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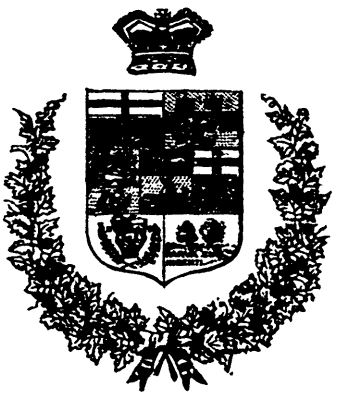

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INVENTIONS PATENTED.

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. 20,681. Furnace for the Manufacture of Sulphate of Soda, or Hydrochloric Acid, or for Roasting or Calcining Ores, or Analogous Purposes. (*Fourneau pour la Fabrication de la Soude Sulfatée ou de l'Acide Muriatique, ou pour Griller ou Calciner les Minerais ou autres fins.*)

William Black, North Eastern Foundry, and Thomas Larkin, East Jarrow, Eng., 4th December, 1884; 5 years.

Claim.—1st. In furnaces of the description hereinbefore mentioned, the employment of fire-places, so arranged that the heat is applied separately and from separate fires to the bottom, and the top of the box chamber, or receptacle, containing the matters under treatment, and so that the products of combustion from their fires do not come into contact with the matters, substantially as hereinbefore described. 2nd. In furnaces of the description hereinbefore mentionod, arranging the machinery by which the materials under treatment are agitated or stirred, substantially in the manner and for the purpose of protecting the same, as hereinbefore described and illustrated by the accompanying drawings. 3rd. The employment of furnaces, as hereinbefore described, for calcining soda, made or produced by what is known as the ammonia process. 4th. The arrangement and combination of parts constituting a furnace for the hereinbefore-mentioned purposes, substantially as hereinbefore described aad illustrated in the accompanying drawings.

No. 20,682. Combined Umbrella and Cane. (*Parapluie-Canne.*)

Dennis C. Gately, Mamaroneck, N. Y. (assignee of John N. Colby, New London, Ct.), U.S., 4th December, 1884; 5 years.

Claim.—1st. The combination of the stick A, having longitudinal grooves therein, with the hollow ribs B, adapted to the grooves, and the stretchers D, adapted to the ribs when the latter are closed, as set forth. 2nd. The combination of the stick and ribs, with rib-holder E, each independent of the others, as set forth. 3rd. The combination of the stick, the ring 3 and the independent rib-holders E, each having a notch 2, as set forth. 4th. The combination of the stick, the ribs B, the rib-holders E and the confining ferrule G, as set forth. 5th. The combination of the runner F, having slots 5, the strips C, adapted to the slots, the stretchers D pivoted to the strips and the confining ferrule H, as set forth. 6th. The seamless, longitudinally-corrugated runner-tube F, as set forth. 7th. The seamless, longitudinally-corrugated runner-tube F, having external projections 6, in combination with the spirally-grooved ferrule H, as set forth. 8th. The combination of the ribs, having shoulders 9 above the tips, with the cover J, having rings 8 adapted to bear against the shoulder, as set forth.

No. 20,683. Combined Chair and Fishplate for Railroad Joints. (*Coussinet et Ecisse pour Joints de Rails de Chemins de Fer.*)

Hiram B. Nickerson, New Bedford, Mass., and Charles A, Robinson, Chicago, Ill., U.S., 4th December, 1884; 5 years.

Claim.—1st. As an improvement in supports and connections of railroad rails, the chair fish-plate and ears or lugs formed integral with each other, the latter being disposed in a common plane with the base of the chair, and formed from material located entirely within the edges of the blank, substantially as described. 2nd. The combined chair and fish-plate, with ears or lugs *b*, *b*, projecting out from the centre of the sides of the former, and disposed in a common plane with the base of the chair, and formed from material located entirely within the edges of the blank, as and for the purpose set forth.

No. 20,684. Truss. (*Bandage Herniaire.*)

Alfred E. Kennedy (assignee of James Y. Egan), Toronto, Ont., 4th December, 1884; 5 years.

Claim.—1st. In a truss, in combination with the strap plate A provided with flange *a*, internally grooved to receive the spring D, said spring D, which gives an equal circular pressure, greater or less at will, and plate E, said plate provided with the projection *d*, peripherally grooved to receive the opposite end of the spring, substantially as described. 2nd. In a pad for trusses, the plate E having the flange *e* internally grooved to hold a central pad, also the two holes, for the purpose of receiving and holding in position the piece H, substantially as described. 3rd. In a pad for trusses, in combination with the cup-shaped plate E internally grooved, the oblong and flat central pieces F, or G, fitted into the said plate, as set forth, whereby they can be adjusted in the cup to suit the wearer, substantially as and for the purpose described. 4th. In a pad for trusses, in combination with the cup-shaped plate E, with the two holes, the cone-shaped piece H fitted and attached to the said plate E by means of the insertion of the projection on the bottom of the piece H, into either of the holes, as set forth, whereby it can be adjusted in the cup to suit the wearer, substantially as and for the purpose described. 5th. In a pad for trusses, the plate E having on one side the flange *e* internally grooved to hold a central pad, also, on the same side, two holes to hold the cone-shaped piece H, and its other side provided with a groove, in combination with a spring constructed to be sprung into said groove, substantially as described.

No. 20,685. Fence Machine. (*Machine à Clôture.*)

George Q. Adams, Quincy, Ill., U.S., 4th December, 1884; 5 years.

Claim.—1st. In a fence machine, the wire reel carriers 4, reel 7, shaft 8, provided with pin 11, in combination with twisting head 5, substantially as and for the purpose set forth. 2nd. In a fence machine, the twisting head 5 consisting of a hollow casing, the sleeve 12 with curved ends 13, in combination with spur gear 14, bevel gear 15, crank 16, substantially as and for the purpose set forth. 3rd. In a fence machine, the gripping arms 21 and 22, lever arms 25 and 26, in combination with shaft 23 and 24, carriage 27 and lever 28, substantially as and for the purpose specified and set forth. 4th. The stops 29 pivoted to the frame, in combination with rod 30 and feed arm 18, substantially as and for the purpose specified and set forth. 5th. In a fence machine the disk 32*b* with slots or mortise 32*a*, and hub or arms 33, with adjusting screws 35 and sleeve 34, in combination with bars 31, with tenions or tongues 32, substantially as and for the purpose specified and set forth. 6th. In a fence machine, the pawls 38, in combination with disc wheel 36 having a flange 37, forked arm 48, lug 39, connecting rods 40, lever arms 41 and hand-levers 42, substantially as and for thepurpose specified and set forth. 7th. In a fence machine, the flat circular ring 43 with annular slot 44, movable pin 45, adjustable stop-pin 46, in combination with forked arm 47, bevelled gear 15, crank 16, substantially as and for the purpose set forth. 8th. In a fence machine, the frame 1, 2, 3, wire reel 7, reel carriers 4, twisting head 5, sleeve 12, gripping arms 21 and 22, stop 29, winding reel 31, all constructed as described and operated substantially as and for the purpose specified.

No. 20,686. System of and Apparatus for Farm Cultivation and Harvesting. (*Système de Culture et de Moisson et Appareil pour cet Objet.*)

Robert Romaine, Ottawa, Ont., 4th December, 1884; 15 years.

Claim.—1st The herein-described method or system of farm culti-

vation, which consists in dividing the land into sections of uniform width with compacted dirt roads on both sides of each section, and carrying over such section a bridge or frame supported near its ends by road locomotives travelling upon said roads, the frame or bridge being provided with implements to act upon the soil, or crop over the entire width of the span or section. 2nd. The system or method of farm cultivation, which consists in suspending the implements from a frame or bridge-like structure extending entirely across the section to be cultivated, and carried at its ends outside of said section upon road locomotives, causing said structure to travel from end to end of the section, and then transferring it laterally to the adjoining section and repeating the operation. 3rd. A locomotive bridge for carrying cultivating or farming implements, consisting of an elevated horizontal frame or structure, supported at its opposite ends by road-engines, substantially as shown and for the purposes set forth. 4th. In a locomotive bridge or structure for carrying or suspending farm machinery for use in the field, an elevated horizontal trussed platform carried near its end upon traction wheels and projecting beyond the latter at each end, and an engine mounted upon the projecting portion at each end, substantially as shown, whereby it is adapted to counterbalance the central portion of the structure. 5th. In combination with an elevated frame or platform, carried at its ends by traction-wheels, and driven by engines mounted upon said platform, a horizontal shaft extending from one side or end of the platform to the other, and provided at short intervals with wheels or gearing, whereby it is adapted to impart motion to independent implements of machinery at different points on the platform, as shown and described. 6th. In a locomotive bridge, substantially such as described, for use in farm cultivation, the combination of a platform, traction-wheels at opposite ends thereof supporting the same, engines mounted upon said platform, and friction-clutches connecting the separate engines, each with traction-wheels at the end of the platform on which the particular engine is mounted, and connected by rods, with hand-levers at each end of the platform, whereby the steersman at either end of the said platform may retard either set of bearing wheels by momentarily holding the clutch at that end out of action, as shown and described. 7th. In combination with the platform-bridge K_5, traction-wheels *c*, *c*, engines *t* and boilers *u*, steam-pipe *i* connecting the steam-chambers of the two boilers, whereby both engines are caused to act with like power, substantially as shown and described. 8th. In combination with a locomotive bridge arranged to do farm-work, travelling on compacted dirt roadways, substantially as shown and described, the small pilot-wheels w_1, two on each side of said bridge having projecting flanges or rims to travel and form indented channels upon and in the said compacted dirt roadways, for the purpose of indicating to the steersman the proper line of movement, substantially as described and shown. 9th. The combination, with the locomotive bridge herein described, of a reel having hooks h_4, and bolts, whereby it may be readily attached to or detached from the bridge, for the purpose explained. 10th. A locomotive bridge for farm cultivation, provided with main carrying wheels, and supplemental carrying-wheels permanently set at right angles to the first, and means, substantially such as described and shown, whereby the weight of the bridge may be thrown entirely upon the transverse wheels, and the main wheels raised from the ground to permit the lateral movement of the bridge from one section to the other, as shown and described. 11th. In a locomotive bridge or frame, substantially such as shown and described, the combination of the main carrying-wheels, and secondary wheels, and pressure-cylinders adapted to guide the spindles of the secondary wheels, and to receive the fluid by which the said bridge is raised upon said spindles, as shown and described. 12th. In combination with a locomotive bridge, substantially such as described, adjustable frame-works s_4, one attached to each side of the locomotive bridge, and each provided with independent shafts u_4 adapted to be raised and lowered, as explained and for the purpose set forth. 13th. In combination with a locomotive bridge, substantially such as shown and described, a series of self-adjusting vertical spindles, armed with tools or implements at their lower ends, to operate in or upon the soil or crops over which the bridge passes.

No. 20,687. Steam Generator.

(*Appareil Vaporifère.*)

Joseph E. Culver, Jersey, N.J., U.S., 4th December, 1884; 5 years.

Claim.—1st. The combination, in a steam-generator, of a thermostatic flue system, as described, a feed-water inlet, sectional water-spaces and their connections, and an annex boiler with its steam dome, substantially as shown and set forth. 2nd. The combination, in a steam generator, of a furnace, a secondary combustion chamber, a thermostatic flue system, as described, and an annex boiler, substantially as and for the purpose set forth. 3rd. The combination, in a steam generator, of a thermostatic flue system, as described, secondary combustion-chamber, a system of water tubes crossing said chamber, and an annex boiler, the whole being arranged to operate, substantially as shown and described. 4th, The combination, in a steam generator, of a thermostatic flue system, as described, a secondary combustion chamber, an annex boiler and an air inlet pipe adapted to heat and discharge a current of air into the entrance of the secondary combustion chamber, the whole being arranged to operate substantially as shown and described. 5th, The combination, in a steam generator, of a thermostatic flue system, as described, a secondary combustion-chamber, an annex boiler having a fire-plate g_1, and a series of water-pipes j_1, adapted to prevent the cushioning of steam in the annex boiler, substantially as shown and described. 6th. The thermostatic flue system described and shown, consisting of two or more chambers connected by multitubular flues, the chambers containing numerous crossed and interspaced water-tubes, substantially as and for the purposes set forth. 7th. The thermostatic flue system described and shown, consisting of two or more chambers connected by multitubular flues, each chamber being inclosed in a separate water-hood, and containing numerous crossed and interspaced water-tubes. substantially as described and shown. 8th. A boiler-shell, constructed with two elbows, the one nearest the furnace extending upward and adapted to contain a secondary combustion chamber and an annex boiler with its steam dome, the other being the rear end of the shell prolonged downward and adapted to contain a lower chamber inclosed in its water-hood, and to receive the feed-water inlet pipe and smoke-exit flues, substantially as and for the purposes set forth. 9th. In combination with a thermostatic steam-generator, a spraying pipe adapted to operate as described, either to condense steam from pipe E, or temper the products of combustion employed as a source of motive power, substantially as shown and described. 10th. In combination with a thermostatic steam-generator, the spraying-pipe m_4, in combination with steam-pipe E, and smoke and steam mixing pipe M, substantially as and for the purposes set forth.

No. 20,688. Compound for Preventing the decomposition or Putrefaction of Animal and Vegetable Matters

(*Composition pour Empêcher la Décomposition ou Putréfaction des Substances Animales et Végétales.*)

William Hibbert, Manchester, Eng., 4th December, 1884 ; 5 years.

Claim.—The mixture or compound for preventing or arresting the decomposition and putrefaction of animal and vegetable matters, formed by the combination of muriate of magnesia, muriate of soda, bromide of magnesium, and sulphate of potassium, as hereinbefore more particularly set forth.

No. 20,689. Apparatus for Adjusting Harvester Reels. (*Appareil pour Assujétir les Râteaux des Moissonneuses.*)

George H. Howe, Hoosick Falls, N. Y., U. S., 4th December, 1884 ; 5 years.

Claim.—1st. A reel support for a harvester, composed of two parts or frames hinged together, each frame made of two bars crossing each other, the lower frame hinged at its lower end to the main frame of the machine, in combination with the connecting-rod hinged to the main frame in rear of the lower supporting frame, substantially as described. 2nd. A reel support, composed of two parts hinged together, the lower part being hinged to the frame, or some stationary part of the machine, in combination with two segmental racks mounted upon the same shaft, and the hand-lever provided with two pawls engaging with said rack, whereby the upward and downward and forward and backward movements of the reel can be made by means of a single lever, substantially as described. 3rd. The combination of the segments A and B, the lever D, the small levers *c* and c_1, the pawls A_2 and B_2, the connecting-rods and the springs, substantially as described. 4th. The combination of the frames H, H_1 and K, K_1, the rods I_1, which forms the hinge connection between said frames, and the coiled spring I, substantially as and for the purpose described. 5th. The combination of the upper and lower swinging supporting frames, the rod by which they are hinged together, the segment A rigidly fixed to the lower swinging frame H, H1, the segment B swinging freely on said hinge-rod, the lever D and locking mechanism, substantially as described. 6th. The combination of the swinging frame hinged to the frame, or some stationary portion of the reaper, the segment A mounted on the upper portion of said swinging frame, the segment B turning freely on its axis, the connection hinged at its upper end to said segment B, and at its lower end to the frame, or some other stationary part of the reaper, the lever D and locking mechanism, substantially as described.

No. 20,690. Hand Sewing Machine.

(*Machine à Coudre à Main.*)

Adin M. Barber, Jersey, N.J., U.S., 4th December, 1884 ; 5 years.

Claim.—1st. The combination, with two hand-levers, of a needle carried by one of the said levers, a shuttle-race and a shuttle-lever carried by the other of the said levers, and mechanism connected with the said levers for operating said shuttle-lever, substantially as described. 2nd. The combination, with two hand-levers, of a needle-carried by one of the said levers, a feeding device supported upon the other of the said levers, and mechanism for imparting a four motion movement to said feeding device, to advance the work when the needle is out of the same, substantially as described. 3rd. The combination, with two hand-levers, of a needle and a take-up carried by one of the said levers, a shuttle-race and a shuttle-lever carried by the other of the said levers, and mechanism connected with them for operating said take-up and shuttle-levers, substantially as described. 4th. The combination of the levers A and A_1, spring B, housing A_2, and shuttle-lever G supported on the lever A, with mechanism for operating said shuttle-lever from the lever A_1, substantially as set forth. 5th. The combination, with the levers A and A_1, of the take-up lever D pivoted to the lever A_1, and means for operating said take-up lever intermittingly from the lever A, substantially as described. 6th. The combination, with the levers A and A_1, of the take-up lever D and link d_1, substantially as set forth. 7th. The combination, with the operating levers A, A_1, provided with arms *t*, t_1, of the horizontally vibrating lever provided with the flukes or cams *f*, *f*. 8th. The combination of the levers A, A_1, having cam-faced arms *t*, t_1, the horizontally vibrating lever having the flukes or cams *f*, *f*, and the shuttle, substantially as set forth. 9th. The combination, with the hand-levers A, A_1, of a feed or spacer, and mechanism for tilting the feed shaft and for imparting an oscillating motion thereto, substantially as described. 10th. The combination of the hand-levers A A_1, the feed, the link L, the rod M and the spring *u*, substantially as described. 11th. The combination of the levers A, A_1, the feed provided with extension and crank arm, the link L, the rod and the spring, substantially as described. 12th. The combination, with an oscillating feed, of the slotted operating link L, provided with means for regulating the length of the stitch, substantially as described. 13th. The combination, with an oscillating feed, of the slotted operating link L, provided with set screw *q* for regulating the length of the stitch, substantially as described.

No. 20,691. Wooden Shovel. (*Pelle de Bois.*)

Charles P. Gélinas, St. Maurice, Que., 4th December, 1884; 5 years.

Claim.—As a new article of manufacture, a wooden shovel having the blade B formed from a piece of board having the length, width and thickness of the finished blade, and pressed into the required form between molds or matrix, is, while in a pliable state, produced by steaming, provided with a back piece *b*, corner straps *c* and *a*, handle H formed of straight wood, steamed and bent into the desired form, and suitably secured, substantially as shown and described and for the purpose set forth.

No. 20,692. Spring Hinge. (*Penture à Ressort.*)

John C. Nichol, Montreal, Que., 6th December, 1884; 5 years.

Claim. 1st. In a spring hinge, the combination, with the leaves A, A having ordinary knuckle, of the arms C, C1, independent spring spindle D and spring E coiled thereon, and having extension E1 substantially as shown and for the purpose specified. 2nd. The combination, with the spindle D, spring E and arms C, C1, of the hold-fast device D1, or its equivalent, substantially as and for the purpose described.

No. 20,693. Hoop Bending Machine.

(*Machine à Plier les Cercles.*)

George E. Smith, Middleport. N. Y., U. S., 6th December, 1884; 5 years.

Claim.—1st. In hoop-bending machines, the herein described pair of bow-shaped springs, located one at each end of the tension roller and supporting the same by a collar attached to the centre and front of each spring and slipped upon the axle of said roller, the ends of each spring adjustably bearing against the edge of the adjacent upright post, near the head and the foot of said post, for the purpose of regulating the tension of the endless belt, by whose pressure and curvilinear motion the hoops are bent. 2nd. In hoop-bending machines, the combination consisting of the herein described bow-shaped springs carrying the tension-roller and bearing against the upright posts, the herein-described collars by which the tension roller is supported and kept in place, the herein described re-enforces attached to the front faces of the bow-shaped spring, the herein described slides working upon the outer faces of the upright posts to regulate the distance between the drum or middle roller and the tension roller, the herein described slots cut horizontally in the faces of the upright posts to permit the drum to be carried toward or from the tension-roller, the herein described hand-screws bearing against the upright posts and working through the upper ends of the bow-shaped springs, the herein-described chambers or recesses formed in the upper part of the edges of the upright posts, to receive the hand-screws by which the upper ends of the bow-spring are retained and adjusted, and the herein described journal-boxes formed upon one end of the horizontal slides which work upon the upright posts, for the purpose of regulating the tension of the endless belt by which the bending of hoops is effected.

No. 20,694. Carriage Pole or Shaft Attachment. (*Armon de Timon ou de Limonière de Voiture*)

James M. Dille, Cooperstown, Pa., U. S., 6th December, 1884; 5 years.

Claim.—1st. The combination, with a vehicle pole or shaft bent downward at its rear end, of a spring attached to the under side of the pole or shaft, and bent down forward of the said bend of the pole or shaft, the rear end of the spring being provided with means for attachment to a vehicle, and the rear end of the pole or shaft being provided with a loop encircling the spring, as shown and described. 2nd. The combination, with a vehicle pole or shaft, of a spring secured to the underside thereof, and provided with means for attaching to a vehicle, of a pad having a socket and a ball upon the said spring fitted to said socket, as and for the purpose specified. 3rd. A pair of springs, constructed to spring toward each other, provided with balls on their ends, and means for securing them to the pole or shaft of a vehicle, in combination with a pair of pads, each provided with a socket to receive one of said balls, as and for the purpose specifidd. 4th. The combination, with a pair of carriage shafts B, of a spring hold-back D secured thereto at its ends *e* in a horizontal position, thence extending backward turned to a vertical position, and crossing from shaft to shaft. 5th. The combination, with the hold back D secured at its ends to the two shafts, to spring upward from its point of attachment, of a pair of yokes *f* passing around the hold-back and around the shafts, and the adjusting screw nut *g*, substantially as shown and described.

No. 20,695. Razor Guard. (*Guide-Razoir.*)

James P. Tryner, Denver, Col., U.S., 6th December, 1884; 5 years.

Claim.—1st. A razor-guard, constructed of a strip having a forked arm at each end, two rollers being journalled in the ends of the corresponding prongs of the forks, substantially as herein shown and described, and for the purpose set forth. 2nd. The combination, with a razor-guard and a blade mounted therein, of one or more adjusting screws mounted on said guard and loosely connected to said blade, whereby by turning the screw or screws the blade may be moved in either direction as may be desired, substantially as set forth. 3rd. A razor guard consisting of the back plate A, vertical arms *a*, *b* and rollers C, in combination with blade F mounted in said guard and one or more adjusting screws on said back plate A, said screw or screws being connected loosely to said blade, substantially as set forth. 4th. The combination of the back plate A, vertical arms *a*, *b*, and rollers C, C, and blade F, with the dove-tailed plate M embracing the back of the blade, and set screws mounted in the plate A and loosely connected to said plate, substantially as set forth.

No. 20,696. Alarm Apparatus for Automatic Fire - Extinguishers. (*Appareil d'Alarme pour Extincteurs d'Incendie Automatiques.*)

Charles C. Worthington, Irvington, N. Y., U.S., 6th December, 1884; 5 years.

Claim.—1st. The combination, with an automatic fire-extinguisher or sprinkler, of electrical circuit connections for operating an alarm mechanism, a cup, as 17, arranged to be filled by the water escaping from the sprinkler, and connections, whereby the water in the cup makes operative said electrical circuit to give an alarm, all substantially as described. 2nd. The combination, with an automatic fire-extinguisher or sprinkler, provided with a cup, as 17, arranged to be filled by the water escaping from the sprinkler, of an electrical circuit for operating an alarm mechanism, and connections, whereby the water in the cup closes said circuit to give an alarm, all substantially as described. 3rd. The combination, with an automatic fire-extinguisher or sprinkler, of a cup, as 17, arranged to receive the water escaping from said sprinkler, and an electrical circuit passing through or into said cup and connected to an alarm mechanism, and so arranged that the water in said cup will complete said circuit and cause an alarm to be given, substantially as described, 4th. In an automatic fire-extinguisher or sprinkler, the combination, with the nozzle 10, and the valve plate 9 for closing the same, of the cup 17, means for conducting any water which may leak from said nozzle into said cup, and an electric circuit for operating an alarm mechanism, which circuit is arranged to be made operative by the water thus accumulated, substantially as described.

No. 20,697. Horse Shoe. (*Fer à Cheval.*)

William W. Box, Crayford, and Francis J. Beadle, Erith, Eng., 6th December, 1884; 5 years.

Claim—1st. In horse shoes, the wrought iron or steel body *b*, in combination with the steel calks *a*, welded or secured to the said body, substantially as and for the purposes set forth. 2nd. The taper holes *c*, in combination with the transverse holes *d*, and taper pegs *e*, as and for the purposes set forth.

No. 20,698. Machine for Pulverizing and Distributing Manure. (*Machine à Ecraser et Distribuer les Engrais.*)

Peter Johnson, Dassel, Minn., U.S., 6th December, 1884; 5 years.

Claim.—1st. The combination, with the ordinary waggon having a fixed or closed bottom, of the shaft *a* journalled at the rear end of said waggon heads *e*, and bars *f*, the latter having the pins *h* and knives *g* thereon, the eccentrics *p* and the spring-pressed pawls *o* on said shaft, the scraper *i*, chains *k* connected therewith, the shaft *m* having chain wheels *l* thereon, and also the ratchet wheel *n* to be operated by pawl *o*, and the gearing, substantially as shown, for rotating the shaft *a*, and consequently the shaft *m*, all operating as set forth. 2nd. In a manure distributing wagon, substantially as described, the distributing wheel A at the rear end of the wagon body, and having cutters or knives *g* and pins *h* thereon, for the purposes specified. 3rd. The combination, in a manure distributer, constructed as shown and described, of the scraper *i*, chains *k* connected to said scraper, and the auxiliary plates *w* on said chain, for the purpose set forth. 4th. The combination, in a manure-distributing wagon, having a closed bottom, of a rotary distributing reel at the rear of the wagon a scraper fitted for movement on the wagon, bottom, mechanism for rotating the reel from the wagon axle, ratchet mechanism for moving the scraper and devices for throwing the ratchet out of gear, all as specified.

No. 20,699. Thrashing Machine.

(*Machine à Battre.*)

Marion J. Foster and George H. Moore, Ashley, Ill., U.S., 9th December, 1884; 5 years.

Claim.—The combination, with a concave, constructed as described of the cross bar, the notched lever for operating the concave through the cross-bar, the cross-arm, the pivoted pawl and spiral spring, substantially as specified.

No. 20,700. Truss Pad. (*Bandage Herniaire,*)

Sherman R. Nye and Henry W. Nye, Chicopee Falls, Mass., U.S., 9th December, 1884; 5 years.

Claim.—The improved truss pad composed of the socketed rigid base-plate, the disks or sections having shanks adapted to slide longitudinally in the sockets of the base-plate, and springs arranged to normally press said sections outwardly from the base-plate, and permit said sections to yield independently.

No. 20,701. Envelope. (*Enveloppe.*)

Knot H. Pedrick, Lynn, and Charles D. Palmer, Lowell, Mass., U.S., 9th December, 1884; 5 years

Claim.—In an envelope having a letter sheet integral with the body thereof, the parts A, B, sheets C provided with the perforations *m*, flap *d* provided with the perforations *g*, and flap *f* provided with the perforations *i*, constructed, combined and arranged to operate substantially as specified.

No. 20,702. Centrifugal Creamer.

(*Boîte à Lait Centrifuge.*)

Gustaf De Laval, Stockholm, Sweden, 9th December, 1884; 5 years.

Claim—1st. A rotary vessel C for a fluid separator, provided with an upwardly projecting throat C1 open at the top, and having a discharge orifice or notch *j* in its upper edge, substantially as and for the

purpose described. 2nd. The combination, with the rotary vessel C, of the blade *i* extending nearly, but not quite to the side wall of the vessel, leaving an opening *i* between the outer edge of the blade and the vessel, substantially as described, and as illustrated in the accompanying sheet of drawings. 3rd. The combination, with a rotary centrifugal separator for liquids having an upwardly extending throat, of a stationary blade, and the central receptacle *h* for the liquid within such separator, the pipe *d* extending from the inside of the rotary separator to one of the places of delivery in the throat, and a discharge orifice or notch in such throat, substantially as set forth. 4th. The rotary centrifugal separator for liquids having an upwardly extending throat, in combination with a vertical shaft, and means for revolving the same, a central receptacle *h* for the liquid, two openings in the throat for the delivery of the two liquids of different gravities, a pipe extending from one of those openings to the interior of the vessel, and two receivers D, D1 surrounding the throat, substantially as set forth. 5th. The combination, with the revolving centrifugal separator, of a neck, a delivery pipe extending from the interior of the separator to the delivery opening in the neck, and a screw or regulating device for the delivery opening, substantially as specified.

No. 20,703. Clothes Dryer. (*Séchoir à Linge.*)

Calvin G. Udell, Indianapolis, Ind., U.S., 9th December, 1884; 5 years.

Claim.—1st. The clamp for fastening a wooden rod or handle to any device, composed of the plate C, side lugs *a*, *a* on opposite sides, and a suitable ring or shank, substantially as described. 2nd. The clamp for fastening a wooden handle to any device composed of plate *b*, opposite lugs *a*, *a* made of malleable metal, in combination with a wooden rod or handle, substantially as described. 3rd. In a clothes drying frame, the standard *r*, rods *r1* attached thereto rigidly on one side, the rods provided at the other end with the metal ring clamps, herein described, for hinging one section to the standard of a second section, all combined substantially as described.

No. 20,704. Horse Collar. (*Collier de Cheval*)

William J. Lunney, Pakenham, Ont., 9th December, 1884: 5 years.

Claim.—1st. As a new article of manufacture, a horse collar with cushion A, provided with a thick covering of porous material on its inner side, substantially as shown and the purpose described. 2nd. As a new article of manufacture, in a horse collar, the combination of the cushion A with the inside covering B of porous absorbent material, united to the outside covering of the collar by its edges *a* and *b*, substantially as herein shown and described and for the purpose set forth.

No. 20,705. Sectional Steam Boiler and Furnace. (*Chaudière et Foyer à Vapeur en Sections.*)

Gilbert A. Colby, Chicago, Ill., U.S., 9th December, 1884: 5 years.

Claim.—1st. The combination, with the float chamber placed at the front of the furnace, away from the fire of the superheating tubes *i* and the tubes *f*, said tubes *f* being each connected with a different separation chamber *d*, whereby the supply of water is regulated and the steam separated from the water and carried to the exit-pipe, substantially as and for the purpose specified. 2nd. The combination, with the mud drum divided into two compartments by the plate *b*, of the tubes *a*, *a*, connected respectively near the different ends of the mud drum below and above the partition *b*, whereby the water is heated nearly to the point at which steam is generated, while a gentle current is kept constantly flowing downwardly over the free edge of the partition, substantially as and for the purpose specified. 3rd. The coils *c*, *c*, each extending from the mud drum and connecting twice with a separation chamber *d*, and the pipes *e* of the same size as the coils connecting the different separation chambers with the mud drum, substantially as and for the purpose specified. 4th. In a mud drum, the curved plate *b* in combination with the lateral pipes *a*, *a*, the free edge of said curved plate extending nearest to the wall of the drum between the ends of said lateral pipes respectively, whereby the water is caused to flow downwardly over the edge of the curved plate, while the sediment is prevented from entering the lateral tubes, substantially as and for the purpose specified. 5th. The combustion arch formed of tile *m* placed below the boiler, in combination with the conduits *n*, *o*, connecting with the conduits of the arch and the openings *p* in the arch conduits, whereby heated air is supplied to aid the combustion, substantially as and for the purpose specified. 6th. The comoination, in a furnace for heating steam boilers, of the grate bars resting upon bearings or lugs provided upon the wall plates, the slotted arms provided upon said bars, the tie bar and the pinion shaft, substantially as and for the purpose specified. 7th. The combustion arch placed over the furnace below the boiler, consisting of tubes or air conduits, provided with openings *p*, said tubes being open at the front and rear, whereby air may be drawn in from both directions and heated and distributed, substantially as and for the purpose specified. 8th. The combination, in a furnace, with the grate bars connected together by a tie-bar and supported by independent bearings, of the pinion shaft engaging with a lug or arm of one of said bars, whereby all the bars may be shaken together, substantially as and for the purpose specified. 9th. The combustion arch placed over the furnace below the boiler, consisting of tubes or air conduits provided with openings *p*, said tubes being open at one or both ends, whereby air may be drawn into the tubes and distributed through the openings *p*, substantially as and for the purpose specified.

No. 20,706. Method of Imparting Ferro-Manganese to Chill Hardening Cast Iron. (*Méthode pour Communiquer le Ferro-Manganese à la Fonte de Fer Coulée en Coquille.*)

William Wilmington, Toledo, Ohio, U. S., 9th December, 1884; 5 years.

Claim.—The method of imparting a definite quantity of rich ferro-manganese of commerce to a given amount of molten chill hardening cast iron in the ladle before pouring the article desired to be cast, which consists in placing in a pouring ladle, containing molten chill, hardening cast iron rich powdered ferro-manganese, the same being reduced to that degree of fineness, that it will be melted and disseminated through the molten iron in the ladle by the inherent heat contained in the same, without the aid of extraneous heat, all substantially as described and for the purpose set forth.

No. 20,707. Roller Skate. (*Patin à Roulettes.*)

Henry W. Simms, Bay City, Mich., U.S., 9th December, 1884; 5 years.

Claim.—1st. The combination of the foot-rest, the box or casting, the screw bolt and a nut, substantially as shown. 2nd The combination of the boxes, the rubber, the wedge-shaped plate, and a set-screw for moving the plate to tighten the rubber in place, substantially as described. 3rd, In a roller skate, a journal or bearing made in two separate and distinct pieces, substantially as set forth. 4th. The combination of the journals made in separate pieces, the casting through which they pass, and a set-screw for holding them together, substantially as specified. 5th. The combination of the rollers, the journals provided with concave heads, the castings through which the journals pass, and the set-screw for holding the journals in place, substantially as shown and described.

No. 20,708. Sad Iron. (*Fer à Repasser.*)

Richard F. Preusser, Lumbertville, N.J., U.S., 11th December, 1884; 5 years.

Claim.—The combination, in a sad iron A, having projections B on the top of the plate C, secured thereto by means of the screws D, and provided with ribs D1, the detachable plate E, and hooked lever H, and its spring M, and button L and the handle P, all constructed and adapted to operate, substantially as specified.

No. 20,709. Folding Table. (*Table Brisée.*)

Calvin G. Udell, Indianapolis. Ind., U. S., 11th December, 1884; 5 years.

Claim.—In a folding table, the pairs of legs united by a cross piece *c p*, and provided with openings to receive the lugs of hinging brackets, in combination with such brackets and a top, substantially as described, 2nd. In a table, a pair of legs on each end, united by a cross piece and adapted to fold up underneath the top by means of suitable hinges, substantially as described. 3rd. In a folding table, a pair of folding legs at each end united by a cross piece *c p*, hinged upon corner brackets *b r*, a top *t* and the brace *b* and locking case *s c*, all combined substantially as described. 4th. The locking case *s c*, provided with slot *l s* and shell enclosing spring *s p*, the stop *st*, notched as described, in combination with the T-headed brace *b* hinged to the cross piece *c p*, and a pair of folding legs hinged by brackets, or their equivalent, to the table frame, substantially as and for the purpose described.

No. 20,710. Clothes Wringer. (*Essoreuse à Linge.*)

Adélard F. Martel and R. Beaugrand Champagne, Montreal, Que., 11th December, 1884; 5 years.

Claim.—1st. The combination, with a clothes wringer, of the spur wheel E, gearing in the pinion F, engaging the square end of the shaft of the lower roller, and journalled in the frame piece C, connected to the wringer frame by a piece *c*, the hand lever H journalled upon the axle *f*, and connected by a link I to radial arms G, journalled upon the axle of the wheel E, and provided with a hooked pawl J engaging the wheel E, and the lever H provided with a hooked pawl K engaging the wheel F. 2nd. The lever H, journalled upon the axle *f* and pivotally connected to by a link I to radial arms G, journalled upon the axle D and carrying a pawl J, engaging the spur-wheel E, gearing into the pinion F, which engages the square end of one of the rollers of a wringing machine, all substantially as shown and described and for the purpose set forth.

No. 20,711. Well Borer. (*Sonde de Puits.*)

Toussaint Chenette, St Athanase d'Iberville, and Alphonse Chenette, St Roch de Richelieu, Que., 12th December, 1884; 5 years.

Réclame.—1o. Dans une sonde de puits cuvelée, la combinaison d'un tube perceur A, et d'une poignée ou manivelle tubulaire et mobile, tel que décrit et pour les fins indiquées. 2o. Dans une sonde de puits cuvelée, la combinaison d'un tube perceur A, muni d'une poignée ou manivelle tubulaire et mobile, et d'un tube flexible tel que ci-dessus décrit et pour les fins indiquées. 3o. Dans une sonde de puits cuvelée, la combinaison d'un tube perceur A, muni d'une poignée ou manivelle tubulaire et mobile, et d'un tube flexible, et d'une pompe qui y est attachée ayant des trous D, une mèche C, tel que ci-dessus décrit et pour les fins indiquées.

No. 20,712. Whiffletree Clip. (*Crochet de Palonnier.*)

Robert S. Clark, Ann Arbor, Mich., U. S., 12th December, 1884; 5 years.

Claim—1st. The combination of the locking pin or bolt H, having lugs *h* and shoulders *h1*, in combination with the plate A, having a hole I, on the edge of which notches are cut, and the plate *b*, having a hole I, on the lower edge of which spiral surfaces are formed, as and for the purposes described. 2nd. The combination of the parts A and B hinged together, as described, and each provided with projections M, as and for the purposes set forth.

No. 20,713. Ore Dust Exhaust Apparatus. (*Aspirateur de Poussière de Minerai.*)

Thomas D. Dotterer, Charleston, S. C., U. S., 12th December, 1884; 5 years.

Claim.—1st. The combination, with an ore-crushing machine, of a suction fan, together with a series of pipes and receptacles for receiving the pulverized ore, substantially as shown and described. 2nd. The combination, with an ore-crushing machine, of the draft tube B, provided with the valve *b*, the receiver C, having the screen *h*, suction pipe *c*, blast tube *d*, garner E, valve *e* and return pipe *f*, substantially as described and for the purpose set forth.

No. 20,714. Connecting Rod and Pitman.

(*Bielle de Raccordement et Axe Coudé.*)

John B. Lang, Ithaca, N.Y., U.S., 12th December, 1884; 5 years.

Claim.—A connecting-rod, provided with a set-screw, whose head is held in a cross-bar next to the shaft-boxing, and the burr of which on the thread of the set-screw bears on the metallic substance of the rod, the set-screw and burr being adjusted in the interior of the rod in the line of its length, as shown and described. 2nd. The combination of the projection *f* of the connecting-rod, with the burr *e* and set-screw *h*, all within the interior of the rod, substantially as described. 3rd. The transverse cross-bar, provided with a four, six, or other sided cavity, fitted to receive the head of the set-screw, in combination with the shaft-boxing, set-screw, screw-burrs and projection on which the burr of the set-screw turns, substantially as shown and described.

No. 20,715. Egg Beater. (*Fouet de Cuisine.*)

Theodore Fletcher, Hilburn, Assiniboia, 12th December, 1884; 5 years.

Claim.—1st. In an egg-beater, the combination, with the cylindrican having a detachable cover, of a removable beater frame comprising a series of legs or connecting rods, and a series of sieves connected by the said rods, substantially as and for the purpose set forth. 2nd. In an egg-beater, the herein-described beater frame, consisting of a series of rings or bands forming the frames of the series of screens, which are suitably connected to the said bands, substantially as and for the purpose set forth.

No. 20,716. Automatic High and Low Water Gauge and Alarm for Steam Boilers. (*Indicateur d'Eau Automatique à Sifflet pour Chaudières à Vapeur.*)

John C. Palmer, Charles B. Snow and Alexander A. Wyllie, Hamilton, Ont., 12th December, 1884; 5 years

Claim.—1st. The combination of float D, rod R, collar S, levers E, F and slides 1 and 2, and chamber A, substantially as and for the purpose hereinbefore set forth. 2nd. The combination of levers E, F, valve spindle G, collar S and whistle H, substantially as and for the purpose hereinbefore set forth.

No. 20,717. Ruler for Measuring and Drawing Parallel and Right Angle Lines. (*Règle pour Mesurer et Tracer les Lignes Parallèles et à Angle Droit.*)

Henry E. Thomas, and Jacob C, Shrader, San Francisco, Cal., U. S., 12th December, 1884; 5 years.

Claim—A graduated transparent glass ruler, having longitudinal and transverse division lines, and a semi-circular protractor, etched, or otherwise permanently marked upon it, in the manner and for the purposes hereinbefore described.

No. 20,718. Mechanical Telephone.

(*Téléphone Mécanique.*)

Adolphus A. Knudson, Brooklyn, N.Y., U.S., 13th December, 1884; 5 years.

Claim.—1st. In a mechanical telephone, the composite diaphragm, made of thin strips of wood, woven, folded, cemented, sewed, or otherwise fastened together, substantially as described. 2nd. In a mechanical telephone, the composite diaphragm made of thin strips of wood, substantially as described, two layers of which are joined together with a filling of wood, cloth, paper, vellum, or any other suitable material, substantially as described. 3rd. In a mechanical telephone, the sound-collector *d*, consisting of a block of resonant material mounted upon the line-wire, and resting against or secured to the diaphragm, substantially as described. 4th. In a mechanical telephone, a composite diaphragm, the outer surfaces of which are of wood, in combination with the sound-collector *d*, substantially as described.

No. 20,719. Straight-Way Valve.

(*Soupape d'Arrêt.*)

Adolph Webber, Detroit, Mich., U.S., 13th December, 1884; 5 years.

Claim.—1st. A straight-way valve, wherein the inclined annular valve seats *a* surrounding the water-ways in the cage A, and the inclined faces *c* of the valve gate are made co-incident, and with a perfectly fitting joint without the intervention of soft metal. 2nd. In a straight-way valve with a solid gate B with inclined faces *c*, the combination of a threaded stem with a threaded sockets, which is provided with flanges which engage with lips on the top of the gate, which is centrally bored out, substantially as and for the purposes specified. 3rd. In a straight-way valve with inclined valve faces and seats, guide points *u*, one on each side edge of the valve gate, in combination with vertical recesses *m* formed in the front and rear wall of the cage, substantially as and for the purposes set forth.

No. 20,720. Stamp Cancellor.

(*Timbre pour Maculer les Timbres-Poste.*)

Alphonse D. Porcheron, Montreal, Que., 13th December, 1884; 5 years.

Claim.—1st. A stamping or marking instrument provided with a serrated edge projecting beyond the face of the stamp, substantially as shown and for the purpose herein set forth. 2nd. In a stamping or marking instrument, the stem A having cut on it a screw thread to take on the ferrule B, the set screw C, and the perforating band D provided with a projecting serrated edge, all combined and arranged substantially as shown and described.

No. 20,721. Trenching Plough.

(*Charrue à Fossoyer.*)

Ulric Caron, St. Thomas de Pierreville, Que., 13th December, 1884; 5 years.

Claim.—1st. In a double mold-board plough, the central vertical cutter *a* fixed to the ridge of the plough point, as shown and described. 2nd. In a double mold-board plough, the upright side cutters *b*, *b* fixed on the lateral edges of the mold board, as shown and described. 3rd. In a double-mold board plough, the U-shaped cutter *d* pivoted in the plough beam A, and having the serrated cutting edge, as shown and described. 4th. In a double mold-board plough, the bell crank *e*, bearing *f*, connecting rod *g*, hand lever *h* and hook piece *i* arranged to raise and hold the rear end of the U-shaped coulter *d*, as herein shown and described. 5th. The combination, in a double mold-board plough, of the central vertical cutter *a*, side cutters *b*, side coulters *c* and U-shaped coulter *d*, with the bell cranked *e*, connecting rod *g*, hand lever *h* and hook piece *i*, substantially as herein shown and for the purpose set forth.

No. 20,722. Attachment for Planing Machines. (*Disposition aux Machines à Raboter.*)

Charles W. Sleeper, Coaticook, Que., 13th December, 1884; 5 years.

Claim.—A combination of the double bevelled bed A, the adjustable rolls *c*, *c*, *c*, *c*, the gauges b^2, b^2, b^2, b^2, and the aprons b^1, b^1, b^1, b^1, as an attachment for any planer, substantially as and for the purpose hereinbefore set forth.

No. 20,723. Antiseptic Compound.

(*Composition Antiseptique.*)

John F. Kennedy, Boston, Mass., U.S., 13th December, 1884; 5 years.

Claim.—The herein described compound consisting of water, alum, granulated sugar, saltpetre and gum arabic, for the purpose specified.

No. 20,724. Combined Sofa and Bed. (*Sofa-Lit.*)

Benjamin T. Lawton, Guelph, Ont., 13th December, 1884; 5 years.

Claim.—1st. A combined sofa-bed, in which the back A is hinged to the bottom or seat B, in combination with the hinged legs O actuated by the cord P, substantially as and for the purpose specified. 2nd. A combined sofa-bed, in which the back A is hinged to the bottom or seat B, in combination with a curved rod H attached at one end to the bottom or seat B, and passing through a bracket I connected to the back A and secured thereto by the pins J, substantially as and for the purpose specified. 3rd. A combined sofa-bed, in which the back A is hinged to the bottom or seat B, and is supported by a curved rod H attached at one end to the seat B, and passing through a bracket I attached to the back A, a pin J fitting into a hole in the bracket I, and attached at its other end to the hinged arm K provided with a spring L, as specified, in combination with the crank-lever M actuated by the rod N, substantially as and for the purpose specified.

No. 20,725, Washing Machine.

(*Machine à Laver.*)

Joseph Raulston, Williamsford Station, Ont., 13th December, 1884; 5 years.

Claim.—In a washing machine, in which the clothes are rubbed between a corrugated wooden bottom of a suds box, and a pivoted open slatted wooden rubber, the arms E hinged or pivoted on the uprights *e* and arranged to carry the rubber C, as specified, in combination with the slanting board F, arranged substantially as and for the purpose specified.

No. 20,726. Treatment of certain Plastic Compositions. (*Traitement de certaines Compositions Plastiques.*)

John J. Varley, Merton, Eng., 13th December, 1884; 5 years.

Claim.—1st. Treating articles or goods made from plastic compositions, such as above named, by subjecting them to heat and so changing them in character and quality, as and for the purpose hereinbefore described. 2nd. The manufacture of articles of a tough, hard and heat resisting character, by subjecting them, when made of plastic compositions, such as are above mentioned, and while in a comparatively plastic state, to the action of heat, substantially in the manner described.

No. 20,727, Spring Hoe Attachment for Seeding Machines. (*Disposition aux Houes Elastiques pour Semoirs.*)

Thomas D. Galloway, Oshawa, Ont., 13th December, 1884; 5 years.

Claim.—1st. A spring plate or rod connected at one end to a pivoted hoe, at a point below or above its pivot, the said spring plate extending diagonally to a point above or below the drag-bar, where its other end is connected to the free end of a locking-stud pivoted to the drag-bar, the line of the draught when the hoe is set for work being substantially on a centre line through the pivot points of the locking stud, substantially as and for the purpose specified. 2nd. A pivoted hoe A, provided with a projection or horn E, in combination with the spring-plate or rod D, rigidly fastened at one end to the horn E, and pivot-

ally connected at its other end to a locking-stud C pivoted to the drag-bar B, substantially as and for the purpose specified.

No. 20,728. Apparatus for Operating Railroad Car Brakes. (*Appareil pour faire Fonctionner les Freins de Chemins de Fer.*)

Watson P. Widdefield and Anson T. Button, Uxbridge, Ont., 13th December, 1884; 5 years.

Claim.—1st. In an apparatus for applying brakes of railroad cars, in which the power is derived from a friction pulley applied to one of the revolving axles, a pivoted crank lever arranged to support the adjustable friction pulley, and provided with a vertical spindle having on its upper end a sheaf pulley, in combination with a chain or rope passing below the said sheaf pulley, and over similar pulleys pivoted in a frame above it, one end of the chain or rope being so attached to a draw-head of the car that its compression shall cause a draft upon the chain, imparting through it an upward movement to the vertical spindle, and thereby tilting the pivoted lever, causing the friction pulley on it to come in contact with the revolving axle of the car truck. 2nd. In an apparatus for applying the brakes of railroad cars, in which the brake chain is attached to a spindle carrried in brackets attached to the truck timbers, and connected by a flexible joint to a similar spindle carr ing a frictio pulley, and supported in a bearing on a crank lever pivoted upon an arm journalled on one of the truck axles, the combination of a chain or rope suitably connected to the pivoted crank lever carrying the friction pulley, and to the draw-head of the car, so that the compression of the said draw-head shall impart a tilting movement to the pivoted lever, for the purpose of bringing the friction pulley in contact with a pulley on the revolving axle of the car truck, substantially as and for the purpose specified. 3rd. In an apparatus for applying the brakes of railroad cars, in which a friction pulley for imparting movement to the brake winding mechanism is operated by the tightening of a chain or rope attached to the draw-head of the car, an adjustable bar D supported between two parallel bars E fixed to the truck timber F, in combination with stop blocks *d*, placed, as described, on the operating chain or rope, for the purpose of holding the said chain on one side of the spindle H, while being drawn upon by the compression of the draw-head on the other side of the said spindle, substantially as and for the purpose specified. 4th. In an apparatus for applying the brakes of railroad cars, in which the power is derived from one of the revolving axles, a friction pulley J keyed to the shaft J1 journalled in the lever I, which is pivoted on the arm K, in combination with the arm K, one end of which journalled on the axle K1, and its other end supported by the staple K2 attached to one of the truck timbers, so that the movement of the truck will not affect the relative position between the friction pulley J and axle K1, as specified. 5th. An axle box, provided with an oil reservoir *e*, in combination with a ball or roller *f* made to float in the oil while coming in contact with the bottom surface of the journal, substantially as and for the purpose specified. 6th. In an apparatus for applying the brakes of railway cars, in which the brakes are applied by the winding of the brake chain upon a spindle caused to revolve by friction mechanism operated by one of the car axles, the clutch M having the brake chain O connected to it, and the pawls *a* pivoted upon its face, in combination with the notches *b* and *b1*, formed as described, on the spindle J2 upon which the clutch M is journalled, and the rod N for adjusting the said clutch, substantially as and for the purposes specified. 7th. In a system of brakes, in which brakes are applied to the main driving wheels of the locomotive, a bar S connected by rods at one end to the brake lever S1, and at the other end to brake lever S2, in combination with the lever S3 connected by rods at one end to the bar S, and at the other to the brake lever of the tender truck, and by a chain connected at its centre to the spindle J2, which is caused to revolve by a friction pulley on its being brought into contact with a revolving axle of the truck, the whole system being arranged for the purpose of applying simultaneously brakes on the locomotive as well as on the tender. 8th. In a system of car brakes, operated by friction mechanism driven by the movement of the car axle, a pair of brakes applied to opposite sides of each driving wheel of the locomotive, for ensuring equal pressure on both sides and thereby preventing the strain which might otherwise alter the distance between the centres of the wheels. 9th. In a system of brakes, in which a chain is arranged to operate friction mechanism, a spiral spring B1 placed in the said chain, for the purpose of relieving it of any undue strain.

No. 20,729. Machine for Channelling Rock for Grindstones, &c. (*Machine à Canneller le Roc pour Meules, &c.*)

Michael J. O'Connor, Louisville, Ky., U.S., 13th December, 1884; 5 years.

Claim.—1st. In a machine for quarrying grindstones and like circular articles, the combination of a centre post or column, a revolving drill-carrier journalled thereon, said post and carrier being provided with intermeshing gear, a reciprocating drill mounted on the carrier, and connections between the drill and gearing for transmitting the motion of the former to the latter, substantially as shown and described. 2nd. In a machine for quarrying grindstones and like circular articles, the combination of a center post or column, a revolving drill carrier journalled thereon, said post and carrier being provided with intermeshing gear, a reciprocating drill mounted on the revolving drill-carrier, a clutch located upon the operating gear shaft, and connections between the drill and clutch for operating the latter, substantially as shown and described. 3rd. In a machine for quarrying grindstones and like circular articles, the combination of a center post having a gear or worm wheel secured thereto a revolving tool-carrier journalled on the center post, a worm and a clutch pulley journalled on the revolving tool-carried, a reciprocating drill and a band or cord for imparting the movement of the drill to the clutch-pulley, substantially as and for the purposes specific i. 4th. In a machine for quarrying grindstones and like circular articles, the combination of the center post or column A having the worm-wheel I secured thereto, the revolving tool-carrier B journalled on the column A, the worm-wheel H having the clutch pulley G and journalled on the revolving tool-carrier, the reciprocating drill, the guide D attached thereto, the guide pulleys F, F and the rope or band E, substantially as and for the purposes specified. 5th. In a machine for quarrying grindstones and like circular articles, the combination of a center post A, the base Y having a central perforation through which the post passes, the wedges *w*, the set screws S, S and the revolving drill-arm journalled on the center post, substantially as shown and described. 6th. In a machine for quarrying grindstones and like circular articles, the combination of a center post A, the base Y having a central perforation through which the post passes, the extension-legs L, L, the wedges *w*, the set screws S, S and the revolving drill-arm journalled on the centre post, substantially as shown and described.

No. 20,730. Automatic Boiler Feeder.

(*Alimentateur Automatique de Chaudière.*)

Alfred Mayhew, Westminster, Eng., 13th December, 1884; 5 years.

Claim.—1st. The combination of valves J and G, either of which is capable of opening or closing the other valve under boiler pressure, actuated by the differing head of water acting through K, and the difference between the specific gravity of water and steam. 2nd. The open communication between the boiler under water line, and the chamber E, whereby water is obtained for condensing purposes, which water at the next stroke of the apparatus is returned to the boiler. 3rd. The combination and arrangement of valves, parts and apparatus, substantially as and for the purpose hereinbefore ascertained and described, and illustrated by the accompanying drawing.

No. 20,731. Hand Power Hay and Grain Rack Lifter. (*Monte-Foin à Bras.*)

Hector McDonald, Bolton, Ont., 13th December, 1884; 5 years.

Claim—The combination of the winch drum EIII, communicating motion by a rope F to the pulley D fast upon the roller C, and carrying pulleys DI communicating motion by the ropes FI to the pulley DII fast upon a similar rollers C, both rollers C moving in unison and being journalled overhead upon available beams in a barn coil upon them, the lifting ropes FII attached to the rack R, substantially as shown and described and for the purpose set forth.

No. 20,732. Mail Bag. (*Valise à Lettres.*)

Wilson F. Andrews, Walnutport, Penn., U.S., 13th December, 1884; 5 years.

Claim.—The combination of the closing strip having tongue plates secured to it, with a mail bag having eyelets about its mouth, and having a flap provided with staples adapted to pass through the bag, and to receive the tongues on said plates between the back of the flap and the body of the bag, substantially as and for the purpose described.

No. 20,733. Paint Compound.

(*Composition à Peinture.*)

Calvin M. Lewis, Arnprior, Ont., 15th December, 1884; 5 years.

Claim.—A paint composition, compounded of powdered agalite flour of sulphur, pulverized alum, yellow ochre, chloride of sodium, sulphate of barytes and coal tar, in the manner and in about the proportions stated.

No. 20,734. Machine and Mould for Making Heel Counters for Boots and Shoes. (*Machine et Moule pour faire les Contreforts de Chaussures.*)

Michael Hynes and Thomas W. Hamilton, Montreal, Que., 15th December, 1884; 5 years.

Claim.—1st. In a machine for forming counters for heels of boots and shoes, the combination of the sector gear DI having adjustable extended arms D2, D3, adjustable rollers or studs *e*, gear wheel E, toothed-rack B plungers or punches BI, moulds CI, CI, the whole arranged substantially as described for the purposes set forth. 2nd. In machine for forming counters for heels of boots and shoes, the combination of the jointed breaks or chain *h*, *h*, HI, lever O, blocks P, bell-crank-levers N2, roller *e3* and arms D2, D3, the whole constructed and operating substantially as described. 3rd. In a machine for forming counters for heels of boots and shoes, the combination of the jointed breaks or chain consisting of side links *h* provided with ears *h1*, and bolts *h2* having rollers or sleeves *r*, link HI having a shoulder or lug *k*, bed-plate provided with slot K, slide or plate L having slots, as described, and bell-crank lever NI, the whole constructed and arranged substantially as described and shown. 4th. The combination, with the chain H having side pieces *h*, *h*, provided with ears or lugs *h1*, *h1*, bolts *h3*, rollers or sleeves *r*, *r*, centre piece HI provided with lug or shoulder *k*, of the bed-plate G having slots or channels I, I and K, and a recess in which the plug or block P is inserted, plate or slide L having slots *l1*, *l1*, in which the rollers *r1*, *r1* work, connecting rod M and bell-crank levers N, N2, operating substantially in the manner and for the purpose described. 5th. The combination, with the jointed break or chain, of rollers *r*, *r*, *r1*, *r1*, and shoulder *k*, of the slotted bed-plate G, plug P, slotted slide L, connecting rod M and system of levers S, S1 and T, T1, substantially in the manner and for the purposes herein set forth. 6th. The combination, with the sector gear DI having extended arm or horns D2, D3 and bolts and nuts *d*, of the gear wheel E, adjustable roller or stud *e3* bearings and rollers *e1*, *e2*, *e3*, *e4*, rack B and plungers BI, BI, substantially as and for the purposes described. 7th. The combination of the parts CI, CI, of a mould provided with bevels *f*, *f*, and angles, as described, with springs N and casing C, the whole substantially as described. 8th. The combination of the parts C1, C1 of a mould, provided with bevels *f*, and angles, as described, and yielding metallic lining QI substantially as described.

No. 20,735. Grain Weigher and Measure.

(Peseur-Compteur pour les Grains.)

James E. Kimble, Vicksburg, Mich., U.S., 15 December 1884; 5 years.

Claim.—1st. The combination of the stationary case having stops *n*, the tilting case having valves *g* pivoted on or near the axis of said case, and provided with stops *o*, the delivery openings and projecting walls *i*, *j*, substantially as set ferth. 2nd. The combination of a stationary and a titting case having supply and delivery openings, and the latter being provided with central separating partition walls and valves at its delivery openings, substantially as set forth. 3rd. In a grain-weighing apparatus, the weighted lever having the right angle arm h^1 and pawl *g*, engaging with the toothed surface of the dial *w*, in combination with the cylinder a^1, piston b^2 and rod *c*, having stops f^1, g^1, and between said stops a slot which receives and guides the movement of the arm h^1 of the weighted bar *k*, substantially as set forth.

No. 20,736. Roller Skate. *(Patin à Roulettes.)*

Joseph S. Butler, Chatham, Ont., 15th December, 1884; 5 years.

Claim.—1st. The combination, with a roller skate, of a bell or bells E, collar-bolt G and tongue F, substantially as shown for the purposes specified. 2nd. The combination, with a roller skate, of a gong or gongs I, arm H, collar-bolt G and hammers J, J, all substantially as set forth and for the purposes specified. 3rd. The combination, with roller skates, of bells or gongs of any description used for the purpose of producing a harmonious or musical sound while operated by the skater, all substantially as set forth.

No. 20,737. Machine for Forming Hollow Ware from Paper Pulp. *(Machine à Former les Objets Creux en Pâte à Papier.)*

The Indurated Fibre Company, Portland, (Assignee of Joseph G. Bodge, Gorham,) Me., U.S., 15th December, 1884; 5 years.

Claim.—1st. The machine for forming pails and similar ware from paper, pulp, consisting of the two domes A and A^2, the ring B with its chamber *h*, the ring N and the rubber diaphragm C, all combined with the perforated former F, substantially as shown. 2nd. In a machine for forming hollow ware from paper pulp, the single or double dome within which is the rubber diaphragm C, combined with the porous former F, the pipe or pipes b^5 for admitting stock between the diaphragm, and the former and the pipe *a* for applying hydraulic pressure, substantially as shown. 3rd. A machine for forming hollow ware from paper pulp, consisting of a porous former the outside of which is enclosed by a rubber diaphragm between which and the former the pulp is admitted, combined with a pump or other means of applying hydraulic pressure to the outside of the diaphragm, substantially as described and shown. 4th. The process of forming hollow ware of pulp on the outside of a porous former, by forcing the pulp between said former, and rubber diaphragm fitting over it, and afterwards applying a hydraulic pressure to the outside of the rubber all in one operation, and without removing the article from the machine, substantially as described and shown. 5th. The process of forming hollow ware from paper pulp, consisting of forming articles on the outside of a porous former, and then applying hydraulic pressure by means of a rubber envelopes fitting over the article, substantially as shown. 6th. In a machine for forming hollow-ware from paper pulp, the flap valve F with its stiffening peices *t*, combined with the valve ring b^2 to shut off the back flow of pulp, substantially as shown. 7th. The combination of the flap valve T, with the apertures for the admission of pulp between the diaphragm and the former, substantially as shown. 8th. The perforated former composed of the inner shell f^2 with gored pieces f^3, with gored section removed, and the gauze covering f^4, substantially as shown.

No. 20,738. Stereotype or Electrotype Plate Holder. *(Porte-Plaque de Stéréotypie ou Electrotypie.)*

The American Press Association, (Assignee of Robert W. Nelson,) Chicago, Ill., U.S., 15th December, 1884; 15 years.

Claim.—A base block and a stereotype plate, the two parts meeting each other on one plane, in combination with an inclined key or lug extending from the meeting face of one part into an inclined recess in the meeting face of the other part and thus securing the plate to the block. 2nd. The base, provided with the inclined key or lug projecting from the upper side thereof, which side otherwise is a plain surface, substantially as described. 3rd. The plate having a plain underside, provided with an inclined groove in said side, for the reception of a key or lug. 4th. The combination of the base, with key or lug, the latter removably inserted in an inclined groove in the upper side of and projecting above said base. 5th. The combination of the base having an inclined groove in its upper side, the key or lug and the plate provided in its under side with an inclined groove or grooves.

No. 20,739. Process and Compound for Extracting Metals from Ores and Metallurgical Products. *(Procédé et Composition pour Extraire les Métaux des Minerais et des Produits Métallurgiques.)*

Edward H. Russell, Park, Utah, 15th December, 1884; 5 years.

Claim.—The process of removing precious metals from ores and metallurgical products, which consists in first dissolving out therefrom with water the salts soluble therein, then subjecting the mass to the dissolving action of a hyposulphite solution, and finally to the dissolving action of a hyposulphite solution, to which has been added a soluble salt or compound of copper substantially as described. 2nd. The process of removing precious metals from ores and metallurgical products, which consists in subjecting the ore or product to the dissolving action of a hyposulphite solution, and then to the dissolving action of a hyposulphite solution, to which has been added a soluble compound or salt of copper, substantially as described. 3rd. The process of separating precious metals from ores and metallurgical products, which consists in leaching the ore or product with a hyposulphite solution, and then leaching it, with a hyposulphite solution, to which has been added sulphate of copper, substantially, as described. 4th. The process of separating precious metals from ores and metallurgical products, which consists in subjecting the ore or product to the dissolving action of a hyposulphite solution, and then to the dissolving action of a solution containing the double salt of cuprous, hyposulphite and sodium hyposulphite, substantially as described. 5th. The leaching solution for removing precious metals from ores and metallurgical products, which consists of a hyposulphite solution, to which has been added sulphate of copper, substantially as described. 6th. The leaching solution for removing precious metals from ores and metallurgical products, which contains the double salt of cuprous hyposulphite and sodium hyposulphite, substantially as described.

No. 20,740. Process for Extracting Metals from Ores and Metallurgical Products. *(Procédé pour Extraire les Métaux des Minerais et des Produits Métallurgiques.)*

Edward H. Russell, Park, Utah, U. S., 15th December, 1884; 5 years.

Claim.—1st. The process of removing precious metals from ores and metallurgical products, which consists in subjecting the ore or product to the dissolving action of a hyposulphite solution, to which has been added a soluble compound or salt of copper, substantially as described. 2nd. The process of removing precious metals from ores and metallurgical products, which consits in subjecting the ore or products, to the dissolving actien of a hyposulphate solution to which has been added sulphate of copper, substantially as described. 3rd. The process of removing precious metals from ores and metallurgical products, which consists in leaching the ore or product with a solution containing the double salt of cuprous, hyposulphite and sodium hyposulphate, substantially as described. 4th. The process of removing precious metals from ores and metallurgical products, which consists in subjecting the ore or product to the dissolving action of a solution containing the double salt of cuprous hyposulphite and sodium hyposulphite, substantially as described.

No. 20,741. Process for Removing Metals from Ores and Metallurgical Products, and Separating the Base from the Precious Metals. *(Procédé pour Enlever les Métaux des Minerais et des produits Métallurgiques, et pour Séparer la Base des Métaux Précieux.)*

Edward H. Russell, Park, Utah, U. S., 15th December, 1884; 5 years.

Claim.—1st. The process of removing precious metals and from ores or metallurgical products, and separating the lead from the other metals, which consists in dissolving both the precious metals and lead out of the ore or product by a hyposulphite solution, and then adding to the resultant solution a soluble carbonate, substantially as described. 2nd. The process of removing precious metals and lead from ores or metallurgical products, and separating them from each other, consisting in leaching the ore with a hyposulphite solution, and then adding to the solution containing the precious metals and lead together, a soluble carbonate to precipitate the lead alone from the solution, substantially as described. 3rd. The process of separating precious metals and lead from ores or metallurgical products and from each other, consisting in leaching the ore or product with a hyposulphite solution to dissolve out both the precious metals and lead, then adding to the resultant solution a soluble carbonate to precipitate the lead as a carbonate, and finally precipitating the precious metals from the remaining solution, substantially as described. 4th. The process of separating precious metals and lead from ores and metallurgical products and from each other, which consists in dissolving out with a hyposulphite solution both the precious metals and the lead, and then adding to the resultant solution soda ash to precipitate the lead separately, substantially as described.

No. 20,742. Railway Car. *(Char de Railroute.)*

Thomas L. Wilson, Port Hope, and Robert Houghan, Toronto, Ont. 15th December, 1884; 5 years.

Claim.—The saddle C, bolted to the body bolster B and having an arm or arms *a* projecting from its sides, in combination with the saddles D bolted to the truck frame, and having flanges *b* arranged to project over the arms *a*, subtantially as and for the purpose specified.

No. 20,743. Hub Borer. *(Perce-Moyeu.)*

Edward Brown, Syracuse (assignee of Ezra Caswell, Lyons), N. Y., U.S., 15th December, 1884; 5 years.

Claim.—1st. The combination, in a hub-boring machine, of the sliding front bar or frame, the disk and eccentric slide, the clamps for holding the hub, the divided nut and the clamp for clamping the wheel to the frame, as set forth. 2nd. In a hub-boring machine, the clamp for clamping the wheel to the frame, consisting of two side straps pivoted at the bottom, and operated at the top by means of a screw-bolt, as herein shown and described.

No. 20,744. Hydro-Carbon Burner for Lamps or Stoves. *(Bec à Hydro-Carbures pour Lampes ou Poêles.)*

Charles Barton, Brandon, Warwick, Eng., 17th December, 1884; 5 years.

Claim.—1st. A burner for lamps or stoves, consisting of an outer vitrous, or like tube, a smaller inner igniting wick tube or tubes, and a plaster of paris, or other suitable porous packing or filling between the tubes, as and for the purposes described. 2nd. In a hydro-carbon burner for lamps or stoves, as before described, the flattening and forming of the top of the outer tube to form the vapourizing and ignition chamber, as and for the purposes described. 3rd The use, in a hydro-carbon burner, of an independent or auxiliary wick to heat a plaster, of pairs or like porous material to vapourize and ignite oil, rising up or saturating the same, as described.

No. 20,745. Hay and Stock Rack.

(Râtelier à Foin et Bétail.)

Charles A. Cotton, Olean, N.Y., U. S., 17th December, 1884; 5 years.

Claim.—The combination, with the platform A mounted upon transverse bars A_1, secured to the side beams A_2, said beams being provided with inclined notches A_5, of the curved standards A_3 having the bars B secured thereto, notched end boards D, rods or braces E, a cover C_3 and frame B_1, B_2, substantially as set forth.

No. 20,746. Broom-Holder. *(Porte-Balai.)*

Oscar Ludwig, Evanston, Wyoming, U. S., 17th December, 1884; 5 years.

Claim.—1st. The broom-holder, consisting of the back A, provided with the two series of independent spring arms B, B, adapted to receive and partially enclose the brush portion of a broom, and the arms C, C, adapted to support the broom end at or near the point of its attachment to the handle, substantially as and for the purpose described. 2nd. The broom-holder, consisting of the back A, provided with the two series of independent arms for holding the brush portion of a broom, adapted to be turned down towards or against the face of the back A, substantially as and for the purpose described. 3rd. The broom-holder, consisting of the back A, provided with the two series of independent spring arms B, B, adapted to receive the brush portion of a broom, attached to the back by the insertion of a portion of each arm in a groove therein, and the arms C, C, adapted to receive and support the smaller and upper end of the brush portion, at or near the point at which it joins the handle, substantially as and for the purpose described.

No. 20,747. Grain Thrashing Machine.

(Machine à Battre les Grains.)

James W. Clyne, Walsingham, Ont., 17th December, 1884; 5 years.

Claim.—1st. The improved cylinder, in which beaters are substituted for teeth, the form of the cast-iron plates A, A, whereby the beaters are held by dovetails, and the cast metal, obliquely-corrugated facings of the beaters a, a, a, in combination with the improved concave B, with wrought iron bars d, d, d, and wrought iron rods b, b, b, substantially as and for the purposes hereinbefore set forth. 2nd. The combination of the improved straw shakers C, C, the metal plates T, T, and slats c, c, c, with the thrashing apparatus before-mentioned, substantially as and for the purposes hereinbefore set forth. 3rd. The combination of the improved shoe D, with the improved cylinder and concave, and improved straw shakers, substantially as and for the purposes hereinbefore set forth. 4th. The combination of the baffle boards E, whereby the discharge of the straw is controlled at the will of the operator, with the aforementioned apparatus, substantially as and for the purposes hereinbefore set forth. 5th. The combination of the metal plate Q, Fig. 5, fitted to the concave with the cylinder, whereby the machine is converted into an efficient clover seed huller, substantially as and for the purposes hereinbefore set forth.

No. 20,748. Inhaler. *(Inhalateur.)*

Stephen A. Morse, Victoria, B.C., 17th December, 1884; 5 years.

Claim.—In an inhaler, the air-inlet tube C, having a bulb or enlargement c^2 at its lower or submerged end, and provided with hole d, in combination with the blown glass float valve E opening downwardly or inwardly, and confined within the bulb c^2, as set forth and for the purpose herein described.

No. 20,749. Vice Attachment.

(Disposition aux Etaux.)

William Vanderman, Willimantic, Ct., U.S., 17th December, 1884; 5 years.

Claim.—1st. In a vise, the jaw-frames a, b, bearing jaws with transverse dovetailed sockets, in combination with the removable pipe-jaws e, having the outward-curving, toothed or serrated grasping-faces, and dovetailed tenons fitting the respective mortises and affording means whereby the jaws are secured to the frame, all substantially as described. 2nd. In combination, the jaw-frame a having the lateral socket a^{IIII}, and groove a^{III}, movable jaw b, with extension c, having the transverse hole c^1 between the jaws, and also groove c^{11}, the interchangeable forms h and j, each with a peripheral groove, and the jaw-operating mechanism of screw-spindle and lever, all substantially as described. 3rd. In a vice, in combination, a jaw frame a, with a lateral socket a^{IIII} and groove a^{III}, and a movable jaw b with extension c, having holes c^1 co-operating with the groove a^{III} in holding a pipe or rod, all substantially as described. 4th. In a vise, the combination of a fixed jaw, a movable jaw with the extension, as described, and jaw-operating mechanism of screw spindle and lever, the fixed jaw and the extension-bearing, the opening and groove co-operating to grasp a pipe or rod, all substantially as described. 5th. In a vise, in combination, the frame a with groove a^1 on its upper surface, a lateral socket a^{III} and clamping groove a^{III}, a movable jaw b having the extension c with opening c^1, and the interchangeable forms h and j, all substantially as described. 6th. In combination with a vise having a socket a^{IIII}, the interchangeable forms h and j with peripheral grooves, substantially as described, and projections, whereby each form is attached to the vise, all substantially as described. 7th. In combination to the vice-frames a and b, with openings c^1 and b^3, and the levers d and k with respective sockets and grooved bends, all substantially as described.

No. 20,750. Mechanical Movement.

(Mouvement Mécanique.)

Andrew Fahrney, Milledgeville, Ill., U. S., 17th December, 1884; 5 years.

Claim.—1st. The lever B provided with the head C, the latter having the channel F, substantially as shown and for the purpose described. 2nd. The lever-head C provided with the channel F, substantially as shown and for the purpose specified. 3rd. The lever B provided with the head C, and the fulcrum H, in combination with the band-wheel L, provided with the lateral projection E, substantially as shown and for the purpose mentioned. 4th. The combination of the band-wheel L, provided with the projection E, the fulcrum H, the axle J, and lever B provided with the head C, substantially as shown and for the purpose described. 5th. The combination of the lever B, provided with the head C, the fulcrum H, fulcrum-wheel K, wheel D and band-wheel L provided with the projection E, substantially as shown and for the purpose specified. 6th. The lever B provided with the head C, the fulcrum H, the band-wheel L provided with the projection E, the fulcrum-wheel K, the wheel D and the brace M, in combination, substantially as shown and for the purpose described. 7th. The fulcrum-wheel K, the wheel D furnished with the weight N, the axle J, band-wheel L having the projection E, brace M, lever B, provided with the lever-head C, and fulcrum H, in combination, substantially as shown and for the purpose specified. 8th. The fulcrum-wheel K, in combination with the wheel D, the latter being provided with the weight N near its periphery, and fitted to revolve around the former, whereby in part of the orbit of such wheel D, the weight N passes down outside of the centre of motion of the wheel D, and assists by its gravity in actuating such wheel D and increases the power exerted thereon, substantially as shown and for the purpose described. 9th. The fixed or fulcrum wheel K, in combination with the travelling wheel D, axle J and band-wheel L, whereby a double fulcrum is obtained, substantially as shown and for the purpose named. 10th. The lever-head C, provided with the flange F^1, guides F^2. F^2, spring guides F^3, F^3, and spring F^4, substantially as shown and for the purpose mentioned.

No. 20,751. Axle Gauge. *(Gabarit d'Essieu.)*

Hector McQuarry, Allandale, Ont., 17th December, 1884; 5 years.

Claim.—1st. An axle gauge, constructed with a main "dish rule" at A^1, a head D carrying a gauge point A^1, a radius bar B graduated for a "spoke rule," as at B^1, and pivoted to the bar A at b, and carrying a gauge point A^3, formed upon a right and left hand screw G entering fixed and loose nuts H, I, and working in the head F, a gauge point a^2, fixed either to the bar A, or radius bar B, in line with the pivot b of the bars, and means for stopping the movement of the inner end of the radius bar, both ways, to indicate by the pivot a^1 the downward and forward bend of the axle arm, substantially as described. 2nd. The combination of the bar A, having the "dish rule" A^1 and gauge point a^1, the bar B having the spoke rule B^1, and a gauge point a^3 capable of transverse adjustment, the head K fixed to the bar A and provided with the stop p, the gib M, having a shoulder m, means for fastening the gib, the fixed stop T and "gather" stop U on the radius bar, and a gage point a^2 between the gage points a^1, a^3, substantially as shown and described. 3rd. The combination, with the bars A, B pivoted to each other and graduated at A^1, B^1, as specified, of the stops T, U on the bar B, the stop p on the bar A, the gib M having a shoulder m, and the set-screw s for securing the gib, substantially as shown and described. 4th. The combination, with the radius bar B having the point a^2 and connected to the bar A having the head D, provided with point a^1, of the head F provided with a screw G carrying the gage point a^3 and having right and left threads entering the fixed and loose nuts H, I, respectively, and the gage arm J pivoted to the head, substantially as shown and described. 5th. The head F, constructed with a right and left screw G carrying the gage point a^3 at its head and entering the fixed and loose nuts H, I, respectively, and the gage arm J pivoted to the head, in combination with the pivoted radius bar B having the point a^2, and the lateral bend or deflection b^1, and the bar A having the head D provided with the point a^1, substantially as shown and described. 6th. In an axle gauge, the following elements in combination, a main bar A provided with the plate P having a stop p, and with the adjustable head D having the point a^1, said bar being graduated for the "dish rule," as at A^1, and carrying a gib M, and means for fastening the gib, a radius bar B pivoted to the bar A at b, graduated for the "spoke rule," as at B^1, and provided with the fixed and movable stops T, U, and said bar B carrying the head F adjustable along the bar, and provided with the right and left screw G entering the fixed and loose nuts H, I, and carrying also the gage point a^3, the gage arm J pivoted to the head F, and an intermediate gage point e^2 fixed either to the main bar A or the radius bar B, all constructed and arranged to operate substantially as shown and described.

No. 20,752. Rubber Boot. *(Botte en Caoutchouc.)*

Moses W. Whitney, Bristol, R. I., U. S., 17th December, 1884; 15 years.

Claim.—1st. The combination, with a rubber boot, of a heel having the flanges d, d, and arranged to be cemented to the counter and sole, as described. 2nd. The combination, with the counter a and sole b, of the heel c, provided with the outwardly-extending knife-edged flanges d, d, extending upward on the counter and forward on the shank, as described. 3rd. The combination, with the counter a and

sole *b*, of the heel c provided with the side flanges *d*, having the extensions d^2, and the forward flange *d*, with or without the extension d^1, substantially as and for the purposes specified.

No. 20,753. Stair Pad. (*Matelas d'Escalier.*)

Henry W. Mather, Bloomingdale, N.J., U.S., 17th December, 1884; 5 years.

Claim.—1st. As an improved article of manufacture, a felt stair-pad made sufficiently rigid or stiff to retain its form, as shown, and having a lip *c* formed on its front edge to take over the edge of the step, substantially as set forth. 2nd. As an improved article of manufacture, the stiff felt stair pad B made thickest at its front edge and thinnest at its rear edge, and provided with the lip *c* formed to take over the edge of the step, substantially as set forth.

No. 20,754. Machine for Gumming and Sharpening Circular Saws. (*Machine à Evider et Aiguiser les Scies Circulaires.*)

James H. Totman, Deseronto, Ont., 17th December, 1884; 5 years.

Claim.—1st. A machine for gumming, sharpening and jointing saws, consisting of the frame-work E B B^1, a driving shaft D journalled at the rear thereof near the base, driven by fast and loose pulleys D^{II} carrying fan pulley D^{III}, and cone pulley D^1 driving a cone pulley R^1, with pulley R^{II} sleeved and running loose upon the rocking shaft R, journalled above and forming the pivot of the swing frame Y having its rear fork-arms p^1 secured upon it by set screws, and having the emery wheel shaft W^1 with pulleys W^{II} journalled in its front fork-arms p, said shaft W^1 carrying the emery wheel W in the front midway between the frame ends, said swing frame controlled vertically by a counterbalanced lever L pivoted upon a shaft L^{II}, and connected to the swing frame by a link *l*, a post P pivoted midway between the frame ends upon the base plate B, and the apex of a triangular frame A at the top, the centre line of the pivots intersecting the center line of the emery wheel shaft W^1, the post cranked to allow room for the emery wheel, the lower part of said post fitted with a screw Q actuated by means of a handle Q^1 and mitre gear, and controlling a slotted cross bar C clipped to the post, and provided with a cross slide carrying the saw arbor, said post controlled by a lever P^{II}, engaging the same at the top by pins p^1 ^{II}, and its tail end capable of engaging notches in a segment A^{II}, secured upon the frame A, a fan F with discharge tube F^{III} driven by the pulley D^{III}, and having its suction mouth extended forward partly encasing the emery wheel, and forming a guard F^{III} hung to the top journal of the post P by a bolt *f*. 2nd. The combination of the post P, pivoted at the front of the machine midway between the frame ends, the center line of the journals intersecting the center line of the emery wheel shaft W^1, the post cranked above at *p* and controlled radially by a lever p^{II} pinned to the top part of the upper journal, the post provided with a flat foot p^1 having a semicircular pivot p^1 working in a circular step of which three quarters are cut away in the front, the semicircular pivot being held in the quarter step by a pin d^{II} in the bed-plate engaging a semicircular groove p^{III} in the flat face of the foot, the post provided with a screw carrying a cross bar C and actuated by a handle O^1 through the entire wheels *q* and q^1. 3rd. The cranked post P having a flat foot P^1 with a semicircular pivot p^1, in combination, with a step in the bed plate B, the front half or three quarters of which are cut away, a pin p^{II} in the bed-plate engaging a circular groove p^{III} concentric with the centre of the pivot p^1. 4th. The cross bar C clipped to the post P, and slotted longitudinally to receive a slide block I, carrying the saw arbor and controlled by a screw Q, journalled on the post P and actuated by a handle Q^1 through the mitre gear *q* and q^1. 5th. The cranked post P, journalled at the top in the apex of a triangular frame A, and having attached within the gap a wheel guard F^{III} by means of a bolt *f* passing through said journal. 6th. The combination of the swing frame Y, forked in front and rear, the hubs of the rear prongs secured by set screws upon the rocking shaft R, the emery wheel shaft W^1 journalled upon the ends of the front prongs, said swing frame connected to a counter balanced lever L by a link *l*. 7th. The combination of the driving shaft D, journalled at the rear of the frame work near the base, the rocking shaft R journalled upon the free end of a swing frame Y, with the rocking shaft R as a pivot, and the fan F. 8th. The combination of the driving shaft D having cone pulley D^1, driving cone pulley R^1 sleeved upon the rocking shaft R and between the hubs of the swing frame Y, and running loose thereon, and having a pulley R^{II} driving a pulley W^{II} upon the emery wheel shaft. 9th. In combination with a emery wheel W upon a snaft W^1, journalled upon a swing frame Y controlled by counterbalanced upon lever L, the fan F having its suction mounth F^{II} extended to partly encase said emery wheel and form a guard F^{III}, suspended by a bolt *f* passing through the upper journal of the pose P, and producing a draft and discharging the same through the tube F^{III}, all substantially as described and for the purposes set forth.

No. 20,755. Artificial Leather. (*Cuir Artificiel.*)

Walter Travis, London, Eng., 18th December, 1884; 5 years.

Claim.—The manufacture of artificial or imitation leather, consisting of a backing of felt, with a facing composed of oil and japan, substantially as hereinbefore described.

No. 20,756. Blackboard Composition.

(*Composition à Tableau Noir.*)

Nathaniel F. Potter and William H. Fenner, jr., Providence, R. I., U.S., 18th December, 1884; 5 years.

Claim.—A blackboard material or marking surface composed of soapstone or talc, alum, lime-putty, black sand, silica, mortar black and plaster paris, in the proportions substantially as above described.

No. 20,757. Buckle. (*Boucle.*)

Edward A. Geiger, Hamilton, Ont., 18th December, 1884; 5 years.

Claim.—1st. A buckle without a tongue formed with an eccentric roller *d* secured on a spindle d^1 to the frame of a buckle, and provided with an internal spring *i* to throw the eccentric portion of the roller forward to bind on a strap inserted between the said eccentric roller and the first cross-bar. 2nd. A buckle without a tongue, composed of the sides *a*, *a*, cross bars *c*, *b*, eccentric roller and axle *d*, d^1, spring *i*, recess *h*, bottom plate *f*, constructed to operate substantially as specified.

No. 20,758. Car-Coupling. (*Accouplage de Chars.*)

Robbert Powell, Kansas, Mo., U.S., 18th December, 1884; 5 years.

Claim.—1st. In combination with the draw-head of a car, an automatic coupling device consisting of a wheel and arms arranged eccentrically upon the axis of the wheel and to each other, and adapted to rotate upon suitable bearings in the draw-head, for the purpose described. 2nd. In combination with the draw-head of a car, provided with a vertical longitudinal slot, and a wheel adapted to rotate upon suitable bearings within said slot, the arms arranged eccentrically upon the axis of the wheel and to each other, and provided with cam projections, as and for the purpose described. 3rd. In combination with the draw-head of a car, provided with a vertical slot therein, a catch bolt having a longitudinal slot and a horizontal bar attached to the draw-head and passing transversely through said slot in the catch bolt, as described. 4th. In combination with the draw-head of a car, provided with a rotary coupling device having arms so arranged within the draw-head that they will engage with and lock the shackle, a bar extending vertically in suitable slots into the draw-head and adapted to engage with and depress an arm of said rotary device, as shown and described. 5th. In combination with the vertical catch bolt in the draw-head, and a horizontal lever connected with said bolt, a lifting and depressing bar arranged to operate as shown and described. 6th. The combination, in the draw-head of a car, of a bar adapted to elevate and depress the coupling devices, and attached to the draw-head in suitable guides, and having engaging portions, whereby it may disengage itself and permit the free movement of the draw-bar, a lever arranged upon a car and connected with said bar and with said engaging portions, for the purpose specified. 7th. The combination, with a lever attached to a car and having suitable extensions adapted to adjust the coupling devices, of a self-adjusting weight and an arm attached to said weight and fulcrumed upon said lever, for the purpose specified. 8th. The lever for operating a coupling and uncoupling device on a car provided with extensions, an angle of a corresponding extension, removable connected with said extension, for the purpose described. 9th. In combination with a lifting device for coupling and uncoupling a car, having an arm of a friction catch on said car adapted to retain the said arm of the lifting device in an uncoupled position, as shown and described. 10th. The combination, with a self-adjusting lifting bar on a car having a suitable extension adapted to operate the elevating bar, of a weight and arms connected with said weight and fulcrumed on the said bar, and fingers on said arms for adjusting said extension of lever, a check bar on said car adapted to control and limit the movements of the said weight, as shown and described.

No. 20,759. Sleeve of Garment.

(*Manche d'Habit.*)

George E. Swan, Beaver Dam, Wis., U.S., 18th December, 1884; 5 years.

Claim.—1st. The combination, with the sleeve of a garment, of a flexible strip or band permanently secured directly to the inside of the sleeve at the lower end of the same, and adapted to be engaged by the hand to retain the sleeve it its normal position, substantially as set forth. 2nd. The combination, with the sleeve of a garment, of a strip or band secured to the inside of the sleeve, and normally entirely contained within the sleeve, its free portion being adapted to be drawn down and engaged by the hand, substantially as set forth. 3rd. The combination, with the sleeve of a garment, of an elastic strip or band secured to the inside of the sleeve at its lower end, and normally retained therein by its own tension, the free portion of said strip being adapted to be drawn from the sleeve, substantially as set forth. 4th. The sleeve of a garment having a loop permanently secured directly to the sleeve at the lower end of the same, and adapted for engagement with the thumb of the hand, substantially as set forth. 5th. The combination, with the sleeve of a garment, of a strip or band permanently secured directly to and within the sleeve, and looped or formed so that it is adapted to engage the thumb, substantially as set forth. 6th. The combination, with the sleeve of a garment, of an elastic strip or band permanently secured at its ends directly to the inside of the sleeve, and provided with the rings and clasp, substantially as set forth.

No. 20,760. Self-Extinguishing Lamp.

(*Lampe à Extinction Automatique.*)

William H. Kimball, Boston, Mass., U.S., 18th December, 1884; 5 years.

Claim.—1st. The combination and arrangement of the lamp B having vertical graduated sides adapted to indicate the desired quantity of oil to be put therein, for the purposes described, with the lantern A having an elevated foundation F, provided with a conducting-pipe H having a stop-cock and connected directly with the interior of the said lamp, substantially in the manner shown and described, as and for the purposes set forth. 2nd. The combination, with a street lantern, of the conduits C arranged to conduct and check the currents of air passing into the lantern, substantially as shown and described as and for the purposes set forth. 3rd. As an improved article of manufacture, a transparent lamp-fount having vertical sides provided with a graduated scale adapted to indicate the desired quantity of oil to put therein, whereby the said lamp may serve a double purpose, substantially as described and shown, as and for the purposes set forth.

No. 20,761. Door Hanger. (*Coulisse de Porte.*)

Caleb Brinton, Chicago, Ill., U.S., 18th December, 1884: 5 years.

Claim—1st. The combination, in a door hanger, of the vertically-adjustable track, a track-adjusting device, and the plates G, G, fastened to the track and bearing movably against fixed parts, substantially as and for the purposes specified. 2nd. The combination, with the trucks and truck-connecting bar of a door-hanger, of the axle-bearing plates J, J secured to the said bar and having therein the axle receiving opening *f*, widening vertically from its central part, substantially as and for the purposes specified. 3rd. The combination, in a door-hanger, of the door-suspending bolts K, K, made tapering or pointed at their lower ends and smooth between their screw-threaded parts and the said ends, the door-plates K1, K1 having openings therein to receive the lower ends of the said bolts, and having thereon the ribs *e*1, *e*1 and the nuts *e*11, *e*11, substantially as and for the purposes specified.

No. 20,762. Door Hanger. (*Coulisse de Porte.*)

Caleb Brinton, Chicago, Ill., U.S., 18th December, 1884; 5 years.

Claim—1st. The combination, in a door-hanger, of the adjustable section of track rail, a rail adjusting device, and the adjusting screw adapted for holding said section movably against fixed parts, substantially as and for the purposes specified. 2nd. The combination, in a door-hanger, of the adjustable clips *c*, *c*, mounted on a rider bar and provided with a stop *c*111 adapted for preventing the trucks *c*, *c*, from running too far from the edges of the doors, substantially as and for the purposes specified. 3rd. The combination, in a door-hanger, having adjustable clips mounted on a rider bar, the said clips being provided with the part *c*111 for retaining in and rotating of the door-suspending bolts, substantially as and for the purposes specified. 4th. In a door-hanger, the rider bar, or rail D, bearing freely on the truck axle, and having its bearing edge rounded off, and its sides tapering or inclining toward each other as they extend upward to permit a tilting or rocking movement of the truck, the said bar also bearing at its widest part against the inner sides of the truck-wheels to prevent the truck from swiveling on the track, substantially as specified. 5th. The combination, in a door-hanger, of a rider bar, or rail made in sections, hinged together, the said sections being capable of being tilted vertically on their hinge or joint, the truck axles serving as a bearing or support for the said bar, and an adjustable device for adjusting the said bar, and for varying the position of the door vertically, substantially as and for the purposes specified. 6th. In combination, with the door and door-suspending bolts, of a door-hanger, the door plates G, G, having thereon the lug *g*, and in which are the openings *f* and *f*1, substantially as and for the purposes specified.

No. 20,763. Nut Lock. (*Arrête-Ecrou.*)

James H. Sheehan, Bangor, Me,, U.S., 18th December, 1884; 5 years.

Claim.—1st. In a nut-lock, formed with the washer plate *b*, and locking plate *a* formed integral, the folding lip or clamp *i* folding or bending down onto or outside of the locking plate *a*, when pressed over the nut D and against the washer plate *b*, to hold or clamp the plate *a* in position and prevent it from springing off and releasing the nut. 2nd. In a nut-lock, the combination of the washer plate *b*, formed with the clamp or lip *i* to bend or clamp onto the plate *a*, formed with the flange *g* when used to form a nut-lock, as shown. 3rd. In a nut-lock, formed of a single piece of pliable metal, formed as shown, the combination of the washer plate *b*, having the aperture *d* to receive the bolt, the locking plate *a* having the aperture *e* to embrace the nut D, when the plate is folded into place, the lip or clamp *i* to fold down or bend down onto or outside of the locking-plate *a* when pressed over the nut D and against the washer plate *b*. 4th. In combination with a rail and fish plate, the nut-lock E formed of a single piece of pliable metal, as shown, with the washer-plate *b* having the aperture *d* to receive the bolt, the locking plate *a* having the aperture *e* to embrace the nut D when the plate is folded or bent into place, the lip or clamp *i* to fold or bend down onto or outside of the locking-plate *a*, when pressed over the nut D and against the washer plate *b*.

No. 20,764. Means and Apparatus for the Transmission of the Electric Current to Movable Objects.

(*Moyen et Appareil de Transmission du Courant Electrique aux Objets Mobiles.*

Louis Goldberg, London, and Alexander L. Fyfe, Loughboro Park, Eng., 18th December, 1884; 5 years.

Claim—1st. The means, hereinbefore described and illustrated, for the transmission of the electric current to movable objects, and consisting of one or more drums carrying a quantity of the positive and negative wires coiled thereon, the one end thereof being connected to the axis or to a ring thereon, on which a rigid or controllable contact piece bears the electric current, being directed from the dynamo or other source of electric energy therethrough to the coils of wire, whereby when the wires are being uncoiled the continuity of the current is not affected, substantially in the manner set forth.

No. 20,765. Metallic Packing Box.

(*Bôite à Garniture Métallique.*)

George F. Griffin, London, Eng., 18th December, 1884; 5 years.

Claim.—1st. In a packing box, the metallic top plate B having upwardly opening spring clamping groove G, adapted to clasp a flange c on the cover, as described. 2nd. In a packing box, the metallic top plate B having upwardly opening spring clamping groove G, adapted to clasp a flange c on the cover, in combination with the annular bend F, for the purpose described. 3rd. In a packing box, the metallic top plate B having upwardly opening spring clamping groove G, adapted to clasp a flange c on the cover, in combination with the annular bend F, and the cover fold *c*1, for the purpose set forth. 4th. A packing-box having its sides bent back outwardly and folded so as to form an upwardly opening spring clamping groove G, adapted to clasp a flange *c*, on the cover, substantially as described. 5th. A packing box, having its sides bent back outwardly and folded so as to form an upwardly opening spring clamping groove G, adapted to clasp a flange *c* on the cover, in combination with the annular bend F, larger in circumference than said clamping groove, for the purpose described. 6th. A packing box, having its sides bent back outwardly and folded so as to form an upwardly opening spring clamping groove G, adapted to clasp a flange *c* on the cover, in combination with the annular bend F, larger in circumference than said clamping groove and the cover fold *c*1, for the purpose described.

No. 20,766. Inhaler. (*Inhalateur.*)

William F. Semple, Mount Vernon, Ohio, U.S., 19th December, 1884; 5 years.

Claim.—1st. In an inhaler, the disk E supported from the cover by the pipes C and D, and provided with an atomizer attached thereto, substantially as shown and described. 2nd. In an inhaler, the combination, with the pendent disk E, of the tubes F and *f* attached to each other and to the disk and provided with the jet orifices *i* and *i*, substantially as described and for the purpose specified. 3rd. In an inhaler, the combination, with the pendent disk E, provided with an atomizer of the tubes *c*, D *d* and the bulb *d*1, substantially as and for the purpose set forth.

No. 20,767. Iron Cultivator. (*Cultivateur en Fer.*)

John Evans, Cayuga, Ont., 19th December, 1884. 5 years.

Claim.—An iron harrow constructed of longitudinal zig-zag bars A, edgewise, vertical transverse bar B, and diagonal bars C, flatwise horizontal, bolted at their intersection to blocks H, holding the tooth, as set forth.

No. 20,768. Ball Bearing for Bicycles. &c.

(*Collet à Anti Friction pour Bicycles, &c.*)

Joseph S. Murray, Boston, Mass., U.S., 19th December, 1884; 5 years.

Claim.—The herein-described ball bearing for bicycles and other velocipedes or machinery, consisting essentially of the internally-threaded casing provided with the projections, the cone-sections provided with the annular grooves *d*, and the grooves or openings into which said projections extend, the adjusting-cap extending between said sections and casing, and the shaft grooved collar and balls, all arranged and constructed substantially as and for the purpose set forth.

No. 20,769. Sad Iron. (*Fer à Repasser.*)

Caspar J. Haas and Charlie E. Marks, Flint, Mich., U. S., 19th December, 1884; 5 years.

Claim.—1st. In a sad-iron, and in combination with the body A thereof, the pivoted cover B, plate C, handle D and non-conducting material H, constructed substantially in the manner and for the purposes set forth. 2nd. A sad-iron, provided with a damper in its heel, said damper being located in a recess or depression, substantially as described. 3rd. A grate J for a sad-iron, the two wings of which unite in a common flue passage, co-incident with the blow-out opening in the wall of the iron, substantially as specified. 4th. A sad-iron, or "tailor's goose," provided with a blow-out opening *e* at or near its toe, such opening being opened or closed by a flanged damper, substantially as and for the purposes specified.

No. 20,770. Draw-Bar for Freight Cars.

(*Barre d'Attelage pour Chars à Marchandises.*)

William A. Jones, Delaware, Ohio, U. S., 19th December, 1884; 5 years.

Claim.—1st. The combination, with plates or bars held longitudinally on the bottom of the car of bolts held between the plates bars, or plates supported by the said bolts, cross pieces resting on the latter bars and connected with the inner end of the draw-head, whereby the removal of the draw-head is greatly facilitated, substantially as herein shown and described. 2nd, The combination, with bars held longitudinally on the bottom of the car, of transverse pieces resting on the said bars, and passed through a pocket on the inner end of the draw-head, substantially as herein shown and described. 3rd. The combination, with the plates C, of the bolts *d* held between them, the plates E supported by the bolts *d* and provided with pockets E1, the cross bars G in the pockets E1, and the draw-head K1 connected with the bars G, substantially as herein shown and described. 4th. The combination, with the stringers A, of the jaw-blocks B held on the same by bolts *b*, the plates C held to the jaw-blocks by bolts *c*, the bolts *d*, the plates E having pockets E1, the draw-head K and the cross bars G, substantially as herein shown and described.

No. 20,771. Apparatus for Indicating the Velocity or Measuring the Flow of Water in Pipes. (*Appareil pour Indiquer la Vitesse, ou Mésurer le Cours de l'Eau dans les Tuyaux.*)

George F. Deacon, Liverpool, Eng., 19th December, 1884; 5 years.

Claim.—1st. The combination of an inlet pipe annular diaphragm or coned pipe, gauging cone, or disc and outlet pipe, the said annular diaphraghm or coned pipe, gauging cone or disc and outlet pipe being constructed and combined, so that the cone or disc will, at high velocities move into such a position that there will be no obstruction of the water way, substantially as and for the purpose described. 2nd. The combination, with an apparatus, as herein described, consisting of an inlet pipe C, annular diaphragm A, gauging cone D and

outlet C, of wings or diaphragms B, whereby irregularities of motion of the water are subdued and vortex motion is prevented, substantially as described and for the purposes specified. 3rd. The combination, with an apparatus, as herein described, consisting of an inlet pipe C, coned or tapered pipe E, gauging disc diaphragm A, and outlet C, of wings or diaphragms B, whereby irregularities of motion of the water are subdued and vortex motion is prevented, substantially as described and for the purposes specified. 4th. The spanner Y, provided with a slot or opening and projections Y1, substantially as described for the purposes specified. 5th. The combination of parts consisting of the inlet and outlet G, diaphragm A, gauging cone D, wings B, spindle E, tube F, clockwork P and casing K, constructed and arranged substantially as described and shown in reference to figures 1, 2 and 3 of the drawings hereto annexed, for the purposes specified. 6th. The combination of parts, consisting of inlet and outlet C, fixed cone water-way D, moving disc diaphragm A, spindle E, tube F, wings B, clock-work P and casing K, constructed and arranged substantially as described and shown in reference to figures 4 and 5 of the drawings hereto annexed for the purposes specified. 7th. The combination of parts consisting of inlet and outlet C, diaphragm A, gauging cone D, wings B, spindle E tube F, clock-work P and casing K, constructed and arranged substantially as described and shown in reference to figures 6 of the drawings hereto annexed for the purposes specified.

No. 20,772. Combined Folding Bed and Wardrobe. (*Lit Pliant et Garderobe Combinés.*)

Thomas C. Lean, Toronto, Ont., 19th December, 1884 ; 5 years.

Claim.—1st. In a combined folding bed and wardrobe, in which the bed is constructed so as to fold up within the front portion of the wardrobe when not in use, the combination of the pivots G, G1, which support the inner end of the bed B when lowered down, and on which the bed is swung when being folded up, with the *grooves d, d1*, in the side boards of the bed, substantially as and for the purpose set forth. 2nd. The combination, with a combined folding bed and wardrobe, of the pivots G, G1, the panels S, S1 and mirrors M, M1, substantially as shown and described and for the purposes set forth.

No. 20,773. Machine for Laying Railroad Tracks. (*Machine pour Poser les Voies de Railroutes.*)

George A. Smith, Los Angelos, Cal., U.S., 22nd December, 1884 ; 5 years.

Claim.—1st. In a track-laying device, a frame projecting form the front of a construction car, and being provided with endless chains, adapted to be propelled substantially as set forth, such chains having projections or spikes upon them, whereby ties, when laid upon the frame, will be carried forward by the motion of the chains to be deposited upon the ground in front of the frame. 2nd. The track-laying device consisting, as shown, of a construction car having a frame projecting in front thereof, and being provided with tie-carrying endless chains extending along it, and connected by gearing, substantially as shown, with the axle of the car, whereby the rotation of the car wheels is adapted to propel the chains to carry forward the ties. 3rd. In a track-laying device, the frame projecting from the front of the construction car and being bent downwards near the front end and having a shaft at each end and one at the point of the bend, such shaft being provided with toothed wheels carrying endless chains, substantially as shown, whereby the ties may be conveyed forward from the construction car and deposited upon the road bed in front of the construction train, substantially as set forth. 4th. In a track-laying device, the following elements: the shafts *t, t1, t11* having the toothed wheels E, G, I, J and L, the endless chains C, C1, having the spikes or projections O, O, the wheels and axles of the construction car, the toothed wheel V on such axle, and the endless chain K, all being in combination substantially as shown and described. 5th. In a track-laying device, tie-carrying endless chains trained upon wheels mounted upon a frame projecting in front of a construction car and being connected by means of gearing, substantially as shown, with the axle of the car, whereby the rotation of the car wheels actuate the chain to carry the ties forward, substantially as set forth. 6th. In a track-laying machine, the device for handling the rails consisting, substantially as shown, of the inclined runway having rollers along its bottom, one part of the runway being mounted upon the car and the other part being pivoted upon a support in front of the car, whereby the rail may be slid down the incline from off the car and then be brought to a horizontal positions before the grapnels for lifting and placing it are attached. 7th. In a track-laying machine and mounted upon a frame, as shown, two sets of tie-carrying endless chains C and C1 having the projecting spikes O, such chains being geared together upon a common shaft *t1* ond being mounted upon toothed wheels, substantially as shown, the forward set of chains C1 being inclined downward, substantially as shown, whereby the weight of the ties upon the same tends to propel the chains. 8th. The runway I supported by a pivot, substantially as shown, whereby the rail may be changed from an inclined to a horizontal position. 9th. The inclined runway having rollers along the bottom, and consisting of two sections B and P, one section being stationary upon the car and the other section being pivoted upon its supports, substantially as shown.

No. 20,774. Window Blind. (*Persienne.*)

Jacob B. Hartman, Wooster, Ohio, U. S., 22nd December, 1884 ; 5 years.

Claim.—1st. The combination, with vertically-sliding inside window blinds, of window stops grooved ou their respective faces, so as to serve the double purpose of stops for the lower window sash in the usual manner and for ways for the different sections or divisions of the said blinds, substantially as set forth. 2nd. In inside vertically-sliding window blinds, the combination, with a frame constructed with the rails extending respectively above and below the stiles to the full width of the frame and with the stiles and muntin when used, provided with tenons entering mortises in the sails of rolling slats pivoted to said frame, substantially as set forth. 3rd. In inside vertically sliding window blinds, the combination, with stationary overlapping slots rabbeted on one or more of the corners engaging contiguous slats of a frame provided with grooves parallel with the plane of the frame for receiving the slats, substantially as set forth. 4th. In inside vertically-sliding window blinds, station overlapping slats rabbeted on one or more of the corneres that engage contiguous slats, and provided with tenons made diagonal with the plane of the slats but parallel with the plane of the supporting frame, substantially as set forth. 5th. In combination with inside-sliding window, blind, constructed as aforesaid, of a sliding screen arranged with springs to operate in the grooves of the stops with, or in place of any desired section of the blinds, substantially as set forth.

No. 20,775. Hay and Grain Rack Elevator. (*Monte-Foin.*)

Peter G. Walker, Westwood, Ont., 22nd December, 1884 ; 5 years.

Claim.—1st. The combination of a roller A, journalled overhead and rotated by means of a rope D coiled upon a rope pulley C, beams A1 and F parallel thereto and placed one on either side, and carrying pulleys or equivalents, to pass lifting ropes *e1* from the rack E to the roller A, the lifting ropes *e* passing direct to said roller A and lifting ropes *e* and *e1* secured to the roller A and adapted to be coiled thereon. 2nd. The combination, with the rope pulley C, of the dog or pawl G controlled by a cord or line I1, secured to a weighted lever K below and actuating a bell crank lever I, connnected to the bell crank lever H by means of a cord or line *h1*, all substantially as shown and described and for the purpose set forth.

No. 20,776. Weather Strip. (*Bourrelet de Porte.*)

Jacob J. Smith and Frank H. Schwartz, Lima, Ohio, U.S., 22nd December, 1884 : 5 years

Claim.—1st. The improved weather strip consisting of the plate C, provided with the curved lip *c*, the plate D provided with the overhanging curved lip *e*, and the hinge or supporting plate E provided with the knuckle or rounded bearings *b*, all constructed and arranged to operate substantially as shown and described. 2nd. The hinged plate C supported at or near its opposite ends by independent bearings *b*, in combination with the overhanging strip D, substantially as shown and described. 3rd. In combination with a hinged weather strip, the carrier or supporter consisting of the pivoted rods *l* and *m*, secured to the threshold and door, substantially as shown and described.

No. 20,777. Carpet Stretcher. (*Tendoir de Tapis.*)

John J. Taylor, Warren, Penn., U.S., 22nd December, 1884; 5 years.

Claim.—1st. In a carpet stretcher, the combination, with the grooved bar A, of the sliding rack B, the clamp lever D pivoted on the bar A and connected with the rack B by links C, and of a fulcrum-frame and a lever, substantially as herein shown and described. 2nd. In a carpet stretcher, the combination, with the grooved bar A, of the sliding rack B, the clamp lever D pivoted on the bar A and connected with the rack B by links C, the frame F having pointed heads the rod or wire H held on the frame F, and of the lever J provided with a hook L, substantially as herein shown and described. 3rd. In a carpet stretcher, the combination, with the grooved bar A having flattened end E and jaws E1, of the rake B, the clamp D hinged on the jaws E1, the links C, the frame F having pointed heads G, the wire or rod H on the frame F, and of the lever J provided with a hook L, substantially as herein shown and described.

No. 20,778. Beehive. (*Ruche.*)

George E. Jones, Brantford, Ont., 22nd December, 1884 : 5 years,

Claim.—In a beehive, the combination of movable partition bars 1, 2 and 3 with half story B, or any of the other half stories, substantially as and for the purposes hereinbefore set forth.

No. 20,779. Process and Apparatus for Baryta or Strontia Treatment of Saccharine Liquors and for Production and Recovery of these Reagents. (*Procédé et Appareil de Traitement par la Baryte ou la Trontiane des Liqueurs Saccharines et pour la Production et la Révivification de ces Réactifs.*)

Hippolite Leplay, Paris, France, 22nd December, 1884 ; 5 years

Claim.—1st. Treating saccharine liquor with monohydrate or low hydrate of baryta or strontia, so as to obtain sucrate of baryta or strontia for subsequent treatment with carbonic acid, substantially as herein described. 2nd. The apparatus for treating saccharine liquor, substantially as described with reference to the accompanying drawing. 3rd. Producing or recovering monohydrate or low hydrate of baryta or strontia, by heating the carbonate and subjecting it to the action or superheated steam, substantially as described. 4th. Producing monohydrate or low hydrate of strontia, by mixing ordinary hydrate with fragments of anhydrate produced by the action of superheated steam on heated carbonate, substantially as described.

No. 20,780. Spring Motor. (*Moteur à Ressort.*)

Dexter E. Hawkins, North Attleboro, Mass., U.S., 22nd December, 1884; 5 years.

Claim.—1st. The combination of a helical spring and spring barrel surrounding a rotary shaft, a swinging foot lever and mechanism for

transmitting rotary movement to the spring shaft from the swinging foot lever, substantially as set forth. 2nd. The combination of a helical spring surrounding the rotary shaft, a spring barrel, a swinging foot lever having a toothen sector, a toothed pinion upon the spring shaft adapted to engage with the toothed sector and ratchet and pawl mechanism, substantially as set forth. 3rd. A helical spring surrounding a rotary shaft, a spring barrel, a gear wheel attached to said barrel and adapted to engage a toothed pinion of the main shaft of the sewing or other machine, combined with a swinging foot lever, means for transmitting rotary movement to the spring shaft from a swinging movement of the foot lever and ratchet and pawl mechanism, substantially as set forth. 4th. In a motor, the combination of a frame work, a helical spring surrounding a rotary shaft, a barrel loose upon said shaft and attached to the spring and a main gear wheel attached to said barrel, combined with a swinging foot lever, a toothed sector mounted upon the shaft of said swinging lever, a pinion upon the spring shaft and adapted to engage the teeth of the sector, a ratchet and pawl mechanism for imparting the movement of the sector to the spring shaft, and a ratchet and pawl mechanism for preventing the return movement of the spring, substantially as set forth. 5th. The combination, in a motor, of the shaft F1, recessed arm *h*, ratchet wheel g^{II}, slotted arm h^{I}, pawl *e*, pin i^{I}, washers n^{I}, n^{II}, and screw *n*, substantially as set forth. 6th. In a motor, the slotted arm h^{I} carrying the pawl *i* having its fulcrum at h^{II}, and provided with the pin e^{I}, combined with the ratchet wheel g^{II}, and arm *h* having the recess i^{III}, substantially as set forth. 7th. In a motor, a ratchet and pawl mechanism consisting of a ratchet wheel mounted upon a rotary shaft, a pivoted pawl, a slotted arm loose upon said shaft and furnishing the fulcrum of the pawl, a recessed arm also loose upon said shaft, a pin running transversely through the short arm of the pawl, and having one end resting and playing in the slot of one arm and the other end resting in the recess of the other arm and incapable of lateral movement therein, the slotted arm being adapted to be temporarily retarded during a radial movement of the other arm, whereby the pawl is shipped and unshipped, substantially as set forth. 8th. In a motor, a ratchet and pawl mechanism consisting of a ratchet wheel mounted upon a rotary shaft, a pivoted pawl, a slotted arm loose upon said shaft, a pin running transversely through the short arm of the pawl, and having one end resting and playing in the slot of said arm and the other end resting in a recess of the stationary frame, and incapable of lateral movement therein, the slotted arm being adapted to be radially moved to the limit of its slot by frictional action, whereby the pawl is shipped and unshipped, substantially as set forth. 9th. In a motor, the combination of a swinging foot lever, a toothed sector mounted on the shaft of said lever, a brake mechanism having a shoe adapted to bear upon the fly wheel of the sewing or other machine run by the motor, and levers and arms adapting said brake to be applied to the fly wheel by contact with the toothed sector during its movement, the brake being removed from contact with said wheel by gravity, substantially as set forth.

No. 20,781. Safety Device for Electric Arc Lamps. (*Appareil de Sûreté pour Lampes Electriques à Arc.*)

Elihu Thomson, Lynn, Mass., U.S., 22nd December, 1884; 5 years.

Claim.—1st. In an electric lamp, the guides for the carbon-carrier of which are made movable, the combination, with said guides, of detaining mechanism holding said guides stationary during normal feeding of the carbon, and means for releasing said guides upon failure of the carbon to feed properly. 2nd. The combination, with a carbon-carrier, of movable guides normally held stationary during the feed of the carrier, means for releasing said guides when an abnormal increase in the length of arc occurs, and for simultaneously lowering with a positive movement the portion of the regulating mechanism which support the feed clutch, or equivalent feed mechanism. 3rd. The combination, with the upper or movable carbon-carrier in an electric lamp, of means for normally detaining or supporting those portions of the lamp outside of the feed devices that are in contact with said carbon-carrier, and mechanism for releasing or withdrawing said supporting or detaining devices upon failure of the carbon-carrier to feed properly. 4th. In an electric lamp, the combination, with the movable and supporting portion for the feed-regulating mechanism, of a supplemental extractor normally held out of action upon said lever during feed of the carbon and means for releasing said retractor upon failure of the carbon to feed properly. 5th. The combination, with the carbon-carrier in an electric arc lamp of guides and feed-regulating devices for said carrier made movable a detent or catch for normally holding the guides from movement, means adapted to act upon and lower the feed regulating devices, also normally held out of action by a catch or detent, a releasing or safety electro-magnet for releasing said catches and means for rendering said magnet operative upon an abnormal increase in the length of arc. 6th. The combination, with the lever L which supports or actuates the feed-regulating mechanism, of a supplemental spring normally held out of action by a catch or detent, and means for releasing said catch or detent upon an abnormal increase in the length of arc. 6th. The combination, with the lever which supports or actuates the feed-regulating mechanism, of a supplemental spring normally held out of engagement with the said lever by a catch or detent, a releasing or controlling electro-magnet for said catch, and means for bringing said magnet into or out of action upon failure of the carbon to feed properly. 8th. The combination, in an electric arc lamp, of a frame supporting movable guides for the carbon-carrier, a spring for acting on said frame so as to pull it downward or toward the arc, a catch normally engaging with the frame and means for releasing the catch normally engaging with the frame, and means for releasing the catch upon an abnormal increase in the length of arc. 9th. The combination, in an electric arc lamp, the guides for the carbon-carrier of which are made movable of a spring for acting on said guides so as to pull them toward the arc, a catch or detent normally holding said guides from movement, and a controlling electro-magnet for said catch which releases said guides upon an abnormal increase in the length of arc. 10th. The combination, with the guides, of the frame T carrying the same, a spring F, an engaging plate P for engaging with the frame and with the lever L, and a detent for holding the frame and the spring out of action. 11th. The combination, with the frame T, of a detent normally holding the same from movement, a spring which tends to pull the frame downward, and a lug or projection operated by the spring for engaging with the lever of the regulating mechanism when the frame is released. 12th. The combination, of a frame T carrying the guides for the carbon-carrier, a catch A and a lug or projection, *a* moving simultaneously with the frame for producing a receding movement of the regulator lever L simultaneously with the release of and movement of the guides. 13th. The combination, with the cirbon-carrier, of a contact-spring formed from a comb W the continuous hand of which is bent in a circle around the carrier while its teeth entirely surround said carrier and are bent on a line parallel with the carrier, substantially as shown and described, so that the curved portion of the teeth rest against the surface of the same.

No. 20,782. Regulator for Dynamo or Magneto Electric Machine. (*Régulateur pour Machines Dynamo ou Magneto Electriques.*)

The Bain Electric Company, (assignee of Forie Bain,) Chicago, Ill., U.S., 22nd December, 1884; 5 years.

Claim.—1st The combination, substantially as herein set forth, with the shaft, of a revolving armature, of a brush operating and adjusting device mounted thereon and operated thereby, and means for controlling said operations depending upon the strength of the current generated. 2nd. The combination, substantially as herein set forth, with the shaft of a revolving armature, of a friction device mounted thereon and connected to the brush-holders and means connected with the circuit of the engine for controlling the amount of friction in accordance with variations in the strength of the current generated. 3rd. The combination, substantially as herein set forth, with the shaft of a revolving armature, of a friction device mounted therein and connected to the brush-holder, and a magnet coil in the external circuit of the machine adapted to control the friction device in accordance with the strength of the current in said circuit. 4th. The combination, with an armature shaft, of an electric generator having a friction disk connected thereto, of a yoke embracing said disk and connected to the brush-holder, and a magnet coil in the external circuit of the machine controlling the pressure of said yoke on the friction disk. 5th. The combination, substantially as herein set forth, with the shaft of a revolving armature of a friction disk mounted thereon, a yoke surrounding the disk, means for adjusting the initial pressure of the yoke upon the disk, and a magnet in the main circuit for varying the friction in accordance with the varying strength of the current in said circuit. 6th. The combination, substantially as herein set forth, of an armature having a shaft friction disk secured thereto, a yoke embracing said disk and having prongs or extensions and a magnet upon one of said prongs included in the circuit of the generator, the other prong serving as an armature to said magnet. 7th. The combination, substantially as herein set forth, with the shaft of an armature, of a brush-holder upon the shaft, a disk secured to said shaft, a yoke embracing said disk and having prongs or extensions, a magnet upon one of the prongs the coil of which is included in the circuit of the generator, a screw for adjusting the initial pressure of the yoke upon the disk and retarding devices, as set forth. 8th. The method of and means for regulating the current of an electric generator, substantially as herein set forth.

No. 20,783. Lifting Jack. (*Cric.*)

Oliver K. McIntire, Springfield, and Jacob A. Hinckle, Chillicothe, Ohio, U.S., 22nd December, 1884; 5 years.

Claim.—1st. In a lifting-jack the combination, with the lifting bar and lever, of a lifting and a stop-pawl both pivoted in the same plane of said lever above the fulcrum of the latter, the lifting-pawl being suspended below said lever and having its pivoted end thrown outward over the fulcrum of the latter when operated, whereby the power necessary to operate in lifting is decreased toward the end of the throw of the lever, substantially as set forth. 2nd. In a lifting-jack, the combination, with the lever and lifting-bar, of a lifting and a stop-pawl, both pivoted in the same plane above the fulcrum of said lever, the pivot of the lifting-pawl being about one-half greater distance from the fulcrum-pin than the pivot of the stop-pawl, whereby said lifting-pawl is caused to lift twice the vertical height of the latter in operating the same, as set forth. 3rd. The combination and arrangement with the lever and lifting-bar, of the two pawls pivoted in substantially the same plane of the lever, the lower or lifting pawl being pivoted at the upper angle of the end of said lever suspended through a slot herein below the same, and provided with a weighted knob extending therefrom to disengage it from the lifting-bar and to aid it by its gravity in engaging therewith, substantially as set forth. 4th. In a lifting-jack, the combination, with standard *d*, lifting-bar *p* and lever B, with slot K, of pawls *e* and *f* pivoted to the latter, as described, said pawl *e* being suspended below said lever and provided with a weighted knob, and adapted to be operated, substantially as set forth.

No. 20,784. Grate Bar. (*Barre de Grille.*)

Henry D. Wicks, Edward N. Wicks, Harry T. Wickes and William J. Wickes, (assignee of William H, Cambrey,) East Saginaw, Mich., U.S., 22nd December, 1884; 5 years.

Claim.—As an improved article of manufacture, the grate-bar, herein described, consisting of the vertical longitudinal side flanges *a* having convex lower edges and tapering towards each end, the transverse end connections having sloping portions *b* extending from side flange to side flange and to the lower edges of the side flanges, the series of oblique transverse bars *d* alternating with oblique slots and extending from side flange to side flange, and the vertical transverse central brace *e* connecting the side flanges and extending nearly the convex edges thereof, the whole formed entire and without marginal projections or lugs, as shown and described,

No. 20,785. Toboggan. (*Toboganne.*)

John R. McLaren, jr., Montreal, Que., 23rd December, 1884; 5 years.

Claim—1st. A toboggan constructed from narrow strips or battens laid side by side and held by cross-bars, the undersides of said strips or battens being shaped so as to lessen their frictional surface or area, substantially as specified. 2nd. A toboggan made up of side strips or battens A, shaped strips B and cross-bars C, substantially as and for the purpose set forth. 3rd. The combination, in a toboggan, of the side strips A, shaped strips B, cross-bars C, side rails D and suitable fastening devices, substantially as and for the purpose specified.

No. 20,786. Journal Box. (*Boîte à Graisse.*)

David Jones, Palouse Junction, W.T., U.T., 23rd December, 1884; 5 years

Claim.—1st. In a journal box for railroad trucks, a removable oil-container consisting essentially of the horizontal part C^1 and the upright part C^2, the former provided with the false perforated bottom c^1 and the ribs c^3, and the latter provided with depressions or recesses C^3, the side walls of which are undercut, substantially as set forth. 2nd. The combination, with a removable oil-container provided with the recess C^3, of the part E provided with bevelled edges and provided with the part e, and rib e^1, substantially as set forth. 3rd. The combination, with the housing A, provided with the upright part A^1, of the removable container C, provided with the upright part C^2, adapted to fit into the part A^1, substantially as set forth. 4th. The housing A, provided with the rib A^3 and the lugs A^2 of the box B, provided with the depression B^1, the lugs b^1 and the extension b^2, substantially as set forth. 5th. The combination with the part E, provided with parts e and e^1, of the key F, provided with the lug f and spring-washer i, and the depression o, substantially as set forth.

No. 20,787. Surgical Chair.

(*Fauteuil de Chirurgie.*)

Franklin E. Young, Canton, Ohio, U.S., 13rd December, 1884; 5 years.

Claim.—1st. The combination with the supporting frame, of the back pivoted thereto, a seat pivoted at its front end to the frame, substantially as described, links pivoted to the seat and back, and means, substantially as set forth, for connecting the links rigidly with the back and disconnecting them, as and for the purposes set forth. 2nd. The combination of the supporting-frame, the back B pivoted to the frame, the seat D pivoted at its front to the frame, substantially as described, having the lock-plate H, the side straps b, b pivoted to the back and seat, as set forth, the bar G secured to the straps b, b and locking-catch g, and the handle o o' attached to the side strap b^1, substantially as and for the purpose described.

No. 20,788. Sewing Machine Shuttle.

(*Navette de Machine à Coudre.*)

David L. Keeler and William H. Keeler, Grand Rapids, Mich., U.S., 23rd December, 1884; 5 years.

Claim.—1st. In combination with a shuttle, provided with a aperture near its forward end, and a bobbin, a spring bobbin-holder composed of a horizontal plate which is outside of the shuttle when the holder is in place, and of two end pieces which are adapted to furnish bearings for the bobbin, one of said end pieces passing through the aperture near the forward end of the shuttle when the holder is in place, and the other end piece passing over the open rear end of the shuttle, substantially as and for the purpose set forth. 2nd. The shuttle N provided with an aperture E near its forward end, a slot G extending inward from its rear edge, and an aperture or recess F, in combination with the bobbin M and the spring bobbin-holder L, said holder being provided with a rear end piece B, a forward end piece D adapted to pass through the aperture E, and a tongue A located when the holder is in place over the aperture or recess F, substantially as set forth. 3rd. The shuttle-cylinder N, provided with the opening E and hole J, in combination with the bobbin-holder L provided with the hinge or loop C, the bobbin M and screw or rivet K, all substantially as described.

No. 20,789. Log Turner. (*Roule-Billot.*)

Royal E. Park, Sherman, N.Y., U.S., 23rd December, 1884; 5 years.

Claim.—1st. The combination, with a log-carriage having the ordinary stop B and the log-skids D, of the semi-circular plates F journalled on the said skids, adjacent and at right angles to the longitudinal edge of the carriage to allow a log to turn automatically when placed as described, substantially as set forth. 2nd. The combination, with a log-carriage having the ordinary stop B and the log-skids D, of the shaft E, bent as described, and the semi-circular plates F secured to the ends of said shaft adjacent to the longitudinal edge of the carriage, whereby a log will turn automatically when placed as described, and the knots thereon will avoid the shaft, substantially as specified.

No. 20,790. Floor Clamp.

Thomas A. Southwick, and Major C. Alexander, Brockton, Mass., U.S., 26th December, 1884; 5 years.

Claim.—1st. In a floor clamp, the combination of the following instrumentalities, to wit: a body provided with a spur or spurs adapted to engage the under floor, a lever pivoted in said body, an actuating pawl pivoted to said lever, a retaining pawl pivoted to said body, a bar fitted to slide horizontally in ways in said body, and provided with teeth for said pawls, and a horizontally arranged head piece centrally pivoted to the end of said bar, substantially as described. 2nd. The improved floor clamp herein described, the same consisting of the body A provided with the spurs b, ways m and flanges D, the lever B pivoted at x and provided with the pivoted pawl E, the bar C provided with the serrated flanges d and teeth f and the pivoted head piece J provided with the groove z and curve t, constructed, combined and arranged to operate substantially as set forth. 3rd. In a floor clamp, the head piece J provided with the curve t, substantially as and for the purpose set forth.

No. 20,791. Flushing Apparatus for Water Closets. (*Appareil pour Nettoyer les Cabinets à l'Anglaise.*)

James E. Boyle, Brooklyn, N.Y., U.S., 26th December, 1884; 5 years.

Claim.—1st. A flushing apparatus for water closets, consisting of the combination of a flushing-pipe for leading to the water-closet bowl, a source of water in connection with said pipe, an injector arranged in said pipe, and a suction of air-pipe communicating with said injector, all combined and arranged substantially as set forth, whereby the descending flushing water traverses said injector and sucks the air from said suction-pipe. 2nd. The combination with a water-closet bowl forming a trap and the soil-passage leading therefrom forming a second trap, of a flushing-pipe leading to said bowl, a source of water in connection with said pipe, an air-pipe leading from the air space between said traps, and a suction-injector in connection with said flushing and air pipes, substantially as set forth, whereby the flushing water is caused to flow through said injector, and thereby causes a partial vacuum in said air space between said traps. 3rd. The combination of a reservoir tank, a flushing chamber, a valve controlling the admission of water from said tank to said chamber, a suction-pipe terminating at the upper part of said chamber, an injector beneath the outlet from said chamber, a flushing-pipe leading downward from said injector, and a suction passage affording communication from said injector to said suction pipe, substantially as and for the purposes set forth. 4th. A flushing apparatus for water-closets, consisting of a reservoir tank, a flushing chamber, a valve controlling the admission of water from said tank to said chamber, a suction-injector beneath the outlet from said chamber, a flushing pipe leading downward from said injector, a suction of air-pipe opening into the upper part of said chamber, and a suction passage extending from said pipe to said injector, whereby the passage of water through said injector into the flushing pipe will develop a suction in said suction-passage and suction-pipe, in combination with means substantially as described, for admitting air to said suction passage or pipe, and so breaking the vacuum therein before all the water has escaped from the chamber, whereby an after-wash is secured, all combined and arranged substantially as set forth. 5th. In combination, the tank E, the chamber F provided with inlet-orifice h^1 and outlet orifice i, the valve h, the suction injector I, the flushing-pipe l, the air-pipe e, the suction-passage t and the air bell n, substantially as set forth. 6th. A flushing apparatus for a water-closet, consisting of the combination of a reservoir tank, a flushing chamber provided with an inlet orifice of large area, communicating with said tank, and with an outlet orifice of contracted area proportioned to the area of said inlet orifice, substantially as specified, a valve adapted to close said inlet orifice, an air-pipe opening into said flushing chamber and a flushing pipe leading from said outlet orifice, all arranged and adapted to operate substantially as set forth. 7th. The combination with tank E and chamber F, of the valve h thereof, its stem consisting of an overflow tube m and a sealing cup m^1 below the valve, in which cup the lower end of the overflow tube is immersed, substantially as set forth.

No. 20,792. Horse Hay Rake. (*Râteau à Chevals.*)

Horatio Gale, Albion, Mich., U.S., 26th December, 1884; 5 years.

Claim.—In combination with the rake-head A and shafts D of a horse rake, the hook draw-bolts F and nuts f arranged on each side of the rake-head, by means of which said shafts can be readily adjusted to or from the rake-head, and a suitable device for locking the rake in its operating position, substantially as and for the purposes set forth.

No. 20,793. Hand Fire Extinguishers.

(*Extincteur d'Incendie Portatif.*)

Eugene H. Lewis, Chicago, Ill., U.S., 26th December, 1884; 5 years.

Claim.—In hand fire extinguishers, with which a chemical liquid is employed, the tube A provided with a perforated partition E for the purpose specified, in combination with the stopper D and wire loop B, by means of which the tube is closed, and it and its contents are suspended ready for use, and the tube opened, as specified.

No. 20,794. Machinery and Process for Finishing Buttons. (*Machine et Procédé pour Finir les Boutons.*)

Henry W. Merritt, Mortimer G. Merritt and Charles E. Merritt, Springfield, Mass., U.S., 26th December, 1884; 5 years.

Claim.—1st. A machine for finishing buttons, consisting of a double acting press, substantially as described, a hollow punch, having a perforated face, a punch operating within the latter, and having thereon a series of small punches passing through said perforated face, and a button-seat having perforations coinciding with those in said hollow punch, combined and operating substantially as set forth. 2nd. A machine for finishing buttons, consisting of a double-acting press, substantially as described, a hollow punch having a perforated face, and having on the latter projecting cone-shaped collars surmounting its perforations, and thread-slot bars between the latter, a punch operating within said hollow punch, having thereon a series of small punches passing through the said perforated face, and a bottom seat having perforations coinciding with those in said hollow punch, and having projecting cone-shaped collars surrounding its perforations, combined and operating substantially as set forth. 3rd. A machine for finishing buttons, consisting of a double-acting press, substantially as described, a hollow punch, having a perforated face, a punch operating within the latter, and having thereon a series of small punches passing through said perforated face, a perforated button-seat fixed on the bed of the machine, a sleeve, having a reciprocating motion on said button-seat, and

means, substantially as described, for operating said sleeve, combined and operating substantially as set forth. 4th. A machine for finishing buttons, consisting of a double-acting press, substantially as described, a hollow punch, having a perforated face, upon which is engraved or otherwise formed an ornamental design, a punch operating within said hollow punch, having thereon a series of small punches passing through the perforated face of the hollow punch, and a button-seat, having perforations coinciding with those in the latter, combined and operating substantially as set forth. 5th. The combination with a double-acting press, substantially as described, of the hollow punch *f*, having a perforated face, the interior punch a^2, having thereon the series of small punches *a*, and the bottom seat *r*, having thereon perforations coinciding with those in the hollow punch, substantially as set forth. 6th. The process of perforating and embossing buttons, which consists of pressing a button-blank between a design-bearing punch and a seat, and while so pressed, forcing one or several thread-hole forming punches through the blank, all substantially as described. 7th. The process of perforating thread-slotting and embossing buttons, which consists in pressing a button-blank between a design-bearing punch having slotting bars thereon and a seat, and while so pressed forcing one or several thread-hole forming punches through the blank, all substantially as described.

No. 20,795. Amalgamating Gold and Silver Metals and Apparatus Employed Therein. (*Amalgamation de l'Or et de l'Argent, et Appareil pour cet Objet.*)

Bernard C. Malloy, London, Eng., 26th December, 1884; 5 years.

Claim.—1st. In separating metals from their ores and other compounds, the process of forming electrilytically amalgams of hydrogen, or hydrogen and a metal electro-positive to hydrogen, as and for the purpose herein described. 2nd. The carriage of auriferous and other ores or compounds through or over the surface of mercury or amalgams of the fluid metal, quickened, as herein described, by the action of an endless band carried by one or more revolving cylinders or drums, or by means of one or more revolving cylinders or drums, as and for the purposes herein described.

No. 20,796. Removing Stagy Hairs from Fur, Seal, and other Skins, and Apparatus Therefor. (*Manière d'Arracher les Poils Hérissés des Peaux de et autres, et Appareil pour cet Objet.*)

Ambrose Paterson, London, Eng., 26th December, 1884; 5 years.

Claim.—1st. In an apparatus to be attached to an enlarged fur cutting machine, for the removal of stagy hairs from seal skins, the combination of an oscillating frame worked by a double crank shaft and crank arms with the arrangement of grooved rollers for passing the skin over the straight edge of the frame, as hereinbefore described and represented in the accompanying drawing. 2nd. In an apparatus to be attached to an enlarged fur cutting machines for the removal of stagy hairs from seal skins, the combination of an oscillating frame worked by a double crank shaft, and crank arms and the arrangement of grooved rollers for passing the skin over the straight edge of the frame, with the device for working the geared wheel C, causing the grooved rollers to move intermittently, substantially as hereinbefore described and represented in the accompanying drawing. 3rd. In an apparatus to be attached to an enlarged for cutting machine for the removal of stagy hairs from seal skins, a device for delivering and directing a current of air upon the fur as it passes over the straight edge of the oscillating frame, as hereinbefore described. 4th. In an apparatus to be attached to an enlarged fur cutting machine for the removal of stagy hairs from seal skins, a device for delivering and directing a current of air upon the fur as it passes over the straight edge of the oscillating frame, in combination with guard rods and bearings, substantially as and for the purpose set forth. 5th. The method herein described of removing the stagy hairs from seal skins by a device such as that hereinbefore described and shown in the drawing to be attached to an enlarged fur cutting machine, as hereinbefore described.

No. 20,797. Lubricator. (*Boîte à Graisse.*)

Isaie Fréchette, St. Hyacinthe, Que., 26th December, 1884; 5 years.

Claim.—1st. The combination of the shaft or journal *a*, bearing *b*, provided with an opening *g*, wheel *m*, operated substantially as described, tank *e* and fluid lubricating material, the whole constructed and arranged as described, substantially as and for the purposes set forth. 2nd. The combination of the shaft *a*, loose pulley *b*3 having extended hub *c*3 perforated as described, wheel *m* operated as described, tank *e* and fluid lubricating machinery, arranged as described, the whole substantially as set forth.

No. 20,798. Child's Crib. (*Berceonnette.*)

Charlotte P. Allender, Cuba, N.Y., U.S., 26th December, 1884; 5 years.

Claim.— A crib, having the posts A provided with the upward extensions D, the cross-bars E, the longitudinal bars F and the hinged rack-sections G, H, I, substantially as herein shown and described, whereby the child is prevented from climbing or falling out of the crib, as set forth.

No. 20,799. Clothes Wringer. (*Essoreuse.*)

John W. Ellsworth, Boston, Mas., U.S., 26th December, 1884; 5 years.

Claim.—1st. In a clothes wringer, having a bench or stand for a tub, the standard A, pivoted rails B, pivoted legs C, pivoted braces D, links *f*, *d*, and suitable connecting rods, combined and arranged to operate substantially as set forth. 2nd. In a clothes wringer, the truss O provided with projecting ends for attaching it to the standards A, substantially as described. 3rd. In a clothes wringer, the stud *n*, substantially as and for the purpose set forth. 4th. The pins a^2, b^2, d^2, in combination with the standard A and water-board T, substantially as and for the purpose specified. 5th. The water-board T provided with the groove *j* and notches *p*, p^2, substantially as described. 6th. In a clothes wringer, the water-board T having the guard *y*, in combination with the bottom *e*, grooved ends *k* and pins *p*, p^2, substantially as set forth. 7th. In a clothes wringer, having a bench or stand adapted to receive and support a tub or tubs, the combination of the following instrumentalities, to wit: a pair of standards carrying a clothes wringer proper, two pairs of rails jointed together at their inner ends, two pairs of braces jointed at their lower ends to said standards and pivoted to said legs, and rails and suitable connecting rods for said standards, legs and rails, substantially as described.

No. 20,800. Automatic Measuring Device for Liquids. (*Mesure Liquide Automatique.*)

Jean Prax, Montreal, Que., 27th December, 1884; (Reissue of Patent No. 19,940) 5 years.

Claim.—1st. In a self-measuring device for liquids, the combination, with a tank or reservoir, of a measuring vessel or chamber adapted to contain a specified quantity arranged within said tank and provided with an air-inlet, and a faucet or spiget communicating with said tank and measuring vessel, substantially as and for the purpose specified. 2nd. The combination, in a self-measuring device for liquids, of the tank or reservoir A, measuring vessel or chamber B, sleeve *n* having inlet L, faucet I, tube K and air tube J, substantially as and for the purposes described. 3rd. The combination, with the measuring apparatus, substantially as described, and with the air tube J having perforations *j*1, of the cap *i* having perforations *m*, as and for the purpose described.

No. 20,801. Chain. (*Chaîne.*)

James H. Shields, John W. Lavery, and Timothy F. Shea, Boston, Mass., U.S., 27th December, 1884; 5 years.

Claim.—1st. In a swinging chair, substantially such as described, the tubes *f*, *f*, mounted on the cords E above the guards H, substantially as and for the purpose set forth. 2nd. In a swinging chair, substantially such as described, the foot-board A, provided with the extensions *a*, *a*, and tubes *l*, in combination with the tubes *m*, cords E and seat B, substantially as described. 3rd. The improved swinging chair, herein described, the same consisting of the foot-board A, the seat B, back C, arms D, guard H, cords E and tubes *m*, *l*, *d*, *f*, constructed, combined and arranged to operate substantially as set forth.

No. 20,802. Pocket for Garments. (*Poche pour Hardes.*)

Henry B. Spitz, Charles E. Godfrey and Isaac B. White, Boston, Mass. (assignees of Morris P. Bray, Birmingham, Ct.) U.S., 27th December, 1884; 5 years.

Claim.—1st. As an article of manufacture, a series of pockets woven in a continuous strip of double thickness, the two thicknesses united transversely across at intervals to form the bottoms of the pockets, the edges also united, except for a certain predetermined distance to form the opening, the edges of that opening being selvage, substantially as described. 2nd. A woven pocket for garments having the bottom and edges closed in the process of weaving, except that one or both edges be left open in the process of weaving to form the mouth of the pocket, substantially as described.

No. 20,803. Clothes Drying Reel. (*Séchoir à Linge.*)

William H. Richmond and Edwin E. Wood, Mount Pleasant, Mich., U.S., 27th December, 1884; 5 years.

Claim.—In a clothes drying reel, the combination of the post A, provided with a shoulder, the hubs B, E, provided with ears, braces C, sleeve D provided with set screw *l* and the flange *c*, and arms F, the parts being constructed, combined and arranged and operating as and for the purposes set forth.

No. 20,804. Machine for Screening Ashes, Gravel, &c. (*Machine à Cribler les Cendres, le Gravier, &c.*)

Angus McKenzie, Toronto, Ont., 27th December, 1884; (Reissue of Patent No. 18,880) 5 years.

Claim.—1st. In an ash sifter, the combination, with a casing containing a screen or sieve, of a quadrangular base, attached to such casing, through which the ashes fall, while the cinders are cast from the screen in another direction, substantially as specified. 2nd. In an ash sifter, the combination, with the sieve or screen, of a bar or disturber arranged to work over said screen, for the purpose described. 3rd. In an ash sifter, the combination, with the casing A and screen B, of the chute or reverse apron C, for the purpose specified. 4th. An ash sifter, composed of the following elements, viz.: the casing A, quadrangular base A1, screen B and disturber I, substantially as described.

No. 20,805. Stock Car Stall. (*Stalle de Char à Bestiaux.*)

William Holden and Charles Holden, Los Angelos, Cal., U. S., 29th December, 1884; 5 years.

Claim.—1st. The improvement in cattle stalls, consisting of thin, flexible partitions, suspended from a horizontal longitudinally-slotted tube, by means of a ball inclosed within the tube, and connected with the partition by means of a cross-head to which the partition is hinged, and to which the ball is attached by means of a short cylin-

drical connection passing through a slot in the tube, all being constructed and combined substantially as described, and the partitions being connected to each other and to the floor and walls of the building, substantially as set forth. 2nd. In cattle stalls, a depending partition hinged to a horizontal cross-head, such cross-head having a ball attached to the centre of its upper side by a cylindrical connection, and being sustained by a horizontal slotted tube in which the ball is held, substantially as and for the purpose set forth. 3rd. In cattle stalls, the improved device for mounting the partitions consisting, substantially as shown, of a horizontal tubular support slotted upon its under side and retaining within its cavity balls from which the partitions are suspended, whereby the partitions are allowed to be rotated and shifted in position throughout the length of the tube. 4th. In cattle stalls, in which the partitions are supported by globular mountings, substantially as described, a longitudinally-slotted tube for supporting such mountings, having flanges extending along the top of the tube, substantially as shown and for the purpose set forth.

No. 20,806. Automatic Car-Coupling.

(*Accouplage de Chars Automatique.*)

Ira Hammond, Margaret A. Hammond, Frank D. Woodbridge and John Hennewell, Somerville, Mass., U. S., 29th December, 1884; 5 years.

Claim.—1st. The cylinder draw-bar A, provided with the buffer E, and having a pendent gravitating hook L, as and for the purposes set forth. 2nd. The cylindric draw-bar A, provided with the buffer E, and having a pendent gravitating hook L, provided with a short hook F and operating chain H, as and for the purposes set forth.

No. 20,807. Hose Coupling. (*Joint de Boyau.*)

Dennis S. Blue and Frederick Fabing, Fremont, Ohio, U. S., 29th December, 1884; 5 years.

Claim.—In a coupling for hose, or other like tubing, the combination of two coupling sections, one of which has depressions upon its edge, and the other section cast with a recessed projection extending radially from its periphery, and a spring bolt or catch located therein, each section being provided with a spanner-pin, and having screw-threads and alternate equal spaces, as shown and for the purpose set forth.

No. 20,808. Roller Machine for Reducing Grain. (*Machine à Cylindres pour Réduire les Grains.*)

John H. Lamb, Ottawa, Ont., 29th December, 1884; 5 years.

Claim—1st. In roller machines for reducing grain to flour, the combination of the corresponding rollers D of two, or more machines with the coupling E, arranged to connect said rollers in a continuous line, substantially as shown and for the purposes set forth. 2nd. In roller machines for reducing grain to flour, the combination of the head feed gates *a*, of two, or more machines, with the connecting rods C, or equivalent device, substantially as shown and described. 3rd. In roller machines for reducing grain to flour, the combination of the rollers D, connected by the couplings E, with the head feed gates *a*, of two, or more machines, connected by the rod D, and levers *e*, substantially as shown and for the purpose set forth.

No. 20,809. Spring Button for Boots and Shoes. (*Bouton à Ressort pour Chaussures.*)

The American Spring Button Company, Portland, Me., (assignee of Ira J. Saunders, Union City, Mich.,) U.S., 30th December, 1884; 5 years.

Claim.—1st. A shoe or other article provided along or near one edge with a row of eyelets, and along an opposed edge thereof with a series of metallic spring buttons or fasteners, bent to form heads or loops *a*, and contracted to form necks and locking projections, and having rests *d* and prongs *e*, the said spring buttons or fasteners being attached to the material, substantially as described. 2nd. The herein-described spring button or fastener consisting essentially of a narrow flattened metal blank bent about midway of its length, to form a head or loop with an eye, and having each arm or side bent to form locking projections, and brought together below the said projections to form a neck and shoulders or rests, and downwardly-projecting prongs or clinching ends, all substantially as shown and described.

No. 20,810. Cartridge Magazine. (*Cartouchier.*)

Thomas Quillian, London, Eng., 30th December, 1884; 5 years.

Claim.—1st. A cartridge-magazine *a* divided into compartments *b*, *c*, *d*, *e*, and provided with devices, as at *i*, *k*, *l*, *m*, all substantially as and for the purposes specified. 2nd. A cartridge magazine *a* having two compartments only, as at *b*, *c*, and provided with the devices *i*, *k*, *l* and *m*, all substantially as herein set forth and for the purpose specified. 3rd. A cartridge-magazine *a* having two compartments only, as at *c*, *d*, for instance, and provided with devices, as at *i*, *k* and *m*, all substantially as herein set forth and for the purposes specified. 4th. A cartridge-magazine *a* having devices for controlling the discharge of cartridges therefrom, as herein described, and provided with partitions *f*, covered with leather or other material, as at *g*, substantially as herein set forth and for the purposes specified.

No. 20,811. Telephone Transmitter.

(*Transmitteur Téléphonique.*)

Henry E. Waite, New York, N. Y., U. S., 30th December, 1884; 5 years.

Claim.—1st. In a telephone transmitter, the combination, with the diaphragm thereof or the flat cylinder *a*, of carbon secured thereto, substantially as described, whereby the said carbon cylinder is adapted to be revolved or adjusted, for the purposes set forth. 2nd. In a telephone-transmitter, the combination, with the diaphragm thereof, carrying the electrode *a*, of an electrode B balanced in contact with electrode *a* by means of the arms secured to a pivoted hub, the arms being provided with adjustable weights, substantially as described. 3rd. In a telephone transmitter, the combination, with the diaphragm thereof carrying a flat faced electrode, of one or more pivoted electrodes having eccentrically on the first electrode, said electrode being capable of movement to present fresh bearing faces to the pivoted electrode, substantially as described. 4th. In a telephone transmitter, a diaphragm having one electrode at or near its center, and having one or more brackets also attached to the diaphragm, said brackets supporting pivoted electrodes having adjustable weighted arms, substantially as described. 5th. In a telephone-transmitter, the combination, with the diaphragm thereof, of a pencil-electrode B, balanced in delicate contact therewith by means of an arm C, and the arms E, E1 carrying the weights *c*, *c1* all of said arms C, E and E1 radiating from a common hub D1 pivoted between the arms of a standard bracket D secured to the said diaphragm, the said weights *c*, *c1* being adjustable lengthwise of the arms E, E1 for varying the amount of pressure of the pencil B upon the electrode *a*, substantially as specified. 6th. In a telephone-transmitter, the combination of a pencil-electrode B, adjustable relatively to the diaphragm in combination with pivoted arms C, E, E1 provided with adjustable weights *c*, *c1*, the arms E, E1 and weights *c*, *c1* being so arranged that the pencil-electrode B may be balanced in contact with electrode *a* whatever may be the position or inclination of the diaphragm A

No. 20,812. Steam Hammer.

(*Marteau à Vapeur.*)

Edward B. Meatyard, Lake Geneva, Wis., U.S., 30th December, 1884; 5 years

Claim.—1st. In a steam hammer, two independent rams arranged to reciprocate in the same vertical plane, in combination with a single steam cylinder and two steam pistons arranged to work with such cylinder and connected respectively to the respective rams, whereby the latter are moved positively to and from each other by the direct action of the pistons, under the effect of the same steam force, substantially as and for the purposes set forth. 2nd. In a steam-hammer, two independent movable rams arranged to move in the same vertical plane, in combination with balancing mechanism connecting the two rams together, whereby any movement of one must be accompanied by a movement of the other but in an opposite direction, substantially as and for the purposes set forth. 3rd. In a steam-hammer, two independent movable rams arranged to move in the same vertical plane, in combination with balancing mechanism connecting the two rams together, whereby any movement of the one must be accompanied by a movement of the other but in an opposite direction, and two steam-pistons connected respectively to the rams, whereby positive movement is given to each, substantially as and for the purposes set forth. 4th. The two movable rams B and B1, in combination with the steam cylinder C, the two pistons D and D1 and the cross-head E connected to the lower ram by the rods *e*, substantially as described. 5th. The two movable rams B and B1, in combination with the radius-bars F and the toggle-arms *f* and *f1*, substantially as and for the purpose set forth. 6th. The two movable rams B and B1, in combination with the radius-bars F, toggle-arms *f* and *f1*, steam-cylinder C and pistons D and D1, connected respectively to the rams, substantially as and for the purposes set forth. 7th. In a steam-hammer, two movable rams, in combination with the two pistons connected respectively to the rams, and a cushioning device above and below the same, substantially as and for the purposes set forth. 8th. The two movable rams B and B1, in combination with the cylinder C and piston D1, the lower air-cushion G connected directly to the lower ram, the cross-head E and the upper air-cushion H1, substantially as described. 9th. The movable rams B and B1, in combination with the steam-cylinder C, pistons D and D1, cross-heads E and rods *e*, struts H and air-cushion H1, substantially as described. 10th. In a steam-hammer, a movable ram or rams, in combination with a steam cylinder provided with one or two pistons for actuating positively the ram or rams, and a differential cut-off, substantially as and for the purposes set forth. 11th. The two movable rams B and B1, in combination with the steam cylinder C, steam pistons D and D1 within said cylinder, and a differential cut-off constructed to act on both sides of the pistons but in inverse ratio, substantially as and for the purpose described. 12th. In a steam-hammer, the steam cylinder C, in combination with the inlet and exhaust valves *i* and *l*, the slide K, bell-crank levers *k2*, *k3* and link-rods *k*, *k1*, *k4*, *k5*, whereby the valves are worked simultaneously to the movement of the slide, substantially as and for the purpose set forth. 13th. The valves *i* and *l* provided with crank arms *i9* and *l3*, the slide K, bell-crank levers *k2*, *k3* and link rods *k*, *k1*, *k4*, *k5*, and the jaws on the struts H, substantially as and for the purposes set forth. 14th. The valves *i* and *l*, in combination with the slide K by which the valves are operated, the springs N and spring plates *n* on the ends of the slide, and the adjustable guide-plates M and M1 provided with lugs *m2* between which the spring plates are held, substantially as and for the purposes set forth. 15th. The valves, in combination with the slide K, and the link-rods and bell-crank levers connecting the same, bow-spring L attached to the slide, and the jaws on the struts H separated from each other so as to permit movement of the bow-spring between the jaws independent of the movement of the latter, substantially as and for the purposes set forth. 16th. The valve-actuating slide K, in combination with the spring L, vertically moving jaws arranged some distance from each other, to permit the movement of the slide independent of the jaws, the springs N, spring-plates *n* and adjustable bar M, substantially as and for the purposes set forth. 17th. The valve-moving slide K, in combination with the vertical-moving jaws, the springs N, spring-plates *n*, adjustable guide-bars M provided with lugs *m2*, and mechanism whereby the said bars may be adjusted at will by attendant, to adjust the relative action of the cut-off, substantially as and for the purposes set forth. 18th. In a steam-hammer, a ram provided with a vertical central opening, in combination with a die attached to the face of the ram by rods run-

ing through the central opening and secured to the die, and to the end of the piston-stems to which the ram is attached, substantially as and for the purposes set forth. 19th. In steam-hammer, a ram B or B_1, in combination with the die B_2 or B_3 having a head b_2 on its back, in which dovetail recesses b_3 are cut, the piston-stem d or g_1 and the rods d_2 provided with conical heads d_3 and secured at their inner end to the flange of the piston by screw-nuts, substantially as described. 20th. In a steam-hammer for die-forging, the piston composed of two sections d_4 and d_6, the latter provided with a cone-shaped central opening, in combination with the piston-stem cone-shaped at a short distance from its extremity to fit the similar opening in the piston-section, and a threaded extremity at the outer piston-section, substantially as and for the purposes set forth. 21st. In a steam-hammer for die-forging, the piston-sections d_4 and d_6, the latter having a flaring central opening, in combination with a hollow piston-stem, the end of which is provided with a conical seat for the inner section of the piston, and provided with a screw-thread for the outer section of the piston and a plug d_4 fitting the interior of the end of the stem, substantially as and for the purposes set forth. 22nd. The piston-section d_4 with its central opening threaded and provided with longitudinal grooves d_8 for key-seats, in combination with a hollow piston-stem d, the extremity of which is provided with both an internal and external screw-thread, and also with radial slots d_5, the keys d_8, and the screw-plug d_7, substantially as described 23rd. In a steam-hammer, a movable or reciprocating ram, in combination with a bridle or struts attached thereto and moving therewith, a reciprocating slide arranged to be operated by the movement of the bridle or struts, a steam cylinder inlet and exhaust valves, and mechanism connecting the said slide with both the inlet and exhaust valves, whereby the latter are marked simultaneously by the reciprocating movement of the ram, substantially as and for the purposes set forth.

No. 20,813. Car Axle Box.

(*Boîte à Graisse de Char.*)

George W. Sweeney, New York, N.Y., U.S., 30th December, 1884; 5 years.

Claim.—1st. The combination, substantially as hereinbefore described, with a car axle and axle box, of the journal bearing composed of a series of transverse detached plates, and the soft metal pad resting on the upper edges of the plates. 2nd. The combination, substantially as hereinbefore described, with a car axle and axle box, of the journal bearing composed of a series of transverse detached plates having pointed upper edges, and the soft metal pad resting on such edges of the plates. 3rd. The combination, substantially as hereinbefore described, with a car axle and axle box, of the journal bearing composed of a series of transverse detached plates having the upper edges bevelled from both sides to a point, and the soft metal pad resting on such edges of the plates. 4th. The combination, substantially as hereinbefore described, with a car axle and axle box, of the journal bearing composed of a series of transverse detached plates, and the gib constructed to engage the bearing together with the pad. 5th. The combination, substantially as hereinbefore described, of the car axle box and the longitudinal concentric diaphragm extending from side to side of the box and formed with recesses or openings adjacent to said sides, the diaphragm dividing the box to form an oil chamber in the lower portion with the lubricating wick extending across the diaphragm, and having its ends passed downward through the side recesses or openings thereof. 6th. The combination, substantially as hereinbefore described, of the car axle box and the longitudinal concentric diaphragm extending from side to side of the box and formed with recesses or openings adjacent to said sides, the diaphragm dividing the box to form an oil chamber in the lower portion thereof with the lubricating wick extending across the diaphragm, and having the ends passed downward through the side recesses or openings thereof, and the metal re-inforcing strips extending through the body of the wick transversely thereto and also transversely to the edges of the side recesses in the diaphragm. 7th. The combination, substantially as hereinbefore described, of the car axle box and the longitudinal concentric diaphragm extending from side to side of the box and formed with recesses or openings adjacent to said sides, the diaphragm dividing the box to form an oil chamber in the lower portion thereof with the lubricating wick extending across the diaphragm and having the ends passed downward through the side recesses or opening thereof, and the metal re-inforcing strips extending through the body of the wick transversely thereto and also transversely to the edges of the side recesses in the diaphragm, said re-inforcing strips being each provided with spurs projecting into the wick towards the car axle. 8th. The combination, substantially as hereinbefore described, of the car axle box and the longitudinal concentric diaphragm extending from side to side of the box and formed with recesses or openings adjacent to said sides, the diaphragm dividing the box to form an oil chamber in the lower portion thereof, with the lubricating wick extending across the diaphragm and having the ends passed downward through the side recesses or openings thereof, and the metal re-inforcing strips extending through the body of the wick transversely thereto and also transversely to the edges of the side recesses in the diaphragm, said re-inforcing strips being arranged in the body of the wick in two sets which are respectively on opposite sides of the wick centre for permitting the wick to yield to a deflection of the axle journal. 9th. The combination, substantially as hereinbefore described, of the box having coincident sockets provided with end holes on the top edge of the front opening, the lid having sockets adapted to register with the sockets of the box, the bolts fitted into the sockets and the springs arranged in the lid sockets to hold the bolts in normal positions. 10th. The combination, substantially as hereinbefore described, with a car axle box having an oil well on the bottom and a supply channel in the front wall thereof, of the lid having its free edge arranged to coincide with the supply channel and the stopper fitted into the mouth of the channel to close it and simultaneously hold the lid in a closed condition. 11th. The rigid dust shield constructed of a single piece of wood or other rigid material having an opening for the car axle journal, and a metallic lining to the edge of the said opening of the rigid shield, substantially as described. 12th. The combination, substantially as hereinbefore described, with an axle box and with the chamber W formed in the inner end thereof, of a casing x_1 fitting said chamber, and metallic lining x_2 fitting the casing and constructed to rise and fall in said casing, which fits the chamber in the axle box.

No. 20,814. Stovepipe Damper.

(*Clé de Tuyau de Poêles.*)

Charles L. Wilkins, Columbus, Ohio, U.S., 30th December, 1884; 5 years.

Claim.—1st. The stovepipe damper provided with shank C, and lugs e, in combination with the handle G having the round portion h, slot i, notches i_2 and arms g_1, and the spiral spring K, substantially as described. 2nd. In a stovepipe damper, in combination with the T-headed shank, the handle G provided with the arms g_1, cross-piece L and the slotted and notched portion h for the reception of the damper shank and spiral spring, substantially as described. 3rd. The handle G having the arms g_1, g_1, cross-piece L and slotted cylindrical portion h, substantially as described.

No. 20,815. Ingot Press. (*Presse d'Ingot.*)

Edward P. Meatyard, Lake Geneva, Wis., U.S., 30th December, 1884; 5 years.

Claim.—1st. In a toggle press, each follower in combination with its toggle block, and a pair of toggle arms connecting the follower to its toggle block, whereby the said follower is maintained in planes parallel with its bed plates, substantially as and for the purposes set forth. 2nd. In a toggle-press, the follower K, in combination with toggle blocks i and toggle arms i_1, arranged in pairs, one pair pivoted to the toggle block and the corresponding head piece of the press, and the other pair pivoted to the toggle block and its respective follower, substantially as and for the purposes set forth. 3rd. In a toggle press, one or more pairs of followers arranged evenly on each side of the actuating mechanism, in combination with toggle blocks for the respective followers, toggle arms arranged in pairs, and connecting the followers to their respective blocks by a pair of arms to each block and mechanism, whereby the press toggles and followers are all operated simultaneously, substantially as and for the purposes set forth. 4th. The press toggles, in combination with the guides to which the inner ends of the guide toggles are pivoted, and mechanism for spreading the guide toggles to operate the press toggles, substantially as and for the purposes set forth. 5th. The press toggles I, in combination with the guide toggles J, the guide blocks C, the upright guide-ways b and mechanism for operating the guide toggle, substantially as and for the purposes set forth. 6th. The press toggles, in combination with the guide toggles, guide blocks to which the inner ends of the latter are pivoted, the actuating toggles, the knuckle nut, the actuating screw and suitable mechanism for turning said screw, substantially as and for the purposes set forth. 7th. The press toggle I, in combination with the guide toggles J, the guide blocks C, the guide beams B, the guide toggles D, the knuckle nuts E and the worm shaft H, substantially as and for the purposes set forth. 8th. The press toggles, in combination with the guide toggles and guide blocks to which the inner end of the guide toggles, and pivoted and arranged in suitable guide ways, and mechanism whereby said guide blocks are moved to operate the press toggles, substantially as described. 9th. The knuckle nuts, in combination with the actuating toggles and the the guide toggles and guide pin fastening the end of both sets of toggles by a single pin to the guide blocks, substantially as described. 10th. In a toggle press, one or more pairs of followers, in combination with connecting bars whereby the followers are maintained at a proper distance apart, a toggle block for each of the followers, and a pair of toggle arms connecting each follower to its respective block, whereby the level position of the follower is maintained, substantially as and for the purposes set forth. 11th. The follower, in combination with the distancing beams connecting said followers together, and a guide attached to the central portion of the beams, whereby the lateral movement of the distancing bars rising from inequalities of resistance is prevented, substantially as described. 12th. The followers K, in combination with the distancing bars L, the guide bars t, the truss bars l_2 and the upright beams b, substantially as and for the purposes set forth.

No. 20,816. Extinguisher for Lamps.

(*Eteignoir pour Lampes.*)

William Millen, New York, N.Y., U.S., 30th December, 1884; 5 years.

Claim.—1st. The combination, with a lamp burner, of a hinged plate A adapted to rest against the wick D when turned up, and to automatically close over the wick and wick and tube when the wick is turned down, substantially as and for the purposes set forth. 2nd. The combination, with the hinged plate A, of the spring F arranged for holding the plate in position, and pressed against the wick, substantially as and for the purposes set forth. 3rd. The lamp extinguishing attachment herein shown and described, consisting of the plate A hinged to the clasp plate E that is adapted to be placed upon the wick tube, the spring F being provided for holding the plate A in position, substantially as and for the purposes set forth. 4th. An improved lamp extinguisher, consisting of the plate E provided with the clasp plates or tongues a, and the extinguishing plate A hinged to the said plate E, substantially as described. 5th. In a lamp extinguisher, the combination, with the plate E provided with the clasping tongues a, of the extinguishing plate A and the spring F, substantially as and for the purposes set forth.

No. 20,817. Cash and Parcel Carrying System. (*Système de Transport de la Monnaie et des Paquets.*)

Milton Clark, New York, N.Y., U.S., 30th December, 1884; 5 years.

Claim—1st. A store-service system consisting of a single forwarding track for all the stations of a counter, and individual return tracks for each counter or station, substantially as described. 2nd. In a store-service system, the combination of a single forwarding track for all the stations of a counter, supported at each station and inclining to-

ward the cashier's desk, separate and individual return tracks inclined oppositely to the forwarding track, and a car adapted to travel such tracks, substantially as described. 3rd. In a store-service system, the combination, with a main forwarding track, of suitable means whereby the car is elevated above the track, given an initial impetus, and automatically transferred or delivered upon the track, substantially as described. 4th. The combination of main forwarding track inclined toward the cashier, and individual return tracks inclined oppositely thereto, suitable means whereby the car is elevated above the forwarding track and automatically delivered upon it and also means at the end of the return-tracks, whereby the car is automatically lowered to within reach of the operator, substantially as described. 5th. The combination of a single inclined forwarding track for all the stations of a counter, supports at each station to which it is attached, and automatic devices located on said supports above the track for elevating the car, giving it an initial impetus, and delivering it upon the track, substantially as described. 6th. The combination of the inclined forwarding track, individual oppositely-inclined return tracks, depending supports to which they are all attached, the elevating and delivering devices clamped to said supports and consisting of the bar *b*, hinged, jointed extension *b*III, spring *b*III, cord *c* and pulley *d* and the receiving devices for the car at the end of the return tracks, all substantially as described. 7th. The combination, with the forwarding track and supports *a*, of the bar *b*, hinged jointed extension *a*, the spring bearing against said extension, cord *c*, and pulley *d*, all substantially as described. 8th. The combination, with the tracks or ways of a store-service of a supporting bar, the clamp E1, a screw-threaded arm hinged to said clamp, the angle arm carrying a pulley and adjusting nuts, all substantially as described. 9th. The combination, with the track or way of a store service system, of adjustable devices for keeping them taut, the same bearing a pulley round which the terminal of the way is passed and then secured, all substantially as described.

No. 20,818. Cash and Parcel Carrying System. (*Système de Transport de la Monnaie et des Paquets.*)

Milton Clark, New York, N Y., U.S., 30th December, 1884; 5 years.

Claim.—In combination, the track, the conveyor and the apparatus by which the conveyor is both received from and restored to the track, all arranged and operating as set forth.

No. 20,819. Cash and Parcel Carrying System. (*Système de Transport de la Monnaie et des Paquets.*)

Milton Clark, New York, N.Y., U.S., 30th December, 1884; 5 years.

Claim.—1st. In combination, a carrier and main track and two terminal tracks operating alternately to receive the carrier from and restore it to the main track, substantially as described. 2nd. In combination, a main track, two terminal tracks, and means, substantially as shown, for operating the terminal tracks, substantially as described. 3rd. The combination with a car adapted to be raised above and lowered beneath the main track H, of the main track, the cord F and its knob *f*, arranged and operating substantially as described. 4th. The combination, with the main track car D, the cord F and its knob *f*, of means for actuating said cord in causing contact of its knob with the car, whereby the latter is propelled, substantially as described. 5th. The combination, with the mean track, the terminal track of the car D, and means, substantially as herein described, whereby said car is caused to move upon the main track.

No. 20,820. Railroad Track.

(*Voie de Chemin de Fer.*)

John Powel, Westwood. Ont., 31st December, 1884; 5 years.

Claim.—The improvement in the construction of railway tracks, consisting in laying ties of plank in zig-zag form across the road bed, and coupling two ties near the ends in chairs laid longitudinally on the road, and diagonally notched to receive the ties, and rails crossing the ties and confined in a longitudinal groove therein by keys, jaming the rails against the cheeks of the groove, substantially as set forth.

No. 20,821. Combination Lock.

(*Serrure à Combinaison.*)

John Powel, Westwood, Ont., 31st December, 1884; 5 years.

Claim.—The combination, with the spindle E having knob F provided with a pointer or notch to register with a dial G on the door of the bevelled gear wheels H, I, shaft J, cams L and bolts M, the latter to engage with the bolt C of the lock and be released therefrom, as set forth.

No. 20,822. Electric Battery Electrodes.

(*Eléctrode de Pile Electrique.*)

Henry Woodward, Toronto, Ont., 31st December, 1884; 5 years.

Claim.—The manufacture of electrodes by pouring molten metal into a mould in which is distributed granulated salt, or other non-combustible substance soluble in water or acid, and dissolving said substance from out the metal when cold, substantially as set forth.

No. 20,823. Electric Switch.

(*Commutateur Electrique.*)

Henry E. Waite and Samuel H. Bartlett, New York, N.Y., U.S., 31st December, 1884; 5 years.

Claim.—1st. A telephone central office switch board, consisting of the upright rectangular portion, the inclined spreading portion and the horizontal portion, the arrangement being such that a number of such boards may be arranged around a central space, as and for the purposes set forth. 2nd. A telephone switch board, consisting of the upright rectangular portion supporting the annunciator *s*, the inclined spreading portion containing the spring jack connectors, and the horizontal portion supporting the spring connectors and the operator's instrument, as set forth. 3rd. The spring jack connectors, consisting of a ring connected to line and fixed to the switch board, a spring disk normally bearing upon said ring, a ground connecting strip or plate and connections between said plate and disk, substantially as described. 4th. The spring jack connectors, consisting of a ring connected to line, a ground connecting strip or plate, a stem, having a disk or plate at each end, and adapted to complete the connection between the ring and ground plate. 5th. The combination, with a connecting strip having perforations, the edges of which are made ragged or projecting, of a conducting disk adapted to bear upon said ragged edges and thereby maintain good electrical contact, as set forth. 6th. A connecting plug, consisting of a body of insulating material, having a narrow bar or band, and longitudinal strips of conducting material on opposite sides, and circuits and connections, substantially as described, whereby the operator's telephone may be inclined in the line circuit without interrupting the same, substantially as described. 7th. The combination, with a listening telephone, of a series of plug connectors, each consisting of an insulating body having a narrow bar or band and longitudinal strips of conducting material, one of the terminals of each of the connectors being connected to each one of the terminals of the telephone, as and for the purpose set forth.

No. 20,824. Pipe Connection for Water Closet and other Bowls. (*Joint de Tuyau pour Bassins de Latrines et autres.*)

James E. Boyle, Brooklyn, N.Y., U.S., 31st December, 1884; 5 years.

Claim.—1st. An earthenware bowl, provided with an open-ended cylindrical barrel on its exterior, and an opening extending from its interior to the cavity of said barrel, in combination with a thimble entering one end of said barrel, a cap closing the other end thereof, and a clamp passing through the barrel for pressing said thimble and cap forcibly toward each other, thereby embracing the barrel between them, substantially as set forth. 2nd. The combination with bowl A, provided with barrel F, of thimble G having tie-bars J, J, screw J1 and screw cap H engaging said screw, substantially as set forth. 3rd. The combination, with bowl A, provided with barrel F, of thimble G having tie-bars J, J, screw J1, screw-cap H, union-nut K and spud L, substantially as set forth. 4th. The water-closet bowl formed with a tubular barrel for connecting with the flushing-pipe, and provided with a trap or water seal at the connection between the pipe and the bowl, whereby the air in the pipe is normally isolated from the bowl, substantially as set forth.

No. 20,825. Apparatus for Cutting and Working Cardboard, &c. (*Appareil pour Tailler et Façonner le Carton, &c.*)

Charles Baillie, Montreal, Que., 31st December, 1884; 5 years.

Claim.—1st. The combination of the roll E, provided with projecting cutters *f* and *g*1, hollow roll F having recesses or openings O, roll G provided with cutters *c*1, and roll H having grooves *h*1, the whole substantially as described and shown for the purposes set forth. 2nd. The combination of the roll E, consisting of a solid cylinder E1, rings *d* and rings *e*, having elongated projections *f*, all constructed and arranged as described, with the roll F consisting of a hollow cylinder F1, having openings O, rings *l* and *m*, and recessed rings *n*, constructed and arranged, as described, to cut longitudinal slot openings in the material acted upon, the whole substantially as described. 3rd. The combination of the roll G, consisting of a solid cylinder G1, segments *e*1 and cutters *c*1, constructed and arranged, as described, with the roll H provided with recesses *h*1, constructed and arranged thereon, as described, the whole substantially as and for the purposes set forth.

No. 20,826. Meat Cutter. (*Hache-Viande.*)

John G. Baker, Philadelphia, Penn., U.S., 31st December, 1884; 15 years.

Claim.—1st. The combination of the threaded casing and perforated plate A of the machine, with the internally-threaded clamping ring I having external depressions, for receiving the fingers in screwing up or unscrewing the ring, as set forth. 2nd. The combination of the threaded casing and perforated plate A, with the internally threaded clamping ring, having peripheral depressions *e* and projections *f*, as set forth. 3rd. The combination of the threaded casing and perforated plate A, with the internally-threaded clamping ring I, having projections *f*1 upon the face, as specified. 4th. The combination of the recessed casing and clamping ring, with the perforated plate A, having a projecting stud *x*, as set forth. 5th. The perforated plate A having its central portion grooved or recessed on the outer face, as specified. 6th. The combination of the screw W having an end projection, with the knife D having a recess *a* in which said projections fit loosely, and on the bottom of which the end of the projection bear, as set forth. 7th. The combination of the casing and perforated plate, with the rotating knife D, having in the outer face a central recess *w*, with convex bottom, as set forth. 8th. The combination of the casing and perforated plate, with the rotating knife D, having in the outer face a central recess *w* with convex bottom and openings *g*, as specified.

No. 20,827. Knitting Machine.

(*Machine à Tricoter.*)

John Chapman, Newington, Ct., U. S., 31st December, 1884; 5 years.

Claim.—1st. The combination of spring bearded needles, the sinkers having side projections, and mechanism for pressing the projections on part of said sinkers against the needle-beards to close them while the remainder of the sinkers are not so pressed, substantially as de-

scribed and for the purposes specified. 2nd. The combination of spring-bearded needles, the sinkers having side projection, the jacks E having pattern notches in their backs, and mechanism acting upon the back of said jacks, to throw the sinkers forward, substantially as described and for the purpose specified. 3rd. The sinkers having the side projection the neck or beam and the cam *n* upon the underside, at the outer end of said beam, substantially as described and for the purpose specified.

No. 20,828. Method of, and Apparatus for Treating Fibres, Rags and Woven Fabrics. (*Méthode et Appareil de Traitement des Fibres, Chiffons et Tissus.*)

John Illingworth, Whitlee, Eng., 31st December, 1884; 5 years.

Claim.—1st. The method or process of carbonizing or destroying vegetable fibrous materials, which consists in the following operations, viz: revolving or agitating the mass containing the material to be eliminated within a cylinder or flue, heating same by steam supplied to surrounding jacket, drying same by means of air drawn into said cylinder and exhausted by a fan or pump, causing a vacuum therein and admitting carbonizing gases to be absorbed by, and destroy such fibre, substantially in the manner set forth. 2nd. In an apparatus for carbonizing fibrous materials, the combination, with a cylinder or flue having an outer steam jacket, and means for supplying gases to said cylinder, of an internal rotary cage and an exhaust fan or pump, arranged and operating substantially in the manner specified. 3rd. In an apparatus for carbonizing fibrous materials, the combination, with a steam boiler or cylinder containing the material to be operated upon, a retort for generating the carbonizing gases, and an intermediate refining chamber containing purifying materials, substantially as and for the purpose specified. 4th. The combination, with the steam boiler cylinder or flue 2, of the rotary cage 4 having internal prongs or arms 17, substantially as and for the purpose specified. 5th. The combination, with the steam boiler cylinder or flue 2, of the pipe or cylinder 36 having interior pipe or cylinder 37, of the ammonia cup 39 and pipes connecting same, substantially as and for the purpose set forth.

No. 20,829. Stump Extractor. (*Arrache-Souche.*)

James Vansickler, Toronto, Ont., 31st December, 1884; 5 years.

Claim.—1st. The lever A, as constructed with the clevis E, as shown and described and operating as set forth. 2nd. The lever A, as with the grapple clevises e^5, e^6 and spiral spring e^8, as shown and described and operating as set forth. 3rd. The drag bar C constructed with any suitable number of notches e^1, in each edge of the bar and clevis e^{10}, as shown and described. 4th. The lever A constructed with clevis E, grapple clevises e^5, e^6 and spiral spring e^9, the combination of the drag-bar C with notches e^1 the chain F and clevis e^{10} with drag-rods e^{11}, substantially as specified and shown and operating as set forth.

No. 20,830. Portable Derrick. (*Grue Portative.*)

Adams Reitz, St. Louis, Mo., U.S., 31st December, 1884; 5 year

Claim.—1st. In a derrick, the combination of the arch A, legs B and B^1 and the winding mechanism F, as herein shown and described, to form an arch-derrick and for the purpose set forth. 2nd. The combination of the arch A, legs B and B^1, winding mechanism F and the wheels *b*, *b* and *c*, *c*, operated by suitable gearing to form a portable arch-derrick, as herein shown and described and for the purpose set forth. 3rd. The combination of a carriage G traversing upon rails laid on the joists or girders C, and operated by suitable gearing, with an arch-derrick, as and for the purpose set forth. 4th. The combination of the winding mechanism F for raising the stone, the carriage G, the arch-derrick A B B^1, wheels *b*, *b* and *c*, *c*, and the platform A^1, as herein shown and described and for the purpose set forth. 5th. In a portable arch-derrick, the arch A^1, legs B and B^1, frames B^2 and B^3, platforms A^1, wheels *b*, *b* and *c*, *c* operated by gears *d*, d^1, shaft *e*, *e*, pulleys e^1, e^1, horizontal shaft F, pulleys e^2, e^2, chains e^3, e^3, pulleys e^4, chains e^5, driving pulleys e^6 and crank e^7, carriage G having wheels H^3 traversing on the girders C and operated by the shaft h^1, gears h^2, h^3, pulleys I, I^1 and chain or cable h^4, and the winding mechanism composed of the sleeve H, pulleys H^1 and H^2, rope or cable *h* and crab F, all combined as herein shown and described to operate as and for the purpose set forth.

No. 20,831. Apparatus for Enlarging the Glands. (*Appareil pour Dilater les Glandes.*)

Frank M. Blodgett, Boston, Mass., U. S., 31st December. 1884; 5 years.

Claim.—1st. In an apparatus for enlarging the mammary glands or breasts, the combination of the following instrumentalities, to wit: a bell or receiver adapted to encompass or cover the gland or breast, a tube opening into said receiver and adapted to connect the same with the mouth of the patient and a stop or throttle adapted to close said tube, substantially as described. 2nd. In an apparatus for enlarging the mammary glands or breasts, the combination of the following instrumentalities, to wit: a bell or receiver adapted to encompass or cover the gland or breast, a tube opening into said receiver and adapted to connect the same with the mouth of the patient, a stop or throttle adapted to close said tube, and a mouth-piece, substantially as set forth. 3rd. In an apparatus for enlarging the mammary glands or breast, the receiver A, tube B, stop E and mouth-piece C, combined and arranged to operate substantially as described. 4th. In an apparatus for enlarging the mammary glands or breasts, the receiver A, tube B, stop D and bulb E, combined and arranged to to operate substanially as set forth.

No. 20,832. Support and Guide for Bill File-Holders. (*Support et Guide pour Liasses de Comptes.*)

William H. Tucker and Miletus J. Wine, Washington, D. C., U. S.' 21st December, 1884; 5 years.

Claim.—1st. A support or guide C consisting of a vertical web, horizontal flange *d*, flange d^1 and vertical flange d^2, the flange *d* being cut away as at *b* and the flange d^1 extending to the rear of cut-away portion *b*, as set forth. 2nd. In a case for paper file-holders, the combination of the support or guide C provived with flange *d*, with the continued end flange d^2 and the flange d^1 extending backward, with suitable bar or plate J having ears or lugs *e* attached to a paper file-holder or similar receptacle, as set forth. 3rd. In combination with a support or guide C formed with guide-ways and provided with the forwardly-inclined extension *h*, suitable plates or bar J having lugs *e* attached to a paper file-holder or similar receptacle, as and for the purpose set forth. 4th. In combination with a support *o*, guide C formed with guide-ways consisting of parts *d*, d^1 and d^2, part *d* being cut away, as at *b*, and provided with forwardly-inclined extention *h*, suitable bar or plates J having lugs *e* attached to a paper file-holder, as and for the purpose set forth. 6th. In a case for bill-file holders, supports C provided with flange *d*, with the continued end flange d^2 and flange d^1 extending backward, with suitable bar or plates J having ears or lugs *e* attached to a paper file-holder or similar receptacle, and transverse or finishing bar *f*, as and for the purpose set forth.

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

304. D. MORTIMER, 3rd 5 years of No. 4,140, from the 10th day of December, 1884. Improvements in the art of ruling paper. 9th December, 1884.

305. J. DREISIGAKER, 2nd 5 years of No. 10,747 from the 16th day of December, 1884. Improvements in grinding mills. 9th December, 1884.

306. A. R. APPLEMAN, (Assignee) 3rd 5 years of No 7,616, from the 10th day of July, 1887. Improvements in machines for hulling clover seeds. 9th December, 1884.

307. A. P. LIGHTHILL, 2nd and 3rd 5 years of No. 20,522, from the 7th day of November, 1889. Improvements in the method of electrically detecting and locating mineral veins. 9th December, 1884.

308. J. L. CAMPBELL, 2nd 5 years of No. 10,803, from the 16th day of January, 1885. Improvements on incubators. 13th December, 1884.

309. A. H. SHIPMAN, 2nd and 3rd 5 years of No. 20,329, from the 3rd day of October, 1889. Improvements in hydro-carbon furnaces for steam boilers. 17th December, 1884.

310. J. BRAYLEY, and C. H. DEMPSTER, (Assignees) 2nd 5 years of No. 10,761, from the 24th day of December, 1884. Improvements on machines for making cock-eyes for traces. 18th December, 1884.

311. G. M. HOLMES, 3rd 5 years of No. 4,310, from the 25th day of January, 1885. Improvements on mechanism for planing the cogs of bevel gear wheels. 19th December, 1884.

312. J. VANDERGRIFT and A. J. BROWN, 2nd 5 years of No. 10,754, from the 24th day of December, 1884. Improvements on horse shoes. 23rd December, 1884.

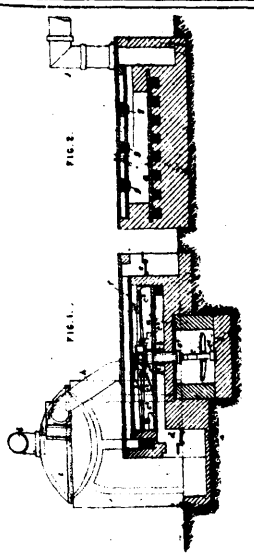
313. D. EPPS, 2nd and 3rd 5 years of No. 12,142, from the 18th day of December, 1884. Improvements on double acting force pumps. 27th December, 1884.

THE

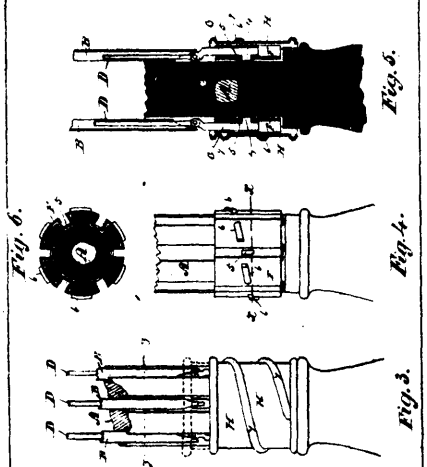
CANADIAN PATENT OFFICE RECORD.

ILLUSTRATIONS.

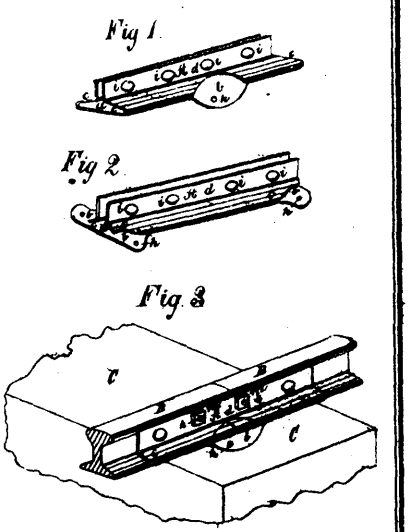
Vol. XIII. JANUARY, 1885. No. 1.



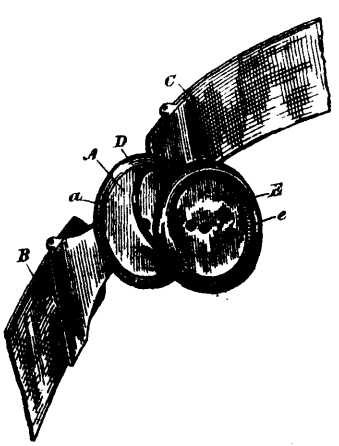
20681 Black & Larkin's Furnace.



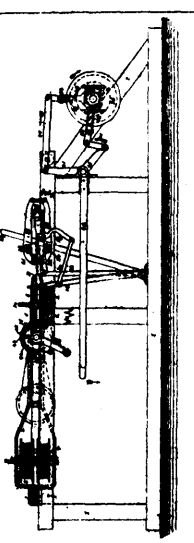
20682 Colby's Umbrella and Cane.



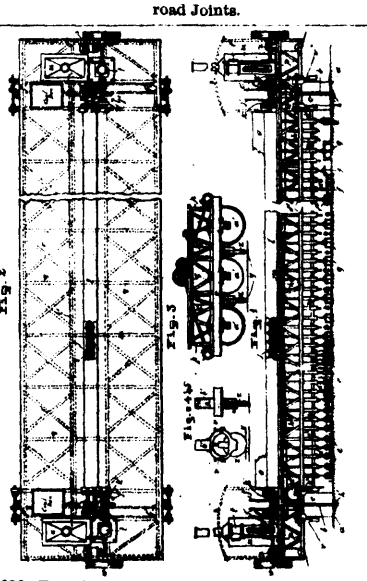
20683 Nickerson's Chair and Fishplate for Railroad Joints.



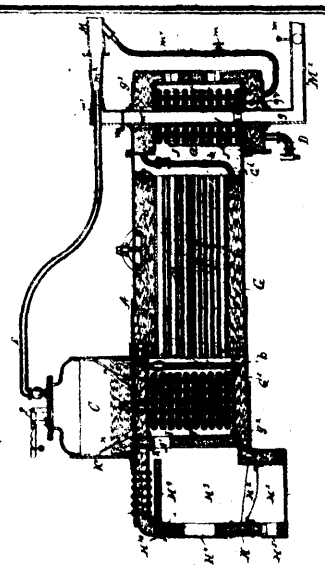
20684 Egan's Truss.



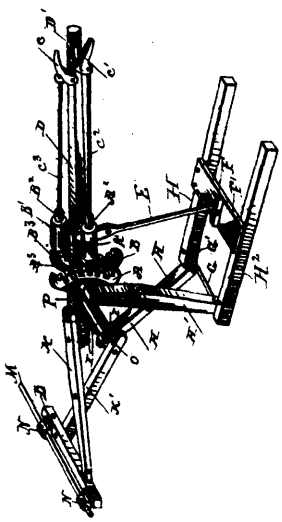
20685 Adams' Fence Machine.



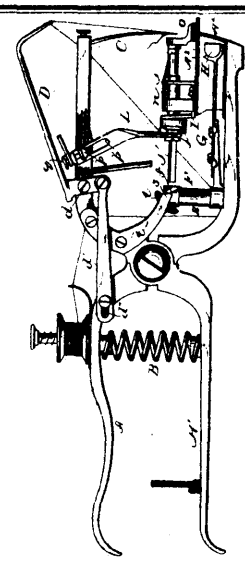
20686 Romaine's Apparatus for Farm Cultivation, &c.



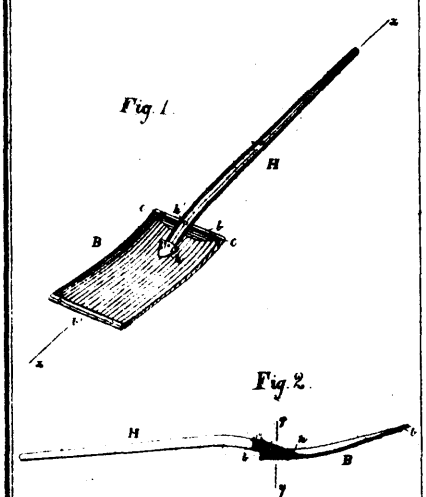
20687 Culver's Steam Generator.



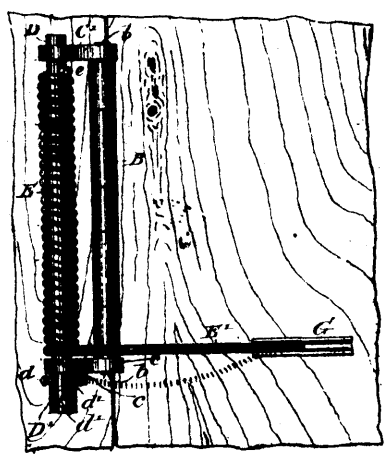
20689 Howe's Apparatus for Adjusting Harvester Reels.



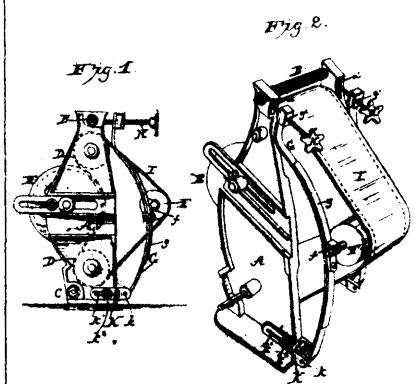
20690 Barber's Hand Sewing Machine.



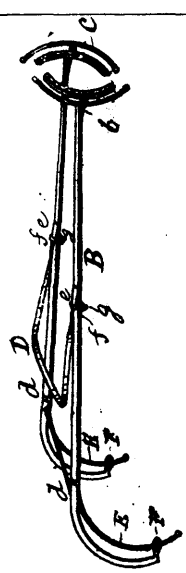
20691 Gelinas' Wooden Shovel.



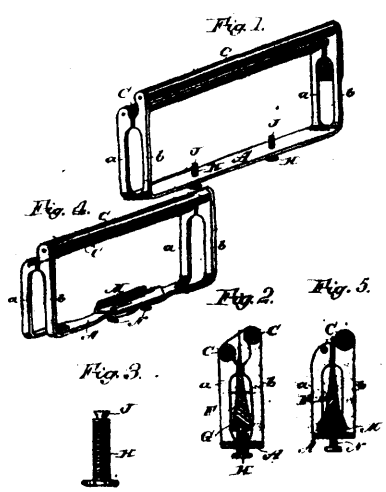
20692 Nichol's Spring Hinge.



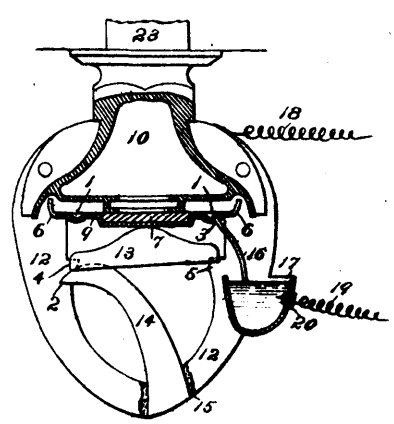
20693 Smith's Hoop-Bending Machine.



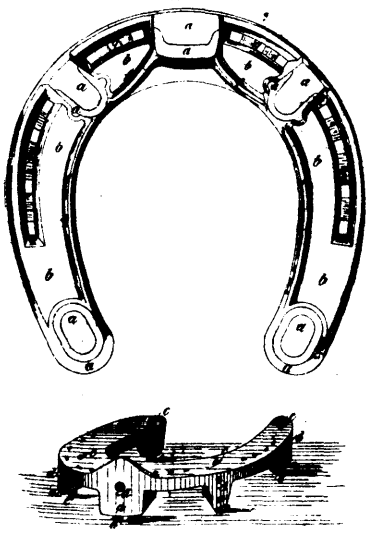
20694 Dillo's Carriage Pole or Shaft Attachment.



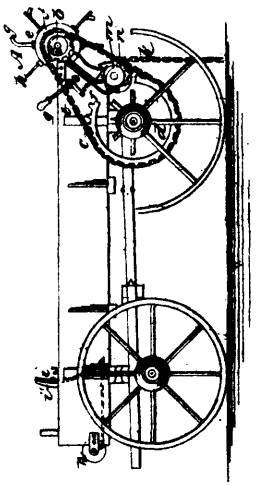
20695 Tryner's Razor Guard.



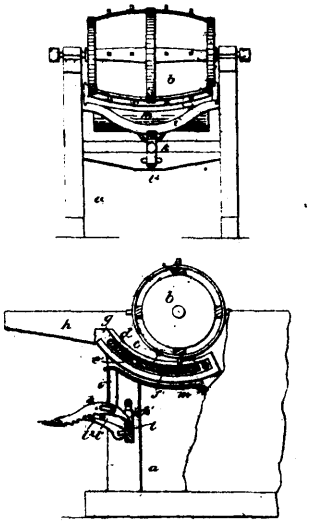
20696 Worthington's Alarm Apparatus.



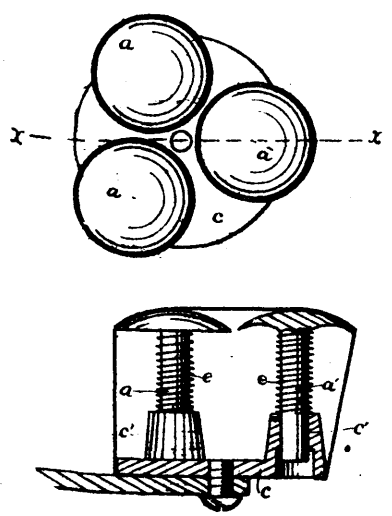
20697 Box & Beadle's Horse-Shoe.



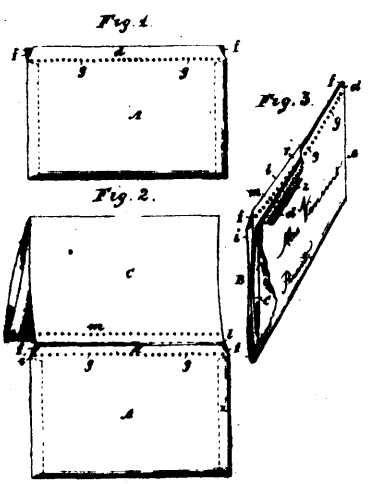
20698 Johnson's Machine for Pulverizing and Distributing Manure.



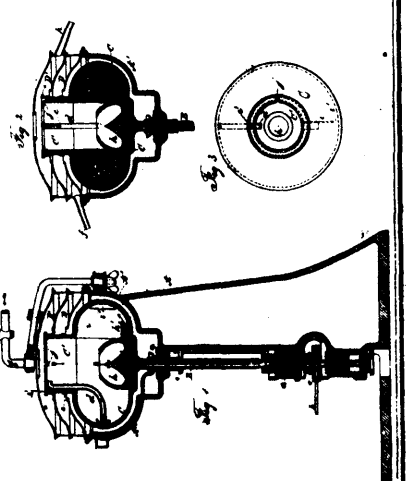
20699 Foster's Thrashing Machine.



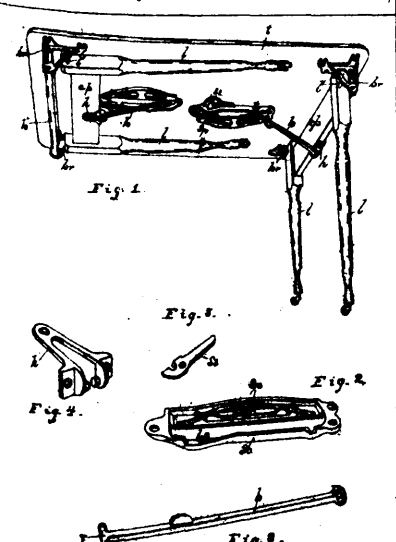
20700 Nye's Truss Pad.



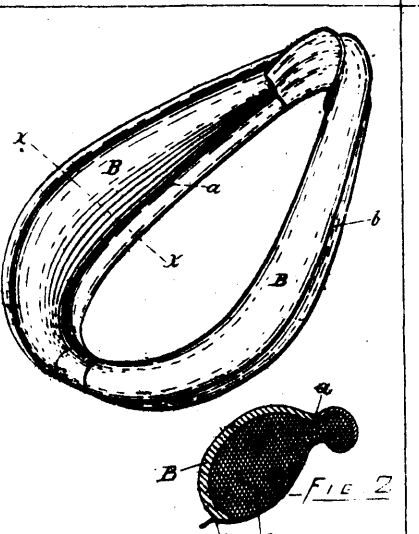
20701 Pedrick's Envelope.



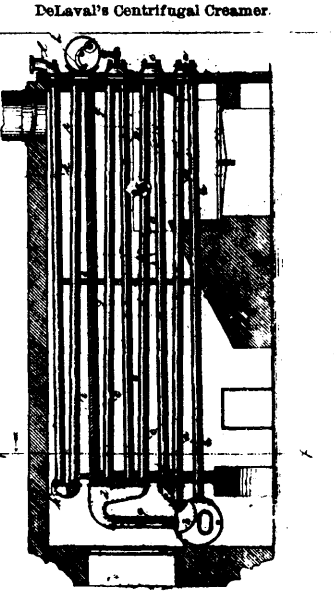
20702 DeLaval's Centrifugal Creamer.



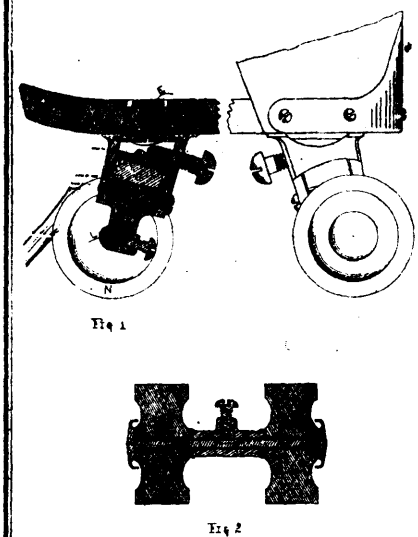
20703 Udell's Clothes Dryer.



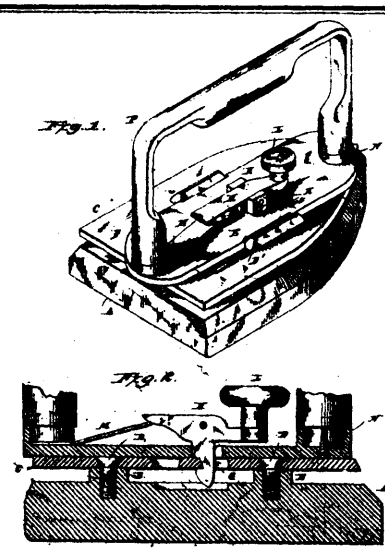
20704 Lunney's Horse Collar.



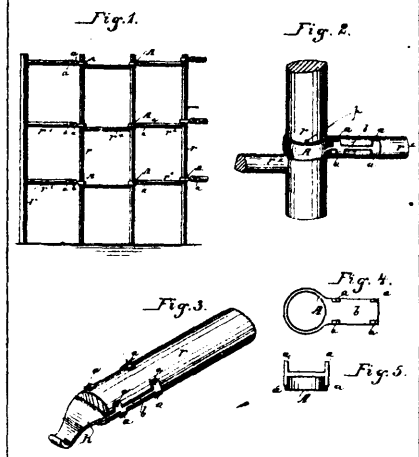
20705 Colby's Steam Boiler, &c



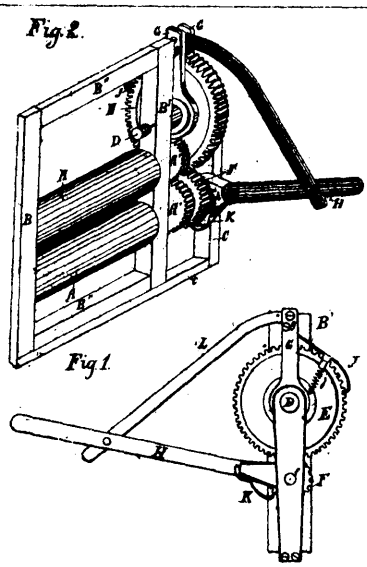
20707 Simms' Roller Skate.



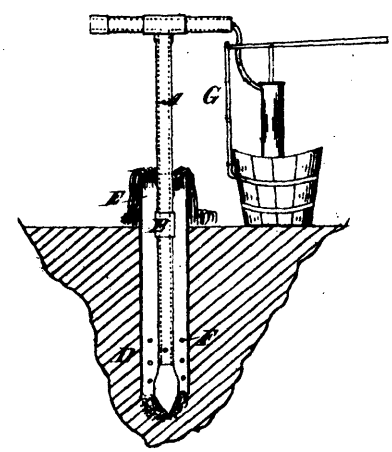
20708 Preusser's Sad Iron.



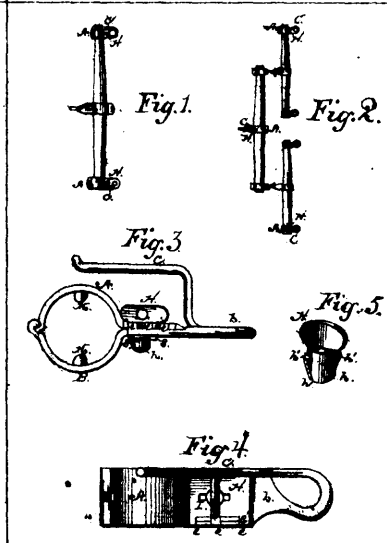
20709 Udell's Folding Table.



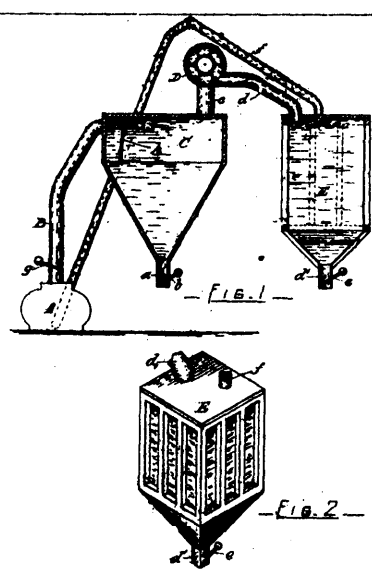
20710 Martel & Beaugrand's Clothes Wringer.



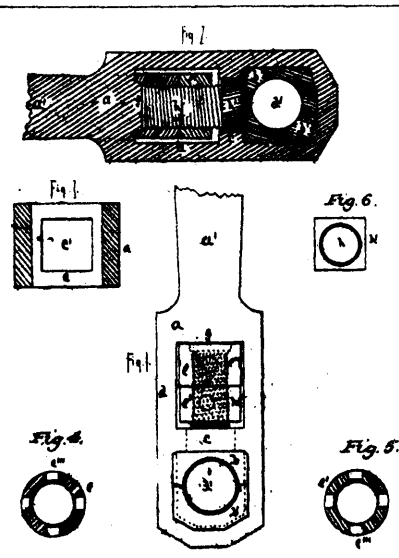
20711 Chenette's Well Boring Machine.



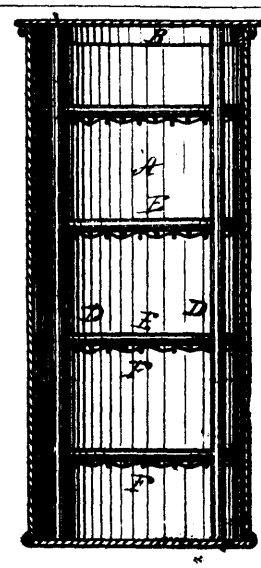
20712 Clark's Whiffletree Clip.



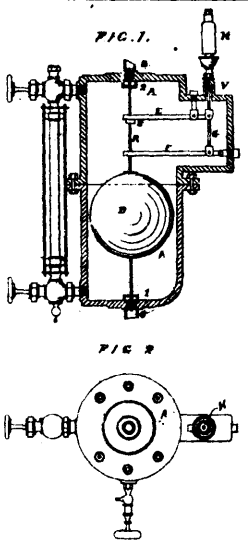
20713 Dotterer's Ore Dust Exhaust Apparatus.



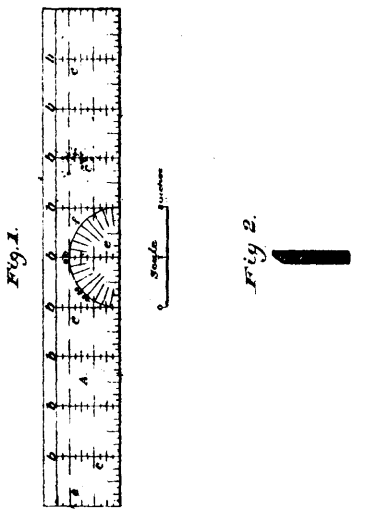
20714 Lang's Connecting Rod and Pitman.



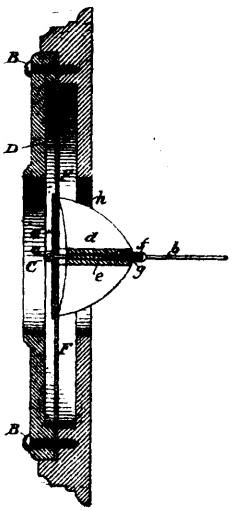
20715 Fletcher's Egg Beater.



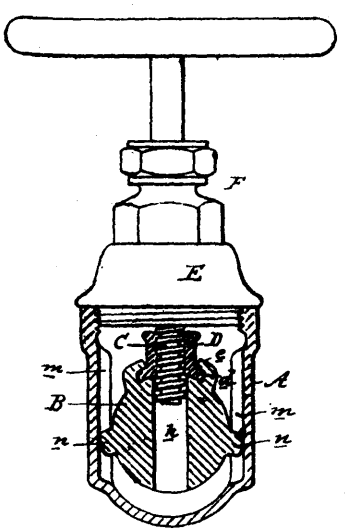
20716 **Palmer's Water Gauge Alarm for Steam Boilers.**



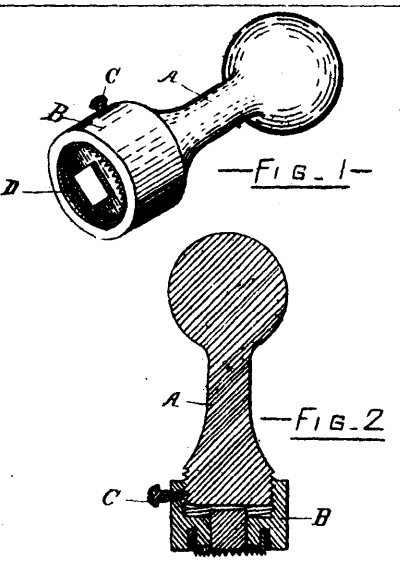
20717 **Thomas' Ruler for Measuring and Drawing Parallel and Right Angle Lines.**



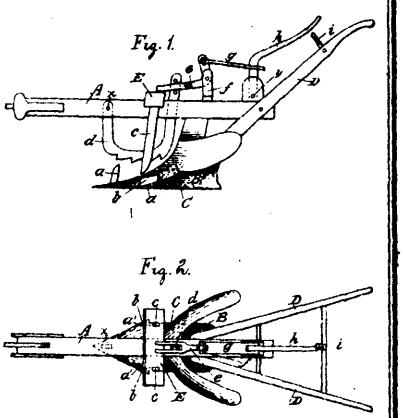
20718 **Knudson's Mechanical Telephone.**



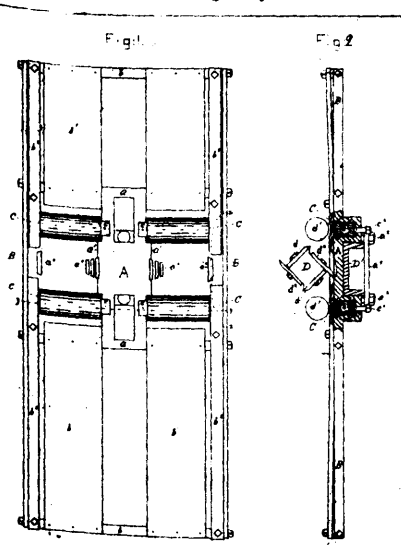
20719 **Weber's Straightway Valve.**



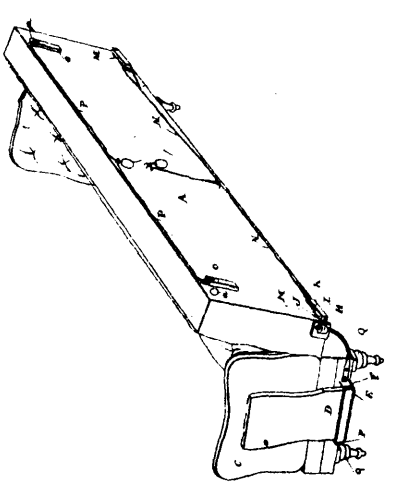
20720 **Percheron's Stamp Cancellor.**



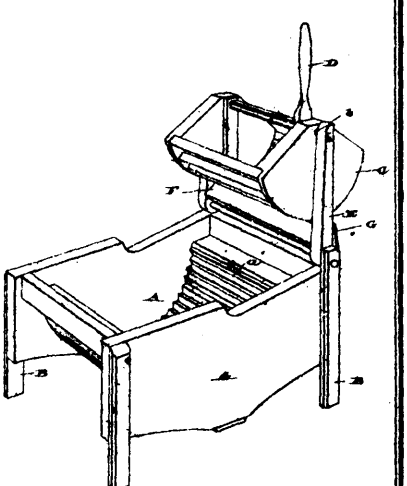
20721 **Carson's Trenching Plough.**



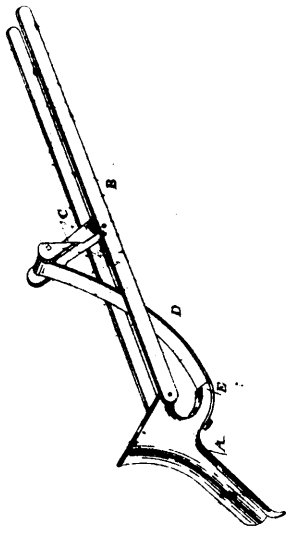
20722 **Sleeper's Attachment for Planing Machines.**



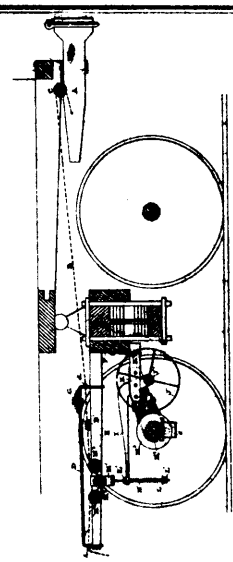
20724 **Lawton's Sofa-bed.**



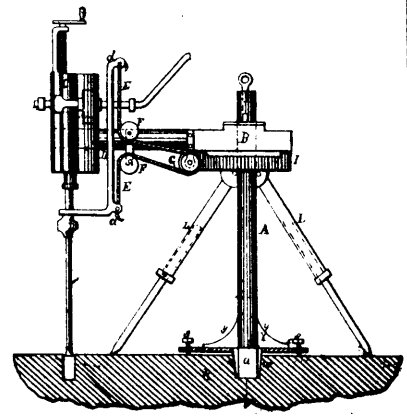
20725 **Raulston's Washing Machine.**



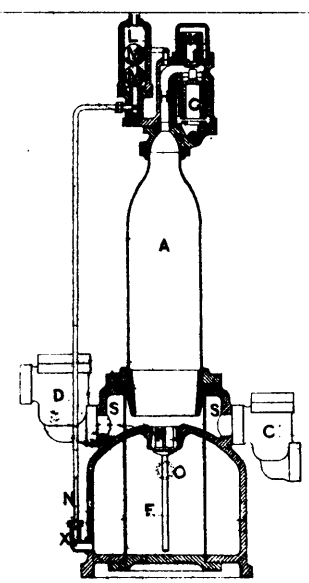
20727 Galloway's Spring Hoe for Seeding Machines.



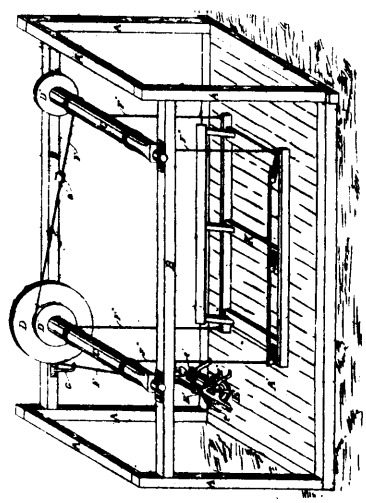
20728 Widdifield & Button's Apparatus for Operating Car Brakes.



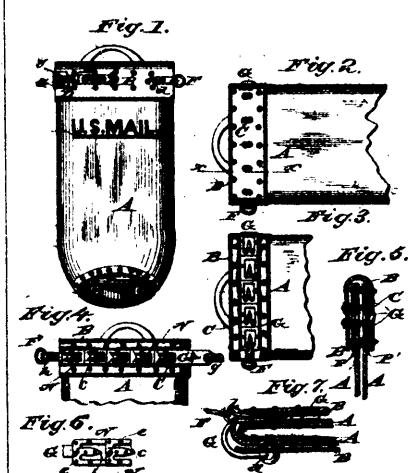
20729 O'Connor's Machine for Channelling Rock for Grindstones, &c.



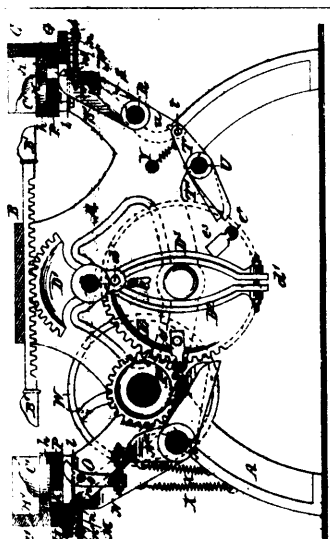
20730 Mayhew's Automatic Boiler Feeder.



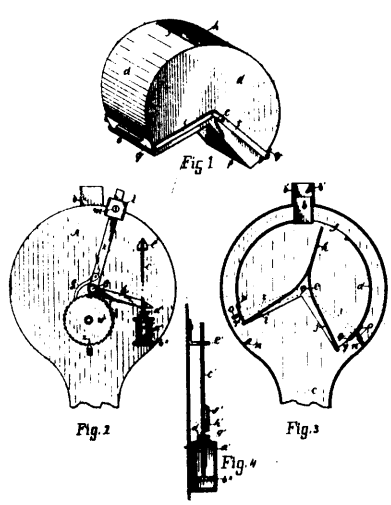
20731 McDonald's Hay Rack Lifter.



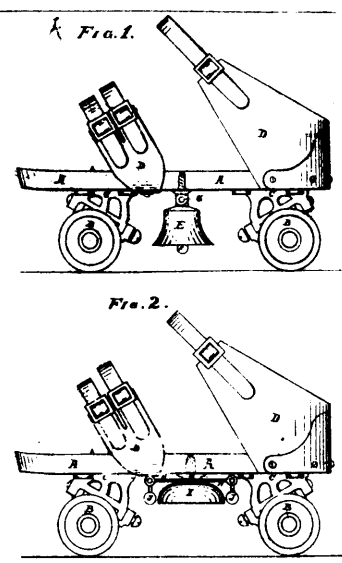
20732 Andrew's Mail Bag.



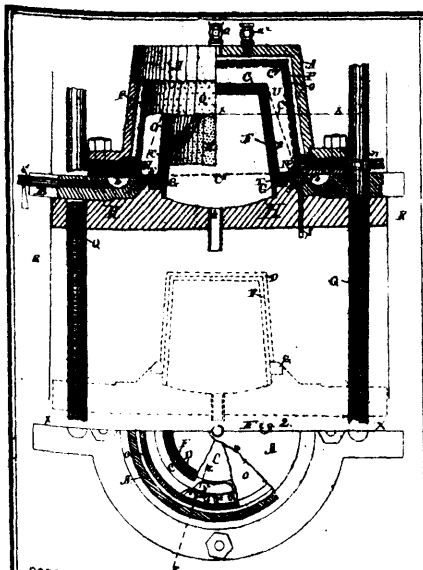
20734 Hyne's Machine and Mould for Making Heel Counters.



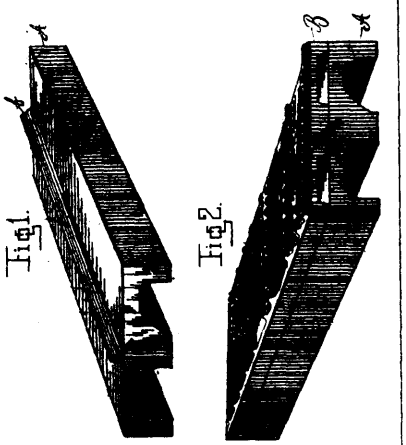
20735 Kimble's Grain Weigher and Measurer.



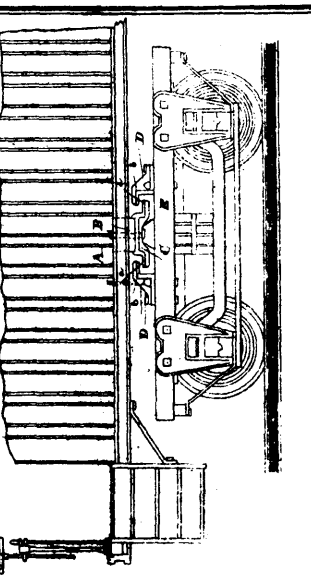
20736 Butter's Roller Skate.



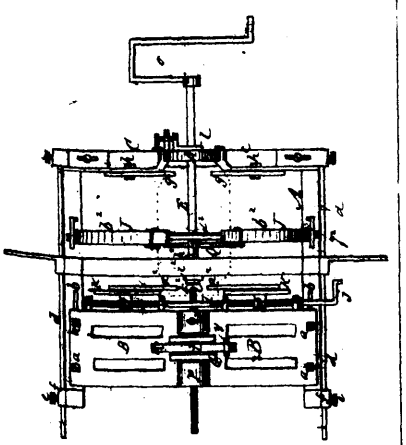
20737 Bodge's Machine for Forming Hollow Ware from Paper Pulp.



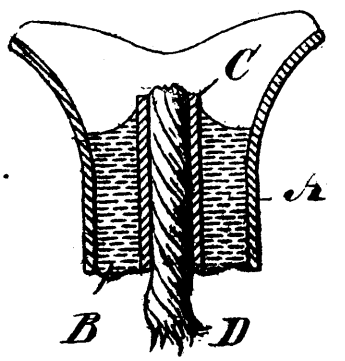
20738 Nelson's Electrotype Plate-Holder.



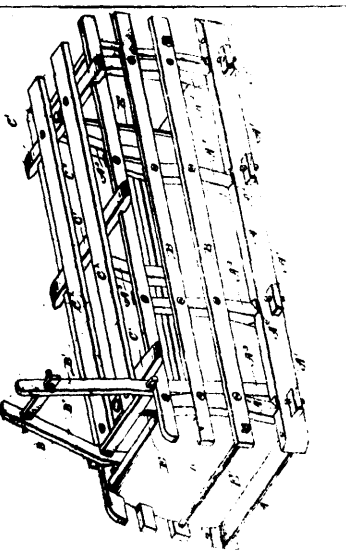
20742 Wilson's Railway Car



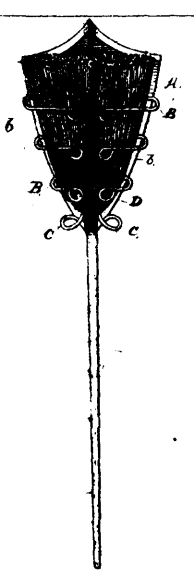
20743 Caswell's Hub Borer.



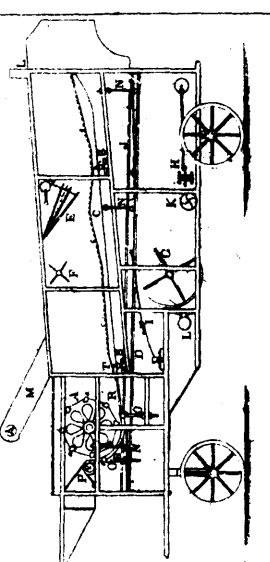
20744 Barton's Lamp or Stove Burner.



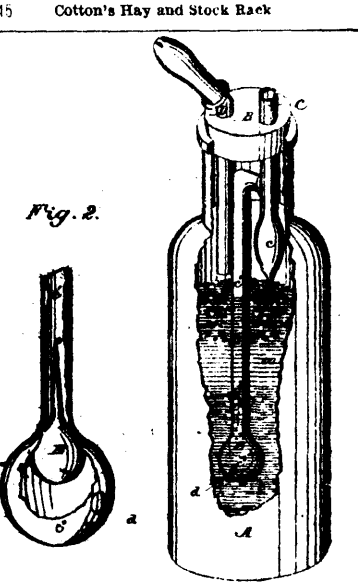
20745 Cotton's Hay and Stock Rack



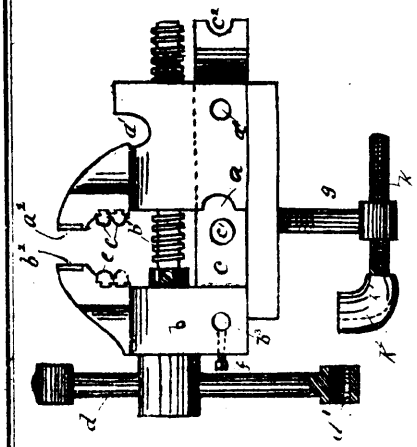
20746 Ludwig's Broom-Holder.



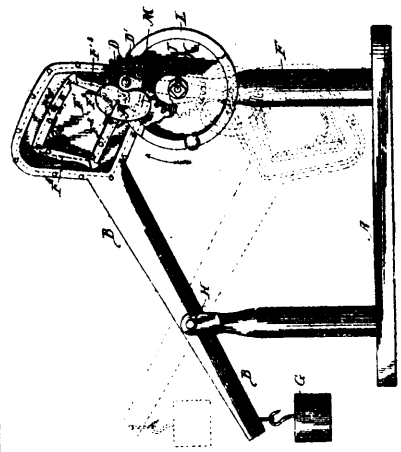
20747 Clyne's Thrashing Machine.



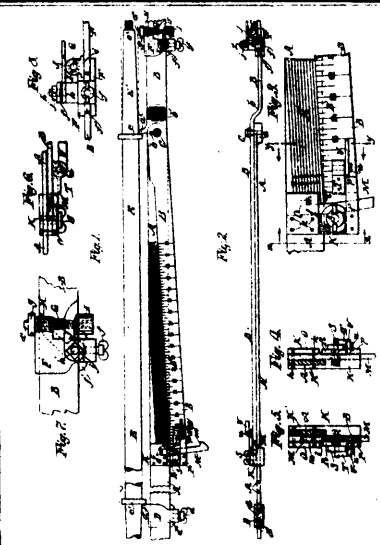
20748 Morse's Inhaler.



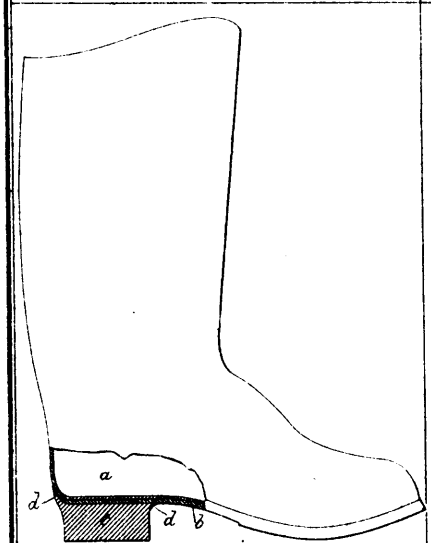
20749 Vanderman's Vice Attachment.



20750 Fahrney's Mechanical Movement.



20751 McQuarry's Axle Gauge.



20752 Whitney's Rubber Boot.

Fig. 1.

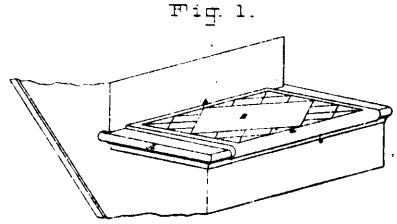


Fig. 2.

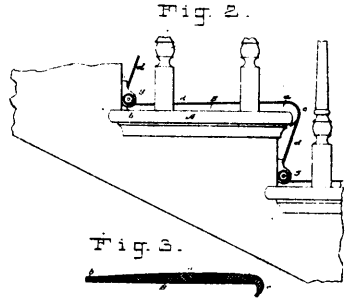
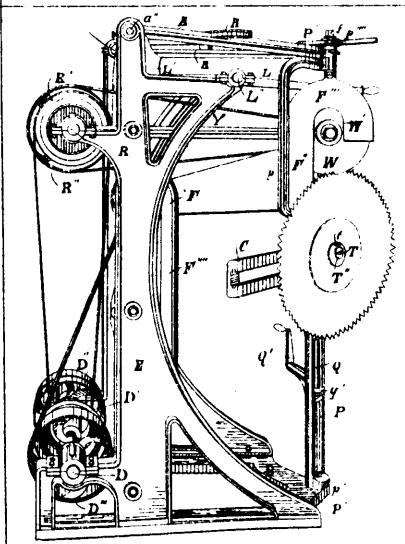
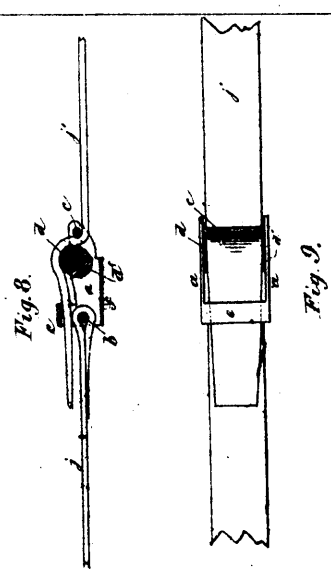


Fig. 3.

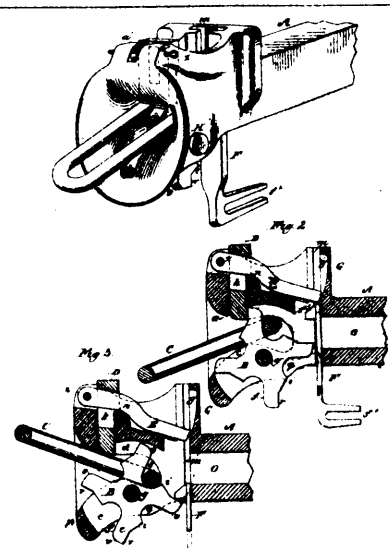
20753 Mather's Stair Pad.



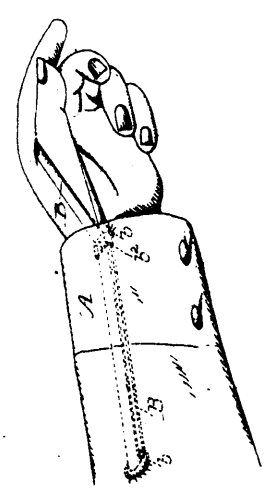
20754 Totman's Machine for Gumming and Sharpening Circular Saws.



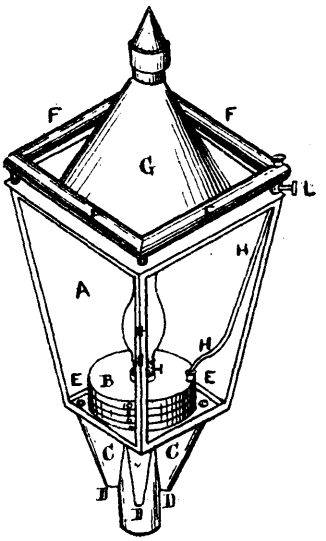
20757 Geiger's Buckle.



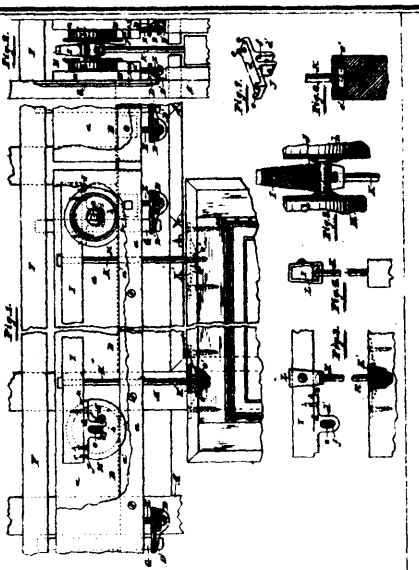
20758 Powell's Car-Coupling.



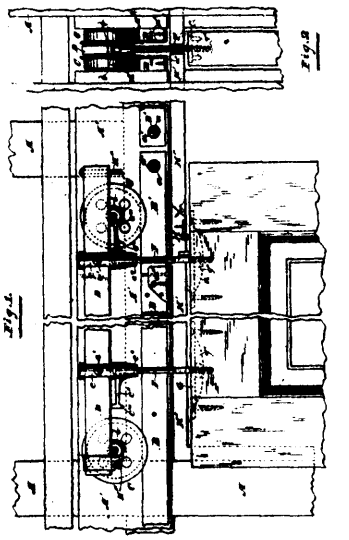
20759 Swan's Sleeve of Garment.



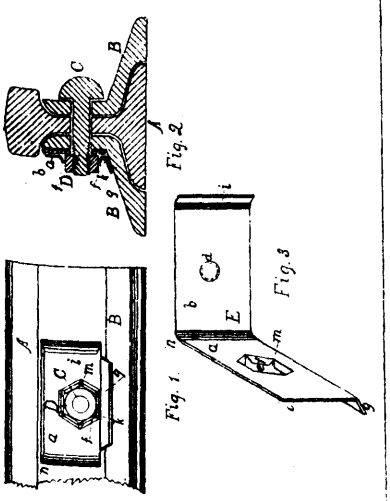
20760 Kimball's Self-Extinguishing Lamp.



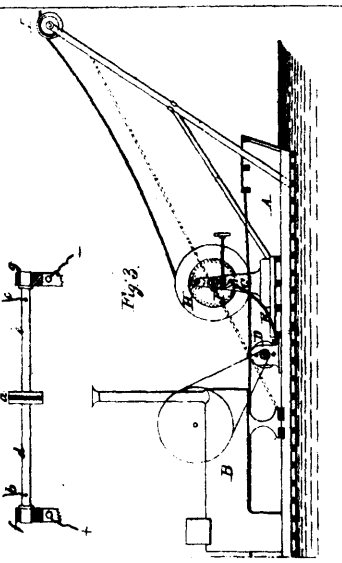
20761 Brinton's Door-Hanger.



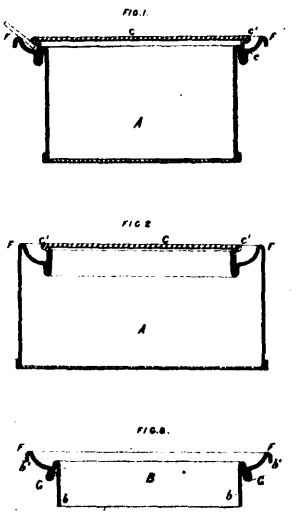
20762 Brinton's Door Hanger.



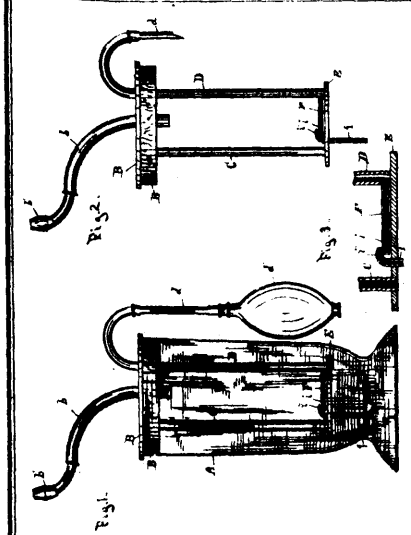
20763 Sheehan's Nut Lock.



20764 Goldberg & Fyfe's Means and Apparatus for the Transmission of the Electric Current to Movable Objects.



20765 Griffin's Metallic Packing Box.



20766 Semple's Inhaler.

Fig. 1.

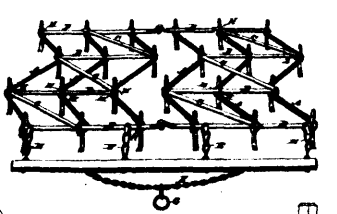
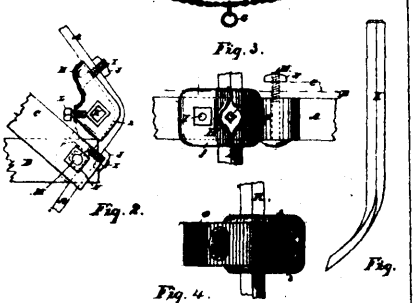
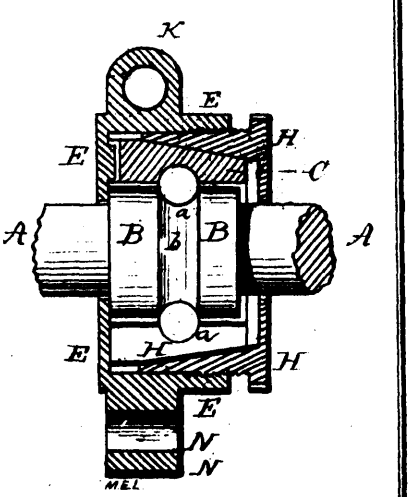


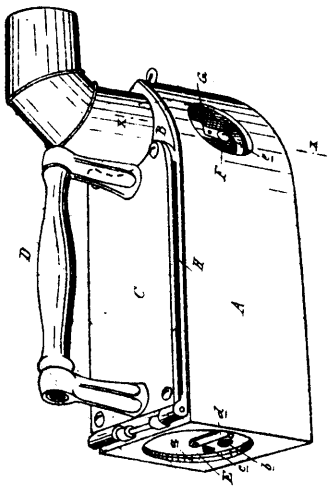
Fig. 3.



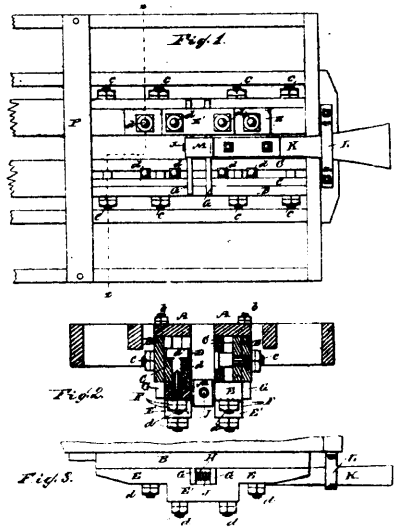
20767. Evans' Iron Cultivator.



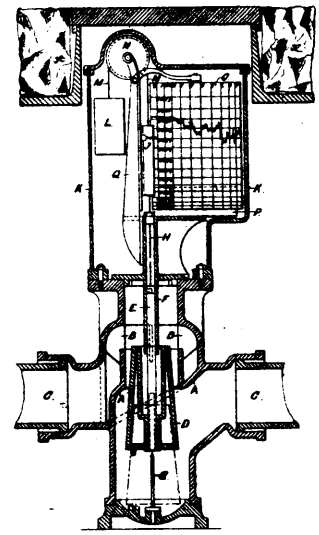
20768 Murray's Ball Bearing for Bicycles, &c.



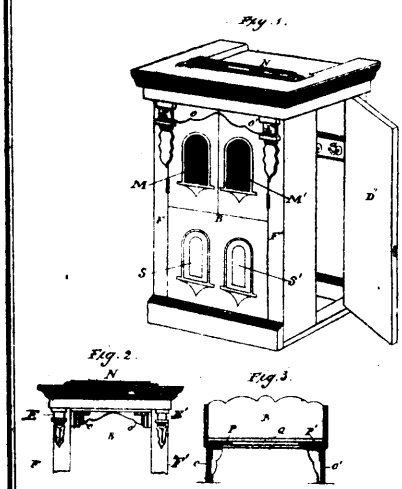
20769 Haas and Mark's Sad Iron.



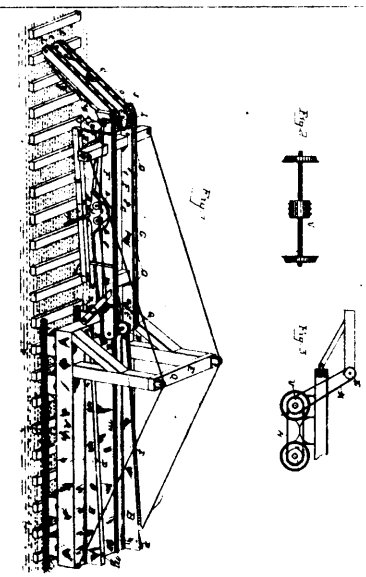
20770 Jones' Draw-bar for Freight Cars.



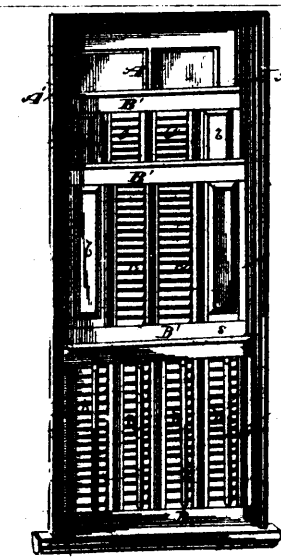
20771 Deacon's Apparatus for Measuring the Flow of Water in Pipes.



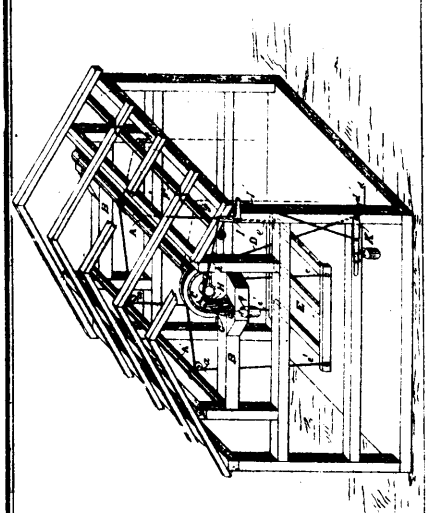
20772 Lean's Combined Folding Bed and Wardrobe.



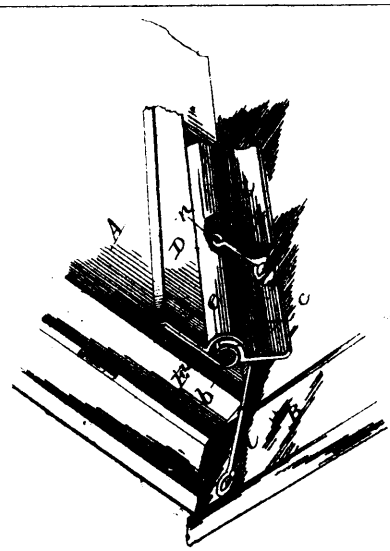
20773 Smith's Machine for Laying Railroad Tracks.



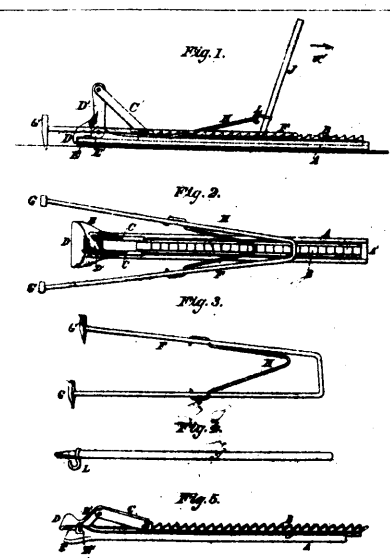
20774 Hartman's Window Blind.



20775 Walker's Hay and Grain Rack Elevator.



20776 Smith & Schwartz's Weather Strip.



20777 Taylor's Carpet Stretcher.

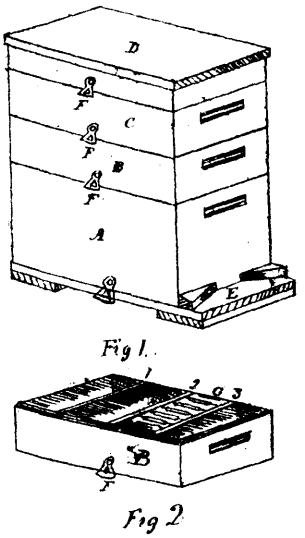
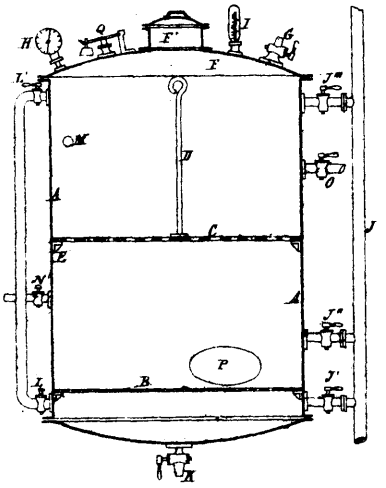


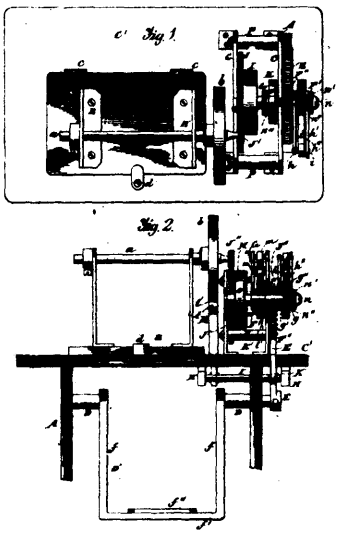
Fig 1.

Fig 2

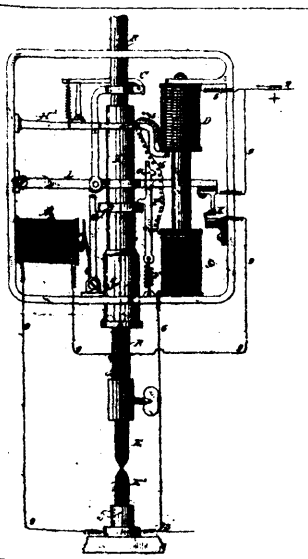
20778 Jones' Bee Hive.



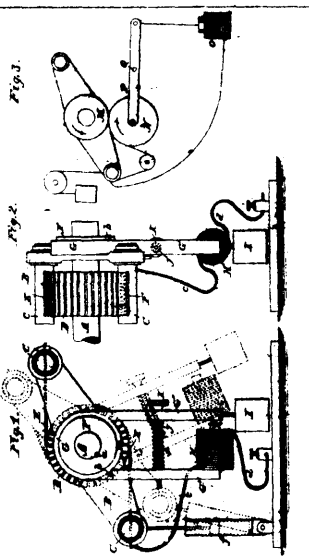
20779 Leplay's Apparatus for Baryta or Strontia Treatment of Saccharine Liquors, &c.



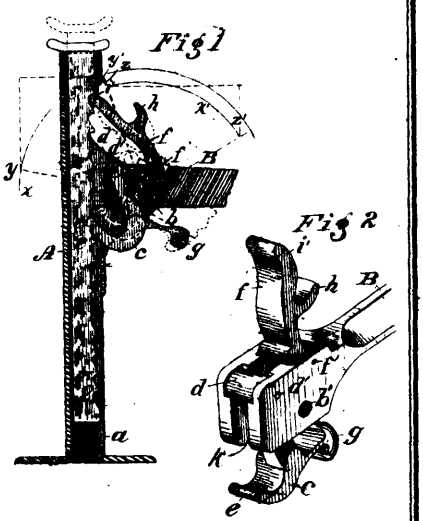
20780 Hawkins' Spring Motor.



20781 Thomson's Safety Device for Electric Arc Lamps.



20782 Bain's Regulator for Dynamo or Magneto Electric Machines.



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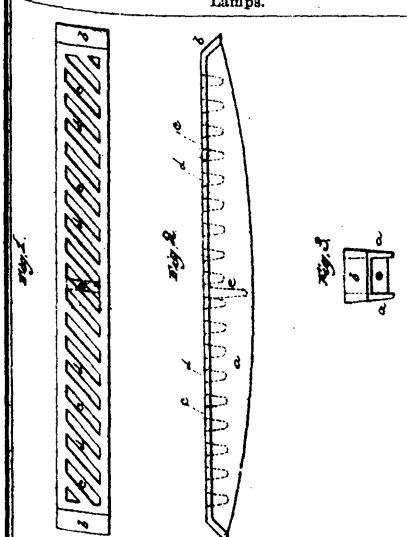

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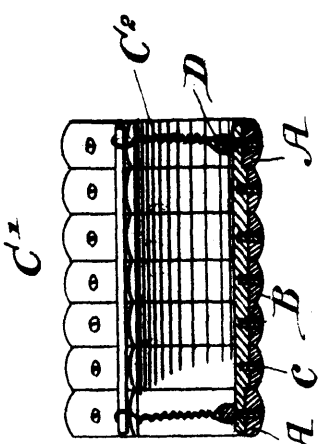

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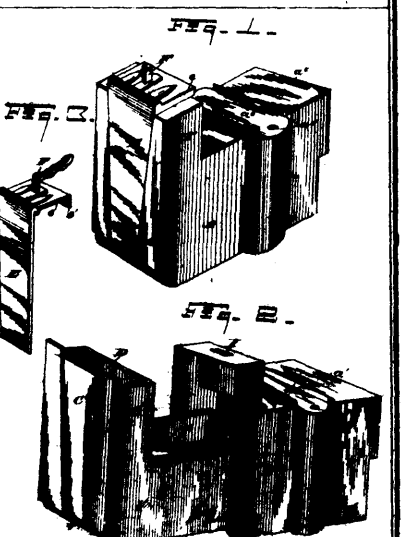

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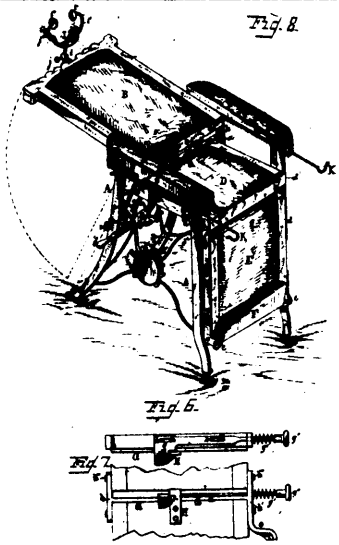

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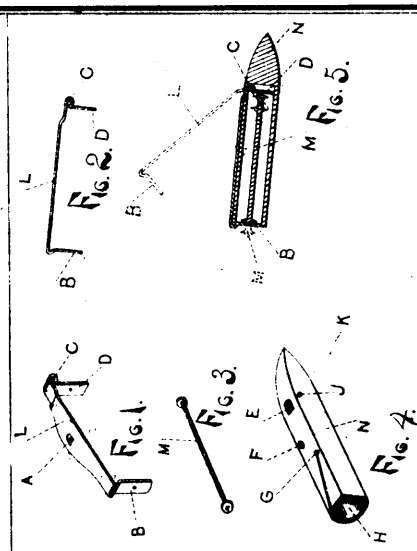

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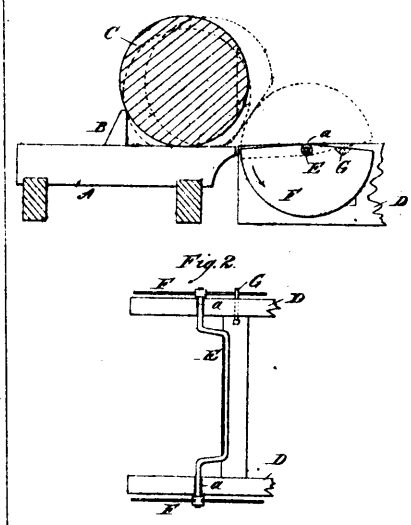

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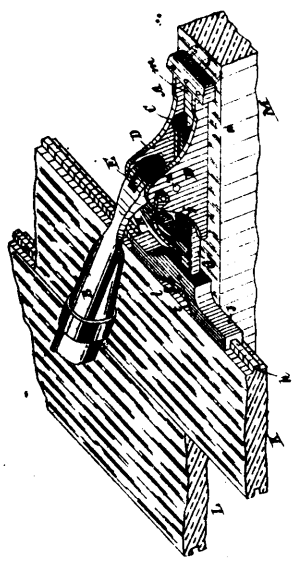

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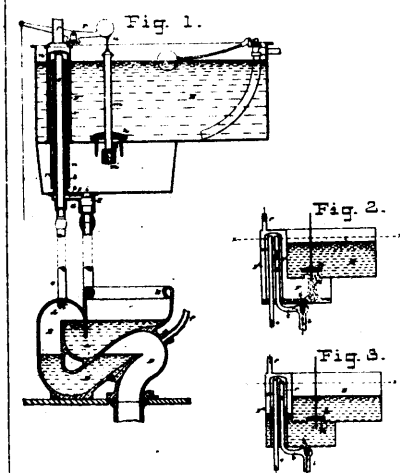

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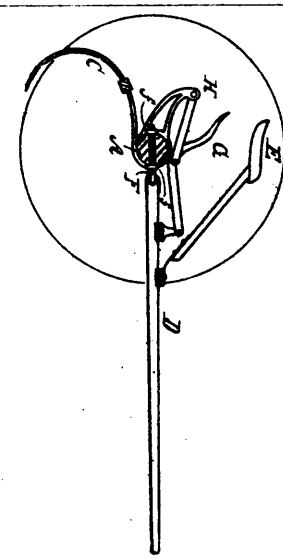

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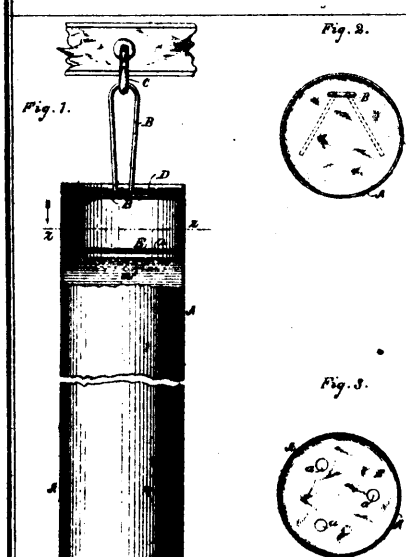

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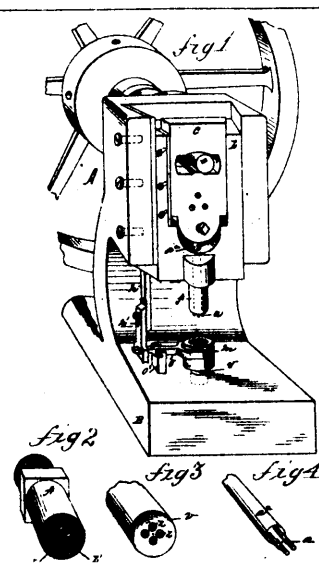

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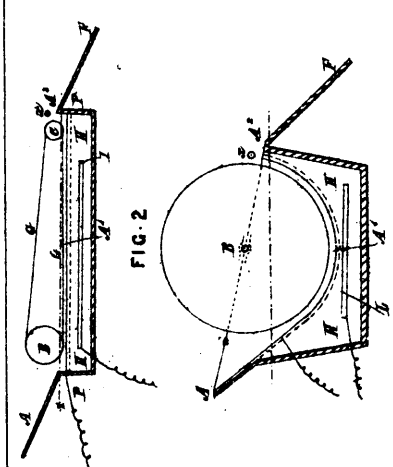

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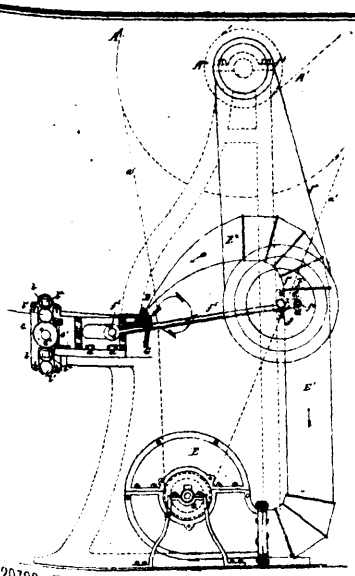

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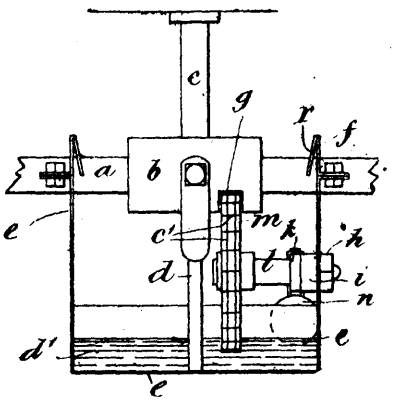

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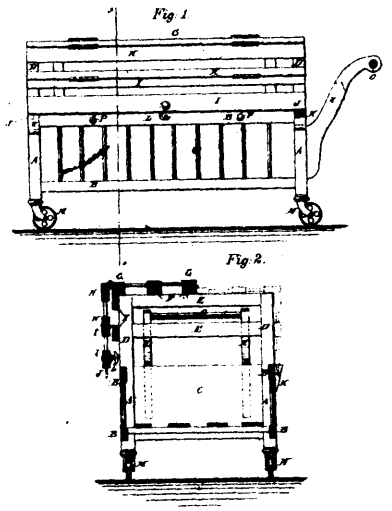

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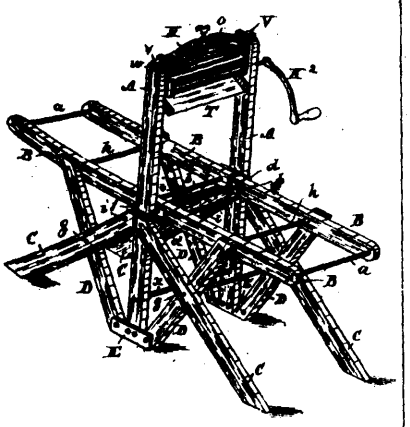

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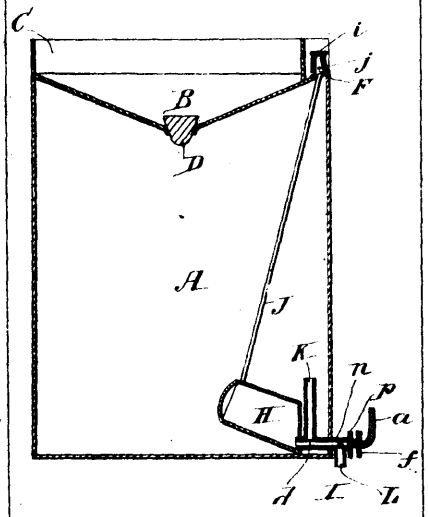

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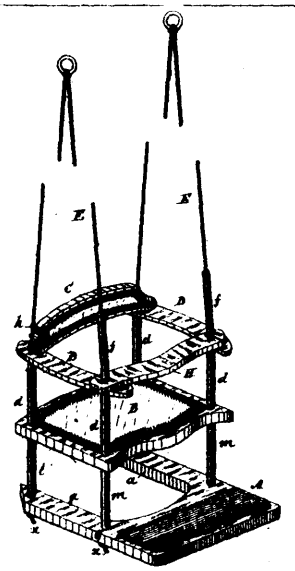

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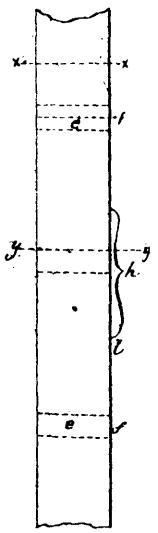

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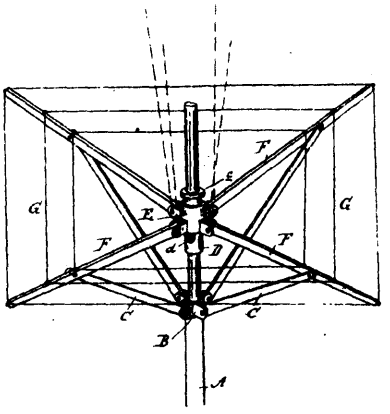

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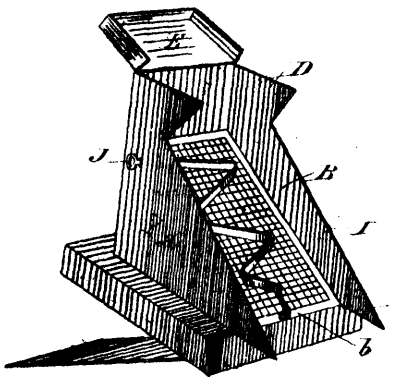

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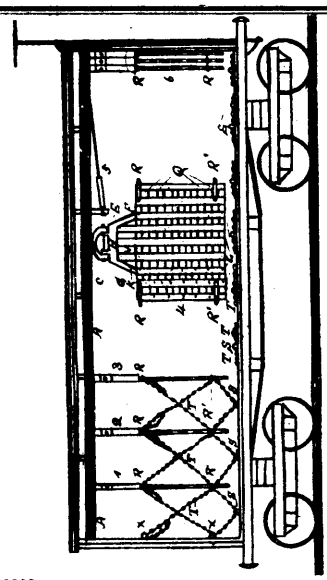

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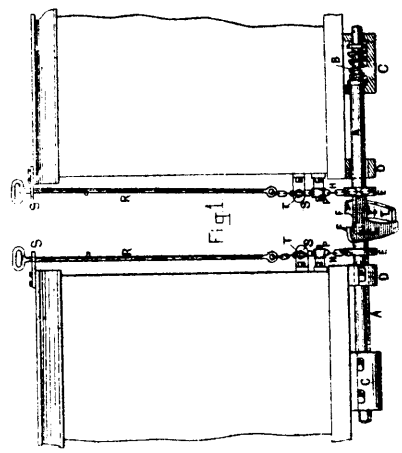

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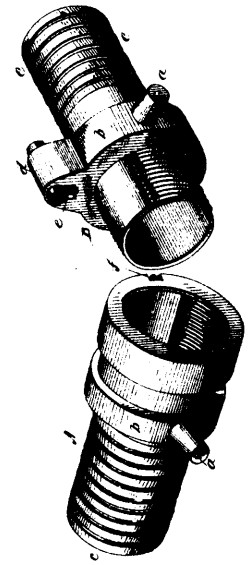

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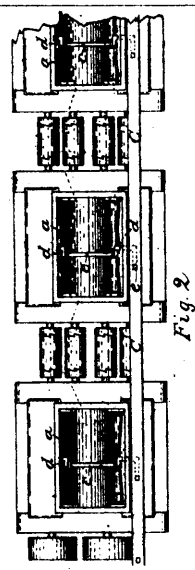

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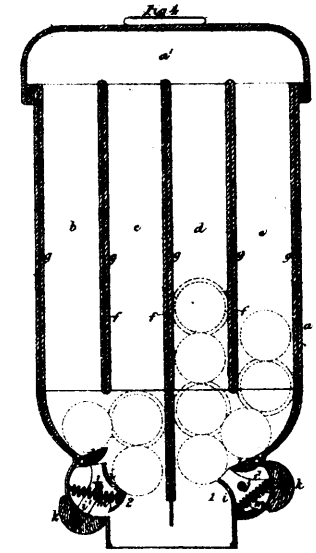

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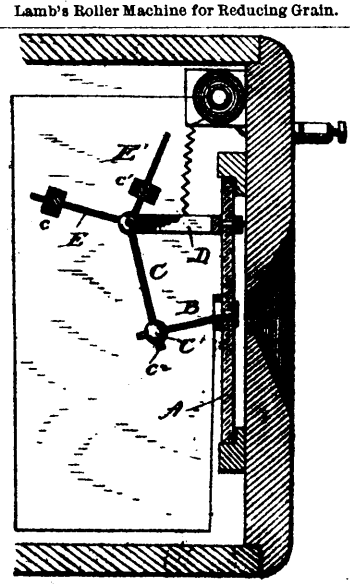

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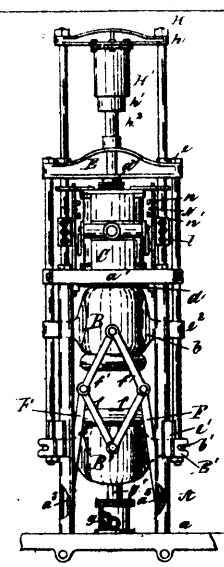

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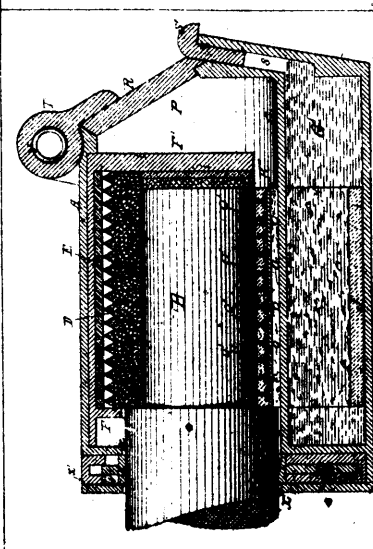

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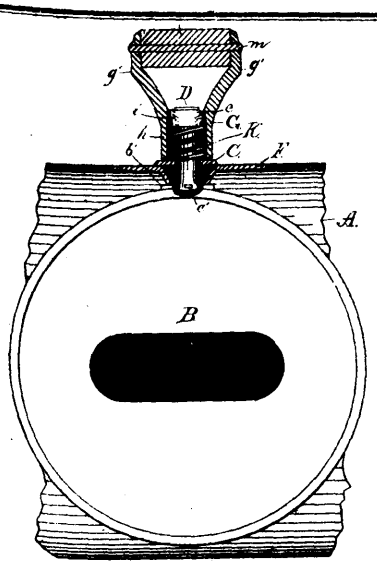

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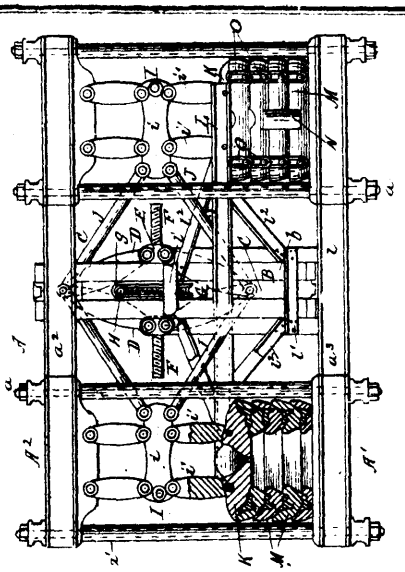

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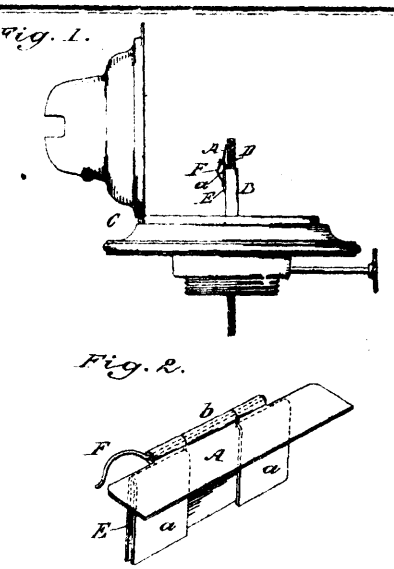

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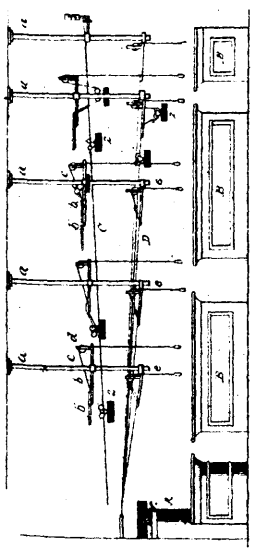

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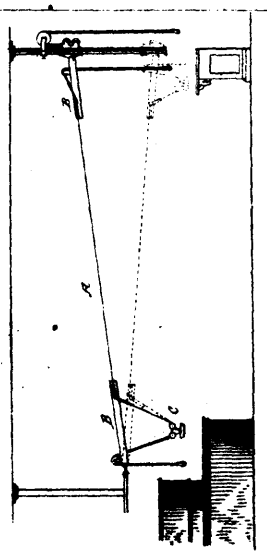

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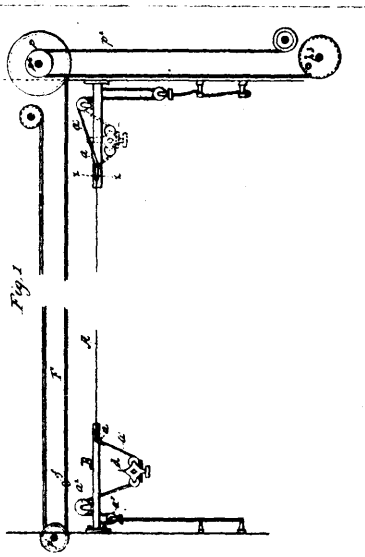

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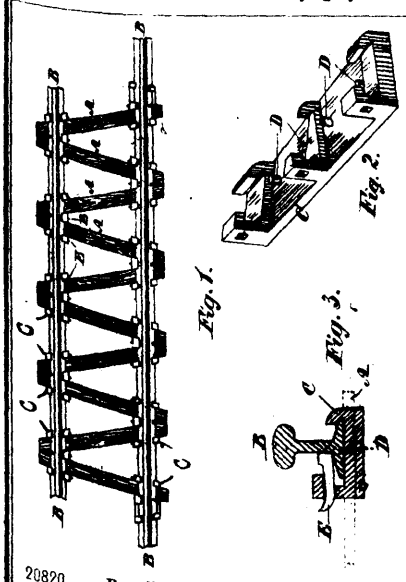

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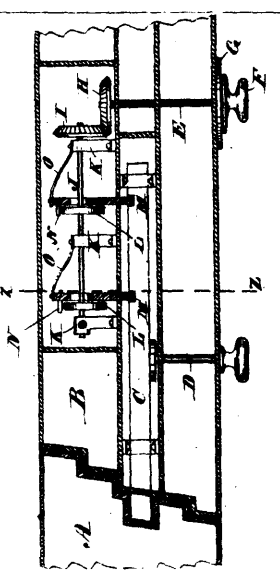

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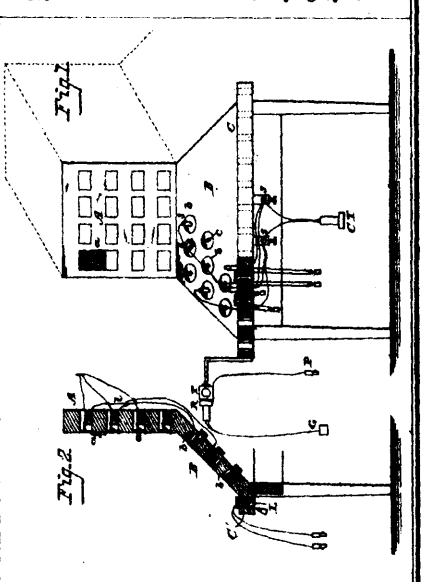

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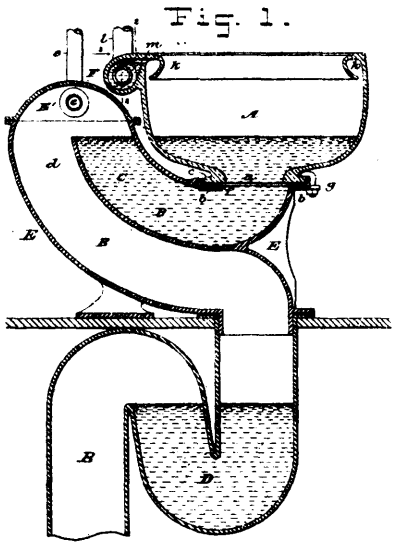

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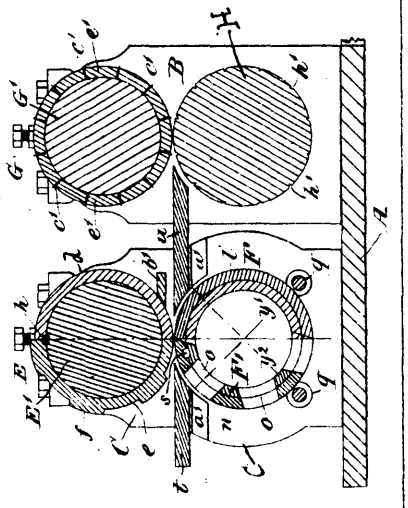

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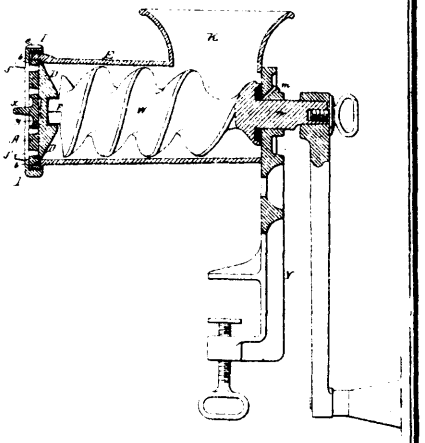

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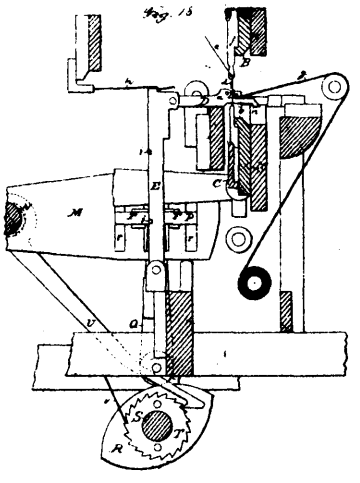

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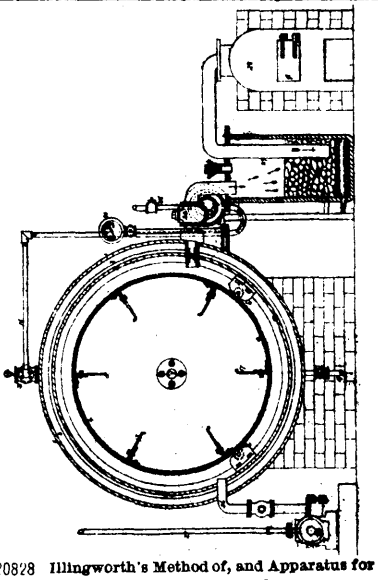

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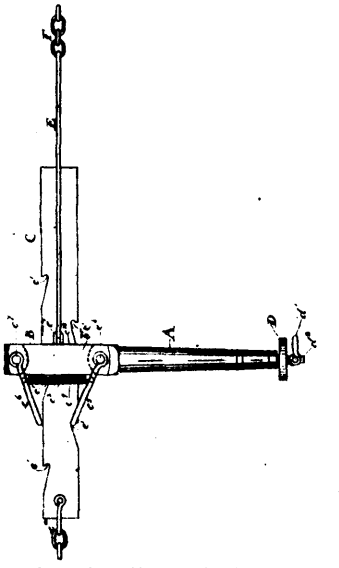

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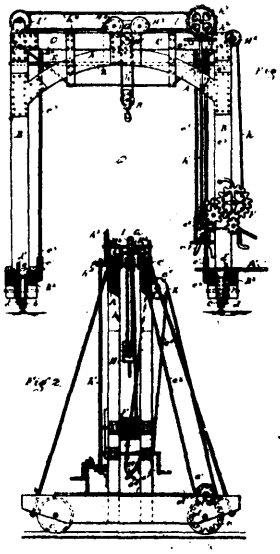

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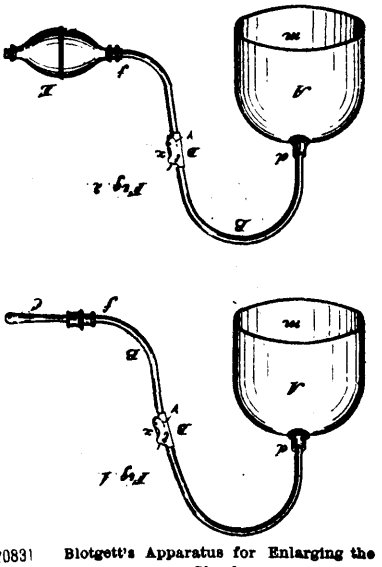

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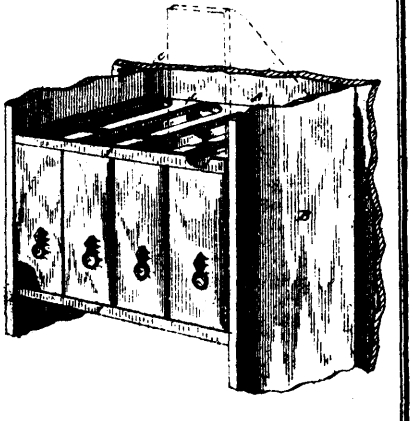

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