a reciprocating half-mold chutes for the can heads, and a piston at each end of the mold for applying both heads to the can body simultaneously, substantially as specified. 12th. The combination of a wheel having half-molds upon its periphery, mechanism for intermittingly rotating and locking said wheel in position, a half-mold secured to a cross-head reciprocating in a line passing through the axis of said wheel and the centre of the half-mold thereon, when the wheel is held stationary, and a piston at each end of the mold for applying the heads to the can body when clamped thereon, substantially as specified. 13th. The combination of a can clamping mold or device, with chute for delivering the can heads at the mouth of said mold, and a carrier for delivering the same to said chute, substantially as specified. 14th. The combination of a wheel having half-molds on its periphery, with a reciprocating half-mold and a device for stripping the cans from said reciprocating half-mold when it is withdrawn, substantially as specified.

**No. 18,845. Saw-Mill Dog.** (Clameau de Scierie.)

Joseph S. Redline, Sr. (Assignee of Joseph Redlin, Jr.), Rohrsburg, Penn., U.S., 11th March, 1884; 5 years.

*Claim.*—1st. The saw-mill dog, substantially as described and shown, composed of the standard, the locking plate having suitable prongs and constructed with slots having upper vertical and lower inclined portions, the pins passed from the standard through said slots, the lever pivoted to the standard above the locking plate, and having its crank-arm turning down against the same, and the pitman connecting said crank-arm and the locking plate, all substantially as described and for the purposes specified. 2nd. The combination, in a saw-mill dog, of the locking plate, the standard, the lever and the spring D<sub>1</sub> having one end secured to the lever, and its opposite end engaging a pin secured to the standard, substantially as set forth. 3rd. In a saw-mill dog, the combination, with the standard and the toothed plate provided with guide-slots inclined upward and backward and sliding upon guide-pins projected from the standard, of the lever C pivoted on the upper end of the standard and having the arm or extension *c* projected below its pivotal centre and adapted to turn inward over the upper end of the toothed plate, and the pitman D having its lower end pivoted on the rear edge of the toothed plate, and its upper end pivoted to the lower end of the extension, and the pitman being so arranged relatively that the pivotal connecting point between them will swing to, or slightly past a line drawn from the pivotal centre of the lever and the pivotal centre of the pitman, whereby the toothed plate will be securely locked, substantially as shown and described. 4th. In a saw-mill dog, the combination of the standard, the locking plate having suitable prongs and provided with slots having vertical and inclined wings, the pins passed from the standard and through the said slots, the lever pivoted to the standard above the locking plate, the pitman connecting the lever and the locking plate and means, substantially as described, whereby the forward movement of the lever is limited, as and for the purposes set forth. 5th. In a saw-mill dog, substantially as described and shown, the combination of the standard, the locking plate provided with slots, pins *a* extended from the standard through the said slots and having heads *a*<sub>2</sub> projected

beyond the face of the locking plates, the operating lever pivoted to the standard above the locking plate and the pitman connecting the crank arm of the lever and the locking plate, and arranged in rear of the heads *a*<sub>2</sub> and abutting thereagainst in operation of the machine, whereby the forward movement of the lever is limited, substantially as and for the purposes specified.

**No. 18,846. Oversock.** (Chaussette Parlessus.)

Richard Greener and William A. Hedden, New Albany, Ind., U.S., 11th March, 1884; 5 years.

*Claim.*—In a fulled sock with a divided leg, as herein described, an internal flap, of the character set forth, secured to the inner face of one of the divided parts, adapted to pass partially or sufficiently far around the leg of the wearer to cover the opening or gap, and any variation in the size thereof which may exist in consequence of the varying sizes of the wearer's legs, or thickness of the pants, fabric inclosed when the two divided parts are closed over said flap and secured together, substantially as specified.

**No. 18,847. Lifting Jack.** (Cric.)

John A. Robbins, Columbus, Ind., and Henry Waterland, Litchfield, Ill. (assignees of James Weathers, Indianapolis, Ind.), U.S., 11th March, 1884; 5 years.

*Claim.*—The combination, in a lifting jack, of a vertical standard A, a lifting bracket C provided with lateral projections to set under the object to be lifted, and with a strap D at its upper end setting loosely over the standard A, and a link E at its lower end provided with a similar strap F setting over the standard, the bifurcated lever G secured to the bracket C by means of suitable links H, the arm I to which said lever is fulcrumed, the arm K to which said fulcrum arm is connected, the said arm having a strap L setting loosely over the vertical standard, the whole arranged to operate substantially as specified.

**No. 18,848. Machine for the Destruction of Potato-Bugs.** (Machine pour Détruire la Chrysméle.)

James A. Clare, Cool Branch, N.B., 12th March, 1884; 5 years.

*Claim.*—1st. The pulley B upon the main axle C, and the combination of the pulley B with the pulley E upon the revolving shaft F, and the revolving shaft F with the fans and wings G and G', for the purposes hereinbefore set forth. 2nd. The combination of the forward post of the revolving shaft F, with the rollers *f* and the rollers *f*', for the purposes hereinbefore set forth. 3rd. The tray and receiver I and the slot or channel J in the centre thereof, for the purposes hereinbefore set forth.

**No. 18,849. Drying Apparatus.**

(Appareil de Dessiccation.)

John F. Johnstone, Bow Common Lane, Eng., 12th March, 1884; 15 years.

*Claim.*—1st. The combination of the pan *a*, steam jacket *c* surrounding the sides and bottom of pan-passage *c* leading through steam jacket *c*, door *o* for closing this passage, cover plates *f*, axis *h*, agitators *g*, carrying spring scrapers *p*, substantially as described. 2nd. The combination of the pan *a*, surrounding pan *b*, distance pieces *a*<sub>1</sub>, bolts *b*<sub>1</sub>, passage *c* leading down through steam space *c*, door *o* for closing this passage, cover plates *f* for closing over the top of pan *a*, exhaust or outlet passage *g*, axis *h*, agitators *g*, carrying spring scrapers *p*, substantially as described. 3rd. The combination of the pan *a*, the surrounding pan *b*, the distance pieces *a*<sub>1</sub>, bolts *b*<sub>1</sub>, passage *c*, door *o*, cover plates *f*, outlet passage *g*, axis *h* and agitators *g*, substantially as described.

**No. 18,850. Moving Grate for Boiler Furnaces.** (Grille Mobile pour Fourneaux de Chaudières.)

Dewitt C. Hill, Willimantic, Ct., U.S., 12th March, 1884; 5 years.

*Claim.*—1st. Grate bars, provided in their lower faces with sockets for the reception of, and in combination with, fixed pivots resting in said sockets, and adapting said bars to be rocked on their longitudinal axes, substantially as described. 2nd. Grate bars provided with curved transverse ribs or teeth, said bars being depressed below the curved upper faces of said ribs or teeth, and provided in their lower faces with sockets adapting them to receive and to be rocked on their longitudinal axes on fixed pivots, substantially as and for the purpose described. 3rd. The grate bars provided with sockets in their lower faces, in combination with the inwardly projecting pivots, whereby said bars are adapted to be secured in place expansion, as described. 4th. The fixed pivots on which the socketed grate bars are supported, in combination with slotted supporting bars permitting their adjustment to compensate for warping, substantially as described. 5th. The bars supporting the stationary pivots on which the grate bars are rocked, in combination with means for adjusting said pivot-supporting bars laterally, substantially as described.

**No. 18,851. Combined Driving Cuffs and Wristlets.** (Poignets et Gantelets de Voyage Combinés.)

Byron E. Northrup, Broadalbin, N. Y., U.S., 12th March, 1884; 5 years.

*Claim.*—The combination, with a gauntlet or cuff, of a flexible wristlet B attached thereto, and an elastic webbing C secured to the wristlet, as shown and described.

**No. 18,852. Friction Clutch.**

(Embrayage à Friction.)

Alexander M. Reekie, Sunderland, Ont., 12th March, 1884; 5 years.



*Claim.*—1st. A driving pulley A, journalled loosely on the shaft B and held between the collars C and D, in combination with the pivoted dog F actuated by the spring G, substantially as and for the purpose specified. 2nd. The driving shaft B, having a handle H fixed to it, and a driving pulley A loosely journalled on it between the collars C and D, in combination with the pivoted dog F actuated by the spring G, substantially as and for the purpose specified.

### No. 18,853. Combined Hay Rake and Loader.

(*Râteau et Charge-Foin Combinés.*)

William W. New, Perry, Ill., U. S., 13th March, 1884; 5 years.

*Claim.*—In a combined hay loader and rake, the combination of the rake having the teeth R<sub>1</sub> extending forward over the head forming spring-coils S, and provided with rollers T upon their ends, with the endless apron upon whose sides the said rollers bear, substantially as and for the purpose shown and set forth.

### No. 18,854. Harvester Cutter.

(*Lame de Moissonneuse.*)

Harry L. Hopkins, Chicago, Ill., U. S., 13th March, 1884; 5 years.

*Claim.*—1st. In a harvester cutting apparatus, a block or projection attached to the cutters so as to reciprocate therewith, in combination with a cap or holder projecting over the front of the cutters and partly over said block in light contact therewith, and arranged with reference thereto to permit the block or projection to nearly leave the holder in its movement in each direction, substantially as and for the purposes set forth. 2nd. In a harvester cutting apparatus, a guard finger or fingers C having the cap extended back partly over the cutters, in combination with the cutters E and block G attached to the cutter-bar arranged to reciprocate underneath the guard cap or caps and to nearly, or quite leave the same with its movements in each direction, substantially as and for the purposes set forth. 3rd. In a harvester cutting apparatus, a guard-finger C having its cap extended back partly over the cutters and provided with recesses a somewhat deeper than the thickness of the cutter-bar, in combination with the finger-bar A, the cutter-bar D, the knives E and the blocks C, all arranged and operating substantially as and for the purposes set forth. 4th. In a harvester cutting apparatus, an open slotted guard-finger, in combination with a reciprocating scalloped cutter and a block or projection connected to the cutters and arranged to move underneath a guard-cap or caps and in light contact therewith, substantially as and for the purposes set forth.

### No. 18,855. Opening and Closing Fence Gates.

(*Manière d'Ouvrir et Fermer les Barrières.*)

James L. Gamble, Palmerston, Ont., 13th March, 1884; 5 years.

*Claim.*—1st. A gate A hinged to the post B, in combination with the spindle C, connected to the gate and actuated by the chain F, substantially as and for the purpose specified. 2nd. A spindle C, suitably supported in the arms D fixed to posts B, a rod K, connecting the spindle C to the gate A, and a pulley E fixed to the said spindle, in combination with the chain F, connected to the pulley E at one end, and to the pivoted levers G at the other, substantially as and for the purpose specified. 3rd. The spindle C journalled on the post B, and provided with mechanism by which it may be caused to revolve, in combination with the rod K, connected to the spindle C at one end, and to the spring latch P at the other, so that the revolving of the spindle shall draw the latch from its hasp, substantially as and for the purpose specified. 4th. A double bell-crank M, pivoted on the top rail of the gate A, and connected to the spring latch P by the bar O and chains N, in combination with the rod K, connected at one end to the spindle C, and having a slot b at its other end, to fit over a pin in the bell-crank M, substantially as and for the purpose specified. 5th. The spindle C, provided with a pulley E, and connected by the chains F to the pivoted levers G, in combination with the rod K, connected to the spindle C, and after passing through a slot a, in the heel post L, is connected to the spring latch P, by the bell-crank M, chain N and bar O, substantially as and for the purpose specified.

### No. 18,856. Process for the Purification of Sulphuric Acid and the Recovery of the Arsenic and Antimony Contained therein.

(*Procédé d'Épuration de l'Acide Sulfurique et pour faire Revenir l'Arsenic et l'Antimoine qu'il Contient.*)

George Thomson, Dillonton, Que., and William Kemp, Yarrow-on-Tyne, Eng., 13th March, 1884; 5 years.

*Claim.*—1st. Precipitating the impurities contained in sulphuric acid by the addition thereto of ammonium sulphide, substantially as herein set forth. 2nd. Precipitating the impurities contained in sulphuric acid, and then removing same from the acid by filtering it through lead finely divided, substantially as herein described. 3rd. The expulsion of oxides of nitrogen from sulphuric acid treated with ammonium sulphide, by concentrating same by heat, substantially as herein set forth.

### No. 18,857. Manufacture of Sheet Metal Pipes.

(*Fabrication des Tuyaux en Tôle.*)

John E. Reynolds, Waterford, Ont., 13th March, 1884; 5 years.

*Claim.*—A sheet metal plate having two or more grooves rolled parallel to each other in its surface, so as to form grooves or channels on one side, and projecting beads or ribs on the other, as specified, the said plate thus formed being rolled into a cylindrical shape, in combination with a pin or projection a, rivetted or otherwise fastened to the plate.

### No. 18,858. Shaft Hanger.

(*Support d'Arbre de Couche.*)

Hilen C. Crowell, Erie, Penn., U. S., 13th March, 1884; 5 years.

*Claim.*—1st. In a shaft hanger, the frame A with openings cored out of the bosses A<sub>1</sub>, A<sub>2</sub>, having screw thread a, a cast on the walls of said openings, in combination with the screws D, Dr, set screws e, e and swivelled bearing blocks C, C. 2nd. In a shaft hanger, the frame A having opening, cored in the bosses A<sub>1</sub>, A<sub>2</sub>, with segments of screw threads a, a formed therein, adjusting screws D, Dr, placed within said openings and provided with swivelled bearings C, C, in combination with the box B Br having bosses b, br, as shown. 3rd. In a shaft hanger, the combination, with the frame A, having adjusting screws arranged above, below and at each side of the shaft and bearing blocks C, C, in contact with the screws arranged above and below, of a journal box having curved bosses b, br, b<sub>2</sub>, b<sub>2</sub> thereon, as shown and for the purposes mentioned. 4th. A shaft hanger frame, having adjusting screw openings cored therein with segments of screw-threads on one side of said openings, and a jam screw operating to hold the adjusting screw in said openings against said thread segments, substantially as and for the purposes set forth.

### No. 18,859. Combined Culvert and Seal Trap.

(*Ponceau et Chaussée-Trape pour Phoques Combinés.*)

Thomas Tomlinson, Toronto, Ont., 13th March, 1884; 5 years.

*Claim.*—1st. A metal culvert box A, provided with a branch pipe to connect with the sewer, and a reflux valve C, as specified, in combination with a partition E, substantially as and for the purpose specified. 2nd. A culvert box A, having a detachable side piece B arranged to incline inwardly, as specified, in combination with a reflux valve C hinged to the side piece B, so as to cover the aperture b, substantially as specified. 3rd. A culvert box A, provided with a side piece D, arranged to incline inwardly, as specified, in combination with a detachable partition E, substantially as and for the purpose specified. 4th. A culvert box A, having flanges F formed on its inside and set at an angle, as specified, in combination with a detachable partition E, arranged to rest upon the flanges F and having a lip H, to fit upon the top edge of the inwardly inclined side B, substantially as and for the purpose specified. 5th. A grating J, shaped substantially as shown and having a flange c, to fit around the top edge of the culvert box A, in combination with the cap K, bolted to the top of the culvert box A, substantially as and for the purpose specified.

### No. 18,860. Hoisting Machine.

(*Monte-Charge.*)

William L. Beaty, Harvey L. Beaty and Oscar Beaty, Welland, Ont., 13th March, 1884; 5 years.

*Claim.*—1st. In a hoisting machine, in which the motion of the axle is conveyed to the rope drum by a friction clutch, a disc E having a flange e extending at right angles from its surface a short distance below its periphery, in combination with a series of wooden blocks f arranged endwise around the flange e and securely bolted to the disc, the said blocks being bevelled from the periphery of the disc E towards the outer edge of the flange e, substantially as and for the purpose specified. 2nd. In a hoisting machine, in which the motion of the axle is conveyed to the rope drum by a friction clutch, a disc E having an octagonal flange extending at right angles to its surface a short distance from its periphery, in combination with a series of wooden blocks f arranged endwise around the flange, one block for each octagonal side, the said blocks being securely bolted to the disc and bevelled from the periphery of the disc towards the outer edge of the flange, substantially as and for the purpose specified. 3rd. In a hoisting machine, in which the drums are journalled on the driving axle, a disc or discs E keyed to the said axle and having an octagonal flange e extending outwardly from its periphery, with block of wood arranged around the disc and bolted to the octagonal sides, the said blocks being bevelled as shown, in combination with the drum C journalled on the axle A and having a conically-recessed head, to fit over the bevelled flange e, with mechanism for adjusting the drum longitudinally on its axle, substantially as and for the purpose specified. 4th. In a hoisting machine, a disc E keyed to the axle A, and having an octagonal flange e extending outwardly from its periphery, with block of wood arranged around the disc and bolted to the octagonal sides, the said blocks being bevelled, as described, to fit into the conically recessed head D of the drum C, which is journalled on the axle A, in combination with a key fitting into an elongated key-way made in the axle A at the outer end of the drum C, and actuated by a screw arranged to butt against a spindle fitting into a hole extending from the end of the axle to the key-way, substantially as and for the purpose specified. 5th. In a hoisting machine, in which the rope drum is adjustably connected to its axle by a friction clutch formed by the end of the drum being brought in contact with a disc keyed to the axle, the said adjustment of the drum being effected by a spindle and screw through a nut in the frame and acting against the end of the drum, an arm O fastened to the outer end of the screw, in combination with a rock shaft Q journalled in the frame of the machine and connected to the arm O, substantially as and for the purpose specified. 6th. In a hoisting machine, in which the rope drum is journalled on its axle and derives motion through a friction clutch adjustably connecting it to a disc keyed to the axle, a pinion a fastened to the drum and gearing with a wheel journalled on a counter-shaft, the face of the disc being conically recessed to fit over an inversely-shaped flange on a disc keyed to the counter-shaft and in combination with a pinion also fastened to the counter-shaft and gearing with a wheel keyed to the axle, the connection between the loose and tight discs on the counter-shaft being adjustable so that the rope drum may be driven or stopped by the gearing specified, substantially as and for the purposes specified. 7th. In a hoisting machine, in which the rope drum is adjustably connected to its shaft by a friction clutch, a counter-shaft having a pinion keyed to it, which pinion gears with a larger wheel keyed to the rope drum's axle so that the counter-shaft shall revolve at a higher speed than the axle, a gear wheel F journalled on the counter-shaft and engaging with a pinion fastened to the rope drum, in combination with a friction connection

formed between the gear wheel F and counter-shaft and operated by a cam, substantially as and for the purpose specified. 8th. In a hoisting machine, a friction clutch formed by a conically recessed disc having a paper lining pressed into it, in combination with a metal disc having a conical flange formed on it to fit into the paper-lined disc, as specified. 9th. In a hoisting machine, in which the rope drum is so connected to its shaft that it may revolve freely on it, the combination of speeded gearing arranged to connect the rope drum to its shaft, so that the speed of the drum shall be greater than its shaft, the said gearing being provided with clutches so that the connection between the drum and shaft may be disconnected at pleasure.

**No. 18,861. Vapour Burner.**  
(*Fourneau à Hydrocarbures.*)

David E. Bangs, Medford, Mass., U. S., 13th March, 1884; 5 years.  
*Claim.*—1st. The combination of the steam-generator tube, the superheater tube connecting therewith, the vaporizing tubes with one of which the steam generator communicates, means for introducing hydro-carbons into said vaporizing tubes, and the burner tube communicating with the vaporizing tubes and located below the steam and vaporizing tubes, and provided with jet opening for directing the flame-jet directly against the steam vaporizing tubes, substantially as described. 2nd. The combination of the steam generator tube, the vaporizing tubes, means for supplying hydro-carbons to said tubes, the superheater tube communicating with the steam generator tubes and with the vaporizing tubes, at a point where as it enters the vaporizing tube, and the burner tube communicating with the vaporizing tubes and located at a point to direct the flame against both the steam and vaporizing tubes, substantially as described.

**No. 18,862. Rotary Ventilating Fan.**  
(*Eventail Rotatoire.*)

Wright D. Smith, Detroit, Mich., U.S., 13th March, 1884; 5 years.  
*Claim.*—1st. In combination with the base A and case B of a rotary fan, the hanger C for supporting the fan case and fan shaft, substantially as described. 2nd. In a rotary fan, the combination of the base A, case B, hanger C, shaft D, hub or disk E and spiral blades F, when constructed, arranged and operating, substantially in the manner and for the purposes set forth.

**No. 18,863. Car Truck.** (*Train de Char.*)

Alexander E. McConnell, New Orleans, La., U.S., 13th March, 1884; 5 years.  
*Claim.*—1st. In axle bearings for railroad cars and other vehicles, in which the axle has its bearing upon or against superimposed wheels arranged to run upon opposite sides of the axle, the combination, in the one truck or frame, of the vehicle with a series of axles C, and running or supporting wheels B thereon, of a series of superimposed wheels D, D' arranged to form rolling bearings for the axles C and so that each intermediate one D' thereof will bear upon or run against the journals of two adjacent axles C, substantially as described. 2nd. The combination, in a railroad car truck or frame A, of the axles C and running wheel B thereon, the superimposed wheels D, D' arranged to run upon opposite sides of the journals b of said axles, and so that each intermediate wheel D' bears against the journals of two adjacent axles C, and the axles E arranged to connect the superimposed wheels D, D' upon opposite sides of the truck or frame, G, in combination with the frame A, the shafts or axles E extending across the truck or frame, the rolling bearing wheels D, D' on said axle E, and the axles C with their attached running wheels B, essentially as shown and described. 4th. A six wheel railway truck, having the journals of the axles of its running wheels supported by four pairs of connected superimposed wheels, substantially as shown and described.

**No. 18,864. Production of Ammonia or Compounds of Ammonia.** (*Production de l'Ammoniaque ou Composés d'Ammoniaque.*)

Robert Teeret, Clippens, Scotland, 13th March, 1884; 5 years.  
*Claim.*—The obtaining of ammonia from carbonaceous whilst undergoing distillation, or from their cookes or residues by acting upon them with hydrogen, substantially as hereinbefore described.

**No. 18,865. Cigar-Holder.** (*Porte-Cigare.*)

George W. Keith, (Co-inventor with George C. Sutherland,) Toronto, Ont., 13th March, 1884; 5 years.  
*Claim.*—1st. As an improved cigar-holder, a hollow wire or tube, having a mouth-piece at one end, and pointed at its other end for draught into a cigar, the said point being pierced so as to form a draught passage between the body of the cigar and the interior of the hollow wire or tube, substantially as and for the purpose specified. 2nd. A wire or tube B, attached to the mouth-piece A, and having a passage-way a cut through it, to correspond and communicate with the passage-way through the mouth-piece, in combination with an upwardly turned and pointed end having a hole b pierced through it, substantially as and for the purpose specified. 3rd. The hollow wire or tube B attached to the mouth-piece A, and having an upwardly turned and pointed end with a hole b pierced through it, to communicate with the passage-way a passing through the tube and substantially in combination with a ring C attached to the tube B, substantially as and for the purpose specified. 4th. The pointed supporting wire or tube B attached to the mouth-piece A, and having a hole b pierced near its point so as to form a draught passage between the body of the cigar and its interior, in combination with a device for holding the cigar against the supporting piece D, substantially as and for the purpose specified.

**No. 18,866. Car-Coupling.**  
(*Accouplage de Wagons.*)

James Murray and Allan Ritchie, New Castle, N.B., 13th March 1884; 5 years.

*Claim.*—1st. In a railway car-coupler, the pawl B pivoted to the draw-head A, so as to operate in the chamber formed therein, and having the hook a and the projecting block c, substantially as described. 2nd. In a railway car-coupler, the rocking trip C supported on its journals d, d in the lugs e, e, and provided with the lifting arm f, the lifting lever D, rod, rope or chain g and projecting toes h, h, substantially as described. 3rd. In a railway car-coupler, the combination of the draw-head A having the lugs e, e and the stops i, i fixed or formed thereon, with the rocking trip C, substantially as shown and described, and for the purpose set forth.

**No. 18,367. Stove for Burning Bituminous Coal.** (*Poêle Brûlant le Charbon Bitumineux.*)

The Rawson Stove Company, Albany, (Assignees of Charles A. Hamlin, Greenbush,) N.Y., U. S., 14th March, 1884; 5 years.

*Claim.*—The combination, with a retorting chamber B, a combustion chamber C lying directly underneath said retorting chamber, and a flame chamber D separated from said retorting chamber by means of the bridge wall b, whereby the egress draft-opening d is formed, as herein described, of the inclined rear grate C fixed under the retorting chamber B and the imperforate fire-bed c, arranged to form a close joint with the combustion chamber C, at the ends and one side of said chamber, as and for the purpose herein specified.

**No. 18,868. Door Spring.** (*Ressort de Porte.*)

William H. Sherer, James D. Stratton and Lyman Clock, Binghamton, N.Y., U.S., 14th March, 1884; 5 years.

*Claim.*—In combination with the bracket A; drum B provided with a spring and adapted to be mounted on a door, a plate D having ears e, f, and spring rod acting in connection with pin h on the bracket, and a connecting strap, substantially as described.

**No. 18,469. Document and File Case.**  
(*Boîte pour Dossiers et Documents.*)

Anthony W. Voltz, Buffalo, N.Y., U.S., 14th March, 1884; 5 years.

*Claim.*—1st. A file case having vertical boards parallel to its back B, vertical partitions E at right angles thereto, and horizontal bottom-pieces, these parts forming sets of terraced series of rigid file-holding compartments each upper row of the latter being located farther back than the one below it, substantially as set forth. 2nd. A portable case for files, consisting of two hinged sections A, A' provided with handles and fastenings, each section being constructed with vertical boards F parallel to the back thereof, vertical partitions E at right angles thereto and horizontal bottom pieces, these parts forming two sets of terraced series of rigid file-holding compartments, each upper row of the latter being located farther back than the one below it, substantially as set forth. 3rd. As an improved article of manufacture, a file case A having the compartments for the reception of the said documents, a hinged lid C provided with a pendent locking device H and one or more of the compartments provided with the adjustable bottom, substantially as described for the object stated. 4th. In paper cabinets, an adjustable bottom for the compartments of a frame F composed of the slotted top rail F<sub>1</sub>, rail F<sub>2</sub> and suitable side pieces, as described, said frame being constructed to fit tightly into said compartments and arranged to operate in conjunction with a detachable extractor, as and for the purpose stated.

**No. 18,870. Waterproof Coat.**  
(*Habit Imperméable.*)

Tanèrede Robitaille, St. Hyacinthe, Que., 14th March, 1884; 5 years.

*Claim.*—1st. The process of making waterproof coats, which consists in, first cutting out the two thicknesses of material which are to compose it, and a piece of soft rubber of corresponding size and shape, then fitting such parts together, then pressing them together with hot irons to cause the rubber to adhere, and then sewing the different parts of the coat together, substantially as described. 2nd. In a coat having a layer of rubber interposed between the cloth and lining, a pocket having a linen stay piece and secured in place by pressure between the said layer of rubber, and another layer of rubber interposed between the pocket and the cloth, substantially as described. 3rd. In a coat, a collar having a lub formed with it and adapted either to be folded back under such collar or to be extended across the front opening, substantially as described. 4th. The combination, with a reversible coat, of a double-headed button, substantially as described. 5th. In combination with a reversible coat, linen stay pieces, eyelet holes and double-headed buttons secured thereon, substantially as described. 6th. A button having two heads upon a single shank, for the purpose described.

**No. 18,871. Washing Machine.**  
(*Machine à Laver.*)

Leander K. Dutton, Oskaloosa, Iowa, U.S., 14th March, 1884; 5 years.

*Claim.*—In a washing machine, the suds box D provided with a lining of corrugated sheet rubber, and having the internal circumferential support E to which is connected the bracket k, in combination with the hinged cover F, stirrers H and means for operating them, and the rod K connected to the driving wheel L and provided with removable weight L, substantially as and for the purpose set forth.

**No. 18,872. Fire-Escape and Fire-Extinguisher.** (*Sauveteur et Extincteur d'Incendie.*)

James Kennedy, Strabane, Ireland, 14th March, 1884; 5 years.



**Claim.**—1st. The combination of the bottom part of a ladder and an upper extensible portion, with a travelling gage, sets of hoisting chains and barrels for both the gage and the extensible portion of the ladder operating-shaft, and devices, substantially as described, for throwing said shaft into gear with either set of hoisting devices. 2nd. The combination of a fire-escape ladder, with a platform L mounted thereon, and levers on said platform for holding hose-jet-pipes, all substantially as set forth.

**No. 18,873. Art of Extracting or Obtaining Aluminum from Aluminous Ores and Earths.** (*Art d'Extraire ou d'Obtenir l'Aluminium des Minerais et des Terres Alumineux.*)

Frederick J. Seymour, Wolcottville, Ct., U.S., 14th March, 1884; 5 years.

**Claim.**—The improvement in the art of extracting or obtaining aluminum from aluminous earths and ores, consisting in mixing aluminous ore or earth and an ore of zinc with carbonaceous matter and a flux, and subjecting the mixture to heat in a close retort, whereby the zinc is caused to produce or assist in the casting down of the aluminum in a metallic state, and an alloy of zinc and aluminum is obtained, substantially as herein described.

**No. 18,874. Machine for Straightening or Bending Railroad Rails.** (*Machine pour Redresser ou Plier les Rails des Chemins de Fer.*)

Peter Fréchet, Sheridan, Cal., U.S., 14th March, 1884; 5 years.

**Claim.**—1st. In a machine for straightening or bending rails, a frame consisting of the plates A placed in angle-shaped pairs, separated and secured by intervening blocks and braces to form a central passage a, and horizontal and vertical guides, consisting of the separated slotted plates E, the plates G passing through them, plates H extending to them, and the horizontal and vertical screw jacks I secured to the plates A, and extending toward the centre in the guide plates E and H, and having pressure rollers c upon their inner ends, all arranged substantially as and for the purpose described. 2nd. In a machine for straightening or bending rails, the frame consisting of the plates A, separated to form a central passage a, and open top, bottom and sides, the horizontal slotted guide-plates E, and vertical bearing plates G, and guide plates H, the threaded strips J, the screw jack I, each consisting of the bracket i, having a roller c extending within the passage a, bearing plate d, operating screw f, having a headed shank e with a shoulder g and yoke g, secured upon the threaded strips J, substantially as herein described. 3rd. The screw jack I, consisting of the two-part bracket i, pressure roller c in one end, and perforated bearing plate a in the other end, the screw f having a headed shank e, with a shoulder g and the stationary yoke g, all arranged and operating substantially as herein described. 4th. In a machine for straightening or bending rails, the frame consisting of the plates A, and other parts arranged and secured together, as shown, to form a central passage a, and the screw jack I, operating as described, the end plates B, frames L on each end, having power mechanism for forcing the rail through passage a, and the longitudinal tribolts K, securing the frames and bracing the machine, substantially as herein described.

**No. 18,875. Washing Machine.** (*Machine à Laver.*)

John St. Onge, North Adams, Mass., U.S., 14th March, 1884; 5 years.

**Claim.**—1st. In a washing machine, the heads G adapted to be reciprocated from the crank H, in combination with wash-board D, placed in the body A, substantially as set forth. 2nd. The reciprocating heads G provided with the pins h, substantially as and for the purposes set forth. 3rd. The combination, with the reciprocating heads G, of the pendent board F, arranged substantially as and for the purposes set forth. 4th. The washing machine herein shown and described, consisting of the body A, having wash-board D, rod E and double crank shaft H, in combination with the boards F and heads G, attached to the rod E, the heads G being connected to the cranks of the crank-shaft by the connecting rods h, substantially as and for the purposes set forth.

**No. 18,876. Nut Lock.** (*Arrête-Ecrou.*)

Jonathan H. Ransom, Jr., Boston, Mass., U.S., 14th March, 1884; 5 years.

**Claim.**—1st. The bolt and nut, either of which is provided with a key seat or groove, in combination with a scored in contra distinction to a threaded engaging device, and a key to force said engaging device into engagement with the threads of the other, substantially as described. 2nd. The bolt and nut, one grooved or provided with a key seat, and the serrated engaging device provided at its under side with a spreading device, combined with the split wedge or key to operate, substantially as described. 3rd. The key g, having the two bevel faces 7, 8 and the bolt and nut, combined with the engaging device, bevelled at its underside in cross section, to be acted upon by the faces 7, 8, of the said wedge or key, substantially as described.

**No. 18,777. Milk Cooler and Strainer Combined.** (*Garde-Lait et Couloir Combinés.*)

Johile S. Rombough, Osnabrock Centre, Ont., 14th March, 1884; 5 years.

**Claim.**—1st. A combined strainer and cooler consisting of the rectangular box-shaped vessel shown in the annexed drawings, divided into the chambers A, B and C, by the partitions D and E, and provided with the cooling pipe F, having the funnel a and the opening b, substantially as shown and described. 2nd. A milk cooler and strainer having the gauze or perforated partition D, the inner bottom d and the outlet pipe G, in combination with the cooling pipe F, substantially as shown and described and for the purpose set forth.

**No. 18,878. Shifting Rail for Buggy Tops.** (*Barre de Déplacement pour Soufflets de Voitures.*)

John Bell, Springfield, Ont., 14th March, 1884; 5 years.

**Claim.**—1st. The combination of the three wooden sections A, A, A, with the corner irons B, B, substantially as and for the purpose hereinbefore set forth. 2nd. The combination, with the wooden sections A, A, with the goose-necks D, D, substantially as and for the purpose hereinbefore set forth.

**No. 18,879. Machine for Forming Paving Blocks.** (*Machine pour faire les Blocs de Pavage.*)

Donald G. Ross, Hatton, Mich., U.S., 14th March, 1884; 5 years.

**Claim.**—1st. A series of dies or circular cutters stationarily secured in a bed plate, in combination with a reciprocating gate or plunger, substantially as and for the purposes described. 2nd. In a machine for sizing or trimming paving blocks, the combination of the following parts:—A series of dies or ring cutters, a gate or plunger reciprocating in the axis of the ring cutters, and suitable belts for carrying off the finished paving blocks and the debris, all arranged and combined, substantially as and for the purposes described. 3rd. The combination of the frame A, standards B, B, gate C provided with a re-inforced head K, ring cutters I, bed plate H, crank E, pitman D, main drive shaft F and driver G, all combined and operating substantially as described.

**No. 18,880. Machine for Screening Ashes, Gravel, &c.** (*Machine à Cribler les Cendres, le Gravier, &c.*)

Angus McKenzie, Toronto, Ont., 14th March, 1884; 5 years.

**Claim.**—In a screen or separator, as described, the combination of the disturber I with the wire screen B, casing A and reverse apron H, as shown and for the purpose specified.

**No. 18,881. Manufacture of Ligneous Compound and of Articles Moulded Therefrom in Imitation of Wood.** (*Fabrication de Composé Ligneux et d'Objets de Composé Ligneux comme Imitation du Bois.*)

Bruno Harrass, Böhlen, Germany, 14th March, 1884; 5 years.

**Claim.**—1st. The herein described manufacture of ligneous compounds resembling wood, consisting of from two to six parts of ground wood, from four to twelve parts of saw-dust and four to twelve parts of either blood, albumen, glue, resin or starch paste, to which mixture is then added from one-fourth to two parts of glutinous flour or other similar material such as potato flour, albumen, fibrine, caseine or dextrine, the compound being then dried and, when required for use, mixed with from one and a half to six parts of blood, one-fourth to two parts of glutinous flour or its equivalent, and when required from six and a quarter to twenty-five parts of glycerine, animal or vegetable fat or wax. 2nd. The herein described method of producing moulded articles of ligneous compound with a backing of pasteboard or papier-maché, by impregnating pasteboard or papier-maché with glue, and after coating the one side thereof with glue and laying thereon the ligneous compound in a cold plastic condition, subjecting the same to the pressure of a mould having a cutting edge until the latter has cut into the pasteboard in order to compress the confined compound and produce a sharp outline thereon. 3rd. The manufacture of moulded articles resembling wood from the ligneous compound, consisting of cellulose or woody fibre intermixed with small portions of starch and glutinous flour in an unboiled condition, with or without the combination of a coating of veneer, substantially as set forth.

**No. 18,882. Attachment to Windmills.** (*Disposition aux Moulins à Vent.*)

George W. Miller, Clarinda, Iowa, U.S., 14th March, 1884; 5 years.

**Claim.**—1st. The combination of the rotary shaft T connected with the stop mechanism and carrying the ratchet wheel, the pawl to hold the latter, the pitman, the rock shaft having the crank end carrying the pivoted loop that engages the ratchet wheel, the lever connected with the pawl and loop, the tank, the float in the tank and the line connecting the float with the said lever, for the purpose set forth. 2nd. The combination of the pitman, of the wind wheel mechanism, the rock shaft having the crank ends and operated by the pitman, the loop arranged on the end of the rock shaft, the rotary shaft carrying the ratchet wheel and drum, the stop rod having the chain arranged to wind on the drum, the pawl, the lever connected with the pawl and loop, the float and the line connecting the float with the lever, as set forth.

**No. 18,883. Furnace.** (*Fourneau.*)

Lyman P. French, Boston, Mass., U.S., 14th March, 1884; 5 years.

**Claim.**—1st. In a locomotive fire-box, a bridge wall or arch extending from the flue sheet at the lower front portion of the fire-box rearwardly and upwardly, and having a passage over its upper edge for the products of combustion, combined with a deflecting wall depending from the crown sheet and set in contact therewith, and inclined forward and downward and approaching the bridge wall, its lower edge being nearest to the surface of the bridge wall, whereby a contracted throat is formed causing the products of combustion to sweep over the upper surface of the said arch, substantially as set forth. 2nd. The combination of the bridge wall or arch extending from the lower front portion of the fire-box rearward and upward, with the deflecting wall inclined forward and downward from the crown sheet in front of the upper end of the said arch, having an in-

ternal passage communicating with inlet openings from the external air, an dprovided with outlet openings into the combustion chamber, substantially as and for the purpose described, 3rd. The combination, with the bridge wall or arch extending from the lower front portion of the fire-box rearward and upward, and provided with an internal air space or chamber having inlet openings communicating with the external air and outlet openings into the fire-box, of the deflecting wall depending from the crown sheet of the fire-box downward and forward in front of the upper edge of the said bridge wall, the said deflecting wall being in contact with the crown sheet, whereby the products of combustion are caused to pass beneath its lower edge and sweep along the upper surface of the bridge wall, substantially as described. 4th. The bridge wall or arch extending from the lower front portion of the fire box rearward and upward, combined with the deflecting wall depending from the crown sheet at the front of the upper portion of the said bridge wall, both the said bridge wall and deflecting wall being provided with internal passages having inlet openings from the air outside of the fire-box, and outlet openings within the fire-box, substantially as described. 5th. The combination of the bridge wall extending rearward and upward from the lower front portion of the fire-box and provided with internal passages having inlet openings from the external air, and outlet openings in the fire-box, with means for injecting liquid fuel into the fire, substantially as described. 6th. The combination of the bridge wall and deflecting wall provided with internal passages communicating with the external air and with the interior of a fire-box, with means for introducing liquid fuel into the fire-box above the bridge wall, substantially as described. 7th. The combination of the bridge wall, inclined rearward and upward from the lower front end of the fire-box and having a passage above it, with the deflecting wall in front of its upper edge, and means to project gaseous fuel over the upper edge of the said bridge wall and against the said deflecting wall, substantially as described. 8th. In a furnace, the grate and inclined bridge wall located as described, for projecting gaseous fuel into the said passage, substantially as set forth. 9th. The bridge wall inclined from the lower front wall of the fire-box rearwardly and upwardly, the said wall being composed of two layers of bricks separated by an air space, which opens into the furnace, at the upper edge of the wall, and communicates with the air at the outside of the furnace at the lower portion of the said wall, substantially as described. 10th. The bridge wall inclined from the lever front wall of the fire-box rearwardly and upwardly, the said wall being composed of two layers of bricks separated by an air space, which opens into the furnace, at the upper edge of the wall, and communicates with the air at the outside of the furnace at the lower portion of the said wall, combined with the deflecting wall depending from the crown sheet in front of the upper edge of the said bridge wall, the lower edge of the said deflecting wall being below the level of the upper edge of the said bridge wall, substantially as described.

**No. 18,884. Cider Press. (Pressoir à Cidre.)**

Hugh Sells, Toronto, Ont., 14th March, 1884; 5 years.  
*Claim.*—1st. In a cider-press, a series of rigid vertical partitions adjustably fitted into the press between the stationary and movable ends having passages for the escape of the liquid, substantially as and for the purpose specified. 2nd. In a cider-press, having a series of partitions arranged between the stationary and movable ends, two rods journaled one on each side of the press and having fingers attached to them, for the purpose of holding the partitions, as specified, in combination with lugs attached to the movable end and so shaped and situated that, upon the forward movement of the head, the lugs come in contact with fingers attached to the rods, causing the said rods to roll in their journals sufficiently to move the holding-fingers clear of the partitions, substantially as and for the purpose specified. 3rd. In a cider-press provided with a movable cover, blocks fixed upon each side of the top of the cover, in combination with wedge-shaped lines fixed to the side of the press, and located substantially as and for the purpose specified. 4th. In a cider-press, a movable hollow partition *F* made of a series of horizontal strips *f* tacked on each side of the vertical strips *g*, having a space between each horizontal strip, and an open space being left between the two rows of horizontal strips, in combination with devices for holding the same in position in the press, and then releasing the same as the press is operated, substantially as and for the purpose specified. 5th. The combination, with the frame *A* and press *B*, having movable end *C* and stationary end *D*, of the wedges *E* fitted into notches made in the frame *A*, and adapted to hold the end *D* away from the frame, substantially as and for the purpose specified.

**No. 18,885. Harness Tug Attachment.**

(*Ajustage de Mancelle de Harnais.*)  
 Joseph W. Hill, Jersey Shore, Penn., U.S., 14th March, 1884; 5 years.  
*Claim.*—1st. In a tug attachment, the combination, with the hame connection, of the bolt *a*, rivets *c* and slotted tang *F*, whereby the draft strain on the rivets which hold the bolt to the tang will be taken from the middle of the rivets, as described. 2nd. In a tug attachment, the hook *B* formed with the bar *b*, and tang *F* formed with the slots *a*, *a*, as and for the purposes set forth.

**No. 18,886. Whiffletree for Waggon.**

(*Palonnier pour Wagons*)  
 Samuel R. Ames and Jacob Phillipps, Louisville, Ky., U.S., 15th March, 1884; 5 years.  
*Claim.*—1st. The combination of the whiffletree *aa*, the spring *D* with metal a riveted thereon, as shown, and centre bearing *G*, with cavity for india-rubber *H*, and the two metal attachments *e* with ends of spring in them, also the guide or strap *J*, substantially as and for the purpose hereinbefore set forth. 2nd. The combination of the double-tree *B*, with metal pieces *K* screwed on to it, and the clevis *C* in combination with the whiffletree and its attachments, substantially as and for the purpose hereinbefore set forth.

**No. 18,887. Washboard. (Planche à Savonner.)**

James P. Reynolds, Toronto, Ont., 15th March, 1884; 5 years.  
*Claim.*—1st. In an earthenware washboard having transverse corrugations or grooves in the face thereof, the combination of certain perforations widened at the lip made in the bottom of said corrugations or grooves, for the purpose of liberating the used suds from the clothes on the washboard, in the process of rubbing thereon, substantially as described. 2nd. In an earthenware washboard having transverse corrugations or grooves in the face thereof, and widened perforations in the bottom of said corrugations or grooves, the combination of a prepared bed of rubber or other elastic packing placed underneath the washboard when so required, for the better protection and durability of the washboard, as described.

**No. 18,888. Solution for Seasoning and Preserving Wood. (Solution pour la Préparation et la Conservation du Bois.)**

John Loomis, Jeffersonville, Ind., U.S., 15th March, 1884; 5 years.  
*Claim.*—A solution for seasoning and preserving wood, consisting of lime-water, caustic ammonia and sal-soda, as and for the purpose substantially as described.

**No. 18,889. Machine for Channelling Leather. (Machine pour faire la Gravure dans le Cuir.)**

Thomas K. Clark, Tie Siding, Wyoming, U.S., 15th March, 1884; 5 years.  
*Claim.*—1st. In a machine for channelling leather straps, the combination, with the yielding-bed *Au*, the roller *F*1, the housings *B*, *B*1 and the stocks *L*, *L*, adapted for adjustment within said housings, of the vertically adjustable standards *N*, *N*, secured to the ends of said stocks, each provided with a presser-foot *n*, a knife *M*1, a vertically-acting spring *Q* and a lifting device, all constructed and arranged as and for the purpose described. 2nd. In a machine for channelling leather straps, the combination, with the housings placed opposite each other, of guide frames adapted to be adjusted within said housings for different widths of straps, adjustable stocks arranged within said guide-frames, and vertically-acting knives carried by said stocks, as and for the purpose described. 3rd. In a machine for channelling leather straps, in combination with the stationary housings *B* and *C*, carrying each an adjustable cutting-tool, the housings *B*1 and *C*1, of similar construction and arrangement and carrying each similar cutting and holding devices as the parts *B* and *C*, and united to said fixed housings by hinged yokes *F*, *G*, as hereinbefore described. 4th. In combination with the housing *B*, the guide-frame *J* sliding therein, and stock *L* sliding in the guide-frame *J* and carrying the vertically-acting cutters *M*1, as and for the purpose hereinbefore described. 5th. In combination with the guide-flange or plate *Z*, roller *F*1 and adjustable cutting knives, the spring actuated bottom *A*1 operating to press and hold the strap in position to be acted upon by the knives, as hereinbefore described. 6th. The combination, with housings *C*, *C*1, of the cutter stocks *S*, *S*, adapted for adjustment in said housings, the obliquely arranged cutters *U*, *U* and means for adjusting said cutters and their stocks, as and for the purpose set forth. 7th. The cutter-stocks *S* having interior openings *S*1, obliquely arranged slotted knife *U*, *V*, plate *W*, fastening screw *X* and set screw *Y*, all arranged and operating as hereinbefore described, for the purposes specified. 8th. The combination, with the cutter-stocks *S* having a groove or recess *u* forming an overhanging projection along its front lower edge, of the cutting tools adapted to be vertically adjusted beneath said overhanging projection, and the screws *X* and *Y*, as and for the purpose set forth.

**No. 18,890. Knitting Machine Needle.**

(*Aiguille de Machine à Tricoter.*)  
 Alfred Wood, Detroit, Mich., U.S., 15th March, 1884; 5 years.  
*Claim.*—1st. The combination, with the shank of a knitting machine needle provided with a guide-way, of a heel for engaging the needle cam adapted to be slid back and forth and be adjusted in said guide-way, substantially as described. 2nd. The combination, with the shank of a knitting machine needle provided with a guide-way, of a heel for engaging the needle cam adapted to be slid back and forth and be adjusted in said guide-way, and means for exerting a frictional resistance against said heel to hold it in adjusted position, substantially as described. 3rd. The combination, with the shank of a knitting machine needle provided with an undercut or dovetail guide-way, substantially as described. 4th. The combination, with the shank of a knitting machine needle provided with a guide-way, of a heel *C* adapted to be adjusted in said guide-way, and a spring *D* to hold it in adjusted position, substantially as described. 5th. The combination, with the shank of a knitting machine needle provided with a guide-way, of a heel adapted to be adjusted in said guide-way and provided with a slot, and a pin secured to the shank and engaging with said slot, whereby the movement of the heel transversely of the shank is limited, substantially as described. 6th. The combination, with the shank of a knitting machine needle *B*, provided with a foot *B*1, having the undercut or dovetail guide-way, of the heel *C* having the slot *C*1 therein, adapted to be adjusted in said guide-way, the pin *C*1 for limiting the adjustment of said heel, and the spring *D* for holding the heel in adjusted position, substantially as described. 7th. The combination, with the shank of a knitting machine needle provided with a guide-way, of a heel for engaging the needle cam adapted to be slid back and forth and, in connection therewith, a lever adapted to operate said heel, substantially as described. 8th. The combination, with the shank of a knitting machine needle provided with an undercut or guide-way, of a heel for engaging the needle cam and a lever for operating said heel, substantially as described. 9th. The combination, with the shank of a knitting machine needle provided with a guide-way, of a heel for engaging the needle cam adapted to be slid back and forth, a lever adapted to be operated said heel, said lever constructed of spring metal and adapted to hold said heel in a given position by its resistance, substantially as described.

**No. 18,891. Felly and Tire for Wheels.***(Jante et Bandage de Roue.)*

Patrick W. McGuire, Lacon, Ill., U. S., 15th March, 1884; 5 years.

*Claim.*—The combination, with the felly A, having the curved rib B, of the counter-sunken portion G, adapted to form a continuation of the rib, as described, and the tire D provided with a groove adapted to receive the rib B of the felly.

**No. 18,892. Art of Filtration.***(Mode de Filtration.)*

John W. Hyatt, Newark, N. J., U. S., 15th March, 1884; 5 years.

*Claim.*—1st. In the art of filtration, the method hereinbefore described, of coagulating and arresting the impurities, and of preventing any of the coagulating agents in solution passing off with the filtered water, which method consists, first, in introducing into the water prior to, or at its entrance into the apparatus, a substance which will produce coagulation, then a substance which will operate to precipitate the excess of the coagulant and prevent any of the same in solution from passing off with the water, and finally allowing the water to pass through a bed of filtering material. 2nd. In the art of filtration, the method hereinbefore described, of coagulating and arresting the impurities, and of preventing any of the coagulating material from passing off in solution with the filtered water, which method consists in introducing iron and lime into the apparatus and then allowing the water to pass through a bed of filtering material. 3rd. In the art of filtration, the method hereinbefore described, of coagulating and arresting the impurities, and of preventing any of the coagulating material from passing off in solution with the filtering water, which method consists in introducing an alkali, an alkaline earth, or a base into the water, and passing the same through a filter bed composed of iron in comminuted form, or iron and sand, or equivalent material. 4th. Iron and lime as a coagulant and precipitant for use in the art of filtration. 5th. As a means of coagulating and precipitating the impurities in the art of filtration, metallic iron and lime in the form of a paste. 6th. A filter bed consisting of metallic iron and sand, or analogous material, thoroughly intermingled, substantially as and for the purposes set forth. 7th. In cleansing granular filter beds, the method of removing the impurities therefrom, by transferring the filtering substance under water pressure from one compartment to another, in such manner that the particles of which the bed is composed are brought in frictional contact with one another and with the water, and are thereby purified, which consists in inducing a current of the filtering substance together with a stream of water from one compartment or receptacle to another, and conducting the separated impurities away with the waste water, substantially as set forth. 8th. The filter herein described, containing a bed of filtering agent and provided with the inlet for unfiltered water, the outlet for the filtered water, and the tapered pipe M having a valve and being connected with a suitable receptacle to receive the bed of filtering agent during the process of washing the same, the transfer of the bed from the filter to the said receptacle being induced through the pipe M, substantially as set forth. 9th. The filtering apparatus herein described, consisting of a series of filters, each supplied with independent inlet and outlet pipes and connected with each other so as to form an unbroken circuit by means of the pipes M provided with valves, which pipes pass from the lower portion of one filter to the upper portion of the adjacent filter and are adapted to permit the transfer through them of the bed of filtering material, when it is desired to clean the same, substantially as specified. 10th. In a filtering apparatus consisting of two or more receptacles having a suitable supply and delivery, the transfer pipe M and jet pipe X, as and for the purpose set forth. 11th. A filter consisting of compartments, one having inlet and outlet ports and containing a bed of filtering substance, and being connected with another compartment by a transfer washing pipe or pipes arranged within the filter, substantially as set forth. 12th. A filter consisting of compartments, one having inlet and outlet ports and containing a bed of filtering substance, and being connected with another compartment by transfer washing pipe or pipes, cone-shaped formations being provided upon the base of the filter, to direct the elements of the filter bed to the mouth of the transfer pipe or pipes during the process of washing the same, substantially as set forth.

**No. 18,893. Stop-Valve.** *(Soupape d'arrêt.)*

Charles F. Murdock, Detroit, Mich., U. S., 15th March, 1884; 5 years.

*Claim.*—1st. In a stop-valve, an adjustable valve gate with inclined faces made in two parts which are disconnected from, but abut against, and support each other upon their rear zonal surfaces which, in one part, forms spherical segment with a stemway formed therein, and in the other, a corresponding socket, substantially as and for the purpose described. 2nd. In a stop-valve, an adjustable valve gate made in two disconnected parts, the abutting faces of which form a ball and socket joint, wherein the bearing faces are constructed to prevent the resisting force from bearing against the axial centre of the joint, and brings the resisting force at a point or points between the said central axis and the periphery of the two disconnected parts, substantially as and for the purposes specified. 3rd. In a stop-valve, an adjustable valve gate, the two parts of which have segmental ball-and-socket abutments upon their backs or meeting faces, central passage-way I and corresponding grooves K upon each part, in combination with the winged nut L, all combined and constructed, substantially as and for the purposes described. 4th. In a stop-valve, an adjustable valve gate made in two disconnected parts, the abutting faces of which form a ball-and-socket joint, the centre bearing portion of which is cut away, substantially as set forth. 5th. In a stop-valve, an adjustable valve gate made in two parts, the abutting faces of which form a ball-and-socket bearing through the spherical segment of which bearing is a semi-spherical slotted stemway, in combination with the winged nut provided with means for connecting it to the gate, the parts being constructed to operate, substantially as and for the purposes described. 6th. In a stop-valve, a gate consisting of two valve disks provided with a spherical joint, and forming a wedge-shaped gate when closed, in combination with a nut through which the stem is threaded, the body of said nut being outside the body of

the valve gate, said nut being provided with wings or flanged at the lower end thereof, which engage with the grooves in the valve disks near the top thereof, said grooves being larger than the entering wings so that, in operating the gate, the valve disks are adapted to draw apart upon their lower ends when the gate is raised, and adjust themselves to the valve seats when closed, substantially as and for the purposes set forth.

**No. 18,894. Washing Machine.***(Machine à Laver.)*

Charles K. Jones and William F. Jones, London, Ont., 15th March, 1884; 5 years.

*Claim.*—The combination of cylinder C provided with orifices G, G, perforations H, H and steam-tight door F, with boiler A, substantially as shown and described and for the purpose specified.

**No. 18,895. Fire-Arm.** *(Arme à Feu.)*

Martin V. Kacer and William J. Kriz., St. Louis, Mo., U. S., 15th March, 1884; 5 years.

*Claim.*—1st. A compound gun barrel made in one piece of metal with a broad web *b*, and rifle-barrels located within the web between the shot barrels, substantially as described. 2nd. In a breech-loading fire-arm, the combination of shot barrels *d*, *d* and rifle barrels *d*, *d*, the firing pins *a*, *a*, *a* and the hammers *Z*, *Z*, each having a firing block *z* vertically adjustable, as set forth. 3rd. The hammer *Z*, block *z* vertically adjustable thereon, catch *z* within the face of the hammer, and spring *z* adapted to press the catch to engage with the block, in combination with firing-pins *a*, *a* and suitable barrels, as set forth. 4th. In a fire-arm, the combination of magazine having an upwardly curved bottom, and a spring follower having a hinged leg to move the cartridges from an oblique to a horizontal position, substantially as described. 5th. In a fire-arm, the combination of the magazine, having an upwardly curved front end *t*, of the spring-follower U V having anti-friction roller *v*, as set forth. 6th. In a fire-arm, the combination of magazine T having upwardly curved bottom *t* and sides *t* provided with cartridge-supporting ribs *r*, and a spring-follower U V to force the cartridges from an oblique to a horizontal position up the curved bottom, as set forth. 7th. The pivoted arms with the breech-block, of the extractor Q having lugs Q<sub>3</sub>, pivoted to sleeve *o* having corners *o* to press on said lugs, and suitable levers *o*, and vate said arms, as set forth. 8th. In a fire-arm, the combination of sliding breech-block C, spring extractor Q, Q<sub>1</sub> S having lugs Q<sub>3</sub> and impinge against the lugs and advance the extractor catches *o*, and means for elevating the catches to release the breech-block and retract the latter, as set forth. 9th. In a fire-arm, the adjustable pin *j*, in combination with operating lever H, breech-block C, sliding catch G, whereby the barrels are locked to the breech, and means for connecting the pin with the breech-block or sliding catch, as set forth. 10th. The combination of operating lever H, a sliding breech-block, an extractor in said breech-block, side levers M, links N and pin arms O connecting the breech-block with said side levers M, and side levers J seated in the operating lever and having means for locking the side levers thereto, substantially as set forth. 11th. The combination of the hand-lever H, breech-barrel having suitable lugs and hinged to the breech, sliding catch G, to engage the lugs, pin J seated in the catch lever and having head *j* and neck *j*, and rod K hinged to the pin, as set forth and having open mortise at its rear end, to connect it to the pin, as set forth. 12th. The pin J having lugs *j*, and screw-thread *j* at its lower end, nut L working on said screw, and side-levers M having notches *m* to receive the lugs of the pin, in combination with hand-lever H, means for connecting the side levers to the breech-block, as set forth. 13th. The combination, with the hand-lever H, side-levers M, breech-block having side arms O, sliding catch G and rod K, of the pin J to connect either the side levers M or the rod K with the hand-lever, as set forth. 14th. The combination of barrel-catch breech-block pin J, having head *j* and neck *j* at the upper end, and lugs *j* and screw-thread *j* at the lower end, and adjusting-nut L and hand-lever H, for optional connection to the barrel-catch or breech-block for single or magazine loading, as set forth. 15th. The combination, with the hand-lever H and side-lever M, of the lifting link W having slot *w*, and hammer tumbler-block Y having pins received by said link-slot, as set forth. 16th. In a magazine fire-arm, the combination of a breech-loading, magazine-loading and double-barrelled breech-loading shot-gun, as set forth. 17th. In a fire-arm, the combination of a barrel having upper and lower bores, a hinged breech, a magazine discharging into one bore, and cartridge operating devices therefore, as set forth. 18th. In a fire-arm, the combination of a barrel having upper and lower bores, a breech to which the barrel is hinged, and a magazine within the breech for feeding the upper bore, each bore being adapted for single loading, as set forth.

**No. 18,896. Perpetual Calendar and Business Indicator.** *(Calendrier Perpétuel et Indicateur d'Affaires.)*

George H. Preston, Ottawa, Ont., 15th March, 1884; 5 years.

*Claim.*—The construction, in a perpetual calendar, of the plate A with perforation *n*, the year disk N, with years thereon, the route disk M with numbers, names of stations and places, the hourly disk K with hourly numbers, apertures *j*, and aperture *l*, the indicator disk L with apertures *h*, *h*, *h*, *h*, *h*, the date disk H with monthly numbers thereon, the quadrant G with diurnal signs, the plate F with apertures *e* and *c*, the month disk E and weekly disk D, the whole combined and arranged as described for the purposes set forth.

**No. 18,897. Extension Table.** *(Table à Rallonge.)*

George W. Brenn, Philadelphia, Penn., U. S., 15th March, 1884; 5 years.

*Claim.*—1st. The combination, with the top of a table, of the fixed bolsters secured thereto and provided with screw-threaded apertures, of the hinged bolsters attached to said fixed bolsters and provided with light threaded apertures and the threaded legs, the said legs being



*Claim.*—1st. The method of fastening metal bands upon cups or cylinders of porcelain, glass, etc., by forming the inner surfaces of the bands in a scroll form, and the exterior of the vessel to correspond therewith in reverse, whereby they may be fastened together by rotating one upon the other, as hereinbefore set forth. 2nd. A vessel formed of a plastic substance as clay, porcelain, glass, etc., with a metal band having an interior surface in the form of a scroll, to fit upon a corresponding surface upon the vessel, as hereinbefore set forth.

### No. 18,908. Car - Coupling.

(*Accouplage de Wagons.*)

John Goettel, St. Paul, Minn., U. S., 19th March, 1884; 5 years.

*Claim.*—1st. A pivoted hook jaw A connected to lateral bearings S<sub>1</sub> and S<sub>2</sub> of the head N, of the draw-bar F, a lock catch h<sub>1</sub> and the pivoted arm W of the hook jaw carrying said lock catch, substantially as specified. 2nd. In an automatic car-coupling, a lateral hook jaw A pivoted to bearing in the head of the draw-bar E, carrying a pivoted arm W, provided with an automatic lock catch A<sub>1</sub>, substantially as specified. 3rd. The draw-head formed with laterally arranged bearings S<sub>1</sub> S<sub>2</sub> for the pivoted hook jaw A, and laterally opposite the same, a forwardly curved flange guide f, substantially as set forth and described.

### No. 18,909. Combined Bedstead and Dressing Table. (*Bois de Lit et Table à Toilette Combinés.*)

John W. Jones, Toronto, Ont., 19th March, 1884; 5 years.

*Claim.*—1st. As an improved article of furniture, a toilet table B, or its equivalent, having chambers F and J formed within it, in combination with the bedstead A, hinged as described, so that it can be folded within the toilet table B, below the chambers F and J, substantially as and for the purpose specified. 2nd. In an improved article of furniture, the hinged bedstead A, arranged to fold within a toilet-table B, or its equivalent, having drawers and chambers arranged, substantially as and for the purpose specified.

### No. 18,910. Rotating Bars adapted to Dump Cars. (*Barres Rotatoires pour Chars à Bascule.*)

William H. D. Newth, Detroit, Mich., U. S., 19th March, 1883; 5 years.

*Claim.*—The bars or slats A adapted to be rotated upon journals b, and provided with counterpoise lugs c having a wrist pin d, in combination with the connecting bar B and a crank or lever C, by means of which the series of bars are simultaneously actuated, substantially as and for the purposes specified.

### No. 18,911. Machine for Lubricating Steam Engines. (*Machine pour Graisser les Machines à Vapeur.*)

J. Vincent Renchard, Windsor, Ont., 19th March, 1884; 5 years.

*Claim.*—1st. In lubricators, the method of injecting lubricants, consisting in a movable and contractible oil-pocket, which becomes filled with lubricant when communicating with the inlet orifice, and by its transit closes said orifice and conveys the pocketed lubricant to discharge orifice, into which it is expelled by the closing or contraction of the pocket, substantially as and for the purpose specified. 2nd. In lubricators and for the purpose of preventing steam or vapors from the engine from entering and mingling with the lubricant in the oil-chamber, the contractible oil-pocket which closes when discharging its pocketed lubricant, substantially as specified. 3rd. In a lubricator and as a means for forming an oil-pocket, two segmental piston rings enclosed in a grooved channel and leaving between their ends a contractible oil-pocket, substantially as described. 4th. In a lubricator and as a means for controlling the oil-pocket formed between two segmental piston-rings, the cams  $\sigma_1$  and  $\sigma_2$  engaging with said piston rings and imparting to them by proper devices, a reciprocating motion, substantially as described. 5th. In a lubricator and as a means for expelling the lubricant from the oil-pocket, the piston-rings  $\rho_1$  and  $\rho_2$ , cams  $\sigma_1$  and  $\sigma_2$  and stop-pin M, in combination with the tension device, substantially as and for the purpose described. 6th. In a lubricator and as a means for regulating the size of the oil-pocket, the piston rings  $\rho_1$  and  $\rho_2$ , cams  $\sigma_1$  and  $\sigma_2$ , the tension device grooved ring J, arbor F, adjustable crank arm  $\gamma$  and connecting rod  $\delta$  connecting with the valve rod b, substantially as described. 7th. In lubricators and to enable the reciprocating or oscillating oil-pocket, mechanism to be freely moved in its transit space and yet exclude any vapor or steam from the engine from entering the oil in the oil chamber through any leakage around said mechanism, the pipe E whereby the steam and hydrostatic pressure may exert a superior force against the oil chamber, causing it to seek an outlet through the discharge passage h<sub>3</sub>, and thus preventing substances from the engine from passing backward or into the oil chamber, substantially as specified. 8th. In lubricators and to provide for the continued lubrication of the reciprocating or oscillating oil-pocket mechanism with new or fresh oil to the exclusion of the old, the pipe E communicating between the boiler and oil chamber, whereby the steam and hydrostatic pressure causes the oil to seek egress into the lesser pressure of the discharge, substantially as specified. 9th. In a lubricator and in combination therewith, the tension device herein described consisting of sleeve G, eared rings  $\rho_2$ ,  $\rho_3$  and  $\rho_4$ , spring  $\rho_5$  and lock-nuts  $\rho_1$  and  $\rho_2$ , substantially as described. 10th. In a lubricator, the auto-mechanical device herein described for imparting a reciprocating motion to the piston-rings  $\rho_1$  and  $\rho_2$  consisting of the arbor F, fluted sleeve G fitted on the square portion thereof, cams  $\sigma_1$  and  $\sigma_2$ , eared rings  $\rho_2$ ,  $\rho_3$  and  $\rho_4$ , spring  $\rho_5$  and lock nuts  $\rho_1$  and  $\rho_2$ , in combination with devices for imparting to the arbor F an oscillating motion from any of the moving members of the engine, substantially as described. 11th. In a lubricator, the inlet h<sub>1</sub> and discharge passage h<sub>2</sub> communicating with each other by a channel filled with the reciprocating pis-

ton rings  $\rho_1$  and  $\rho_2$  or their equivalents, so as to cut off direct communication between the same, substantially as described. 12th. In a lubricator, the parts for auto-mechanically operating the feeding device, the same consisting of the oscillating arbor F, fluted sleeve G, cams  $\sigma_1$  and  $\sigma_2$ , grooved ring J provided with stop-pin M and bridge N, the tension device split-ring H and inlet and discharge channels h<sub>1</sub> and h<sub>2</sub>, all combined and operated substantially as described. 13th. In lubricators, the method of effecting the transition of lubricant material from a greater into a lesser pressure, and yet preventing any direct communication between the greater and lesser pressures resulting from the employment of the following means or their equivalents, namely: the valve D, pipe E, oil chamber A and the reciprocating oil pocket mechanism intervening between the receiving channel h<sub>2</sub> and the discharge passage h<sub>3</sub>, and given motion from a moving member of the engine, substantially as specified.

### No. 18,912. Self-Binding Harvester.

(*Moissonneuse-Lieuse.*)

John O. McLachlan, Patterson, Ont., 19th March, 1884; 5 years.

*Claim.*—The spring K attached to the compressor arm I, and pressing against the needle H, and operating through said needle on the needle shaft G and crank F, thereby giving a momentum to the action of the connecting rod E, and causing the cam wheel A to complete its revolution, as described.

### No. 18,913. Bed Bottom (*Sommier Elastique.*)

Alfonso L. Jaynes, Buffalo, N. Y., U. S., 19th March, 1883; 5 years.

*Claim.*—1st. A spring bed-bottom composed of longitudinal slats A secured to rigid cross-bars C, C<sub>1</sub>, a central slat A secured to flexible strips D, connecting the rigid end sections, and spring B secured at their lower ends to the slats A, A<sub>1</sub> and having their free upper ends connected by chains e, whereby, when the bottom is folded, the flexible strips D will assume a curved position between the parallel rigid end sections, causing the springs attached to the slats A, A<sub>1</sub> to be held away from the end sections sufficiently to prevent the parallel strips D from becoming entangled, as set forth. 2nd. In a spring bed-bottom, the slats A, A<sub>1</sub> provided with the springs B and arranged parallel side by side, each alternate slat carrying one more spring than the next adjacent slat, so that the springs will stand in irregular rows across the bed-bottom, as and for the purpose set forth. 3rd. As an improvement in spiral springs for bed-bottom, the herein-described spring having two or more of its inner coils at the small end of the spring arranged in a horizontal plane, one coil within the other, forming a flat support or base upon which the springs rest, the top coil of the springs being doubled back and formed with a loop b, and its extremity provided with a hook b<sub>1</sub>, as and for the purposes set forth.

### No. 18,914. Friction Brake for Pulleys, &c. (*Frein à frottement pour Poulies, &c.*)

Jacob Tise and Charles H. Tise, Winston, N. C., U. S., 19th March, 1884; 5 years.

*Claim.*—1st. A friction-brake, for revolving wheels, consisting of a swinging arm capable of being swung from one side of the wheel to the other, and permit the wheel to revolve in one direction but prevent its revolving in the other direction. 2nd. The combination, with the wheel having an annular flange and fixed to a shaft capable of revolving in bearings, of a brake-arm seated on said shaft at one side of the wheel, and capable of being swung to rest against the flange of the wheel at either side of the shaft, substantially as described.

### No. 18,915. Bustle. (*Tournure.*)

Charles W. Higby, Jackson, Mich., U. S., 19th March, 1884; 5 years.

*Claim.*—1st. A bustle composed of vertical pockets secured to a waist-band, such pockets being formed from laterally plaited fabric and secured to a lining, and within them vertically secured slightly conical coil springs, substantially as described. 2nd. A bustle in which is combined the following parts: the laterally plaited fabric A, the lining B, pockets C, band D, vertical coil spring E, secured within such pockets by means of eyelets passing through eyes in the ends of such springs, through the lining and stays secured thereto, substantially as specified. 3rd. A bustle wherein the laterally plaited fabric A, lining B, pockets C, band D, wings E, coil spring F, eyelets a and stays b are constructed, arranged and operate, substantially as and for the purposes set forth.

### No. 18,916. Process and Apparatus for Separating Starch. (*Procédé et Appareil pour Séparer l'Amidon.*)

Teile H. Muller and Jacob W. De Castro, New York, N. Y., U. S., 19th March, 1884; 15 years.

*Claim.*—1st. The process of producing pure starch, which consists in causing the liquid containing said starch to flow into a centrifugal machine and to be separated by said machine into starch and gluten, and of then removing said gluten during the deposit of the starch, substantially as described. 2nd. The process, herein described, of producing pure starch and removing it, which consists in causing suitable amount of starch water to flow into a centrifugal machine and to be separated thereby into starch and gluten, in continuously removing the gluten as it is deposited, and in removing the starch by the addition to it of a suitable amount of water in the centrifugal machine, substantially as described. 3rd. A centrifugal machine provided with a cutter or removing apparatus, projecting from the periphery and adapted to be removed inward from the periphery toward the centre, in combination with apparatus whereby such movement may be automatically effected during the operation of the machine, substantially as described. 4th. A centrifugal machine pro-



vided with a cutter or removing apparatus, projecting toward the periphery of the basket and having its cutting edge located above the bottom of the basket, and itself made automatically moveable during the operation of the machine, substantially as described. 5th. The combination, with the basket of a centrifugal machine, of a cutter supported upon a slide or equivalent, and a screw operating the position of the cutting edge may be automatically varied during the operation of the apparatus, substantially as described. 6th. The combination, in a centrifugal machine, of a cutting edge made automatically adjustable with reference to the periphery of the basket, and mechanism whereby the speed of the movement of the cutting edge may be varied, substantially as described. 7th. The combination, in a centrifugal machine, of a cutting edge made automatically adjustable with reference to the periphery of the basket, and a reversing gear between the power and said cutting edge, whereby the cutting edge may be automatically advanced toward, or withdrawn from the periphery of the basket, substantially as described. 8th. The combination of the disc *g* and the friction disc *e, e'*, whereby the motion of the disc *g* may be reversed, substantially as described. 9th. The combination of disc *g* and adjustable discs *e, e'*, whereby the motion of the disc *g* may be exactly determined, substantially as described. 10th. A centrifugal machine provided with a delivery pipe, delivering the material to be separated upon the bottom of the periphery of the basket, and a cutter or removing apparatus extending toward the bottom of the basket, for the purpose of allowing a separation of the deposited material before the cutter or removing contrivance acts upon it, substantially as described. 11th. A centrifugal machine provided with a current tube extending from the interior towards the periphery, for the purpose of receiving and removing deposited material and conveying it to some other location, said tube being automatically moveable during the operation of the basket, substantially as described. 12th. A centrifugal machine provided with two cutting edges, located in the same horizontal plane, and at different points in the circumference of the basket, substantially as described. 13th. A centrifugal machine provided with two or more annular non-communicating compartments arranged one above the other, and a device adapted to remove material from one compartment and deliver the same into the next, substantially as described. 14th. A centrifugal machine provided with two or more horizontal shelves and two cutters, and removing contrivances located at different points of the circumference above each of said shelves, substantially as described. 15th. A centrifugal machine provided with two or more annular compartments arranged one above the other, and a cutting contrivance adapted to remove material from one compartment and provided with an outlet into another compartment, substantially as shown and described. 16th. A centrifugal machine provided with two cutters or removing apparatuses opening toward the circumference, and an apparatus adapted to throw a jet of water upon the compacted material between said removing contrivances, substantially as described. 17th. A centrifugal machine provided with two cutting or removing apparatuses projecting toward the circumference of the apparatus, and located at different points of said circumference, and a guard connecting said apparatuses to prevent the mingling of foreign substances with the deposited material, which has passed the first cutting apparatus, substantially as described. 18th. A centrifugal machine provided with two cutting or removing apparatuses projecting toward the circumference of the apparatus, one above and one below connecting said apparatuses, to prevent the mingling of foreign substances with deposited material, which has passed the first cutting apparatus, substantially as described. 19th. The combination of a centrifugal basket with a tube or opening projecting through its periphery, said tube being made automatically moveable from the periphery inward, substantially as described. 20th. The combination of the basket C, tube D, bell crank lever B1 and adjusting collar E, substantially as described. 21st. A centrifugal machine provided with an opening through the bottom of the periphery toward the centre of the basket, during the operation of the machine, substantially as described. 22nd. A basket, for a centrifugal machine, having a double bottom and two openings, one in the upper and one in the under plate, said openings having edges inclined relatively to each other, substantially as described.

**No. 18,917. Wood Polishing Machine.**  
(Machine pour Polir le Bois.)

James L. Perry, Berlin, Wis., U. S., 19th March, 1884; 5 years.  
Claim.—1st. In a wood-polishing machine, an abraded journalled in the frame, in combination with a yielding table adapted to guide the stuff over the abraded, and mechanism for depressing the stuff, and table to regulate the out of the abraded, as set forth. 2nd. The yielding table adapted to work up and down in guides in the frames, in combination with a feed roller journalled therein, as set forth. 3rd. The yielding table and its feed roller, in combination with a weighted lever L3 fulcrumed on a rod L4, as set forth. 4th. The combination of the yielding table, abraded L, presser frame H and its feed and presser rolls, as set forth. 5th. The combination of frame with the main frame carrying abraders, presser rolls and feed rolls, as set forth. 6th. The main frame having a yielding bed and feed rollers journalled therein, in combination with sand paper rolls E1, E2, as set forth. 7th. A frame carrying sand-paper rollers, and a yielding bed apertured to permit the peripheries of the sand paper rollers to project up through it, in combination with a downwardly-acting presser frame and its rolls, as set forth. 8th. The combination of frames A, A', with adjustable presser frames connected by shafts that adjust both presser frames simultaneously, as set forth. 9th. The sand paper roll having journals that slide in their bearings, mechanism for reciprocating it, and a lever pivoted to the frame A and connecting the roller E1 with the abraded L, that also has sliding journals, whereby the lateral motion of the roller E1 is imparted to the abraded L, as set forth. 10th. The spokes or braces having bifurcated and grooved ends, in combination with strips W1, W2 and V3, and the sand paper and its backing and securing bolts, as set forth.

**No. 18,918. Operations of Boring and Levelling and Levelling Staff with great Ciphers.** (Opérations de Sondage et de Nivellement et Mire Parlante.)

Emile Deniel, Grenville, Que., 20th March, 1884; 5 years.  
Reclame.—1er. Le procédé qui, au moyen d'une mire à graduation mobile permettant d'amener à la hauteur de la ligne de collimation la graduation de la mire correspondante à la cote du repère, donne immédiatement la cote des points sur lesquels reposera la mire ainsi ajustée, tel que spécifié. 2o. Dans une mire à graduation mobile, un ruban sans fin gradué, tel que décrit, pour les fins spécifiées.

**No. 18,919. Non-Conducting Covering for Boilers and Pipes.** (Couverture Mauvais - Conducteur pour Chaudières et Tuyaux.)

Henry C. Goodell, Atchison, Ks., U.S., 20th March, 1884; 5 years.  
Claim.—1st. A non-conducting covering, for boilers and pipes and the like, consisting of a base or adhesive coating applied directly to the surface to be protected, composed of slaked lime, cement or equivalent substance, and asbestos, in combination with one or more outer coatings composed of lamp-black and fibrous material applied to the said base coating. 2nd. A non-conducting covering for pipes, boilers and the like, consisting of lamp-black, slaked lime or cement and vegetable fiber, in substantially the proportions specified.

**No. 18,920. Radiator for Air Warming Furnaces.** (Radiateur pour Calorifères à Air)

Dwight S. Richardson, Brooklyn, N. Y., U. S., 20th March, 1884; 5 years.  
Claim.—1st. The combination, with the body of an air-warming furnace, of a radiator which is composed of two distinct horizontal sections, and a horizontal diaphragm or flue-plate, substantially as and for the purposes set forth. 2nd. The combination, in a radiator for furnaces, of a lower horizontal section, an upper horizontal section placed upon the lower horizontal section, and a horizontal diaphragm which is placed at, or near the point of contact of the two sections, substantially as and for the purposes set forth. 3rd. The combination, in a radiator for furnaces, of a lower horizontal section which is provided with a receptacle, an upper horizontal section which rests on the receptacle, and a horizontal diaphragm which is supported at, or near the junction of the two sections, substantially as and for the purposes set forth.

**No. 18,921. Reducing and Smelting Metals and Furnace Therefor.** (Réduire et Fondre les Métaux et Fourneau pour cet Objet.)

John T. Morgan, Selma, Ala., Henry F. Hayden and John H. Morgan, Washington, D.C., U. S., 20th March, 1884; 5 years.  
Claim.—1st. The method herein described for reducing and smelting ores, which consists in subjecting the mixture of ore flux and wood to the action of a melting and carbonizing flame of gaseous or vaporous fuel, substantially as and for the purposes specified. 2nd. The combination, with a stack furnace for reducing and smelting ores, of a combustion chamber arranged in the base of the stack and delivering into the same below the boshes, said combustion chamber having its interior obstructed by a checker work of refractory material, and its diameters gradually increasing from its receiving to its delivery end, and an air and gas supply pipe delivering into the combustion chamber, substantially as and for the purposes specified. 3rd. The combination, with the air blast pipe having a contracted outlet, of the gas or vapor supply pipe having a protuberance upon its extremity, and centered with the contracted outlet of the air supply pipe, substantially as and for the purposes specified. 4th. The combination of the air pipe having a contracted outlet, and a gas or vapor pipe having a protuberance at its extremity, which is centered with the contracted outlet of the air pipe, and perforated in spiral lines back of the protuberance, substantially as and for the purposes specified. 5th. The combination, with a stack for reducing and smelting ores, of a combustion chamber arranged in the base of the stack and delivering into the same below the boshes, said combustion chamber having its interior obstructed by a checker work of refractory material and having its diameters increasing gradually from its receiving end to its delivery end, a delivery chamber interposed between the combustion chamber and hearth, which delivery chamber gradually decreases in diameter from its receiving end to its point of discharge into the hearth of the stack, and air and gas supply pipes delivering into the combustion chamber, substantially as and for the purposes specified. 6th. The combustion chamber having the form of a frustum of a cone, and having its interior interrupted by a series of cruciform bricks or tiles of refractory material, substantially as and for the purposes specified. 7th. A combined combustion and delivery chamber, which tapers from the centre in both directions and has its interior obstructed by a series of cruciform bricks, whereby the products of combustion are first permitted to expand and then compressed and forcibly delivered, substantially as and for the purposes specified. 8th. The combination of a stack A, combustion chamber C having its interior obstructed by refractory checker work and arranged in the base of the stack so as to deliver into the hearth thereof below the boshes, air and gas supply pipes delivering into the combustion chamber, and a supplemental air blast pipe which delivers into the hearth or the combustion chamber, near the hearth and below the boshes, substantially as and for the purposes specified.

**No. 18,922. Roller Mill.** (Moulin à Rouleaux.)

Sherman B. Rickerson, Grand Rapids, Mich., U. S., 20th March, 1884; 5 years.  
Claim.—1st. In a roller mill, the described roll provided with ribs



and grooves, each rib having a plain outer surface, one straight vertical side and an opposite concave side, substantially as described. 2nd.—The combination of the rolls adapted to be revolved at different speeds, and each provided with a dress composed of grooves and ribs, each of the latter having a plain outer surface, one straight vertical side and an opposite concave side arranged and operated as described, so that the concave edge of the fast roll rib will first strike the heel of the slow roll rib, as and for the purposes set forth.

**No. 18,923. Process for the Manufacture of Horse Shoes, &c.** (*Procédé de Fabrication des Fers à Cheval, &c.*)

Thomas H. Heard, Sheffield, Eng., 20th March, 1884; 5 years.

*Claim.*—1st. Improvements in the process of manufacture and construction of horse shoes and shoes for other animals consisting, firstly, of "rolling" a bar of iron, steel, or other similar and suitable metal, with a rib or projection to form the heel or toe, or with ribs or projections to form both the heel and toe, and with ribs or projections to form the heel, toe, and intermediate projections to act as the wearing parts of the shoe, the said projections or ribs being lengthwise or longitudinally on the bar and consisting, secondly, in flying out, punching out or cutting out from the above described specially "rolled" bar, in a transverse direction, the blanks which will ultimately be formed into the shoe, or punching out or cutting out therefrom the complete horse shoe, substantially as hereinbefore specified and described. 2nd. A horse shoe formed from blanks A, B cut respectively from rolled plates A, B, with projections G, G and flange or flanges H, from which are formed projections K, all substantially as herein described. 3rd. A plate C provided with two or more projections on either edge of the same side, so that the blanks C cut alternately from it will have two or more toe pieces, substantially as herein set forth. 4th. The construction of horse shoes with intermediate transverse ribs or projections between the toe and heel piece, or between the toe and heel pieces, to act as the wearing surfaces of the shoe, as shown at M, Figs. 14 and 15, substantially as herein set forth.

**No. 18,924. Weather Ship.** (*Bourrelet de Porte.*)

James H. Hummel, New York, N.Y., U.S., 20th March, 1884; 5 years.

*Claim.*—The elastic strip folded once upon itself along the centre, and back again from the raw edges part-way, the width of the double portion, in combination with the metal strip formed concavo-convex in cross section, and having its edges folded into the cavity part-way toward the centre thereof, and embracing respectively the raw edges and four-fold edge of the elastic strip, substantially as described and shown.

**No. 18,925. Apparatus for Treating Ores Chiefly for the Extraction of Precious Metals therefrom.** (*Appareil de traitement des Minerais principalement pour en extraire les Métaux précieux.*)

Thomas R. Jordan, London, Eng, 20th March, 1884; 5 years.

*Claim.*—1st. An amalgamating machine wherein the passage of the ore sand, through the amalgamating fluid or agent, is continuously retarded or controlled, for the purpose above set forth. 2nd. In a machine for extracting metals from their ores by amalgamation, the use of a revolving pipe and injector for forcing the sand under a head of the amalgamating fluid or agent, in combination with screw blades or brushes arranged to rotate in the amalgamating fluid or agent, for the purpose of retarding or controlling the rising of the sand to the surface and for subdividing and distributing the particles of the sand, while subjected to the action of the said fluid or agent. 3rd. In an amalgamating machine, for the purpose above described, the application of an air blast over the surface of the mercury, for conveying the tailings away through a concentrating chamber separator. 4th. In an amalgamating machine, for the purposes above described, the use of a revolving spiral blade or brush in a tube filled, or partially filled with an amalgamating fluid or agent, for the purpose of drawing or forcing the sand through the said fluid or agent. 5th. In an amalgamating machine, maintaining a slow circulation of the amalgamating fluid or agent by means of a spiral blade or brush, or by the rotation of the tube, for the purpose of passing ore-sand through the same in the manner described. 6th. In an amalgamating machine, the use of a series of revolving brushes, for repeatedly passing ore sand through a bath of mercury as an automatic continuous process. 7th. The amalgamating machine, consisting of the parts constructed and combined, substantially as shown in figures 1a and 2, and operating as set forth for the purposes specified. 8th. The amalgamating machine consisting of the parts constructed and combined, substantially as shown in Figure 6 and 7, and operating as set forth for the purposes specified. 9th. The amalgamating machine, consisting of the parts constructed and combined, substantially as shown in Figures 8, 9 and 10, and operating as set forth for the purpose specified. 10th. In an amalgamating machine, the use of a conical pipe or tube, as above described, for introducing the ore-sand into the amalgamating fluid or agent. 11th. In an amalgamating machine, the use of an agitator arranged within the tube for introducing the ore-sand into the mercury, to prevent the clogging of the sand in the said tube, substantially as described.

**No. 18,926. Steam, Hydraulic and other Joints.** (*Jointes de Vapeur, Hydrauliques et autres.*)

Edward D. Penning, Battersea Rise, Eng., 20th March, 1884; 5 years.

*Claim.*—In steam, hydraulic and other joints, the ring B, in combination with a similarly shaped cavity formed by flange A, substantially as set forth.

**No. 18,927. Radiator for Air Warming Furnaces.** (*Radiateur pour Calorifères à Air.*)

Dwight S. Richardson, Brooklyn, N. Y., U. S., 20th March, 1884; 5 years.

*Claim.*—1st. The combination, with the combustion chamber of an air-warming furnace, of a radiator which is divided by a horizontal diaphragm or partition into two horizontal flues, the vertical walls of the radiator being composed of sheet-metal, and the top and bottom portions of cast metal, substantially as and for the purposes set forth. 2nd. The combination, with the combustion chamber of an air-warming furnace, of a radiator which consists of a ber of an air-warming furnace, of a sheet iron top and side portion, and a metallic cast iron base plate, a sheet iron top and side portion, and a metallic diaphragm or partition, which divides the radiator into two horizontal flues, substantially as and for the purposes set forth. 3rd. The combination, with the combustion chamber of an air-warming furnace, of a radiator which consists of a cast iron top plate, a sheet iron bottom and side portion, and a metallic diaphragm or partition which divides the radiator into two horizontal flues, substantially as and for the purpose set forth.

**No. 18,928. Process and Apparatus for Extracting Metals from their Ores and Concentrating Heavy Materials.** (*Procédé et Appareil pour Extraire les Métaux de leurs Minerais et Concentrer les Matières lourdes.*)

Thomas R. Jordan and John N. Loagden, London, Eng., 20th March, 1884; 5 years.

*Claim.*—1st. An automatic and continuous process for the extraction of gold and silver from their ores, by reduction and amalgamation with mercury without the use of water, substantially as described. 2nd. The continuous method or process of extracting or separating metals from their ores, consisting in the series of operations, herein specified, carried into effect in and by the aid of the machine or apparatus above set forth and shown in Figure 1, or equivalent apparatus arranged and operating in such a manner as to effect the reduction of the ores in a dry state. 3rd. As a part of the said process, or as a further process of treating ores, or of heavy said process, the employment of the concentrating apparatus, in the manner and for the purpose specified. 4th. In the said continuous process, the application and utilization of an air blast, substantially as and for the purpose specified.

**No. 18,929. Car-Coupling.** (*Accouplage de Chars.*)

Charlie E. Mark, Flint, Mich., U. S., 20th March, 1884; 5 years.

*Claim.*—As a means of supporting the fulcrum in a continuous draw-bar, composed of two end section provided with hooks and an intermediate section connecting therewith, the ends of such outer sections having a vertically radial movement for the purposes of coupling or uncoupling the boxes G let into, and secured to the coincident faces of the supporting timbers, whereby the fulcrum are rigidly prevented from any motion except a horizontal reciprocating one, substantially as described. Also, in combination with a continuous draw-bar consisting of three sections, as described, the followers D<sub>9</sub>, E<sub>9</sub>, enclosing between them the buffer spring E, with the boxes G constructed, substantially as described, and secured to the supporting timbers H, the parts being constructed, arranged and operating substantially as and for the purposes set forth.

**No. 18,930. Treatment of Starch-Yielding Materials and Apparatus therefor.** (*Traitement des matières Productrices l'Anidon et Appareil pour cet objet.*)

James H. S. Wildsmith, London, Eng, 20th March, 1884; 5 years.

*Claim.*—1st. The breaking of the cellular tissues and removal of the fusil or grain oil, and albuminoid matters by treating with a saturated solution of calcio oxide, substantially in the manner described. 2nd. The addition to the wash water, of an alkaline earth, substantially as and for the purposes set forth. 3rd. The further dissolving out the soluble matters by treatment with neutral sulphite of soda, or its equivalent, substantially as specified. 4th. The addition of a sulphuric acid, or its equivalent, to the neutral sulphite of soda previously introduced, substantially as and for the purposes set forth. 5th. The combination, with a converter A, of the worm (or equivalent) B D capable of being revolved, and provided with holes or apertures C, E, constructed and operating, substantially as and for the purpose set forth and shown. 6th. The employment of a boiling vat in which the preliminary mixing and treatment takes place, thus lessening the work required in the high pressure converter, and shortening the time required for the complete process, as set forth.

**No. 18,931. Shoemaker's Sewing Needle.**

(*Aiguille à Coudre de Cordonnier.*)

Alexander W. Austin, Fort Wayne, Ind., U. S., 20th March, 1884; 5 years.

*Claim.*—1st. The combination, with the needle having an open eye and a longitudinal groove, of a spring C having a tenon I and pivoted in said groove, as set forth. 2nd. As an improved article of manufacture, the herein-described shoemaker's sewing needle, comprising the needle D having an open eye and spring C fitting over the eye, and arranged and adapted to automatically open and close the same, as set forth.

**No. 18,932. Car Wheel.** (*Roue de Char.*)

William I. Lindsay, (assignee of James Rigby,) Cleveland, Ohio, U. S., 22nd March, 1884; 5 years.

*Claim.*—A car wheel composed of wheel body proper and tire, said tire being formed with projecting and recessed surfaces corresponding to similar surfaces formed on a projection beyond, and in rear of the rim of the wheel body, all substantially as herein set forth. 2nd. The combination, with the wheel rim A<sub>1</sub>, of bolts E passing through it and having turned down ends E<sub>1</sub> clipping the tire B, as and for the purpose set forth. 3rd. The anchors F set in the extension of the rim A<sub>1</sub>, as and for the purposes described.

**No. 18,933. Pole for Galvanic Batteries.**

(*Pôle pour Batteries Galvaniques.*)

Barton F. Blackhall, John C. Decker and Charles F. Young, Rochester, N. Y., U. S., 22nd March, 1884; 5 years.

*Claim.*—The improved battery pole, consisting of the solid carbon plates *a, a* and *a'* joined at right angles at their longitudinal edges, the broken carbon *C* confined between said plates by the seals *b, b*, means *d* for clamping the carbon plates around the broken carbon, and the cap *A* composed of brass or other conducting metal, and detachably secured to an extension of the plate *a*, and the binding post *e* on said cap, all constructed and combined substantially in the manner described and shown.

**No. 18,934. Electric Clock Setting Mechanism.** (*Mécanisme pour Régler les Horloges Electriques.*)

James F. Kettell and Charles W. Sherburne, Boston, Mass., U. S., 22nd March, 1884; 5 years.

*Claim.*—1st. In a clock-setting system, one or more clocks, each provided with hand-setting mechanism, a shunt circuit at each clock including the electro-magnet of the hand-setting mechanism, a line wire connecting each shunt-circuit, and means whereby each clock on the line wire automatically and synchronously cuts out its hand setting device and allows the wire to be used for other purposes, except during a brief predetermined period or periods of the day, when the short circuit is broken to allow the current to pass through the magnet for the setting of the hands of the clock. 2nd. A series of clocks, provided with setting devices connected by a line wire having a series of shunt circuits, and means for automatically and synchronously making and breaking said shunt circuits, so that the current may pass at the same time through all the shunt circuits for a predetermined length of time, in order to accomplish the setting of the clocks, and also over the main wire during the greater part of the day for telegraphic or telephonic purposes, as described. 3rd. In a clock setting device, the combination of one of the hands of a clock having a lever attachment to its arbor, a revolving cam rotated by the clock, means for controlling the rotation of the cam consisting of a shunt circuit having an automatic switch or cut-out attached to the clock work, and a brating lever arranged for operation between the cam and the lever attachment of the hand. 4th. A clock provided with a setting device arranged within a shunt circuit which is automatically connected to, or cut out of the main wire by a disk or switch attached to the hour hand, substantially as described. 5th. The combination, in a clock provided with means, substantially as described, for setting its hands, of the minute hand carrying a lever setting attachment, and the hour hand carrying a disk or switch arranged within the shunt circuit, whereby the said circuit is automatically connected to, or cut out of the main wire, substantially as described.

**No. 18,935. Skate.** (*Patin*)

Charles M. Thomson and James Thomson, Montreal, Que., 22nd March, 1884; 5 years.

*Claim.*—1st. In a skate, substantially as described, the clamps *a* fastened to the foot-plate, their outer ends being adapted to grip or rods, the other ends of said rods being pivoted to a threaded sleeve, in combination with a threaded bolt which works within said sleeve, said sleeve having bifurcated arms adapted to grip the heel and cam pivoted to rear end of said rod for actuating the parts, substantially in the manner and for the purposes described. 2nd. The combination, in a skate, of a foot plate *B* having recesses *b<sub>1</sub>, b<sub>2</sub>*, of the clamps *H, H* fulcrumed thereto and operated by mechanism, substantially as described, and for the purposes set forth. 3rd. In combination with the foot plate *B*, of the clamps *H, H*, rods *G, G*, sleeve *F* and mechanism for actuating the same, substantially in the manner and for the purposes described.

**No. 18,936. Spring Motor.** (*Moteur à Ressort*)

James A. Wright, Rockingham, N.C., U. S., 22nd March, 1884; 5 years.

*Claim.*—1st. The combination, with the longitudinally extensible spring *B* and the cord *D* attached to it, equal in length to the spring extended, of the loosely-mounted pulleys *E, F, G* serving as receptacles for said cord, the winding-pulley *H* and means for winding the same, and means for communicating rotary motion therefrom, substantially as described. 2nd. The combination, with the longitudinally extensible spring *B*, the cord *D* attached to it, the cord receiving and transmitting pulleys *E, F, G*, the cord winding pulley *H* secured to shaft *I* and having ratchet teeth *J*, the spur-wheel *L* having a pawl *K* to engage ratchet teeth *J*, the pinion *M* and spur *N* of spur-wheel *P*, the pinion *O* and shaft *C* for communicating the motion received by wheel *L* from the spring to other machinery, as described. 3rd. The combination, with the shaft *I* carrying the winding-wheel *H*, of the ratchet-wheel *R* secured on said shaft, the crooked hand-lever *T* and pawl *S* on said lever, adapted to engage wheel *R* and to disengage therefrom by its own weight in different positions of the lever, as described.

**No. 18,937. Piano Damper.** (*Etouffoir de Piano.*)

Otto Wessell, Adam Nickel and Rudolph Gross, New York, N. Y., U. S., 22nd March, 1884; 5 years.

*Claim.*—1st. The combination, with a damper lever and a block receiving said lever through it, of a nut inserted in or applied to the block, and a screw extending through the nut and block and bearing against said lever, substantially as and for the purposes herein described. 2nd. The combination, with a damper lever and a block receiving said lever through it, of a nut inserted into the block, and a set screw engaging with the nut and bearing against said lever, substantially as and for the purpose herein described. 3rd. The combination, with a damper lever and a block receiving said lever through it, in a direction transverse to the grain of the block, of a nut inserted in the

block in a direction also transverse to the grain of the block, and a set screw extending through the nut and bearing on said lever, substantially as and for the purpose herein described.

**No. 18,938. Lamp Burner.** (*Bec de Lampe.*)

Frederick Ream, Danville, Penn., U.S., 22nd March, 1884; 5 years.

*Claim.*—In a wick raising device for lamp-burners, the combination, with the cup *A* having notches *a*, perforations *a'* and projections *d*, and the flat wick-tube *B* having slots *b, c* of the fluted cylinder *C*, and smooth cylinder *C'* formed upon shafts *c, c'* respectively, said shaft having bearings in the notches and perforations in the cup *A* and being confined in place by the cap *D*, substantially as shown and described.

**No. 18,939. Electro-Magnet and Armature.** (*Electro-Aimant et Armure.*)

Ilius A. Timmis and Stanley C. C. Currie, London, Ont., 22nd March, 1884; 5 years.

*Claim.*—1st. An electro-magnet comprising a tubular core of magnetic material constituting one of the poles, a cylindrical shell of similar material constituting the other pole, a plate of magnetic material connecting the pole pieces and an insulating conducting helix surrounding the central core, in combination with an armature consisting of a disc having a central projection adapted to slide within the tubular core, substantially as described. 2nd. The combination, with an electro-magnet having a tubular core, a surrounding helix and inclosing shell of magnetic material and connecting yokes, of an armature consisting of a disc provided at its centre with a projection adapted to enter the tubular core, and at its edge with a depending flange adapted to slip over the edge of the outer shell, substantially as described. 3rd. In an electro-magnet, the combination of a central core, a surrounding helix and an enclosing shell of magnetic material, with an armature consisting of a disc provided with a depending flange, substantially as described. 4th. The combination, with an electro-magnet, of an armature having an adjustable depending flange.

**No. 18,940. Beer Cooler.** (*Refrigeroisoir à Bière*)

Charles A. Bartliff, Bartlett, Tenn., U. S., 22nd March, 1884; 5 years.

*Claim.*—The combination, with the cooler, of the ice-basket formed of pipe *F* having two inlets for stale and fresh beer respectively, and an outlet for drawing off the beer after it is mixed and cooled, substantially as shown and described.

**No. 18,941. Roller Skate.** (*Patin à Roulette.*)

Everett H. Barney, Springfield, Mass., U.S., 22nd March, 1884; 5 years.

*Claim.*—1st. A roller skate frame, substantially as described, having therein inclined cylindrical journal-bearings, one at each end, an axle-journal, substantially as described, for each of said bearings having a journal-post fitting said bearings and having, on its side opposite to said post, a flat sided stud and springs, substantially as described, secured to the frame, which bear upon the opposite sides of said studs under the journal, combined and operating, substantially as set forth. 2nd. In a roller-skate, the frame *b<sub>2</sub>*, having the journal *d* pivoted and adapted to vibrate therein, and having portions 3, 3 thereof extending in the front and rear of said journal to constitute axle-stops, substantially as set forth. 3rd. A roller-skate frame, substantially as described, having therein inclined cylindrical journal-bearings, one at each end, an axle-journal, substantially as described, for each of said bearings having a journal-post fitting the latter, which post is provided with an oil passage from upper end to the interior of the journal, and having on its opposite side to said post a flat sided stud and springs, substantially as described, secured to the frame which extend under the journal and bear against the opposite sides of said stud, combined and operating substantially as set forth. 4th. A roller-skate, substantially as described, having an inclined cylindrical journal-bearing therein, a journal to receive and support that part of the axle between the rollers having a post thereon to fit said bearing, whose axial line intersects the longitudinal centre line of the journal, and a flat sided stud thereon opposite said post and two springs secured on each side of the frame and bearing against the opposites sides of said stud, combined and operating substantially as set forth. 5th. In a skate-fastening, the combination, with a non-rotating draw-bar and the sole clamp pivot, of an adjusting screw, substantially as described, connecting the said pivot and draw-bar, a heel clamp secured to and having a sliding movement on the draw-bar, and a locking cam-lever pivoted to the latter in the rear of the heel-clamp, substantially as set forth. 6th. The combination, with a non-rotating draw-bar and with a locking cam-lever pivoted thereto, of a heel-clamp secured to said draw-bar, by means substantially as described, but having a sliding movement therein, substantially as set forth.

**No. 18,942. Railway Signal Apparatus.**

(*Appareil de Signal de Chemin de Fer.*)

William Hadden, Brooklyn, N.Y., U.S., 22nd March, 1884; 5 years.

*Claim.*—1st. In a railway signal apparatus, the signal actuating magnet in a normally closed circuit, combined with a circuit breaker and relay or circuit changing magnet in the said circuit, and resistance interposed and retained therein by the said relay when the said circuit is broken and subsequently closed, substantially as and for the purpose described. 2nd. The signal operating electro-magnet and switch operating magnet or relay, combined with branch circuits from the said signal operating magnet of different resistance, controlled by the armature of the said relay, substantially as described. 3rd. The combination, with the signal actuating electro-magnets, of a switch operating electro-magnet and resistance interposed in the circuit of the said switch operating magnet, by the movement of its armature when retracted upon the opening of the circuit, whereby

the said armature is retained retracted after the subsequent closure of the said circuit, substantially as described. 4th. The main signal controlling circuit and switch operating electro-magnet therein, combined with resistance in two portions, one located near each end of the said section, one of the said portions being interposed in the said circuit by the armature of the said magnet when retracted, and a branch circuit between one portion of the said resistance and the battery with the said magnet, whereby the said battery is caused to act upon the said magnet unaffected by the said resistance when the said branch circuit is closed, substantially as described. 5th. The main signal controlling electric circuit and two switch operating electro-magnets therein, combined with resistance one portion of which is introduced into the circuit by the armature of each of the said magnets when retracted, the said resistance and magnets being adjusted, as described, whereby, when the entire resistance is in circuit, the said armatures remain retracted, but when either portion of the said resistance is removed, the said armatures are attracted and thus remove the entire resistance, substantially as described. 6th. The combination of the signal actuating magnets, the switch magnets and resistance interposed in circuit thereby, the circuit breakers and branch circuits and circuit closers therein, whereby the said resistance is removed from the circuit of the said switch magnets and is retained thus removed by their consequent operation, substantially as described. 7th. The signal actuating magnet, the relay and the resistance interposed in the circuit of the said magnet by the said relay, combined with an independent circuit and closer including the said signal actuating magnet, and battery without the said resistance, substantially as and for the purpose set forth. 8th. The electro-magnet and pole changer controlled by it, combined with the polarized relay and resistance controlled by it, in accordance with the condition of the said pole changer and its controlling magnet, substantially as described. 9th. The electro-magnet and pole changer controlled thereby, and the polarized relay controlled by the said pole changer, combined with resistance interposed by the said relay when the pole changer is reversed by the demagnetization of its controlling magnet, and an independent branch circuit and circuit closer between the said magnet with its battery and the resistance, whereby the magnet is caused to attract its armature and thus cause the pole changer and polarized relay to be restored to their normal condition and the resistance removed from the circuit, substantially as described.

#### No. 18,943. Printed Paper Wrapper for Soap. (*Enveloppe à Savon en Papier Imprimée.*)

Robert Henry, Brantford, Ont., 22nd March, 1884; 5 years.

*Claim.*—As an improved manufacture, a paper wrapper printed with ink and saturated with melted paraffine wax, for the protection of the print against the action of alkalis.

#### No. 18,944. Fanning Mill Grain and Seed Separator. (*Séparateur des Grains pour Tarares-Cribleurs.*)

Andrew W. Kendrick, Brooklyn, and Charles A. Van Duzee, Gouverneur, N. Y., U. S., 22nd March, 1884; 5 years.

*Claim.*—1st. In a fanning mill, the fan case 3 separated into two compartments by a central partition 5, and fans 6, 6' operating therein, substantially as and for the purpose set forth. 2nd. In a fanning mill, the fan case 3 composed of alternately laid thick and thin stuff, the thick stuff rabbeted to receive the longitudinal edge of the thin stuff, and grooved transversely to receive the side edges of the casing and central partition, as set forth. 3rd. The fan wheels constructed of fan arms 12, halved at their ends and secured to the fan shaft, whereby their extremities will overlap, substantially as set forth. 4th. The fan casing doors 46, partly cut away at top and bottom and sliding in grooved ways, whereby the cut away portions may be lifted out of the grooves laterally, substantially as and for the purpose set forth. 5th. In a fanning mill, a hammer 22 hung upon shaft 21, journalled across frame 1 intermediately of the fans and screens and operated by arm 23, pitman 25 and pinion 8, on the fan-shaft, to produce a blow on the edge of the screen frames, for the purpose described. 6th. The shake rod or pitman 25, having an arm 26 for increasing and diminishing its length, as set forth. 7th. The shake rod or pitman 25 provided with adjustable blocks 24, in combination with an arm 23, rock shaft 21 and hammer 22 to increase and diminish the tapping blow on the screens, as set forth. 8th. The combination, with the hopper sliding board 33, of the lever 32 and push-bar 30 to regulate the feed to the screens, as set forth. 9th. The combined screen and cockle box 35, having a sidewise inclined bottom and an opening in the side, near the lower corner, leading to a spout 36 in the side of the mill when arranged, as shown, to run off cockle, as set forth. 10th. The grading screen 42, provided with an inclined bar 44 and a spout 43 in the side of the mill, for running off the best grain or seed, as set forth. 11th. The stop pins 40, or buttons 50, for holding the screens to resist the blow of the hammer 22, as set forth.

#### No. 18,945. Carriage Spring. (*Ressort de Voiture*)

Christopher C. Bradley, Syracuse, N. Y., U. S., 22nd March, 1884; 5 years.

*Claim.*—1st. The combination, with a carriage body and carriage spring, of a clip rigidly secured to the carriage body and constructed with a projection or stud fitted loosely in a recess in the spring, whereby the spring is held in place while being permitted to rock in the clip in adjusting itself to the movements of the carriage body, substantially as described. 2nd. The combination, with the carriage body, of end springs C, C, side springs B, B, connected with the end springs by couplings D and clips F secured to the carriage body, and having projections g loosely fitted in openings or depressions h in the side springs, whereby the springs are held in place and at the same time permitted to move in the clips, substantially as described. 3rd. A coupling for carriage springs having two holes at right angles to each other in different parallel planes, said holes being respectively provided with linings of leather, rubber, or other suitable material,

as and for the purpose specified. 4th. The combination, with a side and an end spring of a carriage, of a coupling provided with two holes to receive a trunnion upon one of the ends of each of said springs respectively, and provided with linings of leather, rubber, or other suitable material, substantially as set forth. 5th. The combination, with side springs B and end springs C, of couplings D, trunnions B, C, formed on the ends of said springs, and screw nuts b, c, and lock washers L applied to said trunnions, substantially as set forth.

#### No. 18,946. Churn. (*Baratte.*)

Joseph Kearney, Woodstock, N. B., 22nd March, 1884; 5 years.

*Claim.*—The combination of the rockers A, A, and the standards B, B, and the connecting bar C and the lugs D, D, substantially as and for the purposes hereinbefore set forth.

#### No. 18,947. Creamer. (*Btoie à Lait.*)

Lemuel W. Harris, Charlottetown, N. B., 22nd March, 1884; 5 years.

*Claim.*—The cover B, having a cylindrical rim fitting closely the cylindrical rim a of the can, and provided with one or more openings b, protected by gauze or equivalent, and corresponding in size and position to similar openings c in the cylindrical rim a of the can, all substantially as described and for the purpose set forth.

#### No. 18,948. Stanchion for Cattle. (*Montant de Stalle à Bestiaux.*)

Charles D. Brooks (Assignee of Zalmon W. Smith), Addison, N. Y., U. S., 24th March, 1884; 5 years.

*Claim.*—1st. In a cattle stanchion, the crank F having the wrist or pivot p acting as a central pivot to the stanchion, and the shaft c held in a vertical bearing, substantially as described. 2nd. The trip latch I, pivoted in the locking bar G and provided with the wing g and the toe g, substantially as described. 3rd. In a cattle stanchion arranged to swing on top and bottom pivots, the combination of the locking bar G, link H having the flanges e and trip latch I, substantially as shown and described and for the purpose set forth.

#### No. 18,949. Parallel Vice. (*Etau Parallèle.*)

Henry F. Read and Elliott P. Gleason, Brooklyn, N. Y., U. S., 24th March, 1884; 5 years.

*Claim.*—1st. The combination, in a vice, of the screw F having unthreaded terminal parts of unequal diameters, the fixed half-nut E, the movable half-nut G and a depressing spring e therefor, with the sliding locking device g, a projecting spring h and a lever device pivoted to a fixed part of the vice having one end connected to the sliding locking device, and the other in such relation to the terminal unthreaded end of the screw of least diameter as to lift it by the same movement of the locking device, by which it is carried free of the screw. 2nd. The combination, in a vice, of the screw F having unthreaded terminal parts of unequal diameters, and the fixed half-nut E with a sliding locking device g, having the slot r and a spring, and the movable half-nut G for driving the locking device back, and the right angled lever pivoted within the box of the locking side, having one end extending into the slot thereof, and the other end extending beneath the smallest terminal end of the screw, all constructed and adapted for operation, substantially as described, for the purpose specified. 3rd. In combination, the fixed and sliding jaws, the latter formed with the hollow bar D, the screw F, the fixed half-nut E, the movable half-nut G, the fixed box H, the sliding locking device g provided with a slot r, the springs e and n, and the lever device pivoted to the fixed box, all constructed, arranged and adapted for operation, substantially as herein set forth. 4th. The combination, with the fixed and movable jaws of a vice, of a universal swivelling joint consisting of the base formed with a vertical projection having a concave socket and a circumferential screw, the ball, the open top screw cap and a non-turning ring clamp interposed between the screw cap and the ball and bearing upon the latter, substantially as described for the purpose specified. 5th. The combination substantially herein described, in a ball and socket joint, of the non-clamping open top socket with the ball, a clamping ring seated thereon such as its diameter free of said socket, and means, substantially as described, for adjustably connecting said clamping ring with the ball of the socket to exert a vertical clamping force only upon the ball. 6th. The combination, substantially herein described, of the ball, provided with means for the attachment of mechanism, with a non-clamping socket casting having a circumferential screw-thread, free of clamping ring seated upon the ball above its diameter line, free of said socket casting, and antepen top screw-cap having an interior screw and an interior top rim forming a bearing upon said clamping ball and socket joint, the ball having the stem b, the socket-casting B having a circumferential screw-thread B', a non-revolving clamping ring J seated upon the ball above and free of said socket casting, and an open top screw cap I having an interior screw thread, an interior top rim r and circumferential radial holes w, all constructed and arranged to operate as described. 8th. In combination, in a ball and socket joint, the ball c, the solid casting B having the hemispherical cavity and the external screw-thread, the top clamping ring J seated upon the ball, the screw clamping cap I and means, substantially such as described, whereby the said clamping ring is locked with the socket casting to render it non-revolving.

#### No. 18,950. Machine for Cutting Pegs from Boots and Shoes. (*Machine pour Couper les Chevilles des Chaussures.*)

Quincy Barber (Assignee of Nathan S. Wakefield), Camden, N. Y., U. S., 24th March, 1884; 5 years.

*Claim.*—1st. In a peg-cutting machine, the hollow standard A and shaft G having the double or gimbal joint H, in combination with the frame C, gear-wheels D, D' and cutting head E, substantially as and for the purpose shown and described. 2nd. The frame C hinged to the hollow standard A and having the gear-wheels D, D', cutting-

head E, screw d and cap F, in combination with the shaft G having the double or gimbal point H, screw end I and means for operating said shaft, substantially as and for the purpose shown and described. 3rd. In a peg-cutting machine, the frame C hinged to the hollow standard A having the gear wheels D, D', cutting head E, screw d, cap F and adjusting rod K, in combination with the shaft G having the double or gimbal joint H and screw end I, substantially as shown and described.

**No. 18,951. Churn. (Baratte.)**

James F. Hart, Vichy Springs, Mo. (assignee of John R. Thompson, Morganfield, Ky.), U.S., 24th March, 1884; 5 years.

*Claim.*—1st. The combination, in a churn, of the dasher-rod J having a collar M, and provided at its lower end with a recess and thumb-screw P, with a rectangular perforated dasher constructed of one piece and having the tapering portion, substantially as and for the purpose hereinbefore set forth. 2nd. In a churn, the combination, with the base and standards of parallel cross-bars supporting a vertical shaft, a wheel mounted on said shaft between the standards and cross-bars, two inwardly projecting inclined arms I, I, provided with upper and lower perforated connecting plates, a dasher shaft provided with a collar and having bearings in the perforations of said plates, the collar of the said shaft being located between said plates, as described, an operating belt connecting said collar and wheel and located between the arms I, I, and a dasher removably secured to its shaft, substantially as and for the purpose hereinbefore set forth.

**No. 18,952. Horse Shoe. (Fer à Cheval.)**

Wright Chatterton, Wellington, Ont., 24th March, 1884; 5 years.

*Claim.*—In a horse shoe are the slots A, A, provided with springs B, B, with or without corks C, C, substantially as and for the purpose hereinbefore set forth.

**No. 18,953. Button or Stud Fastener. (Queue de Bouton.)**

Duke F. Baxter and Francis A. Baxter, Rochester, N. Y., U. S., 24th March, 1884; 5 years.

*Claim.*—1st. A detachable stud provided with a head having a threaded opening and an attachment consisting of a threaded stem terminating at one end in a head, and at the other in a tapering point, substantially as set forth. 2nd. The combination, with a detachable stud or button, of a head having a threaded opening and a screw pin adapted to said opening, provided with a tapering end having one or more quick threads, and with a head at the opposite end. 3rd. The combination of the button or stud and the attachment having a screw stem and lateral arms at the outer ends, for the purpose set forth.

**No. 18,954. Lock. (Serrure.)**

David Morris and Nehemiah Wright, Log Cabin, Ohio, U. S., 24th March, 1884; 5 years.

*Claim.*—1st. The combination, with the bolt a and case b, constructed to fit each other for guiding and supporting the bolt by the wiper c, of the wiper stand h, embracing the section c of the bolt, having less thickness than the rest of the bolt, and the wiper f supported in said stand and working in the notch e, of the said section c of the bolt, substantially as described. 2nd. The combination, with the bolt a having notched section c, and under cut ledge l, of the wiper f and a spring k, said spring being arranged to retain the wiper under, or in contact with the said ledge, substantially as described. 3rd. The combination of notched section c, of the bolt a, wiper f and a spring k, at each end of the notch to retain the wiper in its positions, substantially as described. 4th. The combination, with a bolt having a notched section c and an undercut ledge l, of the wiper f, and of the U-spring k, said spring being placed within the notch in such a manner that its shanks rest against the top and bottom of the same, substantially as herein shown and described, and for the purpose of holding the wiper in place.

**No. 18,955. Railroad Time Signal. (Signal Chronométrique de Chemin de Fer.)**

David T. Bound and Charles A. Boone, Shickshinny, Penn., U.S., 25th March, 1884; 5 years.

*Claim.*—The combination of the operating-lever C, connecting cord, chain, or wire a, drum c, around which the cord is wrapped, and to which the signal-arm is secured, and a clock mechanism for regulating the time within which the signal-arm shall be raised, substantially as shown.

**No. 18,856. Foot-Rest for Row Boats. (Appui-Pieds pour Bateaux à Rames.)**

James E. McIntyre, Peterborough, Ont., 25th March, 1884; 5 years.

*Claim.*—1st. The horizontal bar D, screwed into the hangers B, B. 2nd. The oscillating eye plates C, C, screwed to the shoes A, A, as hereinbefore set forth and described. 3rd. The combination of the bar D, hangers B, B, plates C, C, in connection with the shoes A, A, as hereinbefore described and for the purposes herein set forth.

**No. 18,957. Horse Power for Thrashing and other Machines. (Manège pour Machines à Battre et autres.)**

Patrick J. Witt, Logan, Ont., 25th March, 1884; 5 years.

*Claim.*—1st. The combined use of levers or arms with the chairs, of such length as shall pass entirely across the master wheel from one side to the other, as shown by chairs b, b, with a leverage power outwardly as and for the purpose hereinbefore set forth. 2nd. The combination of the master wheel of 9 to 10 feet as may be required, substantially as and for the purpose hereinbefore set forth. 3rd. The combination of the chairs b, b and c, c, as above referred to, bolted on the master wheel, for the purpose of receiving the levers or arms, substantially as and for the purpose hereinbefore set forth.

**No. 18,958. Railway Alarm.**

(*Sonnerie de Locomotive.*)

James J. Walker, Moncton, N.B., 25th March, 1884; 5 years.

*Claim.*—1st. The placing of the cord in front of the engine, and on the tender and on the plough by means of rods with sharpened faces, and loops or cranks and the projections on the tender, and to connect with the gong in engine cab, as hereinbefore set forth. 2nd. The combination of cord, rod and projection and cranks on the tender, plow and engine, and the cord and posts arranged with box-rings, hooks and cleets so as to constitute a railway alarm certain to be effectual.

**No. 18,959. Stump Puller. (Arrache-Souche.)**

Henry P. Reading, Eureka Springs, Ark., U. S., 25th March, 1884; 5 years.

*Claim.*—1st. In a stump-puller, the combination of a suitable frame mounted upon runners, a transverse shaft having a cog wheel, a chain attached to the said shaft, a bracket projecting upwardly from the said frame, a vertical shaft journaled to the said bracket and having a worm engaging the said cog-wheel, and provided with an operating sweep or lever, as set forth. 2nd. In a stump-puller, the combination of a suitable frame, a transverse shaft having a cog-wheel, a chain attached to said shaft, a bracket projecting upwardly from the frame and having diagonal grooves, and a vertical shaft having a worm engaging the cog wheel, and having its threads fitted in the said diagonal grooves, whereby the device is braced during operation as set forth.

**No. 18,960. Road Cart. (Cabrouet.)**

John C. Bach, Hillsdale, Mich., U.S., 25th March, 1884; 5 years.

*Claim.*—1st. In a two-wheeled vehicle, the body pivoted or jointed to oscillate at its rear end upon the rear cross-bar of the shafts, in combination with the centrally-arranged single spring with one end secured to the underside of the body, and its forward end shackled or jointed to the underside of the forward cross-bar of the shafts, whereby the body is protected from the swing of the horse and supported upon, and the connection of the same at its forward end to the shafts is effected by a single spring, substantially as and for the purposes set forth. 2nd. In a two-wheeled vehicle, the body or seat, in combination with, and pivoted at its rear end to oscillate upon the rear cross-bar of the shafts, and connected at its forward end to the front cross-bar of the shafts by a single spring, and with the side springs secured to the axle and to the shafts forward of the axle, substantially as and for the purposes set forth. 3rd. In a two-wheeled vehicle, the combination, with a cross-bar connecting the rear ends of the shafts and the body, of a T-shaped bolt passed through the cross-bar and held on the underside of the body by clips, substantially as and for the purpose set forth. 4th. In a two-wheeled vehicle, the combination, with the cross-bar uniting the rear ends of the shafts and the body, of a T-shaped bolt passed through the said cross-bar, a recessed plate held on the upper surface of the cross-bar, and of clips held on the underside of the body and holding the head cross-bar, of the bolt on the underside of the body, substantially as and for the purpose set forth. 5th. In a two-wheeled vehicle, the combination, with a bar connecting the shaft and the body, of a T-shaped bolt Q passed through the said cross-bar, plates N secured on the upper surface of the cross-bar and provided with central recesses O, and of clips R secured on the underside of the wagon body and provided with eyes S, for receiving the cross-piece of the T-shaped bolt Q, substantially as and for the purpose set forth.

**No. 18,961. Baking Tin. (Casserole en Fer Blanc.)**

Charles Schmidt, Toronto, Ont., 25th March, 1884; 5 years.

*Claim.*—As a baking vessel, an oval tin with slanting sides and a central hole in the bottom, substantially as shown and for the purpose specified.

**No. 18,962. Fodder-Cutter. (Coupe-Paille.)**

Lindley M. Batty, Canton, Ohio, U.S., 25th March, 1884; 5 years.

*Claim.*—1st. In a feed-cutter, the combination of the blade A A' with the arm B to which it is secured, which arm has a socket C in one side, and a lug F upon the other, whereby two of the arms can be locked together spirally around the shaft, substantially as shown. 2nd. In a feed-cutter, the combination of a series of arms B locked together, and arranged spirally around the shaft D, each one of the arms having the off-set E and a blade A, substantially as described. 3rd. The pivoted and weighted frame T U, carrying roller S and gear Z, in combination with roller M and gears X, X' and Y, as set forth.

**No. 18,963. Manufacture of Starch. (Fabrication de l'Amidon.)**

John Polson and John M. Harley, Paisley, Scotland, 25th March, 1884; 5 years.

*Claim.*—The improvement, in treating starch, consisting in drying it in a stove, whose atmosphere is charged with moisture or steam.

**No. 18,964. Check Valve. (Soupape de Détente.)**

James H. Blessing, Albany, N. Y., U. S., 25th March, 1884; 5 years.

*Claim.*—1st. In a straightway check-valve, the combination, with a valve casing A, having an inclined diaphragm B, as herein described, and a removable valve-seat C fixed on said diaphragm, of the yoke D and binding screw E, arranged as described, and adapted to secure the valve-seat C in place, as herein specified. 2nd. The combination, with a removable valve-seat C, of the yoke D and binding screw E, as and for the purpose specified.

**No. 18,965. Bottle Stopper.***(Bouchon de Bouteille.)*

George D. Corey, Lowell, Mass., U. S., 25th March, 1884; 5 years.

*Claim.*—1st. The combination of the disc *c* provided with the elongated slot *c* and cam-shaped walls *c*, the plate *b* provided with slots *b*, and the ball wire *B* pivoted to the bottle neck, substantially as described. 2nd. The combination of the disc *c* having cam-shaped walls *c*, the plate *b* having slots *b* through which the ball wire *B* passes, which slots bear respectively upon the outside of the ball wire when the bottle is closed, with the ball wire pivoted to the bottle neck upon its ends turning inwardly, substantially as described. 3rd. The combination of the rotating disc *c* having slot *c*, with cam-shaped walls, the pivot *c* projecting axially from said disc, the plate *b* sliding on the ball wire and formed with a downward projection *b*, being constructed and adjusted with relation to the elastic plate *d* and bottle mouth so as to force the elastic plate against the top of the bottle mouth and its inner annular wall, substantially as shown and described. 4th. The combination of the cam disc *c* provided with the pivot *c* and spur *c*, with the plate *b* provided with corresponding hole *b* and slot *b*, substantially as described. 5th. The combination of the cam disc *c* provided with the pivot *c* and stud *c*, and the plate *b* provided with the corresponding hole *b* and slot *b*, and the tubular projection *b* fitted to receive the lower end of the pivot *c* and spur *c*, and allow the same to rotate therein, substantially as described. 6th. The combination of the ball *B* and the cam disc *c* provided with a thumb-piece *c* and pivot *c*, and spur *c*, the plate *b* provided with the corresponding hole *b* and slot *b*, the latter being so placed as to prevent the pivot from escaping from said hole *b*, when the plate *b* is slipped upon the ball wire, substantially as described. 7th. The combination of the rotating cam disc *c*, the plate *b* sliding upon the ball wire, and the elastic disc *c* attached independently to, and sliding upon the ball wire, substantially as described. 8th. The combination of the plate *b* provided with the tubular projection *b*, having a thread out upon its exterior surface, and the annular flange *n* with the cork stopper screwed upon said tubular projection and taking a bearing upon the lower surface of the plate *b*, and the inner surface of the flange *n*, substantially as described.

**No. 18,966. Table for Calculating Monthly or Weekly Wages.***(Table de Calcul de Salaire Mensuel ou Hebdomadaire.)*

Henry N. Kierstead, Alma, N. B., 25th March, 1884; 5 years.

*Claim.*—The combination of the table and rollers, Fig. 1, and the index, Fig. 2, with the case *A* enclosing the same, as shown in Fig. 3, substantially as and for the purpose hereinbefore set forth.

**No. 18,967. Door Latch.***(Loquet de Porte.)*

Edward N. Porter, Burlington, Vt., U. S., 25th March, 1884; 5 years.

*Claim.*—1st. The combination, with the latch lever having the transverse pivot pin *c*, of the outside escutcheon divided across its face and composed of the flat plate *i* having the recess *j*, to permit the passage of the latch lever down into and through it, and the overlying plate *l* provided with the parti-tubular slotted portion *m* to receive the pivot pin of the latch lever, and, with the plate *i*, form a metallic bearing for said pivot pin, the ears *n*, *r*, on plate *l*, overlapping the plate *i*, and provided with screw holes to align with screw holes in said plate *i*, substantially as and for the purpose hereinbefore set forth. 2nd. The combination, with the inside escutcheon having the legs *s*, of the overlying foot *v* provided with the toe *x* and handle *v*, substantially as shown and described. 3rd. The combination, with lever, of the escutcheon *r*, made with protuberances *r*<sub>1</sub>, to hold the hook *u*, on said escutcheon, up out of engagement with the latch lever, substantially as shown and described.

**No. 18,968. Burglar-Proof Safe.***(Coffre-Fort.)*

Charles A. E. Ruebel and John Hubbard, Lima, Ohio, U. S., 25th March, 1884; 5 years.

*Claim.*—1st. In a burglar-alarm, which is adapted to operate in a closed circuit so as to sound an alarm when the circuit is broken, the combination of the electro-magnets *L*, *L*, armature *C*, guide rod *F*, catch *E* attached to the end of the armature by the post *D*, with retracting spring *f*, the spring motor with vibrating bell-sounding lever *H* bent so as to engage with the catch *E*, the parts being arranged and organized, substantially as described and for the purpose set forth. 2nd. A safe provided with a series of overlapping electric conductors located between the walls and insulated therefrom, substantially as described. 3rd. A safe having an intermediate space between the walls and electric conducting slats supported upon and between pliable non-conducting material, substantially as shown and for the purpose set forth. 4th. In combination with the safe having inner and outer walls, the slats *B* having the ends cut away, as shown, and provided with a central raised portion *c*, substantially as described and for the purposes set forth. 5th. In a safe, a series of electric conductors supported between the walls and insulated therefrom, in combination with an electric alarm mechanism which will sound an alarm when the circuit is broken, substantially as described and for the purpose set forth.

**No. 18,969. Engraving Machine.***(Machine pour Graver.)*

George M. Guarrant, New York, N. Y., (co-inventor with John C. Guarrant, Danville, Va.), U. S., 20th March, 1884; 5 years.

*Claim.*—1st. The combination, with a continuously revolving shaft, of a holder for the article to be engraved and a holder for the pattern, a tracer, electric circuit connections through the tracer, an engraving tool, a holder for the same and an electro-magnet to control the operations of the engraving tool, substantially as set forth. 2nd. The combination, in an engraving machine, of a tool holding lever, an electro-magnet to act upon the same, and a percussive device to operate upon the tool-holder, substantially as set forth. 3rd. The combination, with the tool holding lever, of an electro-magnet, a carriage for such magnet and tool-holder, a screw for moving said carriage and a continuously revolving shaft for actuating the holder and article to be engraved, substantially as set forth. 4th. The combination, with the tool-holder, of the carriage for the same, the electro-magnet, a screw for moving the parts, a pattern and a screw bearing on such pattern to rock the tool holding carriage as the parts are moved by the screw, and a revolving shaft and holder for the article to be engraved, substantially as set forth. 5th. The combination, with the continuously revolving shaft and clamps thereon for holding the pattern and the article to be engraved, of a tool-holder, a carriage and screw for moving the same, a tracer, and a connection from the tool holding carriage to the tracer for moving the same, substantially as set forth. 6th. The combination, with the revolving shaft and the holders for the pattern and article to be engraved, of a corrugated flange and pin and a spring *l*, by which end motion may be given to the revolving shaft and the parts carried by the same, substantially as set forth. 7th. The combination, with the revolving shaft and the holder for the article to be engraved, of the tool-holder, the carriage for the same, the screw for moving the carriage, the ratchet wheel pawls, lever and adjustable arm on the revolving shaft for giving motion to the lever, substantially as set forth. 8th. The combination, with the continuously revolving shaft and holder thereon for the article to be engraved, of an engraving tool and its holder, an electro-magnet for actuating the tool, a tracer and electric connections and mechanism, substantially as set forth, for moving the tracer over the pattern, as specified. 9th. The combination, with the tracer, of a hinged stock carrying the same, and a lifter for raising the tracer from the pattern on the return movement, substantially as set forth. 10th. The combination, with the continuously revolving shaft and holder for the article to be engraved, of the tool holding lever and carriage, a screw to move the latter, a bed for holding the pattern, a connection from the same to the tool holding carriage, a tracer and mechanism for moving the same across the pattern, substantially as set forth. 11th. The combination, with the revolving shaft and holder, of a tool, a lever and carriage for holding the same, a tracer, a loose pin on the revolving shaft, a coupling for the same, a rack and lever connecting the pinion to the tracer, substantially as set forth.

**No. 18,970. Roller Mill.***(Moulin à Blé.)*

Sherman B. Rickerson, Grand Rapids, Mich., U. S., 27th March, 1884; 15 years.

*Claim.*—1st. In a mill, the combination, with the rolls, of suitable means for drawing and carrying away the heated and moistened air from the rolls, at a point directly adjacent to, and at the back of, the rolls and substantially in a line with the plane of their axis, substantially as described. 2nd. In a roller mill, a slotted cylinder, in combination with the rolls and a suitable exhaust device, whereby the heated and moistened air from the cracked grain is carried directly from the rolls and into and out of said cylinder, substantially as described.

**No. 18,971. Harvester Binder.***(Moissonneuse-Lieuse.)*

A. Harris, Son &amp; Co. (Assignees of John Harris), Brantford, Ont., 27th March, 1884; 5 years.

*Claim.*—1st. In a harvester binder in which the packers are carried by, and operated from below the binding-table, an inclined table extending upwardly from the binding-table to the elevating apron and hinged near the apron to permit it to be folded upwardly, so as to allow the free upward folding of the binding-table, which is hinged at a point below the lower side of the inclined table. 2nd. In a harvester binder in which the packers are carried below, and the knotting mechanism above a binding-table having its inner side hinged to the frame of the machine, the combination of an inclined table extending upwardly from the binding-table to the elevating apron, and hinged near the apron to permit it to be folded upwardly, so as to allow the free upward folding of the binding-table, substantially as and for the purpose specified.

**No. 18,972. Machine for Erecting Wire Fences.***(Machine pour Faire les Clôtures en Fil De fer.)*

John C. Dobie, Moss, Ont., 27th March, 1884; 5 years.

*Claim.*—1st. In the above described wire fencing machine, the combination of frame *A*, anchor *C*, rope or chain *D*, pulleys *E*, *G*, and windlass *H*, substantially as shown and specified. 2nd. The combination of standards *I* and arms *K*, for carrying the wire-reels *L*, distributing standards *M*, substantially as shown and specified. 3rd. The windlass *N*, crank *O*, rope *P*, and pieces *Q* for tightening the wire. 4th. The combined and operating substantially as shown and specified. 5th. The combination of windlass *N*, rope or chain *S*, pulley *T*, pulley *V*, clutch *W*, shaped as shown, and operated by ropes or chains *S*, and movable wedge *Y*, all arranged and operating substantially as shown and specified. 6th. In a wire-fencing machine, the folding and tilting apparatus consisting of the combination of screws *B*, *B*<sub>1</sub>, jointed brace *C*, arc *D* and lever *E*, substantially as shown and specified.



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

174. W. SELLERS, 2nd and 3rd 5 years of No. 9929, from the 1st day of May, 1884. Improvements in self-adjusting injectors for feeding steam boilers, 3rd March, 1884.
175. F. GODIN, 2nd 5 years of No. 9761, from the 15th day of March, 1884. Améliorations à une machine à laver, 3rd March, 1881.
176. R. J. QUIGLEY, 2nd and 3rd 5 years of No. 17,543, from the 23rd day of August, 1884. Joint for watch cases, 3rd March, 1884.
177. J. L. SPRAGUE, 2nd and 3rd 5 years of No. 11,320, from the 5th day of June, 1884. Improvements on churns, 8th March, 1884.
178. O. R. COOKE, 2nd 5 years of No. 9833, from the 11th day of April, 1884. Improvements in sash-holders, 8th March, 1884.
179. A. KNECHT, 2nd 5 years of No. 9814, from the 4th day of April, 1884. Improvements on reciprocating apparatus or motor, 11th March, 1884.
180. J. WEEKS, 2nd 5 years of No. 9755, from the 15th day of March, 1884. Improvements on scale beams, 13th March, 1884.
181. THE NOXON Brothers Manufacturing Company (Assignee), 2nd 5 years of No. 9793, from the 29th day of March, 1884. Improvements on seed drill teeth, 13th March, 1884.
182. W. H. MARCON, 2nd 5 years of No. 9749, from the 15th day of March, 1884. Improvements on seed cabinets for the better exhibition of seeds, 14th March, 1884.
183. N. H. DOLSEN, 2nd 5 years of No. 9780, from the 26th day of March, 1884. Improvements on kitchen cabinets, 14th March, 1884.
184. W. H. STOREY, 2nd 5 years of No. 11,194, from the 26th day of March, 1884. Improvements in glove fasteners, 19th March, 1884.
185. C. JOHNSON, 2nd 5 years of No. 9769, from the 20th day of March, 1884. Hot water attachment to self-feeding base burning stoves, 20th March, 1884.
186. F. DODGE, 3rd 5 years of No. 3226, from the 20th day of March, 1884. Improvements in the manufacture and preparation of crude peat for fuel, 20th March, 1884.
187. E. R. STILWELL, 2nd 5 years of No. 9815, from the 14th day of April, 1884. Improvements in turbine water wheels, 24th March, 1884.
188. E. A. JUDD & C. D. JUDD (administrators), 3rd 5 years of No. 3380, from the 30th day of April, 1884. Improvements on a machine for excavating earth, 24th March, 1884.
189. A. R. GILES (assignee), 3rd 5 years of No. 3286, from the 10th day of April, 1884. Improvements in machines for washing clothes, 26th March, 1884.
190. J. J. DEWEY, R. S. Chalmers and T. Carney, 2nd and 3rd 5 years of No. 18,189. Improvements on self-binding harvesters, 29th March, 1884.





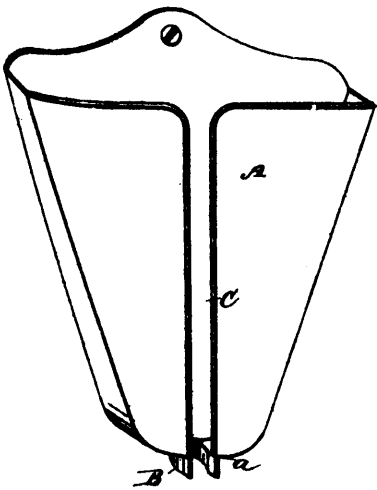
# THE CANADIAN PATENT OFFICE RECORD.

## ILLUSTRATIONS.

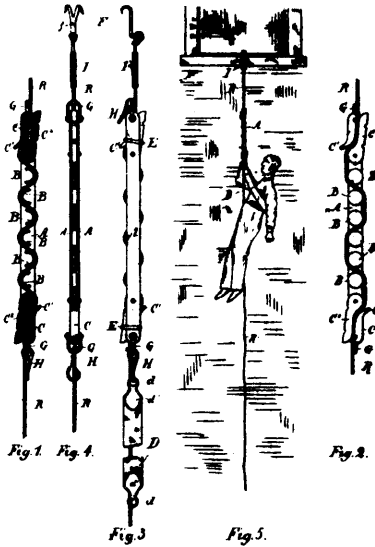
Vol. XII.

APRIL, 1884.

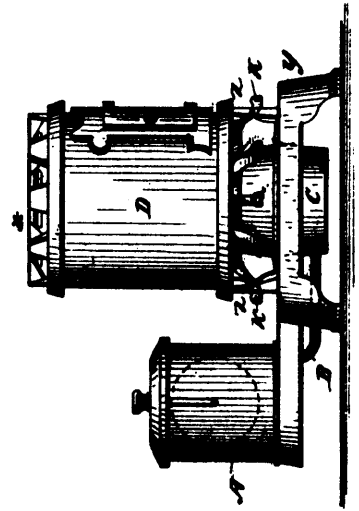
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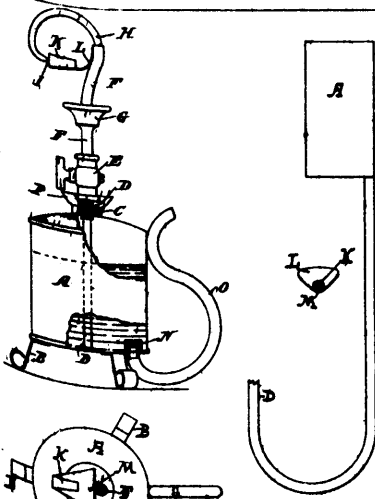
18747 Shaffer's Broom Support.



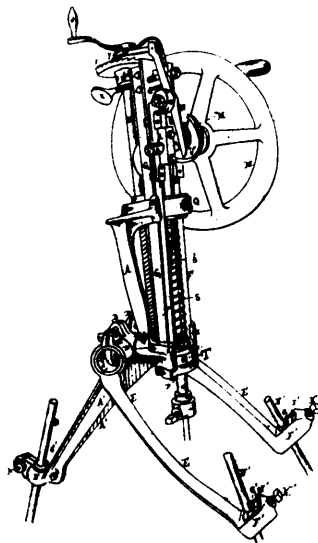
18748 Usborne's Fire-Escape.



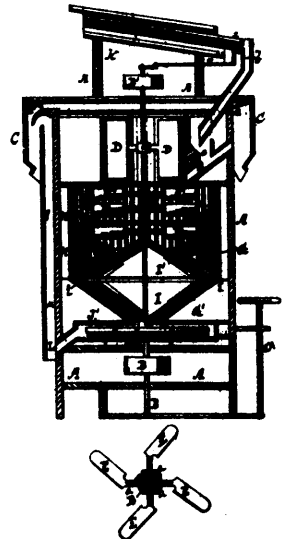
18749 Fleming's Oil Stove.



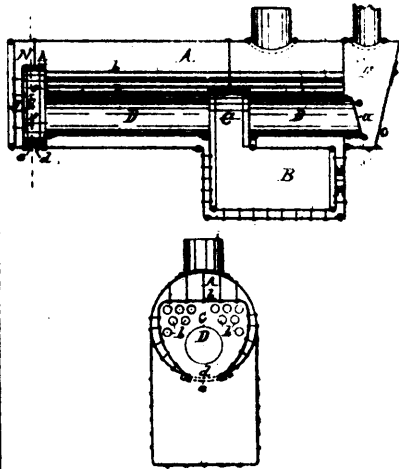
18750 Walsh's Hydro-Carbon Lamp.



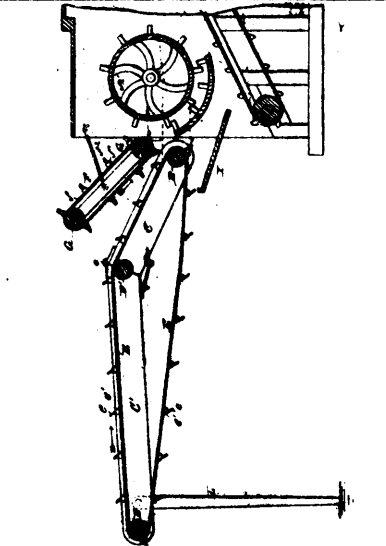
18751 Armstrong's Rock Drill.



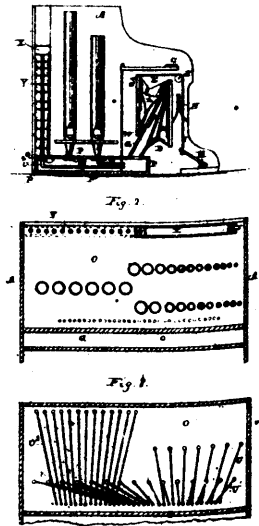
18752 Phelps' Grain Cleaner.



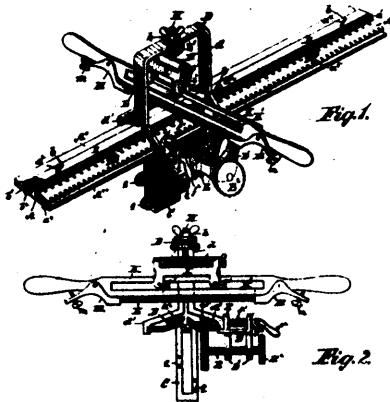
18753 Fitzgibbons' Steam Boiler.



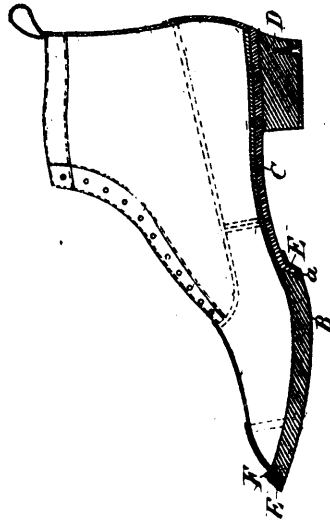
18754 Van Ness' Grain Feeder and Band Cutter for Thrashing Machines.



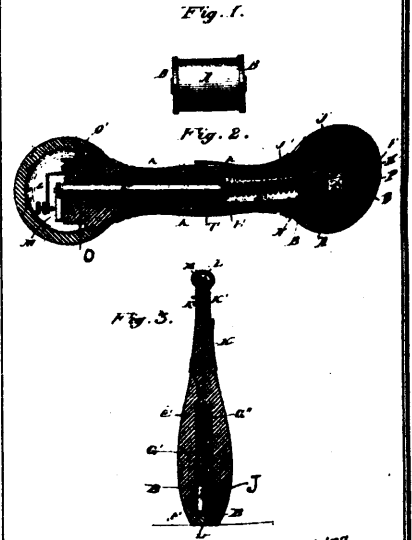
18755 Young's Pipe Organ.



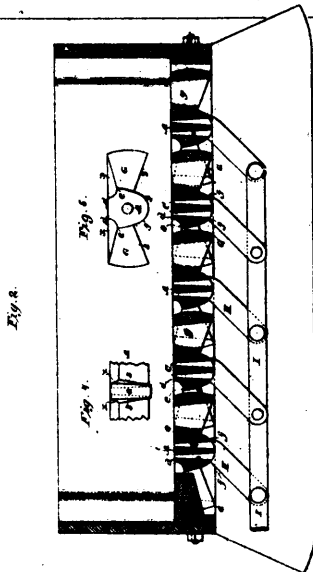
18756 Chambers' Hand Saw Filing Machine.



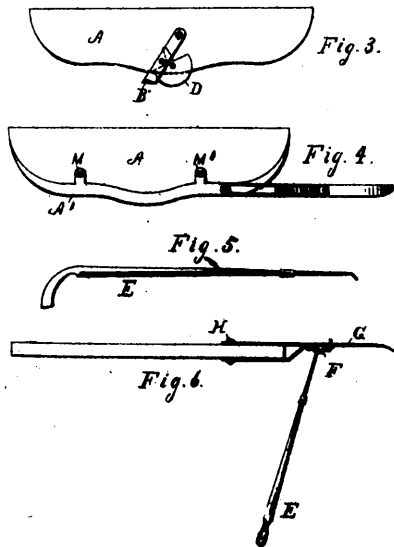
18757 McCullough's Boot.



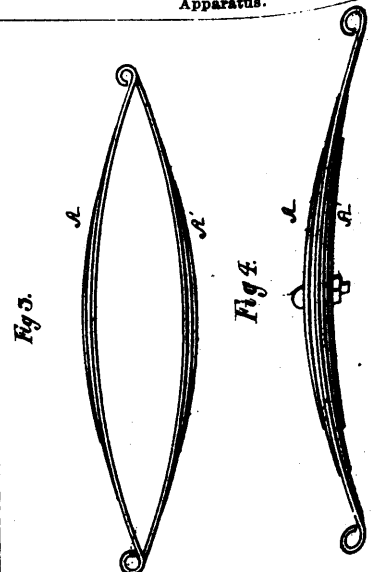
18758 McGinnis' Electrical Exercising Apparatus.



18760 Bannister's Grate.



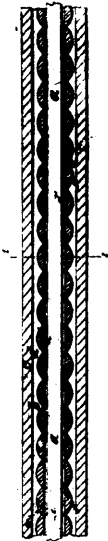
18761 Test's Machine for Cutting Sod.



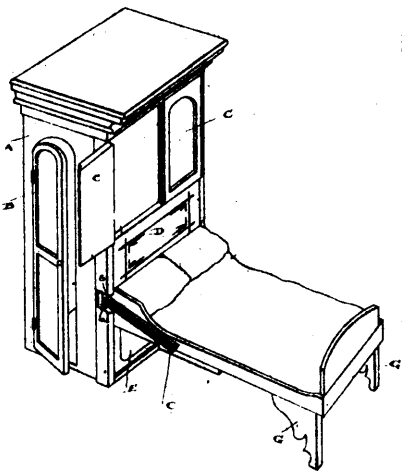
18762 Tucker's Vehicle Spring.



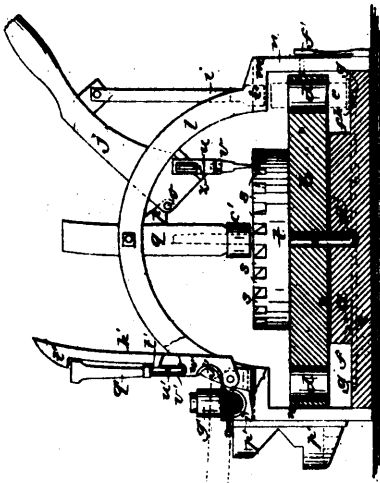
18763 Davis' Fire-Escape.



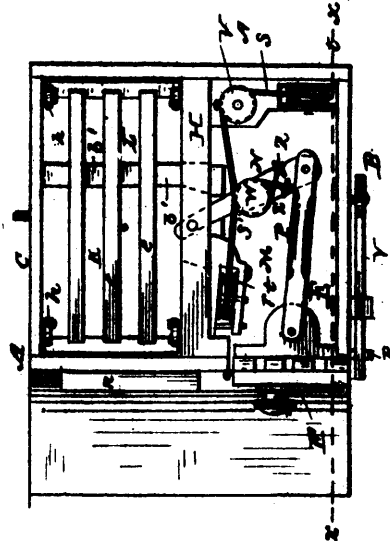
18764 Hermann's Electric Cable or Conductor.



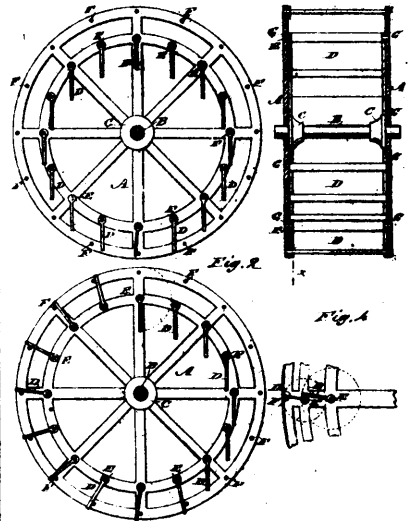
18765 Huston's Combined Wardrobe and Bedstead.



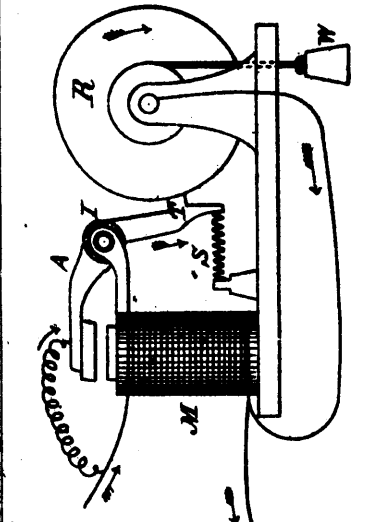
18766 Winter's Cartridge Reloading Machine.



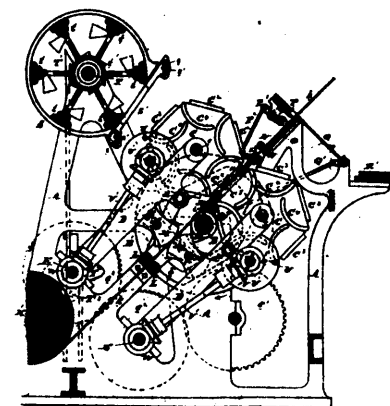
18767 Rawson's Hen House.



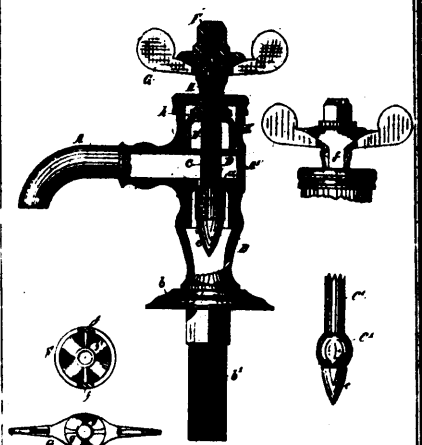
18768 Peterson's Feathering Paddle Wheel.



18769 Thomson's Electro-Magnetic Retarding Device in Electric Lamps, &c.



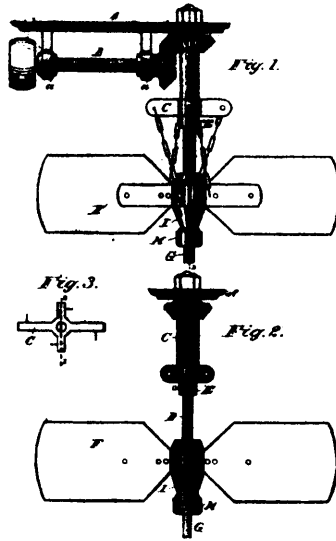
18770 Feister's Color Printing Press.



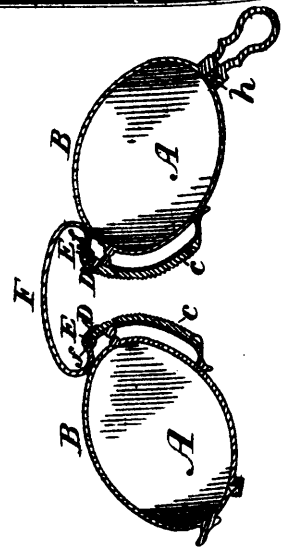
18771 Frier, Doherty & Everett's Self-Closing Faucets.



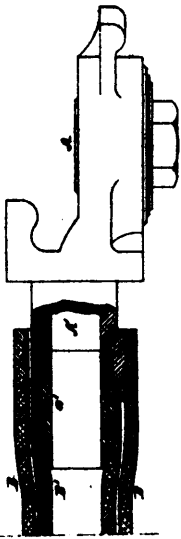
18774 Waterman's Fountain Pen.



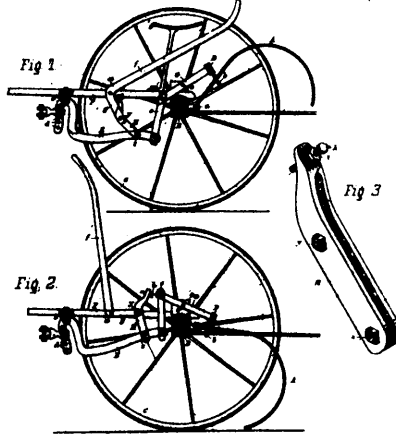
18775 Beaudreau's Governor for Steam Engines, Water Wheels and Wind-Mills.



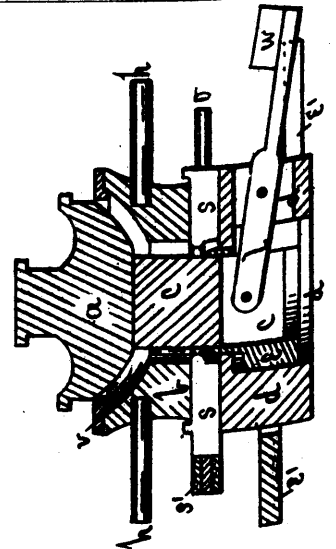
18776 Tice's Eye Glass.



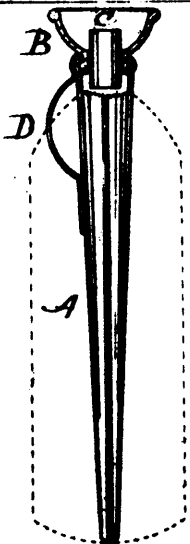
18777 Mogowan's Flexible Tube for Air Brakes, &c.



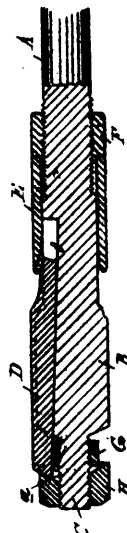
18778 Hébert's Horse Rake.



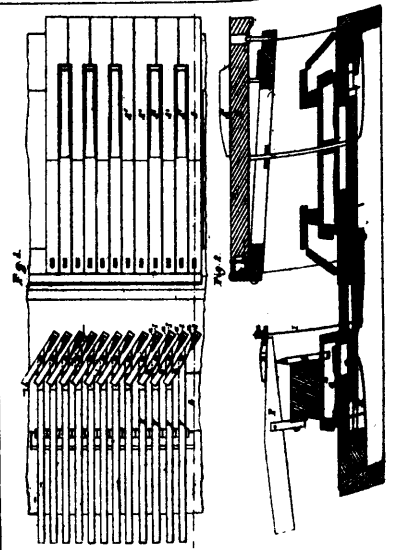
18779 Haley's Mold for Pressed Glass Ware.



18780 Murphey's Flexible Urinal.

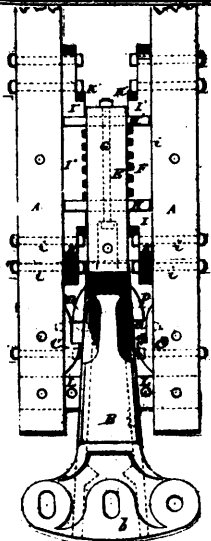


18781 Gendron's Expanding Reamer.

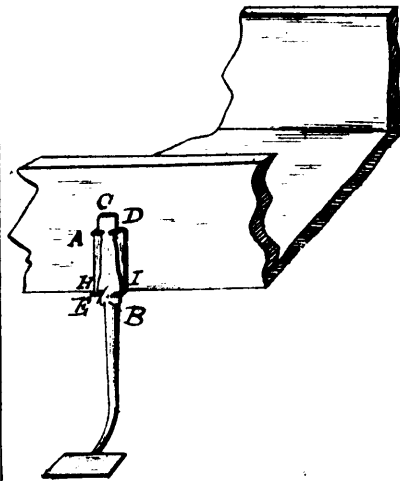


18782 Ford's Reed Organ.

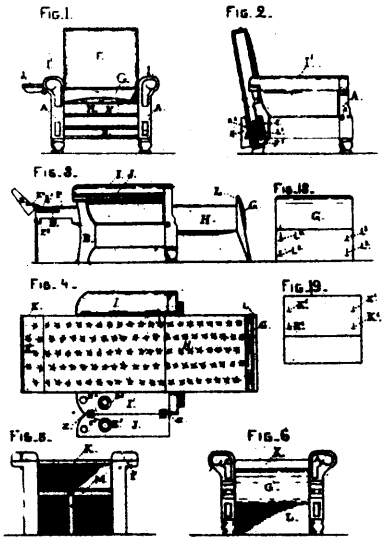




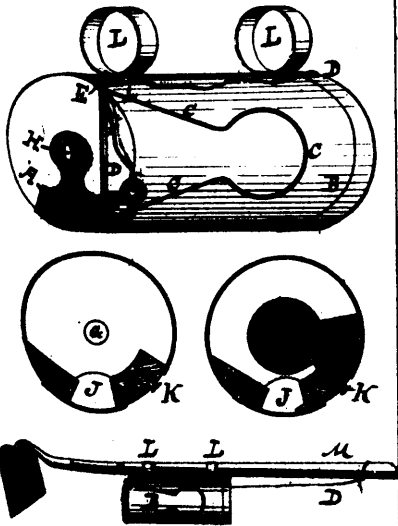
18783 Johnson & Thomas' Means of Preventing the Withdrawal of Draw-Bars for Coupling Cars Together.



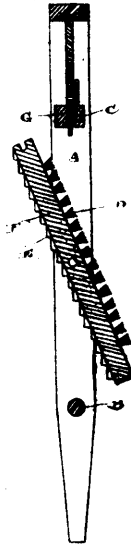
18785 Hallett's Detachable Steps for Waggon



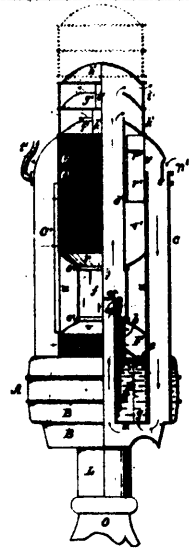
18786 Bean's Combined Easy Chair and Sofa Bed.



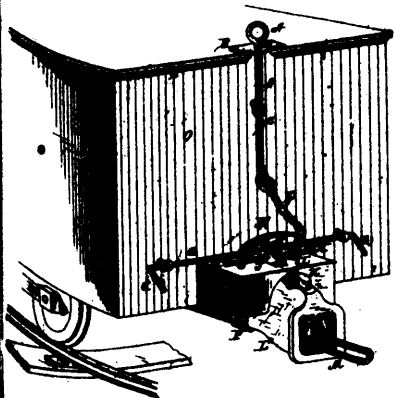
18787 Bissell's Machine for Planting Corn and Beans.



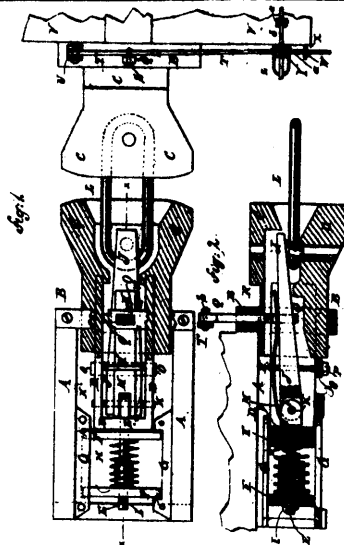
18788 Boeckh's Washboard



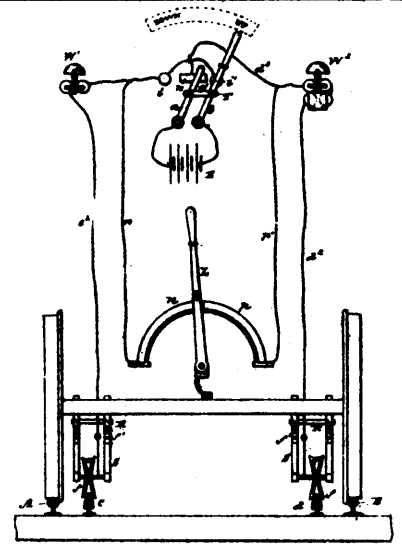
18789 Henkle's Street Lamp.



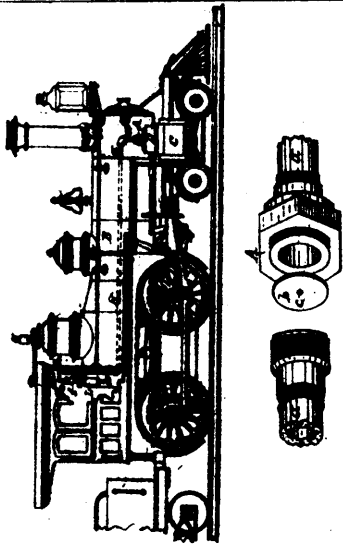
18790 Dalley's Car-Coupler.



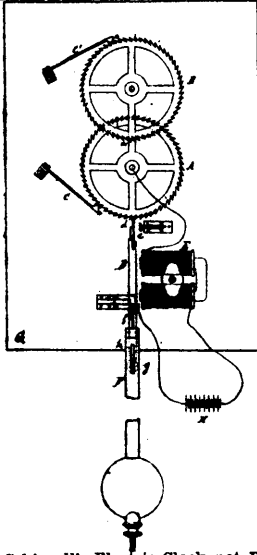
18791 Jones' Car-Coupling.



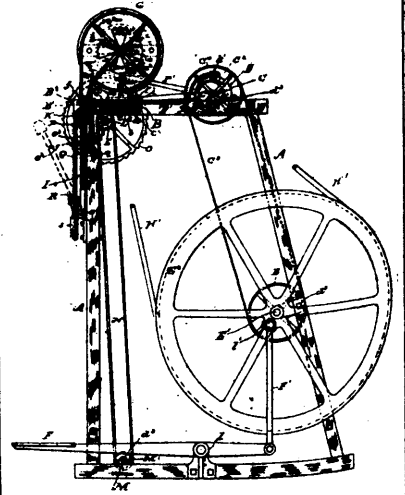
18792 Rogers & Upham's Electric Railway Signal.



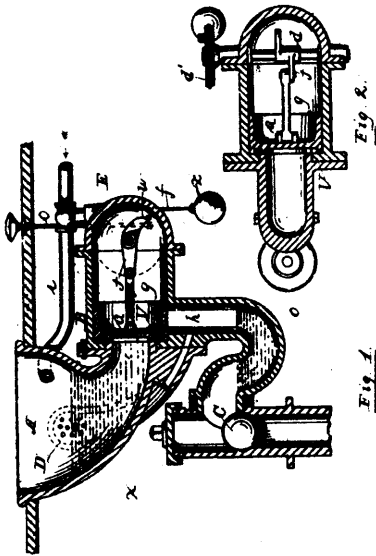
18783 Swift's Lubricator for Steam Cylinders and their Valves.



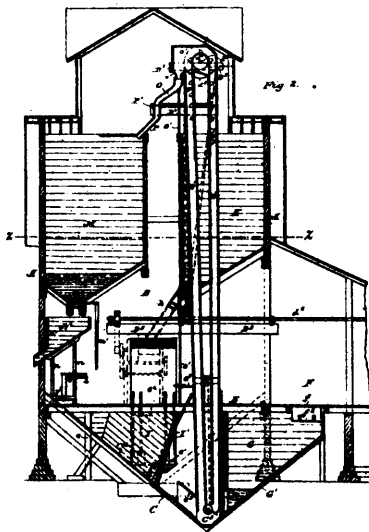
18784 Schisgall's Electric Clock not Requiring Winding Up.



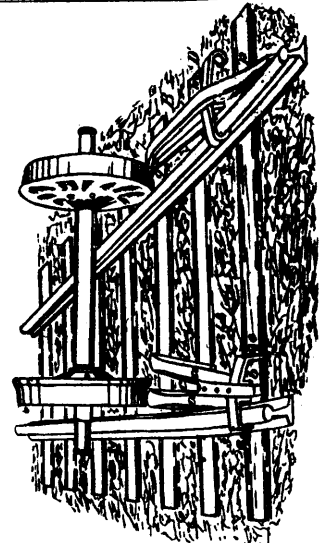
18785 Simonsen & Schott's Fur Clipping Machines.



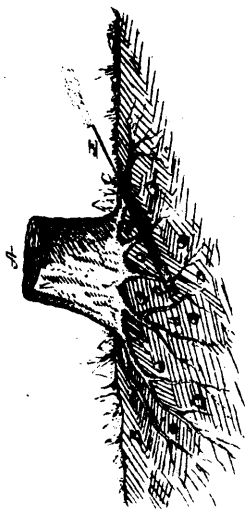
18786 Muirhead's Water Closet.



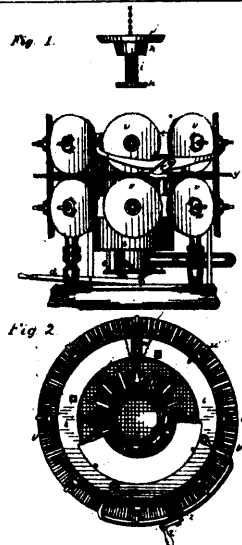
18787 Seeley's Grain Elevators.



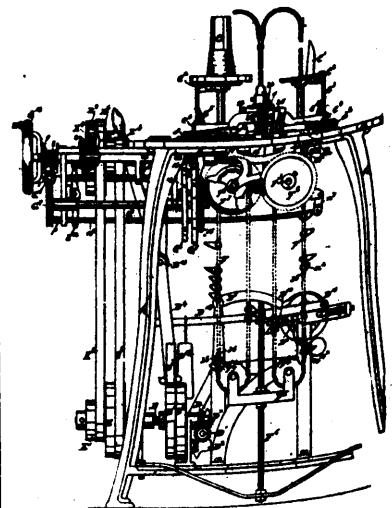
18788 Toomb's Railway Car Replacer.



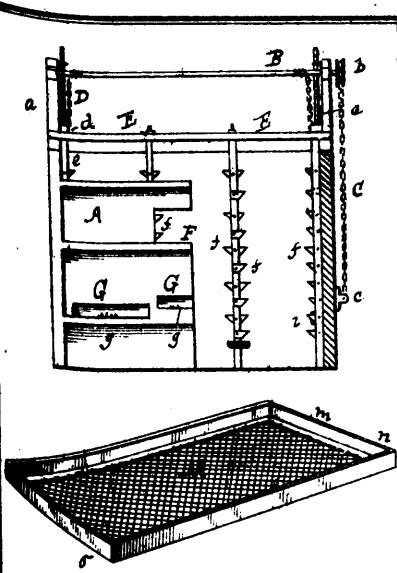
18799 Van Campen's Method for Extracting Stumps.



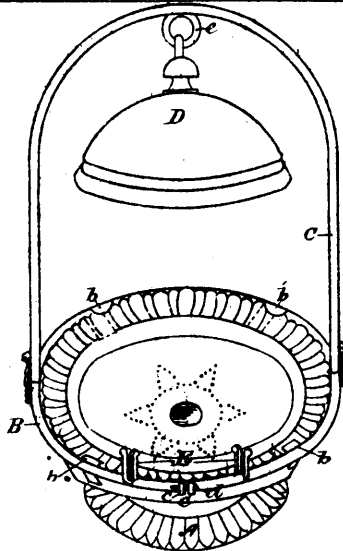
18800 Laraway's Manufacture of Barrels and the like from Pulp.



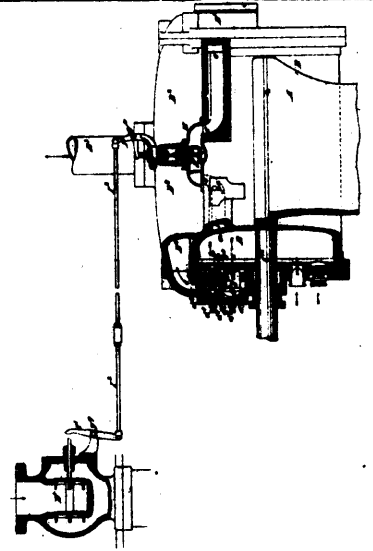
18801 Leighton's Knitting Machine.



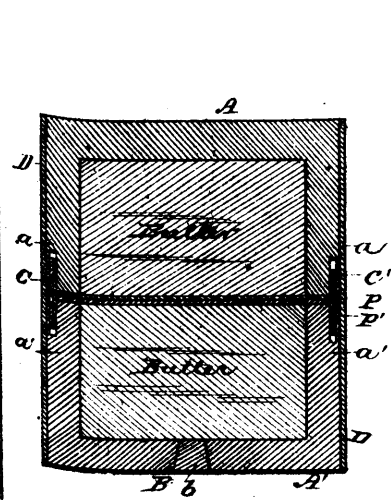
18802 Phillips' Fruit Dryer.



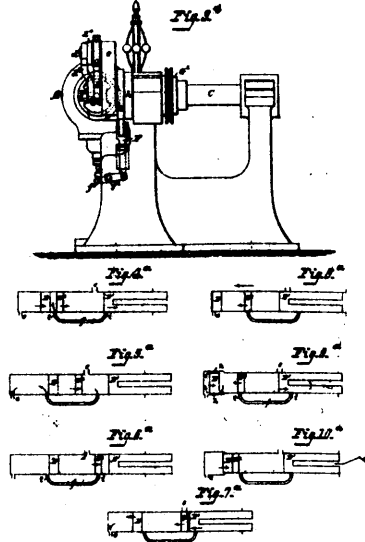
18803 Lucas' Construction of Butter or other Similar Dishes.



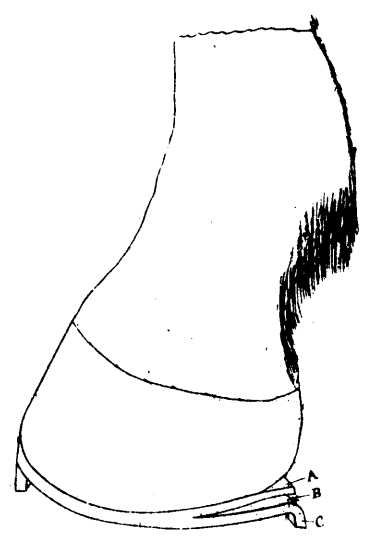
18804 Cullingworth's Air Compressing Machinery.



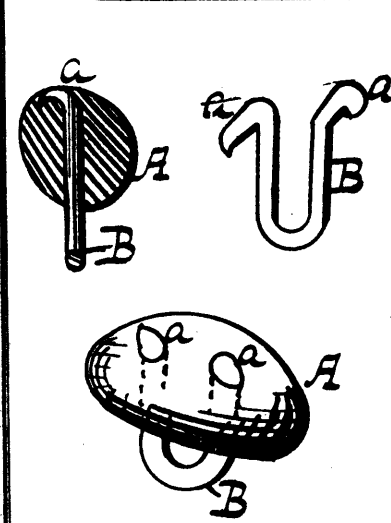
18805 Edwards' Combined Butter Dish and Package.



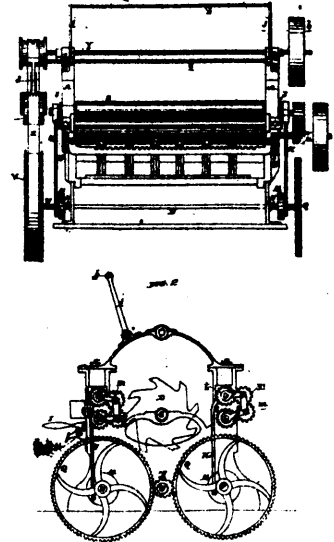
18806 Baldwin's Gas Engine.



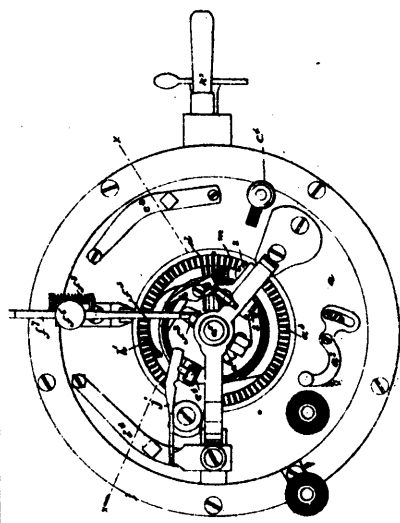
18807 Pierheller's Horse Shoe.



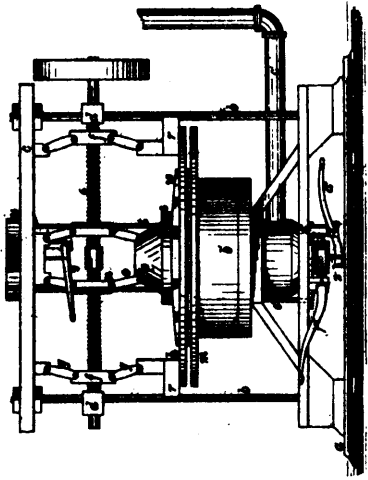
18808 Bailey & Talbot's Manufacture of Buttons.



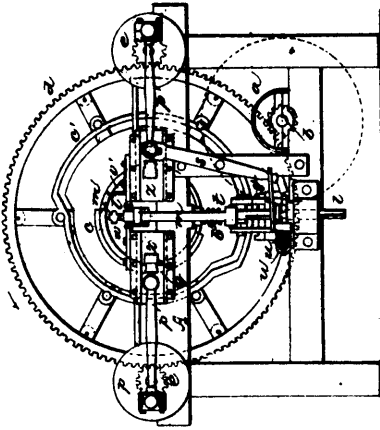
18809 Robb's Edger.



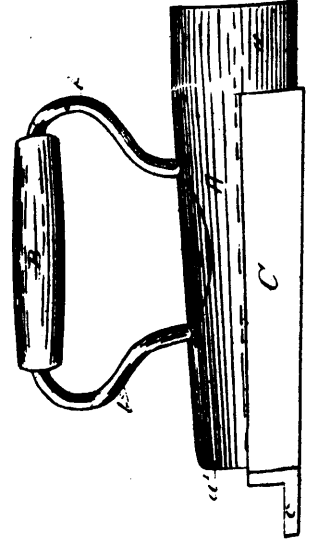
18812 Carter's Knitting Machine.



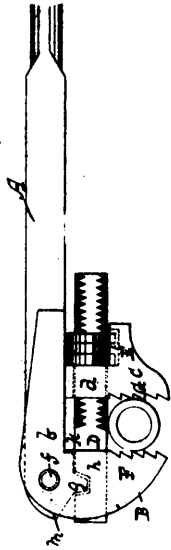
18813 Laraway's Manufacture of articles from Paper Pulp.



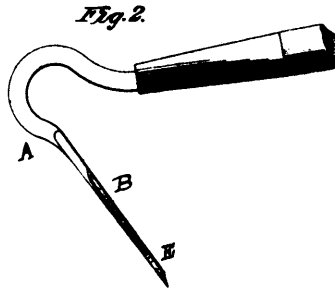
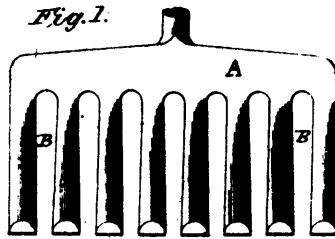
18814 Mortensen's Machine for Forming Eyebolts.



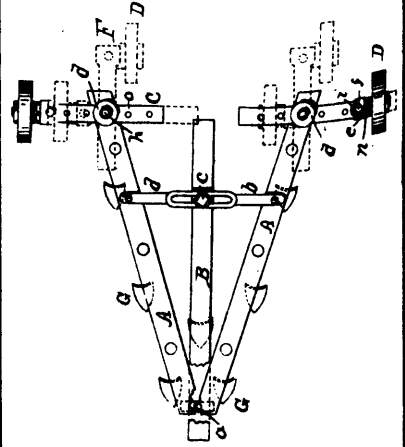
18815 Chagnon's Smoothing Iron.



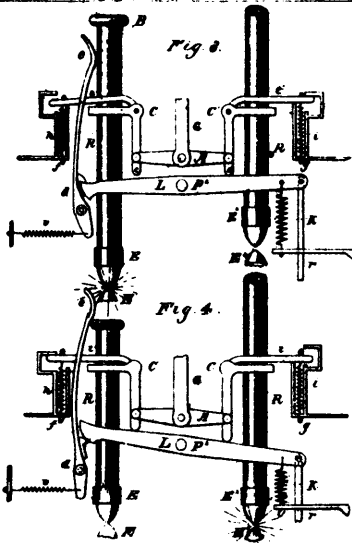
18816 Dodge's Wrench.



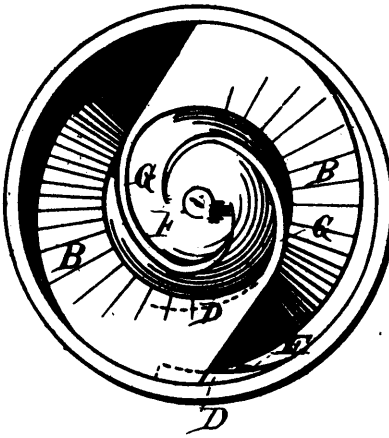
18817 Humphrey's Hoe.



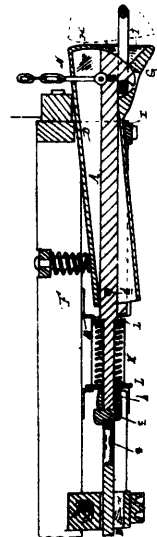
18818 Carver's Machine for Cultivating and Harvesting Beans.



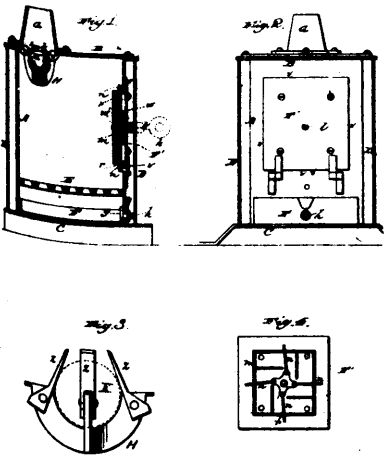
18819 Thomson's Electric Lamp.



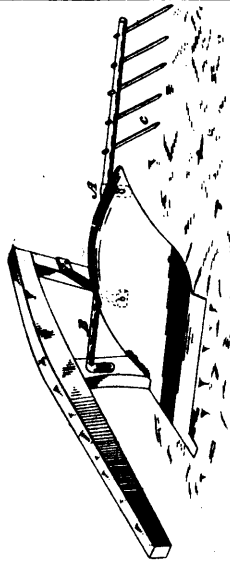
18820 Austin's Turbine Water Wheel.



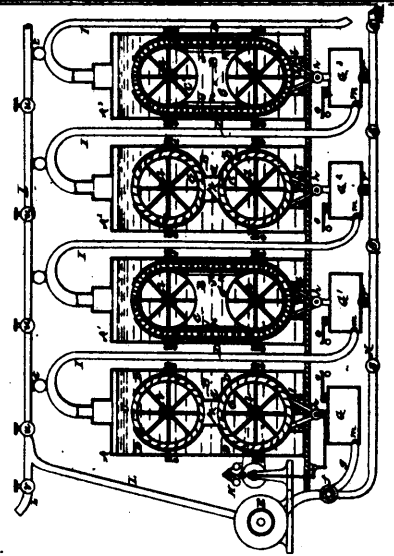
18821 Mark's Car-Coupling.



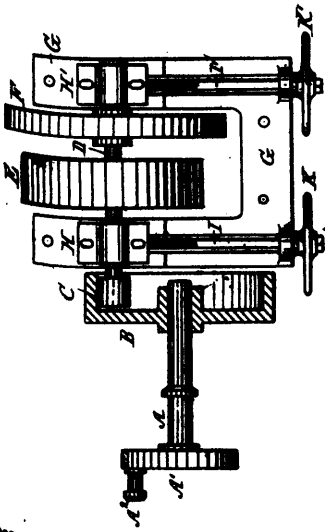
18822 Fife & Pickenpaugh's Car Stove.



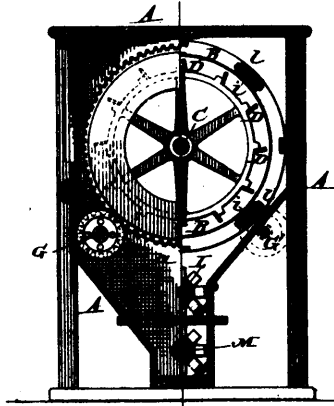
18823 Wood's Rake Attachment for Ploughs.



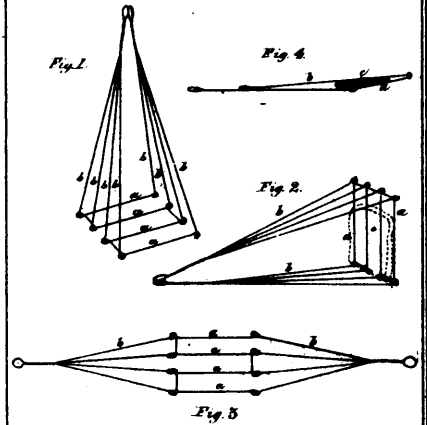
18824 Cook's Hydropneumatic Engine.



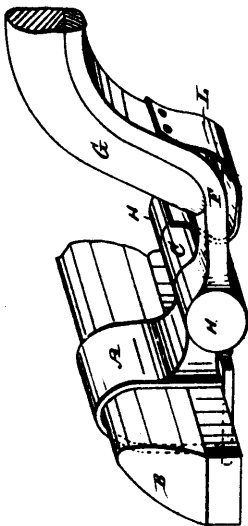
18826 Markle & Wayne's Mechanism for Driving Dynamo-Electric Machines.



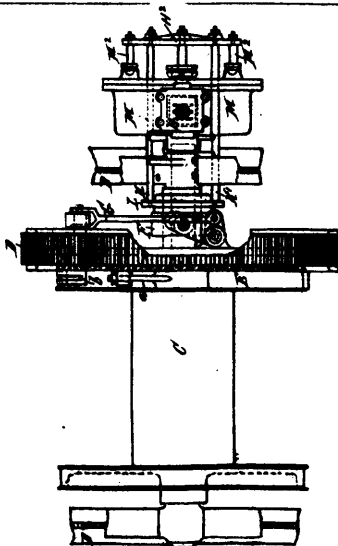
18828 Gray's Flour Dressing Machine.



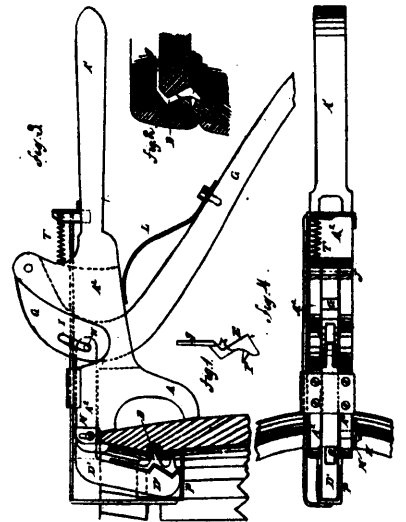
18827 Loeman's Combined Gridiron and Toaster.



18828 Beebe's Thill-Coupling.

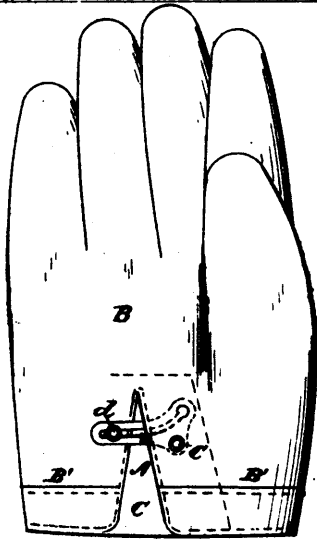


18829 Blessing's Friction Clutch.

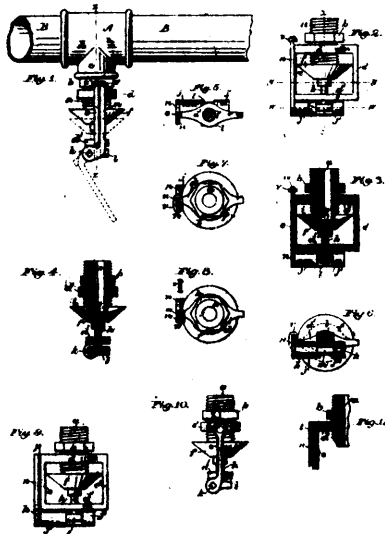


18830 Tetamore & Fordham's Securing Barrel Head.

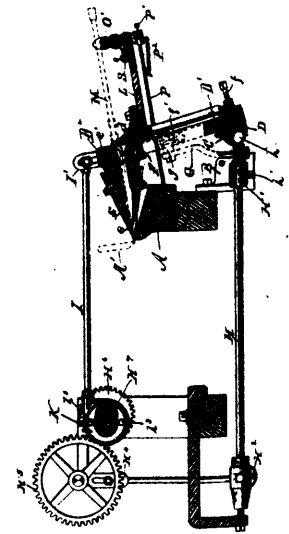




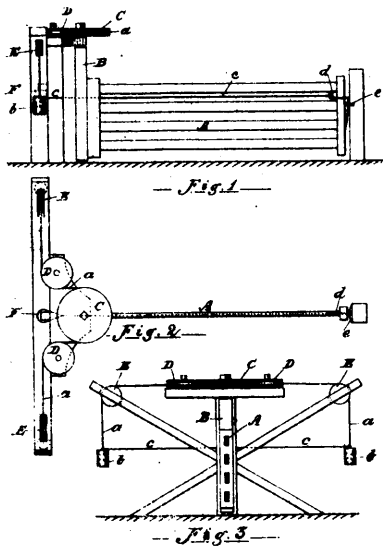
18831 Rate's Fastener for Gloves, &c.



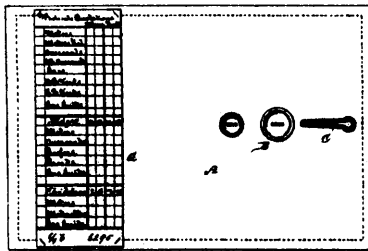
18832 Walworth & Hall's Automatic Fire-Extinguisher.



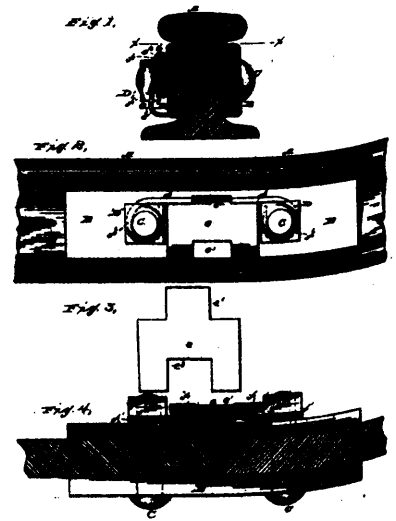
18834 Gould's Nail/Plate Feeder.



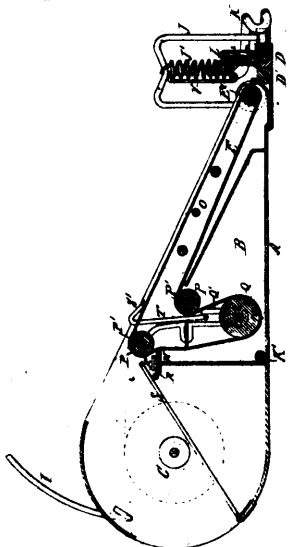
18835 Fallott's Gate.



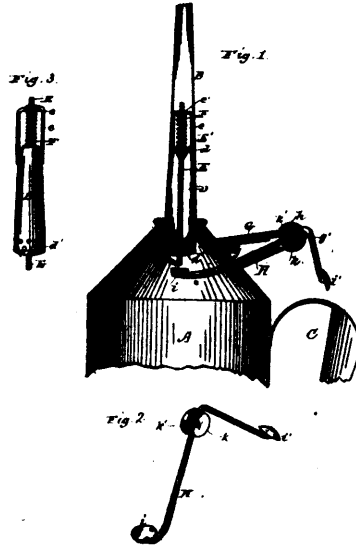
18836 Clayton's Clothing Sample.



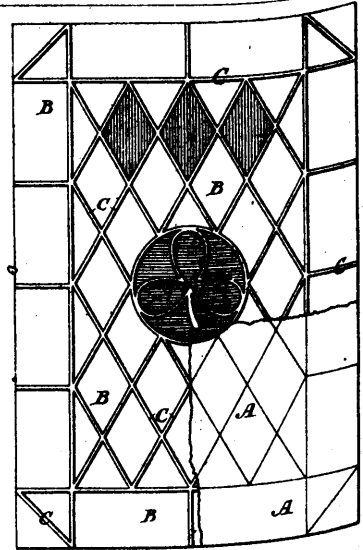
18837 Giesinger's Nut Lock.



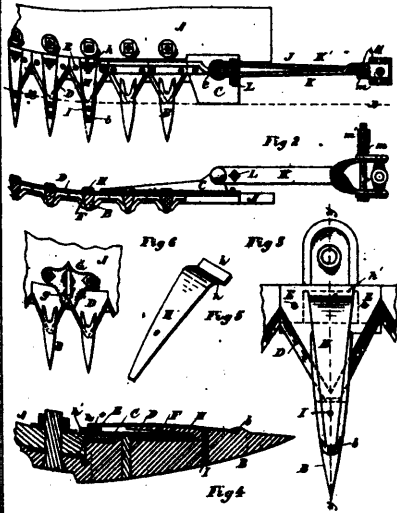
18838 Dick's Mailing Machine.



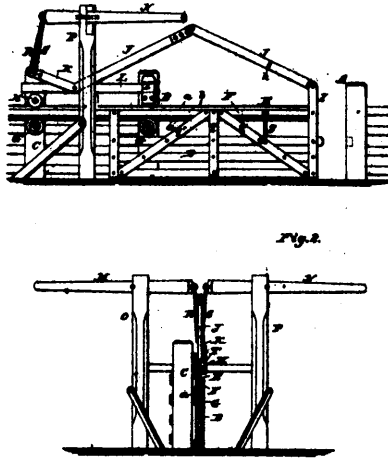
18839 Jackson's Oil Can.



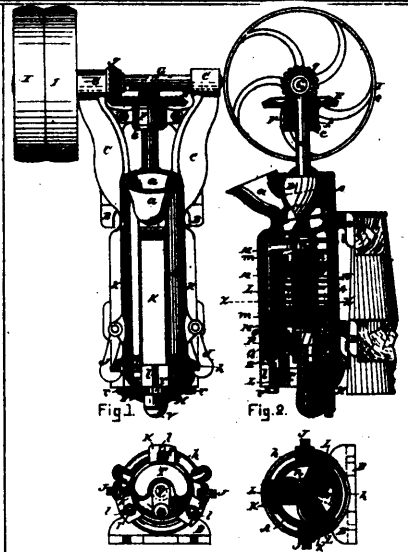
18840 Herzog's Imitation Stained Glass.



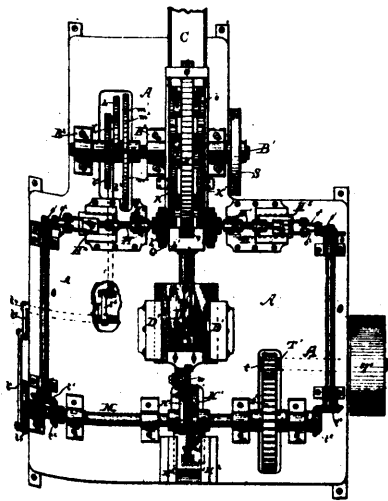
18841 Hopkin's Harvester Cutter.



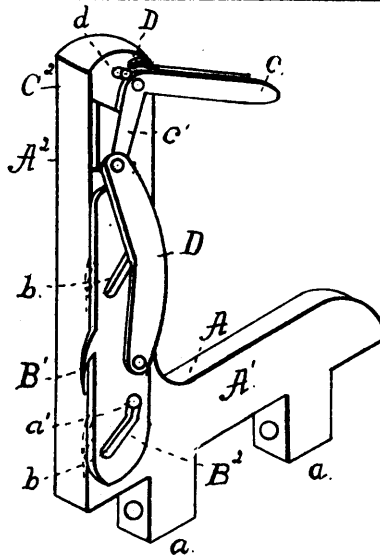
18842 White's Sliding Gate.



18843 Bell's Meat Cutter.



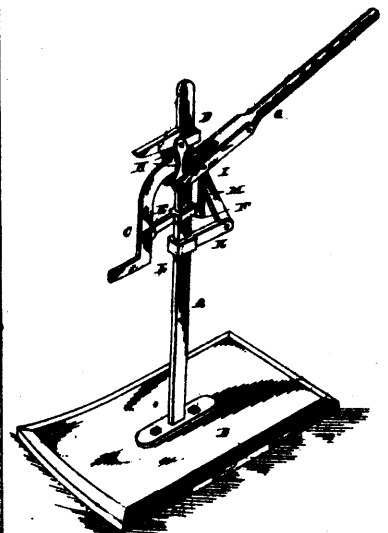
18844 Morton & Hodgson's Can Ending Machine.



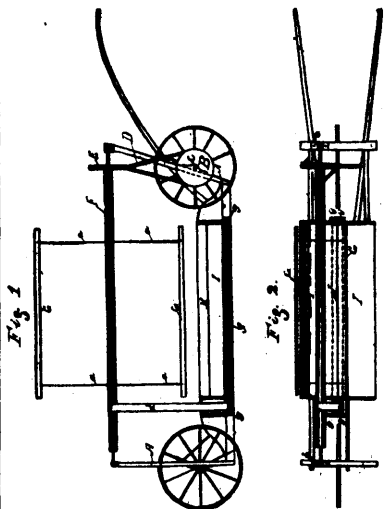
18845 Bedline's Saw Mill Dog.



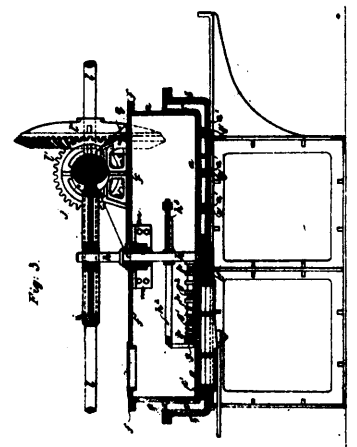
18846 Greener's Oversock.



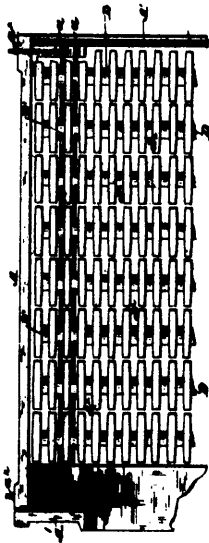
18847 Weather's Lifting Jack.



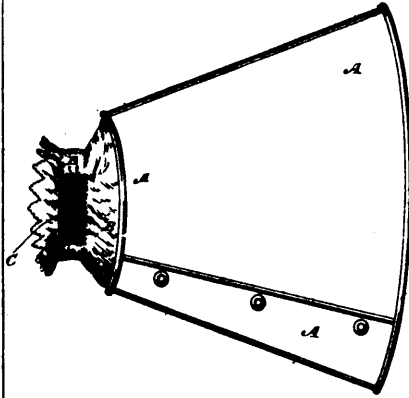
18848 Clare's Machine for the Destruction of Potato Bugs.



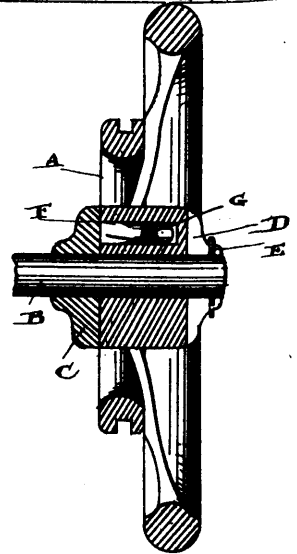
18849 Johnston's Drying Apparatus.



18850 Hill's Moving Grate for Boiler Furnaces.



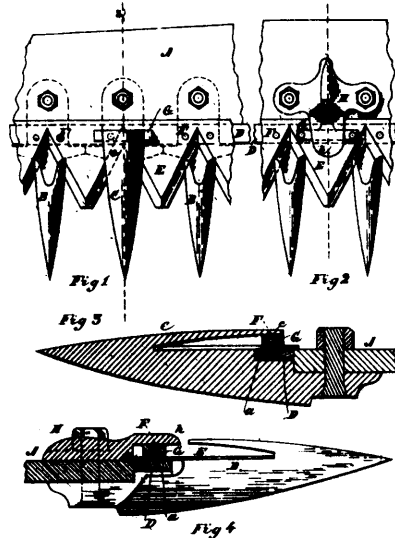
18851 Northrup's Combined Driving Cuffs and Wristlets.



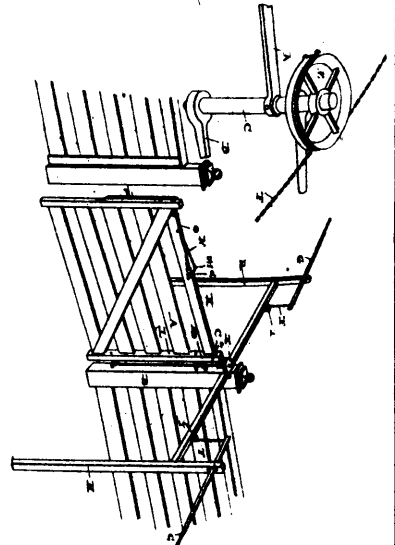
18852 Reekie's Friction Clutch.



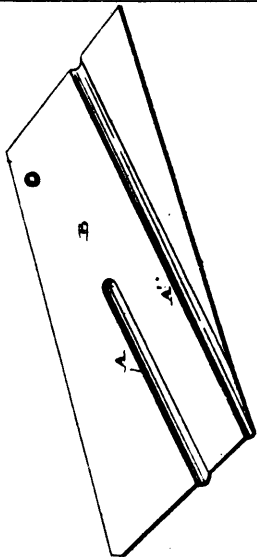
18853 New's Combined Hay Rake and Loader.



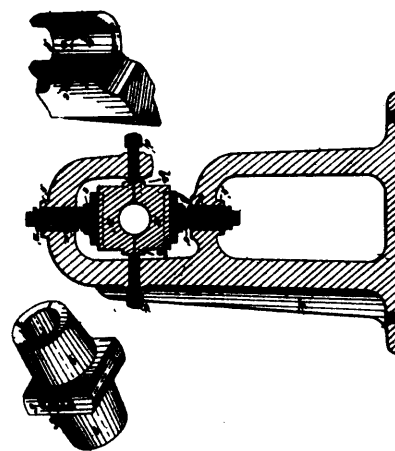
18854 Hopkins' Harvester Cutter.



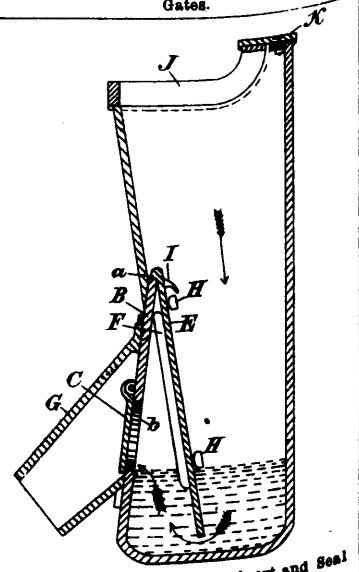
18855 Gamble's Opening and Closing Fence Gates.



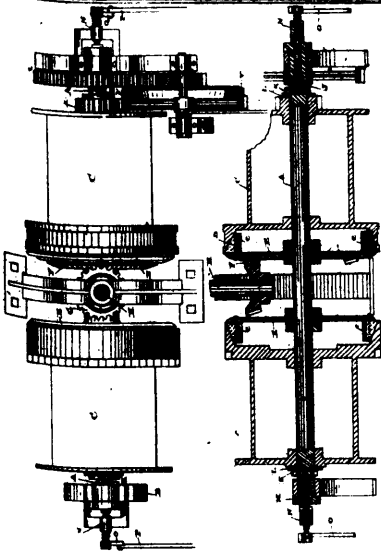
18857 Reynolds' Manufacture of Sheet Metal Pipes.



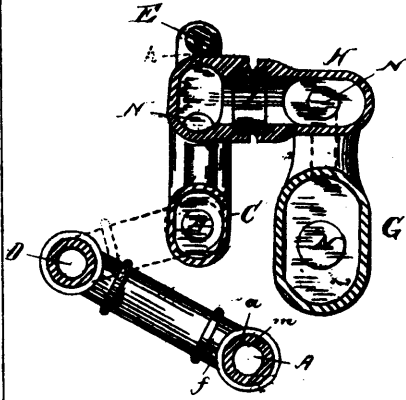
18858 Crowell's Shaft Hanger.



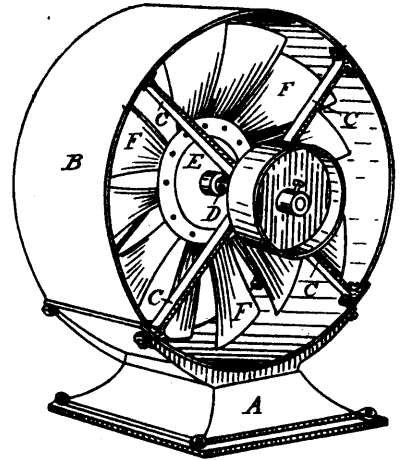
18859 Tomlinson's Combined Culvert and Seal Trap.



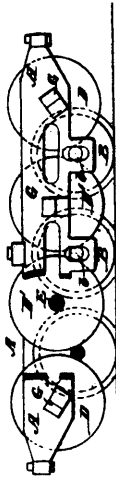
18860 Beaty's Hoisting Machine.



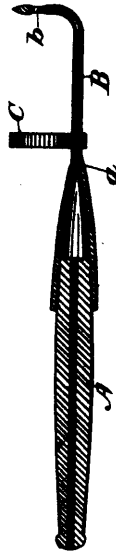
18861 Bang's Vapour Burner.



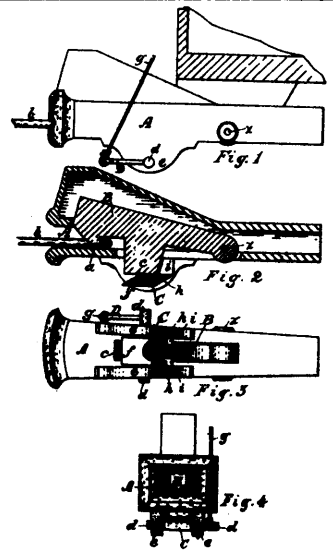
18862 Smith's Rotary Ventilating Fan.



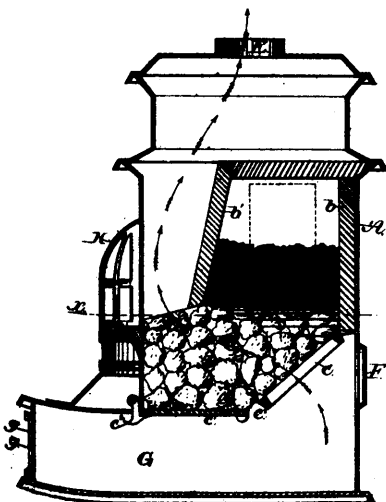
18863 McConnell's Car Truck.



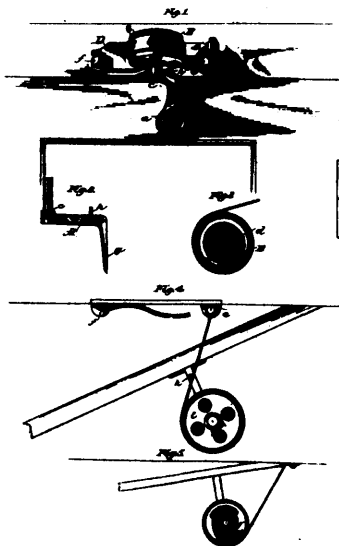
18865 Sutherland's Cigar-Holder.



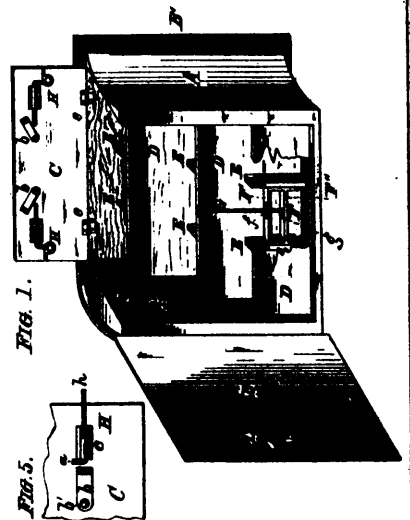
18866 Murray's Car-Coupling.



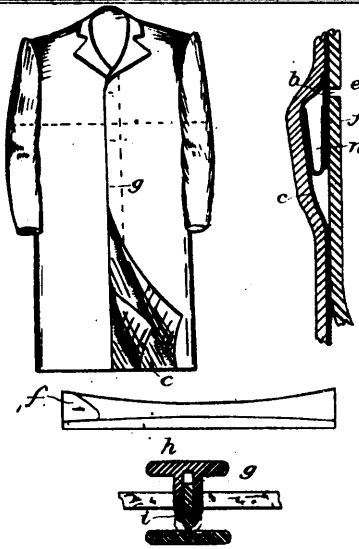
18867 Hamlin's Stove for Burning Bituminous Coal.



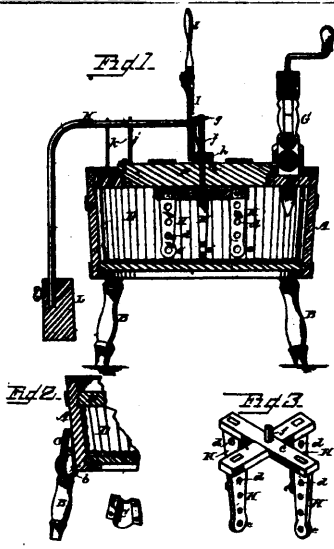
18868 Sherer's Door Spring.



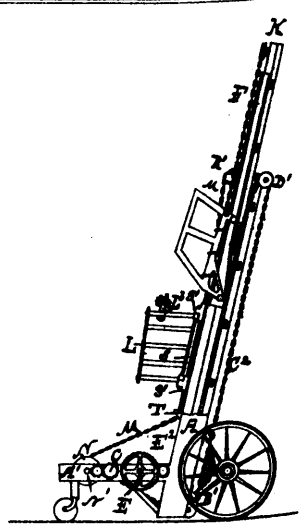
18869 Volts's Document and File Case.



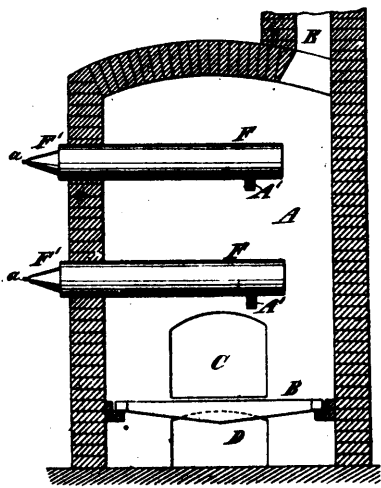
18870 Robitaille's Waterproof Coat.



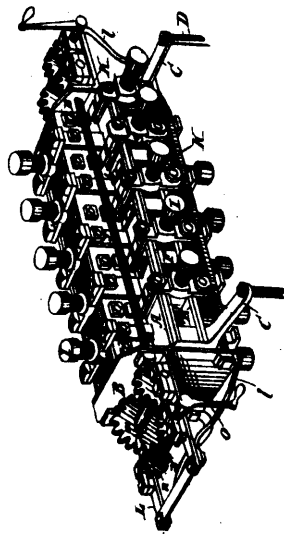
18871 Dutton's Washing Machine.



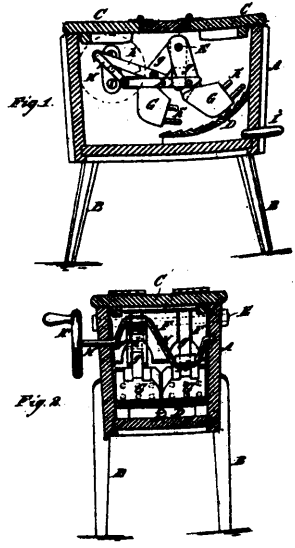
18872 Kennedy's Fire-Escape and Fire-Extinguisher.



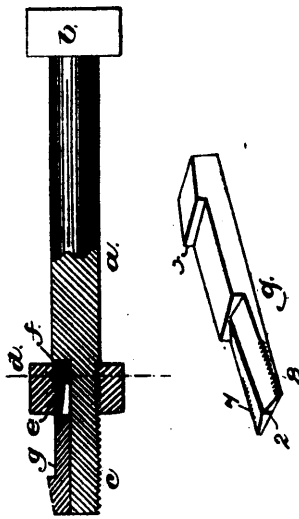
18873 Seymour's Art of Extracting or Obtaining Aluminum from Aluminous Ores and Earths.



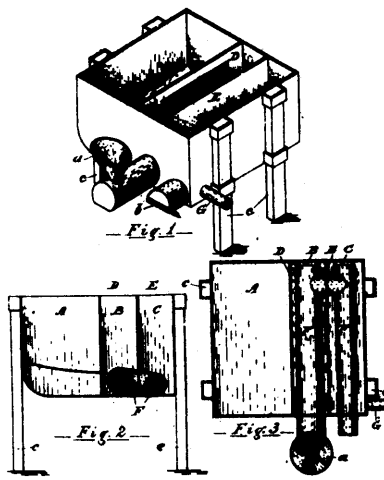
18874 Fréchette's Machine for Straightening or Bending Railroad Rails.



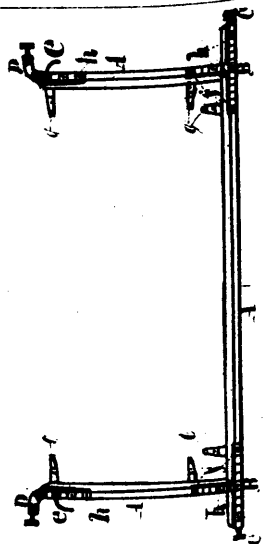
18875 St. Onge's Washing Machine.



18876 Ransom's Nut Lock.

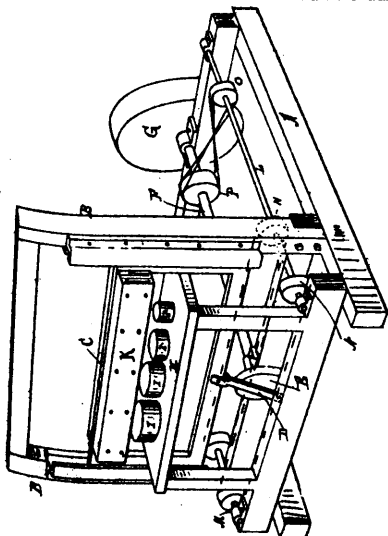


18877 Bombough's Milk Cooler and Strainer Combined.

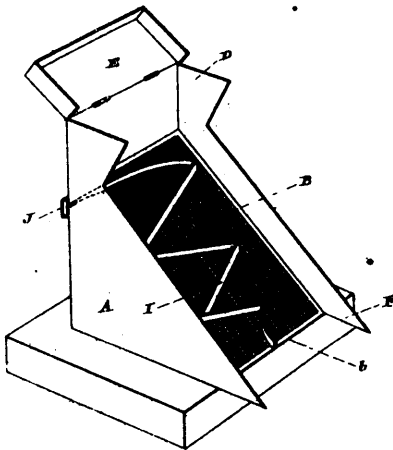


18878 Bell's Shifting Rail for Buggy Tops.

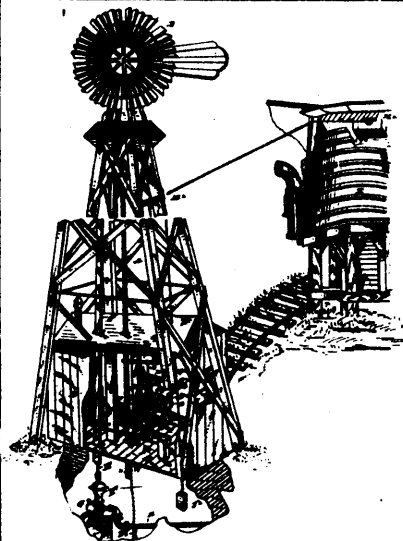




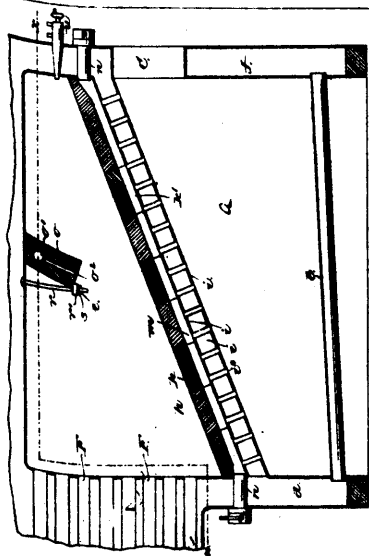
18879 Boss' Machine for forming Paving Blocks.



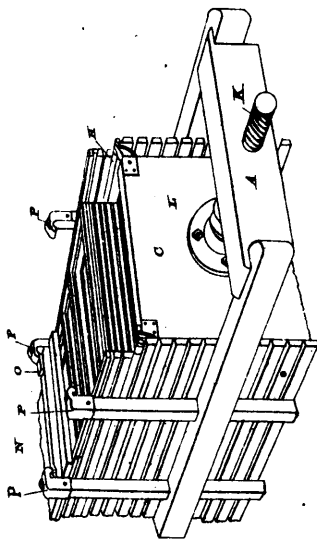
18880 McKenzie's Machine for Screening Ashes, &c.



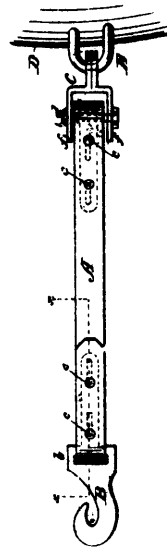
18882 Miller's Attachment to Windmills.



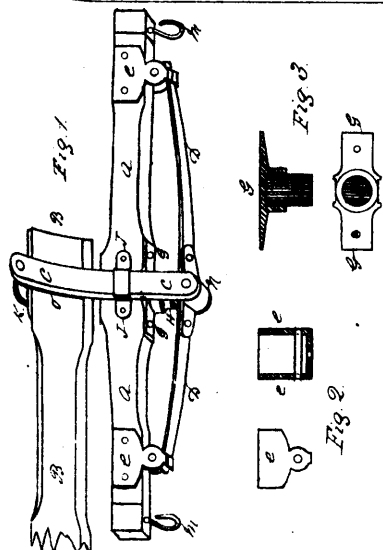
18883 French's Furnace.



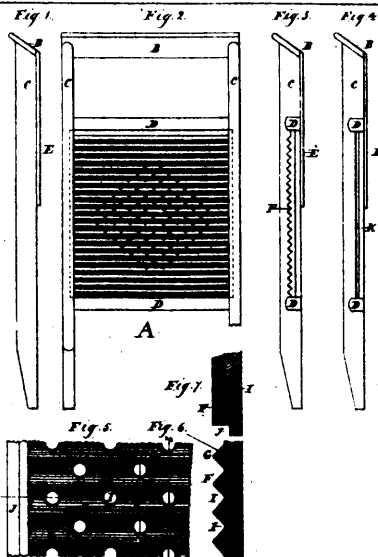
18884 Sells' Cider Press.



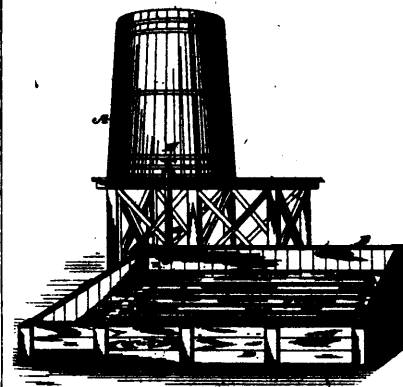
18885 Hill's Harness Tug Attachment.



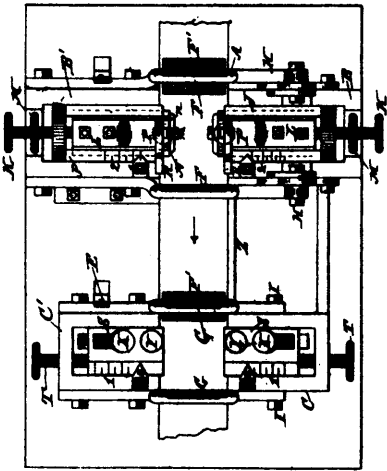
18886 Ames' Whiffletree for Waggon.



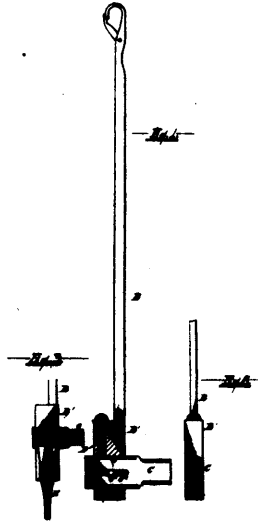
18887 Reynolds' Washboard.



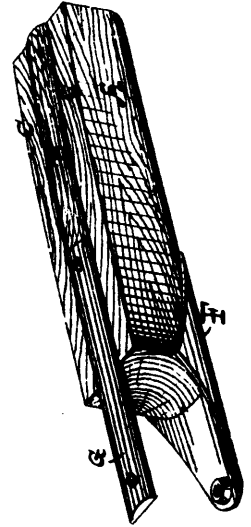
18888 Loomis' Solution for Seasoning and Preserving Wood.



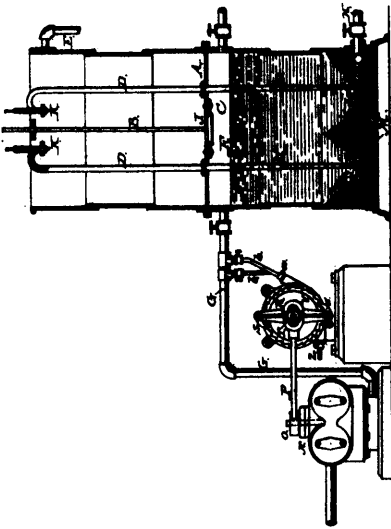
18889 Clark's Machine for Channelling Leather.



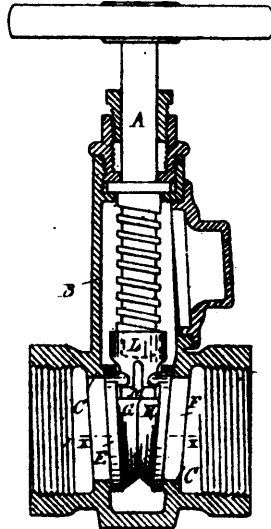
18880 Wood's Knitting Machine Needle.



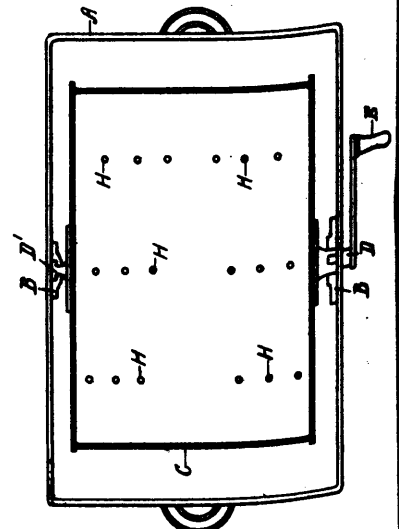
18891 McGuire's Felly and Tire for Wheels.



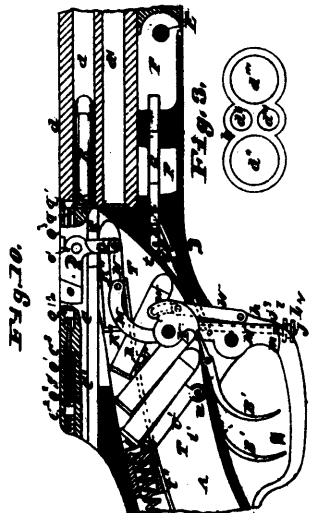
18892 Hyatt's Art of Filtration.



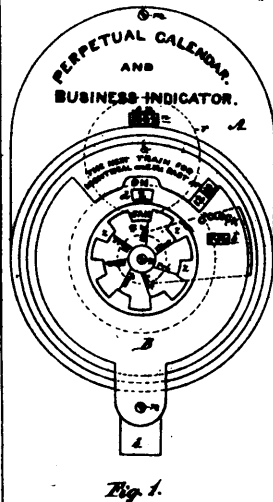
18893 Murdock's Stop Valve.



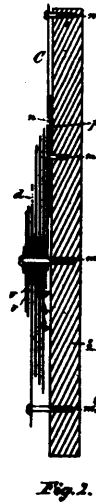
18894 Jones' Washing Machine.



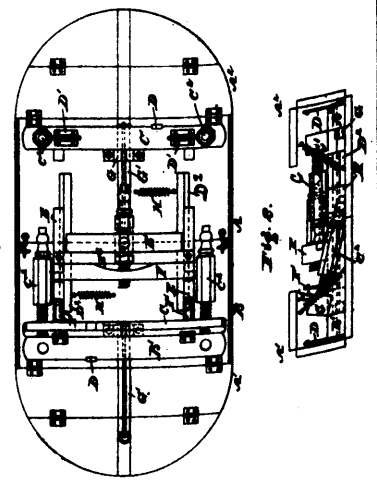
18895 Kacer & Kris's Fire-Arm.



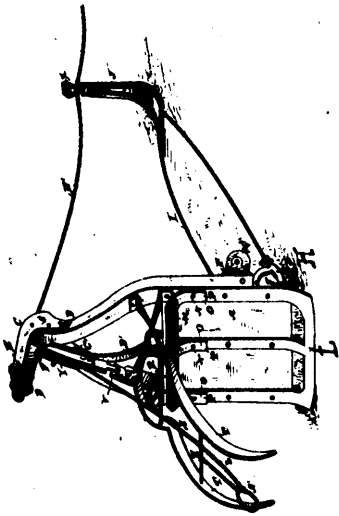
18896 Preston's Perpetual Calendar and Business Indicator.



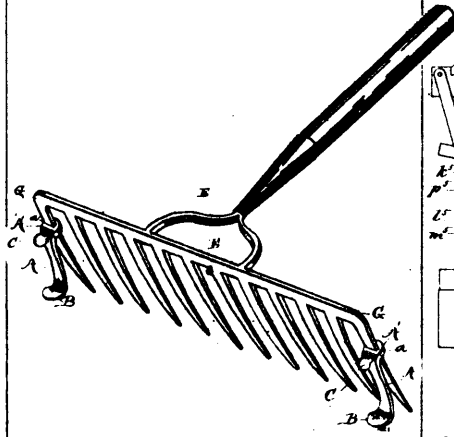
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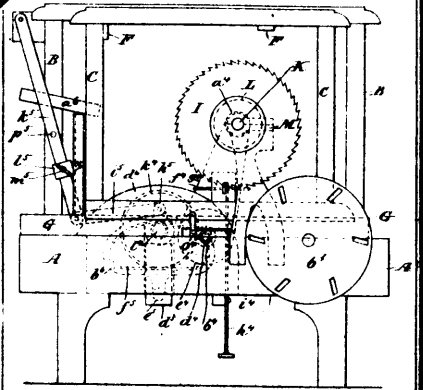
Brem's Extension Table.



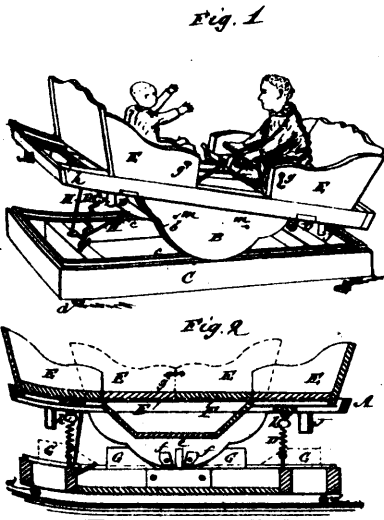
18898 Burket's Excavator and Grapple.



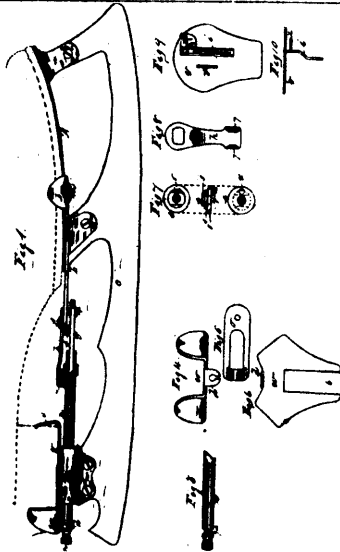
18800 Denmen & Gray's Rake Shoe or Runner.



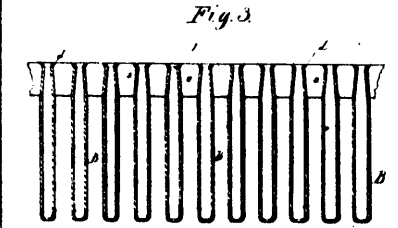
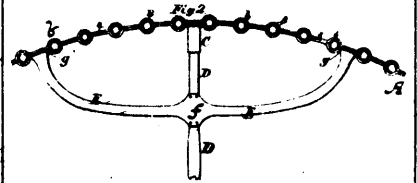
18901 Fr chettes's Machine for making Shingles, &c.



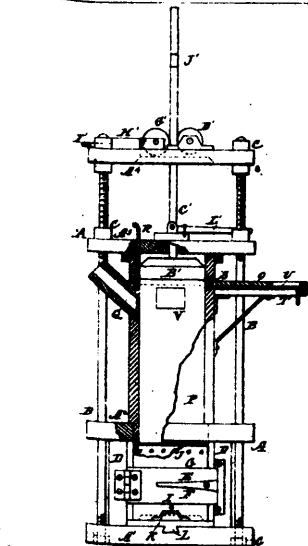
18902 Hill's Combined Cradle and Seesaw.



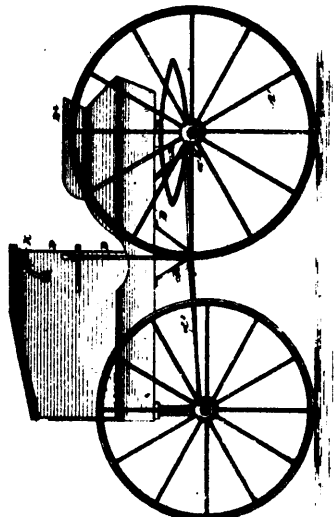
18903 Barney's Skate.



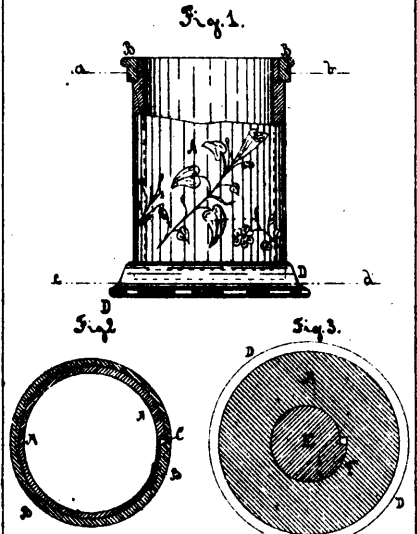
18904 Moore's Hand Field and Lawn Rake.



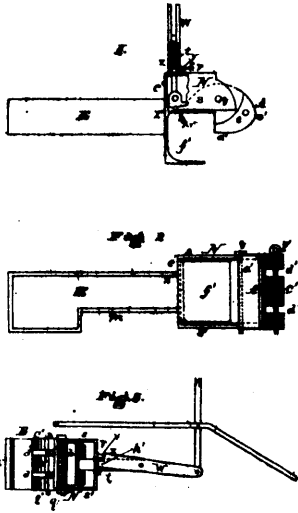
18905 Frysinger's Packer for Flour, Bran, &c.



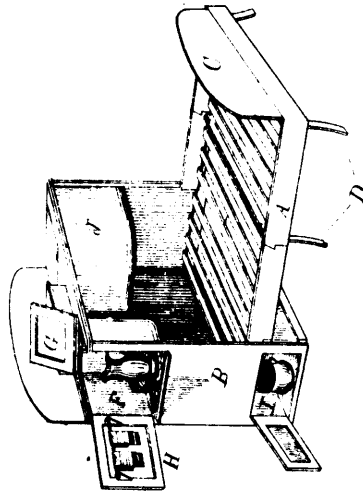
18906 Staple's Velocipede.



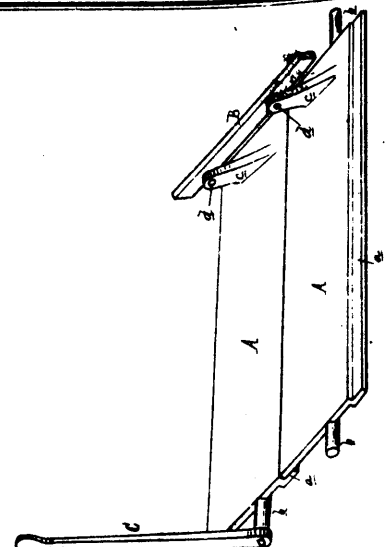
18907 Peacock's Manufacture of Moulded and Plastic Ware.



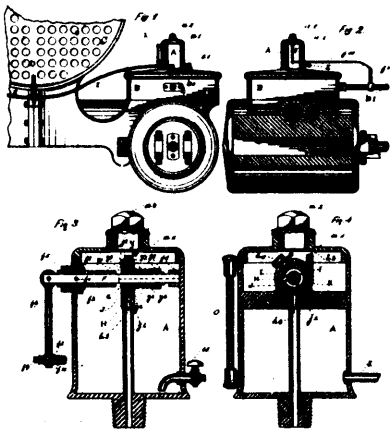
18908 Goettel' Car-Coupling.



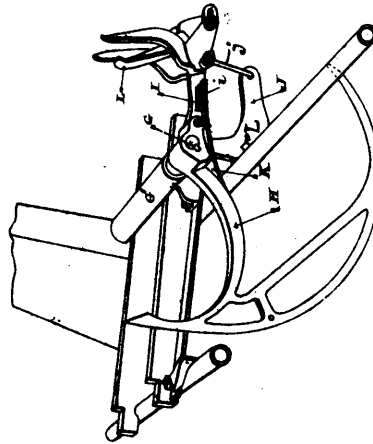
18909 Jones' Combined Bedstead and Dressing Table.



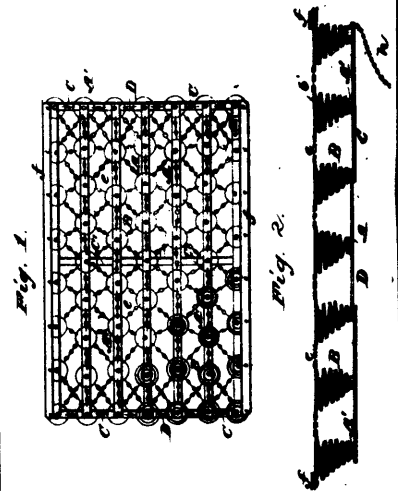
18910 Newth's Rotating Bars adapted to Dumping Cars.



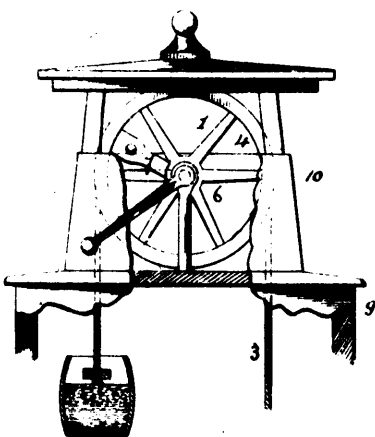
18911 Benchard's Machine for Lubricating Steam Engines.



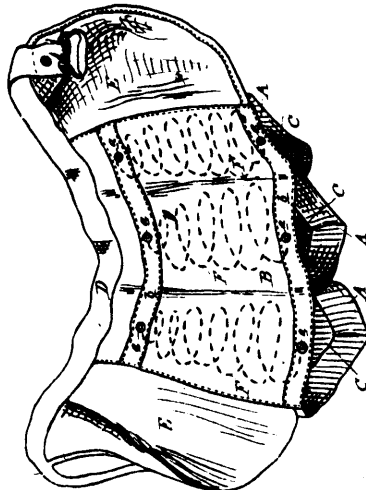
18912 McLachlan's Self-Binding Harvester.



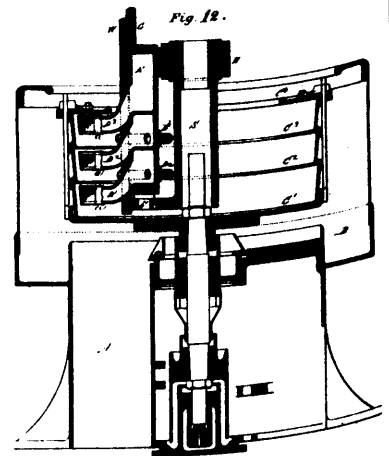
18913 Jaynes' Bed Bottom.



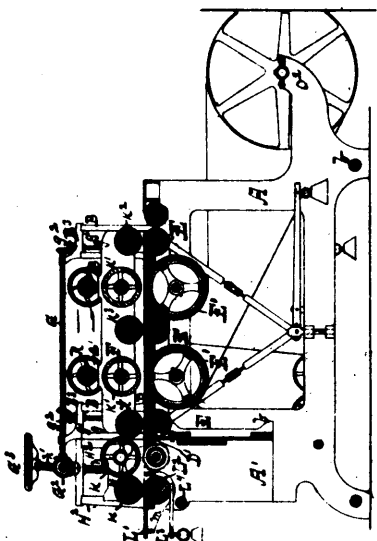
18814 Tise's Friction Brake for Pulleys, &c.



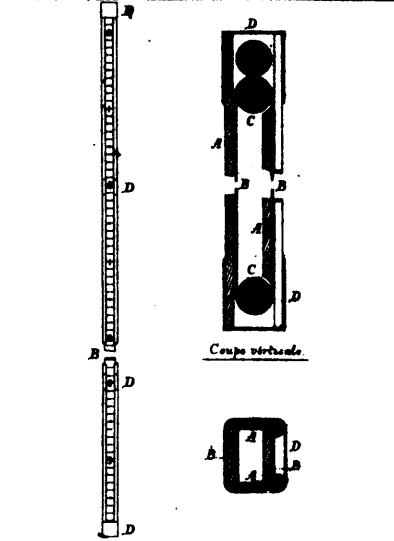
18915 Higby's Bustle.



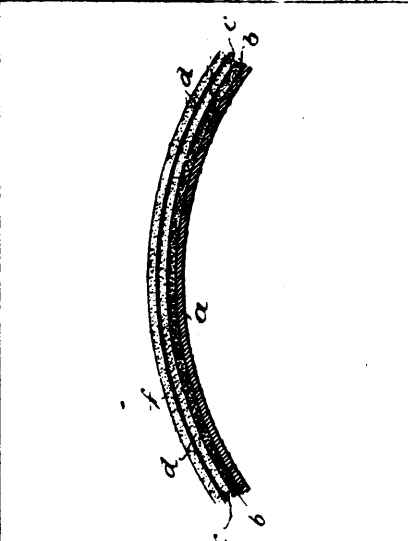
18916 Muller & DeCastro's Process and Apparatus for Separating Starch.



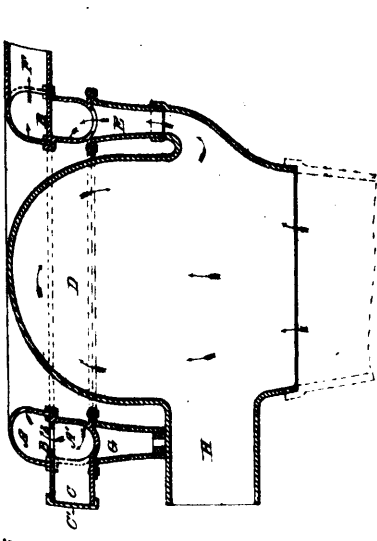
18917 Perry's Wood Polishing Machine.



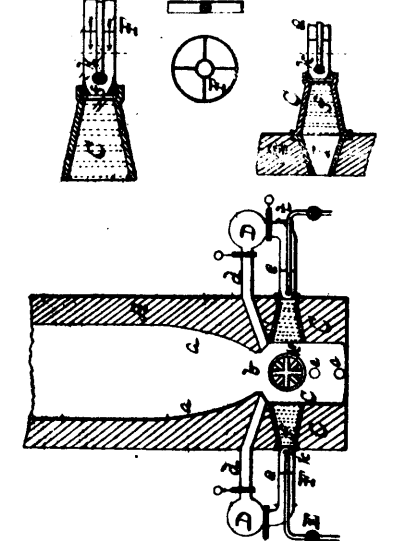
18918 Daniel's Operations of Boring and Leveling Staff with Great Ciphers.



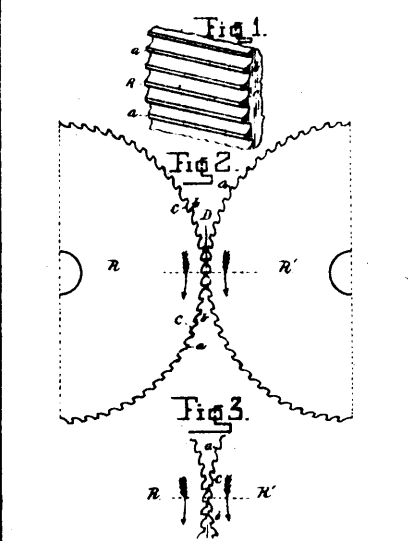
18919 Goodell's Non-Conducting Covering for Boilers and Pipes.



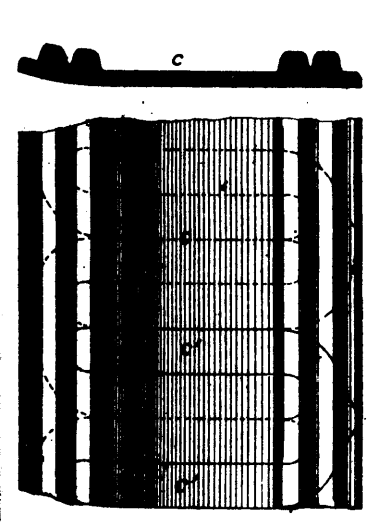
18920 Richardson's Radiator for Air Warming Furnaces.



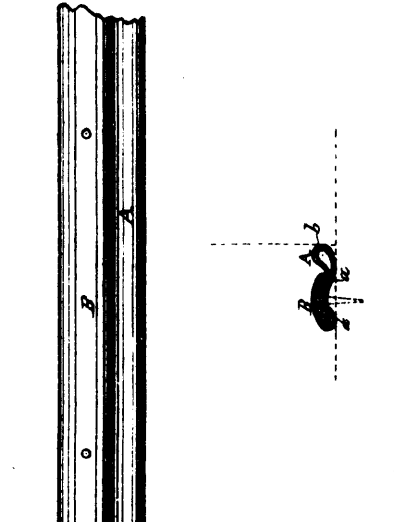
18921 Morgan & Hayden's Reducing and Smelting Metals and Furnace Therefor.



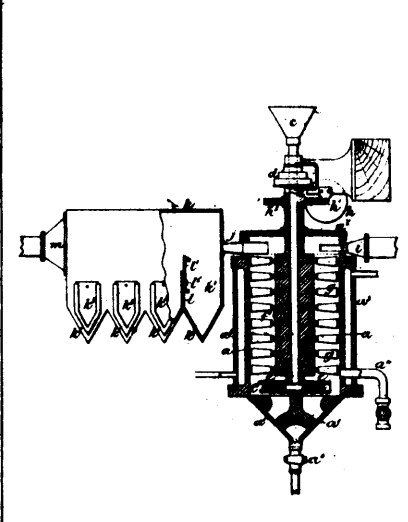
18922 Rickerson's Roller Mill.



18923 Heard's Process for the Manufacture of Horse Shoes, &c.

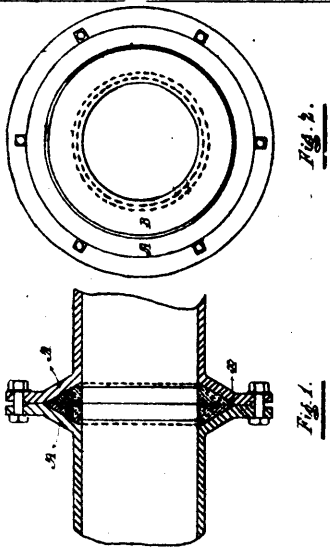


18924 Hummel's Weather Strip.

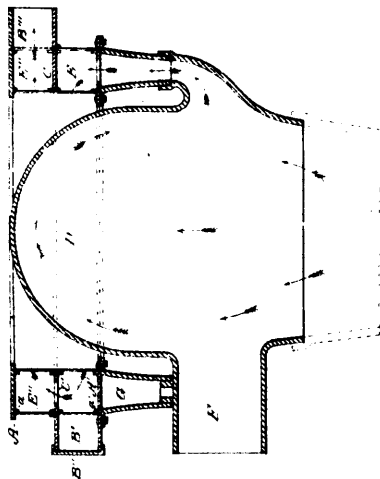


18926 Jordan's Apparatus for Treating Ores Chiefly for the Extraction of Precious Metals Therefrom.

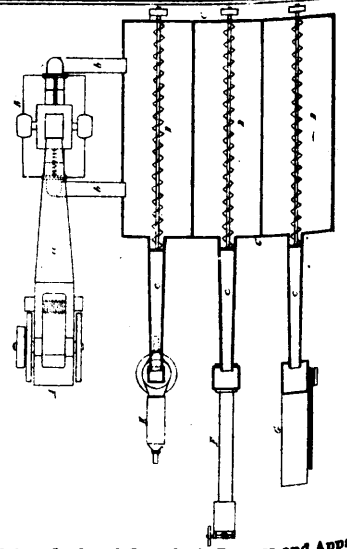




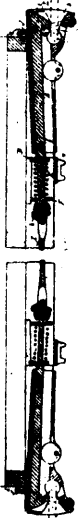
18926 Penning's Steam, Hydraulic and other Joints.



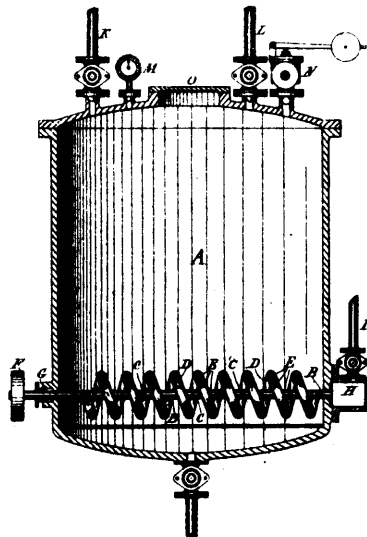
18927 Richardson's Radiator for Air Warming Furnaces.



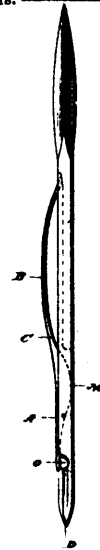
18928 Jordan & Longden's Process and Apparatus for Extracting Metals from their Ores and Concentrating Heavy Materials.



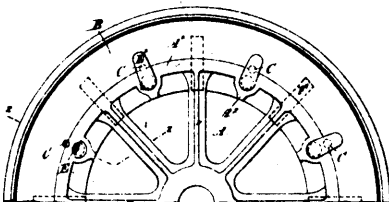
18929 Mark's Car-Coupling.



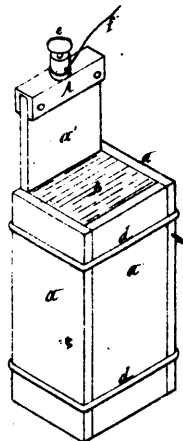
18930 Wildamith's Treatment of Starch Yielding Materials and Apparatus Therefor.



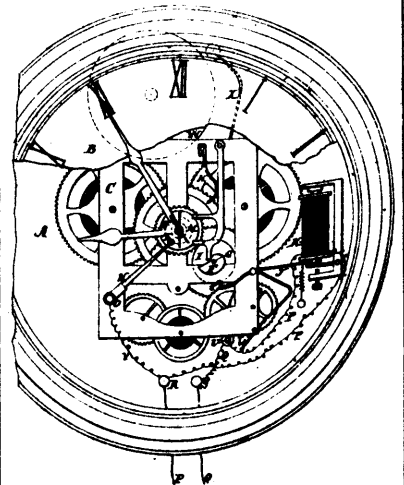
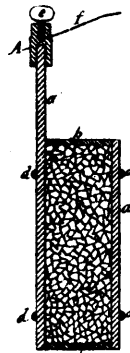
18931 Austin's Shoemaker's Sewing Needle.



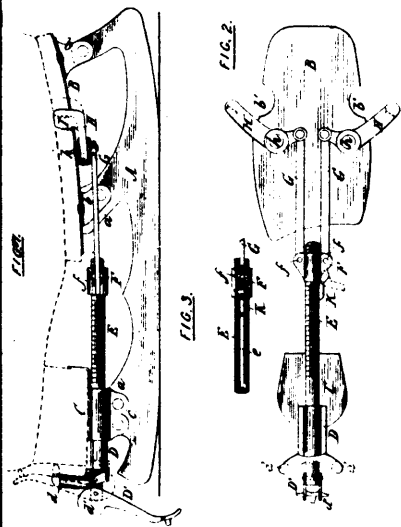
18932 Rigby's Car Wheel.



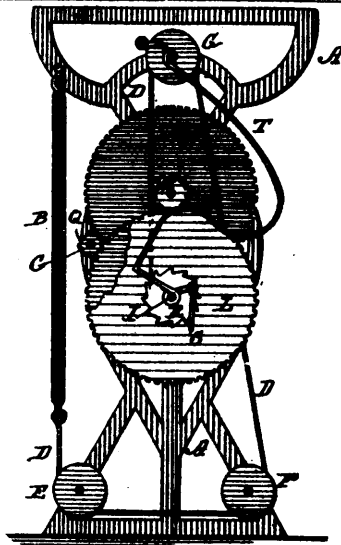
18933 Blacknall & Decker's Pole for Galvanic Batteries.



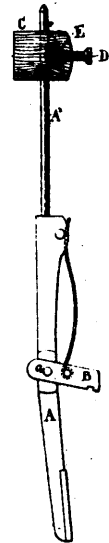
18934 Kettell's Electric Clock setting Machine.



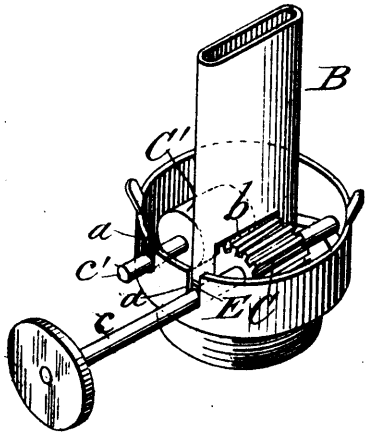
18936 Thomson's Skate.



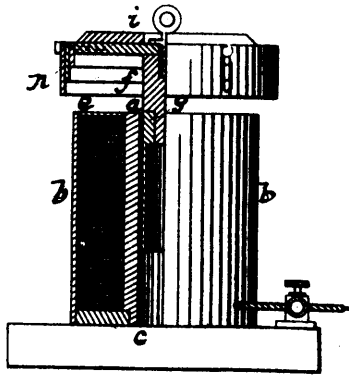
18938 Wright's Spring Motor.



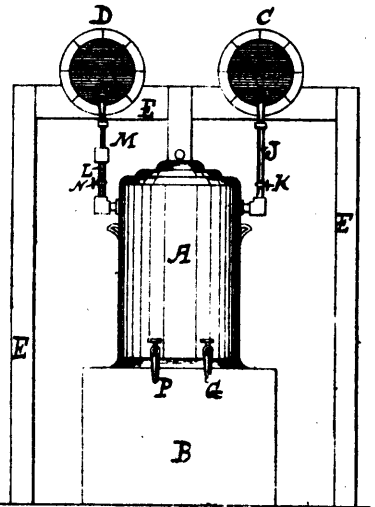
18937 Wessell, Nickel & Gross' Piano Damper.



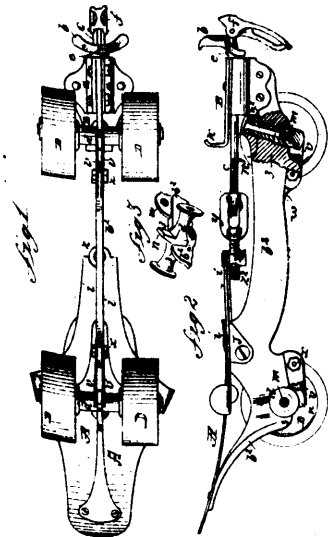
18938 Ream's Lamp Burner.



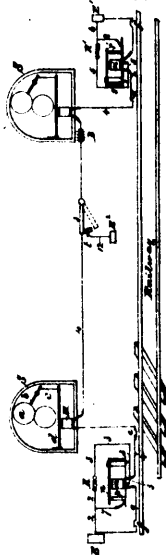
18939 Timmis & Currie's Electro-Magnet and Armature.



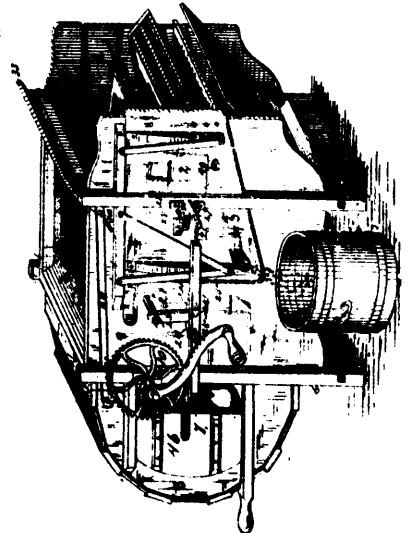
18940 Bartliff's Beer Cooler.



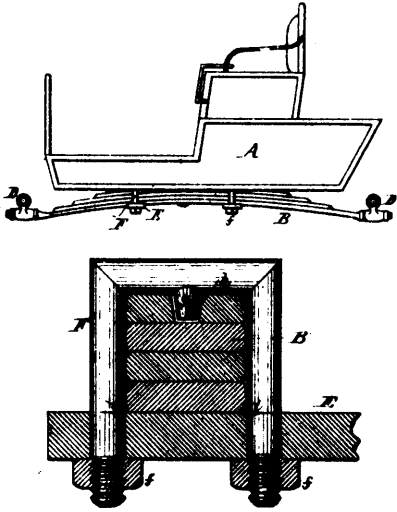
18941 Barney's Roller Skate.



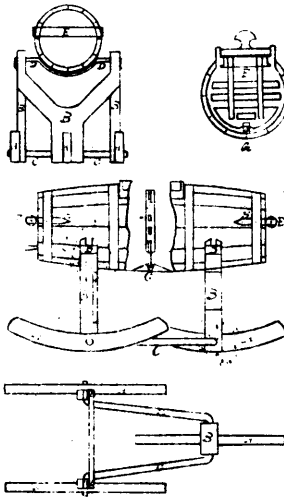
18942 Hadden's Railway Signal Apparatus.



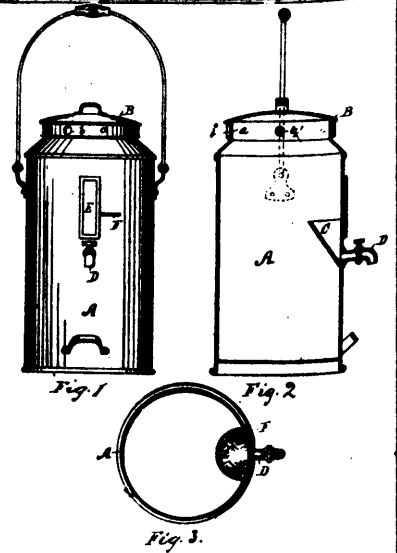
18944 Kendrick & Van Dusee's Fanning Mill, Grain and Seed Separator.



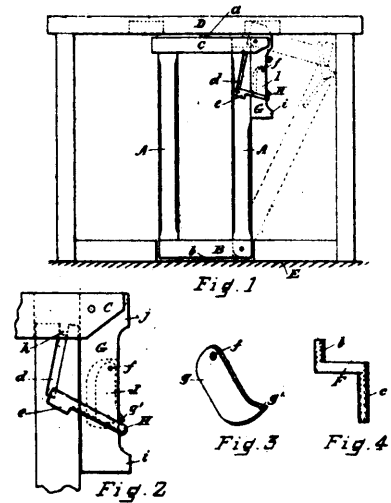
18946 Bradley's Carriage Spring.



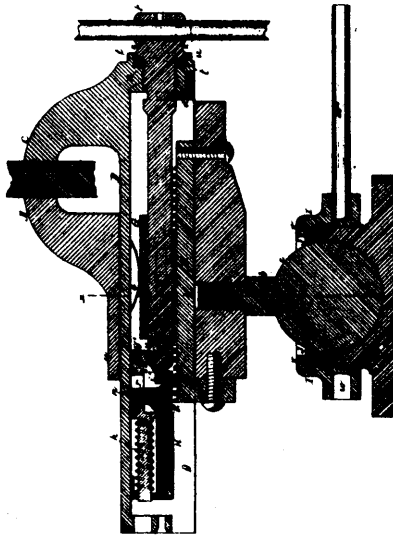
18946 Kearney's Churn.



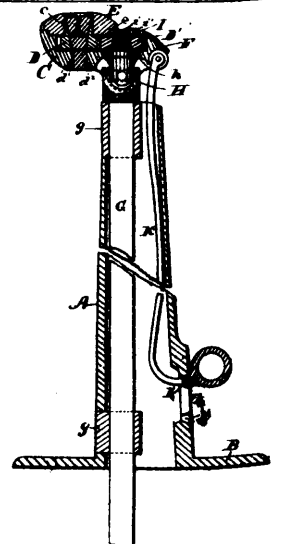
18947 Harris' Creamer.



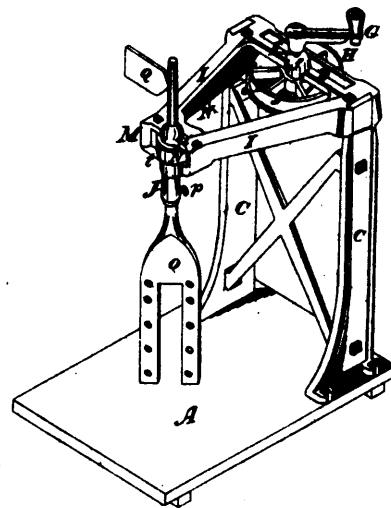
18948 Smith's Stanchion for Cattle.



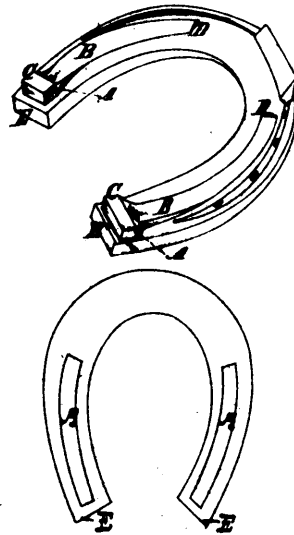
18649 Read's Parallel Vice.



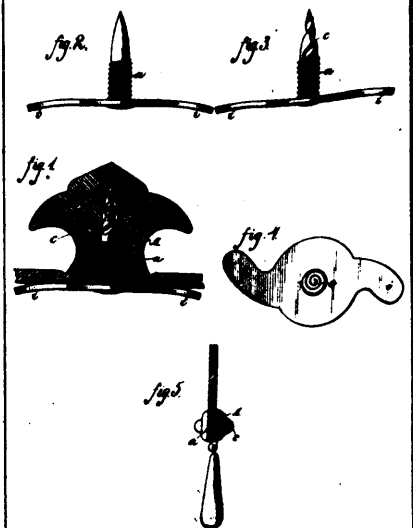
18950 Wakefield's Machine for Cutting Pegs from Boots and Shoes.



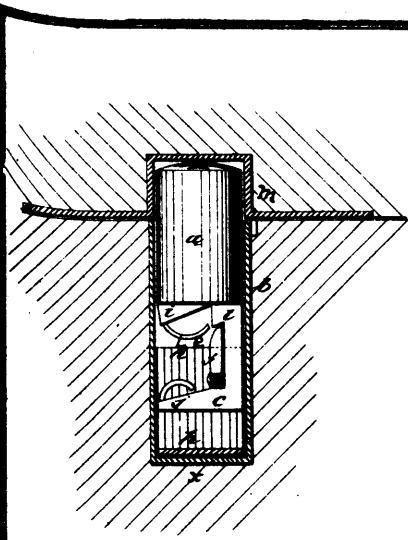
18951 Thompson's Churn.



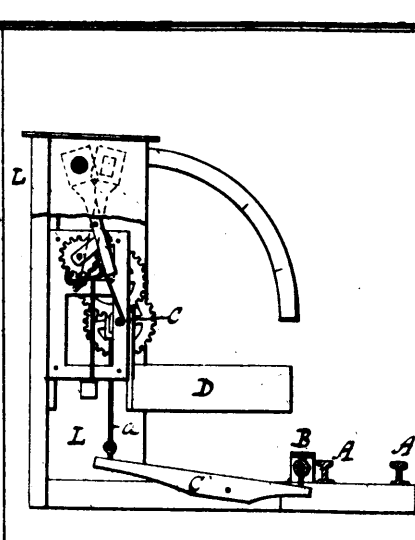
18952 Chatterson's Horse Shoe.



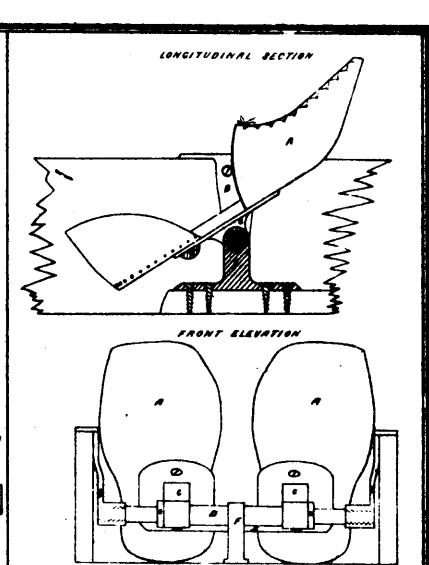
18953 Baxter's Button or Stud Fastener.



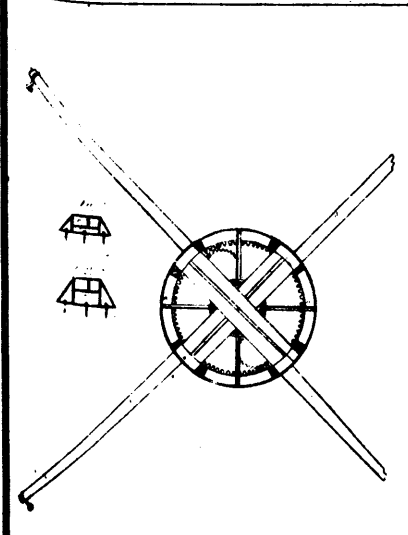
18954 Morris' Lock.



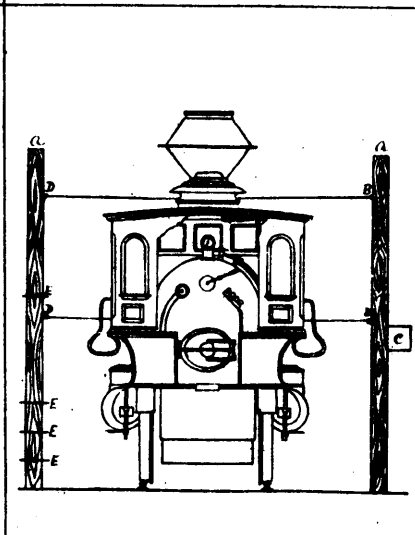
18955 Bound & Boone's Railway Time Signal.



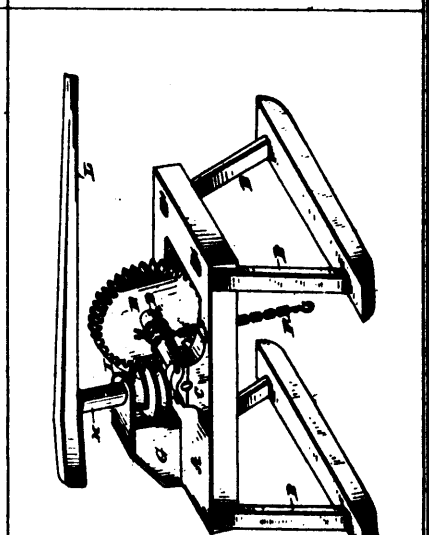
18958 McIntyre's Foot-Seat for Row Boats.



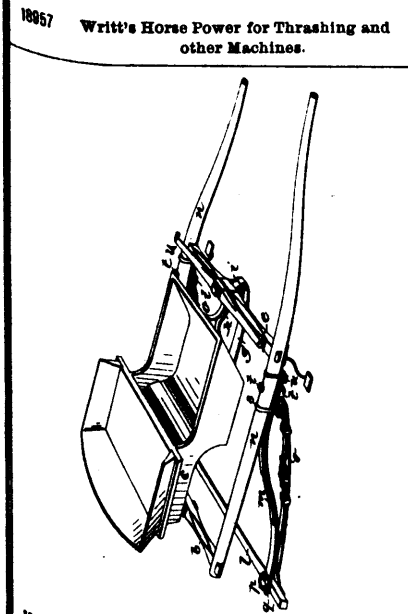
18957 Writt's Horse Power for Threshing and other Machines.



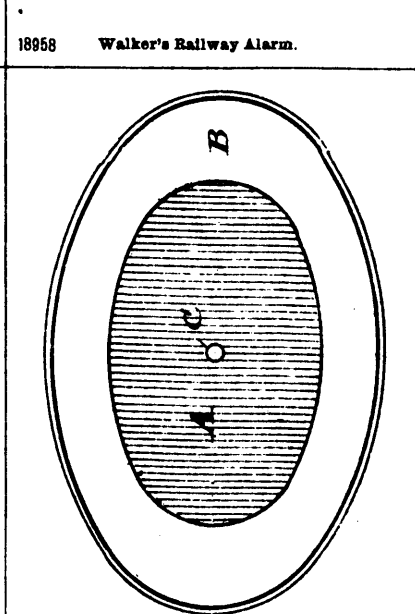
18958 Walker's Railway Alarm.



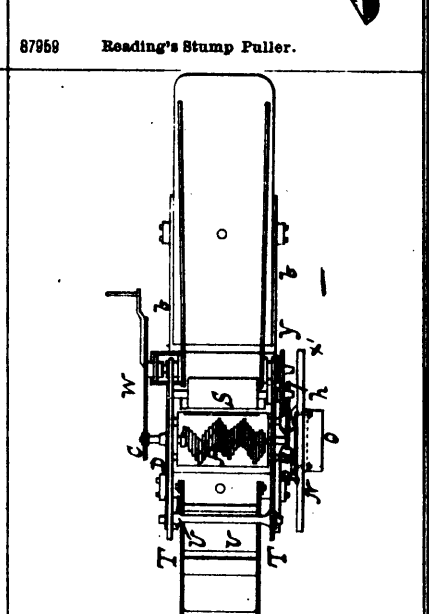
87959 Reading's Stump Puller.



18960 Bach's Road Cart.



18961 Schmidt's Baking Tin.



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