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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. 22,699. Car Brake. (*Frein de Char.*)

Henry R. Denny, Carver, (assignee of Edmund W. Laufman, Merriam Junction,) Minn., U.S., 2nd November, 1885; 5 years.

Claim.—1st. In a railroad car brake, the combination of a brake-rod C provided with a screw-thread, and with hand-wheels D₁, D₂, above and below or near the lower line of the body of the car, pivoted lever E₁ having swivel-nut G, and pivoted bell-crank lever E₂ connecting said lever E₁ and the brake-shoes of the car, substantially as and for the purpose set forth. 2nd. In a railroad car-brake, the combination of the brake-rod having a screw-thread thereon, a hand-wheel D₁ attached to said brake-rod above the line of the car, a hand-wheel D₂ attached to said brake-rod below or near the line of the car, a nut G adapted to fit the screw-thread upon said rod, and means for connecting said nut with the levers and rods for operating the brake, substantially as described. 3rd. In a railroad car-brake, a brake-rod C provided with a screw-thread and adapted to be revolved, a nut G, levers E₁, E₂, brake-shoes a₁, a₂, and draw-rod b₁ connecting said levers with said shoes and provided with spring b₂, substantially as specified.

No. 22,700. Combined Latch and Lock.

(*Loquet et Serrure Combinés.*)

John C. Craig and Edward D. Hand, Freneton Falls, Ont., 2nd November, 1885; 5 years.

Claim.—1st. In a latch and lock, the combination, with case A having a curved projection A₁, of the sliding bolt B, having slot B₁ and notch B₂, socket C having trippet C₁, lever D having arm D₁ and curved slot D₃, and dog E sliding in said slot, to engage with the projection A₁, for locking the lever and bolt by appliance of a key, as set forth. 2nd. The combination, with case A, of the sliding bolt B, having slot B₁ and notch B₂, socket C having trippet C₁, and lever D having arm D₁, to shoot the bolt by gravitation of the lever and permit of the bolt being reversed, as set forth. 3rd. The adjustable bar G, in combination with the case A having post A₄, bolt B, socket C, having trippet C₁ and lever D, for independently locking the bolt, as set forth.

No. 22,701. Lock Mechanism for Safes.

(*Mécanisme de Serrure pour Coffres-Forts.*)

The Chicago Safe and Lock Company, (assignee of Henry Gross,) Chicago, Ill., U.S., 2nd November, 1885; 5 years.

Claim.—1st. In a burglar-proof safe, the combination, with a recessed wall, of a lock located wholly within said wall, substantially as described. 2nd. In a burglar-proof safe, the combination, with a recessed wall, of a permutation lock located wholly within said wall, and having a spindle extending through the front face of the wall for operating the lock, substantially as described. 3rd. In a burglar-proof safe, the combination, with a recessed wall, of a permutation lock located wholly within said wall and having a conical arbor tapering towards its end, extending through the front face of the wall, substantially as described. 4th. In a burglar-proof safe, the combination, with a recessed wall and a permutation lock located within said recess in the wall, of a recessed door and a bolt adapted to be moved within the recess of the door, substantially as described. 5th. In a burglar-proof safe, the combination, with a recessed door

and jamb, of a lock located within the recess of the jamb, and a latch-bar in connection with the bolt-work, whereby said lock shall throw the bolt-work, substantially as set forth. 6th. In a burglar-proof safe, the combination, with the recessed door and jamb, and the bolt-work having the latch-bar connected therewith, of the permutation lock, having the hook-bar, adapted to engage with said latch-bar and throw the bolt-work, substantially as described. 7th. In a burglar proof safe, the combination, with a wall having a recess of suitable size and shape to receive a permutation-lock, of said lock located wholly within said wall and removably held therein, substantially as described. 8th. In a burglar-proof safe, the combination, with a recessed wall, of a permutation-lock located wholly within the said recess, and having a spindle and a drive-wheel, and a hub for its tumblers adapted to bear against said spindle, substantially as described. 9th. In a burglar-proof safe, the combination of a permutation-lock located wholly within said wall, and having a spindle with a driving-wheel distinct from the lock, whereby the lock may be removed without removing the drive-wheel and spindle, substantially as described. 10th. In a burglar-proof safe, the combination, with the recessed door and recessed jamb, and the bolt-work upon the inner face of the door, of the lock located within the recess of the jamb, the latch-bar connected to the bolt-work, the hook-lever for engaging with the latch-bar, and a drive-wheel and spindle for operating the hook-lever, substantially as described.

No. 22,702. Lock Mechanism for Safes.

(*Mécanisme de Serrure pour Coffres-Forts.*)

The Chicago Safe and Lock Company, (assignee of Henry Gross, Chicago, Ill., U.S., 2nd November, 1885; 5 years.

Claim.—1st. In a time-lock for safes, the combination, with a guard for checking the operation of the bolt-work, and a suitable indicator-pointer, of a revolving adjustable tripping device for releasing said guard, and gear wheels connecting said tripping device with the pointer, substantially as described. 2nd. In a time-lock for safes, the combination, with a guard for checking the operation of the bolt-work, and a suitable indicator-pointer, of a revolving plate in gear with said pointer and a tripping device for releasing the guard adjustably held in said plate, substantially as described. 3rd. In a time lock for safes, the combination, with a guard for checking the operation of the bolt-work, of an indicator-pointer, a slotted plate in gear with said pointer, a tripping device for releasing said guard, and means, substantially as described for adjusting the tripping device at different points along the slot of said plate, substantially as set forth. 4th. In a time-lock for safes, the combination, with a guard for checking the operation of the bolt-work, of an indicator-pointer, a driving-spring for said pointer, a tripping device for releasing the guard in gear with said pointer and a separating driving-spring for said tripping-device, substantially as described. 5th. In a time-lock for safes, the combination, with a guard for checking the operation of the bolt-work, of an indicator-pointer, a driving-spring for said pointer, a tripping device in gear with said pointer, a separate spring for said tripping device, and a key-post common to both the pointer and tripping device, whereby they may be simultaneously set, substantially as described. 6th. In a time-lock for safes, the combination, with a guard for checking the operation of the bolt-work, of an indicator-pointer, a supplemental adjustable tripping device or catch for throwing the guard into action, and gear wheels connecting said tripping device or catch for throwing the guard into action, and gear wheels connecting said tripping device with the indicator pointer, substantially as described. 7th. In a time-lock, the combination, with a guard for checking the operation of the bolt-work, of a dog for holding said guard temporarily out of action, an adjustable supplemental tripping device for throwing the dog out of engagement with the guard, a main tripping device for throwing the guard out of action, a driving-spring for said tripping devices and an indicator-pointer and gear wheels connecting said tripping devices with the pointer, substantially as described. 8th. In a time-lock for safes, the combination, with a guard for checking the operation of the bolt-work, of a dog or pawl for temporarily holding said guard out of action, an indicator-pointer a supplemental tripping device for throwing the dog out of engagement with the guard having a supporting-post separate from the indicator-pointer, a main tripping device for throwing the guard out of action, and gear-wheel connecting the tripping devices and the pointer, substantially as de-

scribed. 9th. In a time-lock, the combination, with a guard for checking the operation of the bolt-work, and an indicator-pointer, of a dog or pawl for holding the guard temporarily out of action, an adjustable supplemental tripping device for throwing the dog out of engagement with the guard, a main tripping device for throwing the guard out of action, and a revolving plate or disk for carrying said tripping devices, substantially as described. 10th. In a time-lock for safes, the combination, with a guard for checking the operation of the bolt-work, and a dog for holding said guard out of action, of a single indicator-pointer, a revolving plate having two slots therein, two tripping devices, one for the guard and one for the dog adjustably held in said slots, two clock-movements and gear-wheels, for connecting said pointer and revolving plate, substantially as and for the purpose set forth. 11th. In a time-lock mechanism for safes, the combination, with the main bolt-work of the safe, of mechanism for throwing the main bolt-work to lock the safe, and clock mechanism for automatically releasing said bolt-throwing mechanism, substantially as described. 12th. In a time-lock mechanism for safes, the combination, with the bolt-work of a spring for throwing said bolt-work to lock the safe, a trigger or stop for temporarily restraining the action of said spring and a tripping device operated by suitable clock-work to release said trigger and automatically lock the safe, substantially as set forth. 13th. In time-lock mechanism for safes, the combination, with the bolt-work, of a spring for automatically throwing said bolt-work to lock the safe, a spring for automatically with drawing the bolt-work to unlock the safe, a trigger or stop for temporarily restraining the action of said locking-spring, and tripping devices for said trigger and guard, whereby the safe can be automatically locked and unlocked, substantially as set forth. 14th. In time-lock mechanism for safes, the combination, with the bolt-work, of the sliding rod connected with the bolt-work, the coiled springs upon said sliding rod, the trigger for temporarily checking the movement of the bolt-work, the releasing-lever for said trigger, the latch-bar, the guard and tripping devices for acting upon said guard and the releasing-lever, substantially as described.

No. 22,703. Machine for Grinding Tools.

(Machine à Rémouler les Outils.)

Nicholas Brickell and Thomas J. Brickell, Brinkley, Ark., U.S., 2nd November, 1885; 5 years.

Claim.—1st. A device for grinding tools, composed of a bench A, grindstone B, uprights attached to the said bench and adjusted in position by braces L, Lt, having holes *l* to engage pins *l*, clamp G having set-screws *g* and a handle *g*, rocking cross-piece E, arm K, connecting-link H, lever F having a plate *f*, and a post J having a plate *j*, in which are notches *j*, substantially as shown and described. 2d. A device for holding tools to be ground comprising uprights C, C, rocking cross-piece E, clamp G, arm K, connecting-link H, lever F and notched post J, all substantially as and for the purpose set forth. 3rd. In combination with a grindstone and bench, uprights C, C, having adjustable braces L, Lt, a rocking cross-piece E, clamp G and handle *g*, substantially as set forth for the purpose specified. 4th. A rocking-piece E having pieces *e*₁, *e*₂, and a thumb-screw *e*₃, and upright bearings C, C, combined with a clamp G having set-screws for holding, and a handle for turning the tool to be ground, substantially as shown and described for the purpose set forth.

No. 22,704. Numbering Attachment for Printing Presses. (Appareil à Paginer pour Presses d'Imprimerie.)

Albert R. Baker, Indianapolis, Ind., U.S., 2nd November, 1885; 5 years.

Claim.—1st. In a cylinder printing-press, the combination of a rotary cylinder, a series of numbering-heads placed therein and arranged in one or more rows, and an independent frame arranged outside the said cylinder and carrying a series of trips arranged in one or more rows, extending in the direction of the rotation of the said rotary cylinder, and corresponding to the position of the numbering-heads, substantially as shown and described and for the purpose specified. 2nd. In a cylinder printing-press, the combination of a rotary cylinder, a series of numbering-heads placed therein and arranged in one or more rows extended in the direction of rotation, and an adjustable frame arranged outside the said cylinder and carrying a series of trips arranged in one or more rows, corresponding to the row or rows of numbering-heads, substantially as shown and described. 3rd. The combination, in a cylinder printing-press, of the ordinary impression cylinder B, the numbering cylinder C, made one-half the diameter of cylinder B and geared therewith, the frame E carrying trips and having slotted arms, the blocks to which said slotted arms are fitted, the spring arranged in said arms and the rod G connected to said frame E, and means, substantially as described, for operating said rod, substantially as shown and described. 4th. The combination of the numbering cylinder C, and the sliding trip-frame E arranged outside the cylinder C, substantially as specified. 5th. The combination of cylinder B, the numbering-cylinder C, the trip-frame E, the adjusting rod G, the eccentric or cam *h*₂, the pinion *h*₁ carrying said cam, and the pinion *h* one-half the diameter of pinion *h*₁, and mounted on the shaft of cylinder B, substantially as shown and described and for the purpose specified. 6th. The numbering-cylinder C, having the supporting-frame D, provided with standards *k*, *k*₁ having hinges *l* and slotted parts connected by screws *l* respectively, substantially as shown and described, to adapt the said cylinder to be turned back from its normal position, as specified.

No. 22,705. Numbering Attachment for Printing Presses. (Appareil à Paginer pour Presses d'Imprimerie.)

Albert R. Baker, Indianapolis, Ind., U.S., 2nd November, 1885; 5 years.

Claim.—1st. The combination of a movable carrier, a series of

numbering devices arranged therein in one or more rows, and a series of devices, substantially as described, for operating the numbering devices, which operating devices are arranged in one or more rows extended in the direction of the movement of the carrier, and each of which rows corresponded in position to one or more of the numbering devices, whereby the operating devices of one row shall severally act upon the numbering device, or all the numbering devices corresponding in position to that row, to the end that the numbering devices shall be automatically set after numbering one sheet of blanks, for numbering the blanks of the next succeeding sheet in consecutive order following those of the preceding sheet, substantially as specified. 2nd. The combination of a movable carrier, a series of numbering devices arranged therein in one or more rows, extending in the direction of the movement of the carrier, and a series of devices, substantially as described, for operating the numbering devices, which operating devices are arranged in one or more rows corresponding to the row or rows of the numbering devices, and are made adjustable, whereby they may severally be moved out of acting position, substantially as shown and described. 3rd. In a printing-press, the combination of the bed provided with an orifice to receive numbering-heads, said numbering-heads mounted on shafts, said shafts being mounted in adjustable bearings on the sides of said orifice, whereby the relative position of the numbering-heads may be changed, substantially as described and for the purposes specified. 4th. In a printing-press, the combination, with the bed provided with an orifice wherein are mounted numbering-heads, of the catch blocks E, mounted on the bars D and provided with spring catches *e*, as a means for operating the numbering-heads, substantially as set forth. 5th. In a printing-press, the combination, with the bed fitted to receive numbering-heads, said numbering heads and the bar D secured to the frame-work underneath the bed, of the catch-block E mounted on said bar and provided with spring-catches, which are adapted to be pushed over in one direction, whereby the heads are permitted to travel reversely over them, substantially as described and for the purposes specified. 6th. The combination, in a printing-press, of the bed A fitted to receive numbering-heads, the shafts B on which said numbering-heads are mounted, said numbering-heads C having studs *c*, and the hub F, said hub being rigidly mounted on the shafts B alongside the numbering-heads, and provided with a rigid arm *f* and a spring arm *f*₁, substantially as described and for the purposes specified. 7th. In a printing-press, the combination, with the bed A provided with an orifice, of the bearings B for the shafts B adjustably mounted in slots in the sides of said orifice, substantially as set forth. 9th. The combination, in a printing-press, of the bed A provided with an orifice, the shafts B mounted therein, the numbering-heads E mounted on said shafts, the bars D secured to the frame-work under the bed, and the catch-blocks E provided with spring-catches *e*, one end of the spring of which is secured to the block an adjustable device *e*₂, substantially as described and for the purposes specified.

No. 22,706. Numbering Attachment for Printing Presses. (Appareil à Paginer pour Presses d'Imprimerie.)

Albert R. Baker, Indianapolis, Ind., U.S., 2nd November, 1885; 5 years.

Claim.—1st. The combination of a movable carrier, a series of numbering devices arranged therein in one or more rows, and a continuous operating device, substantially as described, for each row of numbering devices, which is arranged in the direction of the movement of the carrier, each said continuous operating device being adapted to act upon all the numbering devices corresponding thereto in position, giving them a throw corresponding to the number of devices in a row, substantially as and for the purpose described. 2nd. The combination of the numbering cylinder, the numbering heads having drums for rotating the same, provided with retracting springs, the straps and their connections attached to the drums, and the disks having cam plates attached to their sides for engaging the connections of the said straps, substantially as shown and described. 3rd. The combination of the numbering cylinder, the numbering heads having drums for rotating the same, provided with retracting springs, the straps and their connections attached to the drums, the guide-plates and stops for the said straps and their connecting jointed bars, and the disks having cam-plates attached to their sides, for engaging rollers on the ends of said jointed bars, substantially as shown and described. 4th. The combination of the numbering cylinder, the numbering heads mounted on shafts therein, the internal stationary disks and the arms attached to the shafts of the numbering-heads, and having rollers placed in engagement with the disks, substantially as and for the purpose specified. 5th. The combination of the numbering cylinder, having numbering heads arranged in circumferential rows and provided with actuating devices, substantially as described, with the disks having slots therein, and the cam plates pivoted at one of their ends to the disks, and having parts engaged with the slots in the disks to render the cams adjustable, substantially as described. 6th. The combination of the numbering cylinder, its stationary shaft having tubular ends provided with slots, the sleeve feathered on said shaft and having the disks, which carry the cams, rigidly secured thereto, the F-shaped or bifurcated bar connected to said sleeve, and means for shifting the sleeve on the shaft, substantially as shown and described. 7th. The combination, with the disk and cam-supporting sleeve, tubular shaft and bifurcated bar, of the eccentric engaging with a lug on the end of said bar, a retracting spring on said bar, a rod connected to the eccentric, and a system of cams of different diameters geared together, and means for holding said rod in engagement with any one of the cams, substantially as shown and described and for the purpose set forth. 8th. The combination, with the numbering heads arranged substantially as described, of the sleeve-carrying disks, which are provided with cams for operating the numbering heads, the tubular shaft supporting the sleeve, the bifurcated bar connected to said sleeve, the re-

tracting spring and the eccentric connected to said bar, and means for operating the eccentric, substantially as shown and described.

No. 22,707. Grist Mill. (*Moulin à Blé.*)

Miscel Provost, Roxton Falls, Que., 2nd November, 1885. 5 years.

Claim.—1st. In a flour milling apparatus or grist mill, the combination of the concavely dressed stones D, E, cone P and hoppers A and Q, with elevators M, G, conveyor K and separator I, as above described and for the purposes set forth. 2nd. In a flour milling apparatus or grist mill, the combination of the graduated inclined separator I, doors S, P, V, W and conveyor K, with the elevators M, O, choots L, N, little hopper Q and cone P, as above described and for the purposes set forth.

No. 22,708. Steam Boiler. (*Chaudière à Vapeur.*)

Edward S. T. Kennedy, New York, N. Y., U. S., 2nd November, 1885. 5 years.

Claim. 1st. The combination, with a boiler, constructed substantially as herein specified, with water and steam tubes radiating from an upright central cylinder, of a water jacket or shell, as D, set about the boiler and connected therewith by water and steam tubes, as S, S', substantially as shown and described. 2nd. The combination, with a boiler, constructed with water and steam tubes, radiating from an upright central cylinder, as set forth, of a water jacket set about the boiler and connected therewith by bent water and steam tubes, substantially as herein shown and described, said connecting tubes being bent that they may expand and contract without injury to their joints, as set forth.

No. 22,709. Sharpener for Reaper Knives, etc. (*Machine à Aiguser les Couteaux des Moissonneuses, etc.*)

James Houghton, Waterford, Ont., 2nd November, 1885. 5 years.

Claim.—A sharpener, composed of a stick of emery composition, preferably of a triangular shape A, formed in a metal rod B projecting beyond the end of the stick A, and having a handle C fixed on it at each end, as indicated, substantially as and for the purpose specified.

No. 22,710. Machine for Cutting, Bundling and Tying Firewood. (*Machine à Abâtre et Fagoter le Bois de Chauffage.*)

Frank Kingston, St. Johns, Eng., 2nd November, 1885. 5 years.

Claim.—In a machine for cutting, bundling and tying firewood, the combination of the intermittently moving feed chains b, b', the clamping check k, the obliquely moving slicing knife k', the chains l, l', the reciprocating knife K, chains a, a', the bundling cylinder C with its plunger C', its slide c, sluice diaphragm c', guide blades c' and shakers c, its segmental mouth c'', with the means of contracting it and causing it to revolve the tying arm F, with its clamping bosses t, t', and their cutters, and the tying wire arranged and operating substantially as herein described.

No. 22,711. Butter Worker. (*Pétrin à Beurre.*)

Levis W. Murch, Racine, Wis., U. S., 2nd November, 1885. 5 years.

Claim.—A butter-worker, comprising frame A, having legs a, a', tray B, provided with openings c, c' and plug a', a follower B' hinged to frame A by rings b, b', and having cross-pieces b', handle B' supporting leg c' provided with brace-hook c' and clamp C, and cover A', with handle a', and a suitable lock, all constructed and arranged substantially as described and for the purposes set forth.

No. 22,712. Sheet Metal Can. (*Boîte Métallique.*)

Francis A. Walsh, Milwaukee, Wis., U. S., 2nd November 1885. 5 years.

Claim.—The combination, with the body of a sheet metal can, of a suitable cover and a ring encircling the top of the can body, with its upper edge having an inwardly turned rim over the cover and clamping it down upon the rolled upper edge of the can body, as set forth for the purpose set forth.

No. 22,713. Pillow Sham Holder and Remover. (*Porte Garniture d'Oreiller.*)

Charles F. Percival, Barton, Vt., U. S., 2nd November, 1885. 5 years.

Claim.—1st. The combination of the brackets C, C', secured to the side posts of the head of the bedstead wheels D, D', and endless cord E running around the head of the bedstead, whereby the pillow shams F attached to the cord may be drawn to the front and rear, as set forth for the purpose set forth. 2nd. The tubular clip G, having a central longitudinal slot and applied as set forth, for the purpose specified.

No. 22,714. Thill Coupling. (*Arçon de Limonière.*)

Benjamin Fahrney, Hegerstown, Md., U. S., 2nd November, 1885. 5 years.

Claim.—A thill-coupling, consisting of the axle clip A, thill socket B, and a for reception of pin or bolt b, cushion C actuated by right-angled plate D recessed for reception of clip A, which guides it, and threaded screw E, engaging with coincident female screw E', in D, A, substantially as shown and for the purpose described.

No. 22,715. Stove Drum. (*Poêle Sourd.*)

George Stevenson, Kingsville, Ont., 2nd November, 1885. 5 years.

Claim.—The combination, in a stove drum, of the cold air flue A,

receiving smoke flue B, provided with inlets F, smoke flue C, with damper D, the whole arranged as shown and described for the purpose set forth.

No. 22,716. Gas Engine. (*Machine à Gaz.*)

William L. Tobey, East Boston, Mass., U. S., 2nd November, 1885. 5 years.

Claim.—1st. The engine-cylinder and valve-chest, and inlet and exhaust ports leading to and from the said valve-chest, and ports connecting it with the ends of the cylinder, combined with the valves arranged in said valve-chest with relation to said ports, as shown and described, and valve-actuating mechanism, whereby communication is alternately established and cut off between the inlet port and portions of the said valve chest adjacent to each end of the cylinder, and one end of the cylinder is connected with the exhaust-port, while communication is established between the adjacent portion of the valve-chest and the inlet port, and also between the other end of the cylinder and the portion of the valve-chest adjacent thereto, which is then cut off from the inlet port, substantially as set forth. 2nd. In a gas engine, the engine cylinder and a tank or reservoir for an explosive gaseous mixture, and an intermediate chamber and valve mechanism, whereby the said chamber is alternately placed in communication with the said tank and cylinder without at any time establishing direct communication between the said tank and cylinder, substantially as described.

No. 22,717. Numbering Attachment for Printing Presses. (*Appareil à Paginer pour Preses d'Imprimerie.*)

Albert R. Baker, Indianapolis, Ind., U. S., 2nd November, 1885. 5 years.

Claim. 1st. In a cylinder printing press, the combination of a rotary cylinder, a series of numbering heads placed therein and arranged in one or more rows, and a series of independently-supported trips arranged in one or more rows, extended in the direction of the rotation of the said rotary cylinder and corresponding to the position of the numbering heads, substantially as shown and described, whereby each trip of a given row shall act upon the numbering-head or all the numbering heads of its corresponding row, for the purpose specified. 2nd. In a cylinder printing press, the combination of the ordinary impression cylinder, a second cylinder, bars mounted thereon, numbering heads mounted on said bars and arranged in one or more rows extended in the direction of rotation, and trips mounted on suitable supports within said second cylinder and arranged in rows, extended in the direction of rotation and corresponding to the position of the numbering-heads and adapted to engage with and operate said numbering heads, whereby the numbers in said numbering heads are advanced in successive order, and the forms being numbered are numbered consecutively without reference to the number of heads, substantially as set forth. 3rd. In a cylinder printing press, the combination of the ordinary impression cylinder, a revolvable numbering-cylinder, bars mounted on said cylinder, numbering-heads mounted on said bars and arranged in rows extended in the direction of rotation, and trips mounted on a stationary support within said revolvable cylinder, and arranged in rows extended in the direction of rotation and adapted to engage with and operate said numbering-heads, substantially as described and for the purposes specified. 4th. In a cylinder printing press, the combination of the ordinary impression-cylinder, a revolvable numbering-cylinder, bars mounted in suitable bearings therein, numbering heads mounted on said bars and arranged in rows extended in the direction of rotation, a stationary cylinder located within said numbering-cylinder, and a number of trips sufficient to do the work to be performed adjustably mounted in said stationary cylinder and arranged in rows corresponding to the rows of numbering-heads and adapted to engage with and operate said numbering-heads, whereby the numbers in said numbering heads are advanced successively, and the forms being numbered are numbered consecutively without regard to the number of heads employed, substantially as set forth. 5th. The combination, in a cylinder printing press, of the ordinary impression cylinder, a rotary numbering cylinder mounted on a stationary shaft, numbering-heads mounted therein, a stationary cylinder mounted on the same shaft within said rotary numbering cylinder, said stationary cylinder being provided with rods, and trips mounted on said rods in rows extended in the direction of the movement of said rotary numbering cylinder, and adapted to engage with, and operate the numbering heads of said numbering-cylinder, substantially as set forth. 6th. In a cylinder printing-press, a rotary numbering cylinder having bars D' mounted therein said bars being secured to the cylinder-heads by means of radially adjustable supports substantially as described and for the purposes specified. 7th. In a cylinder printing-press, the combination, with a rotary numbering cylinder having a segmental slot in its head of the bar D' having solid end f, notched block f', having recess f₂ and catch f₃ and the socket piece f₄, having spring f₅ carrying said block, and having lug g fitted to slide in said slot, and means for locking the same in the slot, substantially as shown and described, whereby said bar is rendered both circumferentially and radially adjustable, as set forth. 8th. In a cylinder printing press, a rotary numbering-cylinder having bars, D' mounted therein, said bars being secured to the cylinder heads by means of radially adjustable supports, and being provided with longitudinal slots d₅, rod numbering-heads mounted on their shafts between the flanges or ribs of said bars, whereby said numbering-heads are adapted to be adjusted both radially and longitudinally of the cylinder, substantially as set forth. 9th. In a printing-press, a trip-cylinder rigidly mounted within a numbering cylinder, said trip cylinder being provided with rods bearing to the other, said heads being provided with radial slots in which said shafts are mounted, whereby said trips are adapted to be radially adjusted, substantially as described and for the purposes specified. 10th. In a cylinder printing-press, the trip-cylinder E, provided with rods E' adjustably mounted in the heads thereof, said rods having trips e mounted thereon, and said trips being provided with cam-faced projections, which are adapted to partially rotate the disks

of the numbering-heads, when the projections of said numbering heads come in contact there with, substantially as set forth. 11th. The combination, in the trip-cylinder E for a printing-press, of the rods E^r adjustably mounted in the heads of said trip cylinder, trips e^l loosely mounted on said rods, a collar e⁴ having a wing a⁴, rigidly mounted on said rod alongside each trip, a collar e⁵ also rigidly mounted on said bars on the other side of said trip, and a spring e⁶ located between said collar e⁵ and the trip e^l, which operates to keep said trip in contact with the said wing a⁴ in the collar e⁴, substantially as described and for the purpose specified. 12th. In a cylinder pointing-press, the combination of the ordinary impression cylinder, a rotary numbering cylinder, a non-revoluble trip-cylinder mounted within said numbering cylinder on the same shaft, provided with trips adapted to engage with, and operate the numbering-heads of said numbering-cylinder, and said trip-cylinder being also adapted to slide endwise on the shaft, whereby said trips are thrown out of contact with the numbering-heads, and the numbers allowed to remain in the same position notwithstanding the continued motion of the press substantially as set forth. 13th. The combination, in a cylinder printing press, of the ordinary impression-cylinder, a rotary numbering cylinder mounted on a stationary shaft, a non-revoluble trip-cylinder mounted within said numbering cylinder on the same shaft, the heads of said trip cylinder being secured to said shaft by means of a spline e⁷, and a push-rod e⁸ attached to said spline e⁷ and extending out to the end of the shaft, through a hole formed to receive it in said shaft, where it is attached to means, substantially as described, for operating the same, substantially as set forth.

No. 22,718. Door Knob. (*Bouton de Porte.*)

John Jeffrey, Cobourg, Ont., 2nd November 1885; 5 years.

Claim.—1st. In a mortice or other door lock, a spindle having one end provided with a thread for part of its length, and a slot out longitudinally through or near its centre, substantially as shown and described for the purpose set forth. 2nd. In a mortice or other door lock, or knob, provided with a tubular shank having a thread cut on the inside of the outer end of the tube, and a hole for a pin through both its walls, substantially as shown and described for the purpose set forth. 3rd. In a mortice or other door lock, the combination of the knob A provided with threaded tube B, with the rose C and the washer O, substantially as shown and described for the purpose set forth. 4th. In a mortice or other door lock, the combination of the shank D, fitted at one end with a knob N, and its other end threaded for a part of its height, and having a longitudinal slot F out at, or near its centre, with the rose C provided with walls J, substantially as shown and described for the purpose set forth. 5th. The combination, in a mortice or other door lock, of a spindle D having the knob N at one end, and its other end threaded for part of its length, and a longitudinal slot F cut through it at, or near the centre of the threaded portion, a rose C having walls J, a washer O, the knob A having shank B, provided with the inside thread C and the holes J through both of its walls substantially as shown and described for the purpose set forth.

No. 22,719. Mop Wringer. (*Essoreuse à Torchon.*)

Azro D. Ellis, (Assignee of James F. Walter,) Waterloo, Iowa, U.S., 2nd November, 1885; 5 years.

Claim.—As a new article of manufacture, the herein described mop-wringer, which consists of the casting A perforated on its inner face, as shown, and provided with a projecting step a¹, and a short curved arm B, in combination with the movable casting C, constructed substantially as shown and for the purpose herein set forth.

No. 22,720. Folding Table. (*Table Brisée.*)

John W. Stowell, Putney, Vt., U.S., 2nd November, 1885; 5 years.

Claim.—1st. A folding table consisting of the top A transverse parallel cleats B extending across the under surface of the top notches H, I, in the ends of the said cleats, legs D, F, and round E connecting them at a point the same distance from the round C, as one of the recesses H, I, round C passing through the ends of the cleats opposite the notches into the ends of legs D, round G connecting the upper ends of legs F and a fastening, whereby, when the table is unfolded, the round G will enter the recesses and, when folded, the round E will enter the said recesses and be held by the fastening from swinging out therefrom, substantially as set forth. 2nd. The combination, with the table top A and the cross cleats B, attached thereto and having pairs of recesses H, I, near one end, the hinged legs D, F, and the hinging and connecting rounds C, E, G, of the button J, pivoted to the said table top between the axes of the said cleat recesses, substantially as herein shown and described, whereby the said button can engage with the rounds of the said legs and lock the parts of the table in place, when folded and when unfolded, as set forth.

No. 22,721. Injector. (*Injecteur.*)

James Gresham, Salford, Eng., 2nd November 1885; 5 years.

Claim.—The arrangement of one part of the combining cone c, so as to automatically more from the discharging cone d, towards and against the fixed part of the combining or lifting tube or cone c¹, when the jet is established, and the arrangement of the combining cone c, in a tubular extension d¹, from the port in which the discharging cone d is formed, substantially as hereinbefore described and shown by the drawings.

No. 22,722. Sound Amplifier for Pianos, etc. (*Appareil pour Augmenter le Son pour Pianos, etc.*)

François E. Viger and Julien Brosseau, Longueuil, Que., 2nd November, 1885; 5 years.

Claim.—A sound amplifier having the shape and form shown in the annexed drawing, cast in two pieces and provided with concave top A, bottom B, holes b, teeth C and projections a, as above described and for the purposes set forth.

No. 22,723. Piston Packing. (*Segment de Piston.*)

George Delagneau and John H. Graham, Hastings, Neb., U. S., 2nd November, 1885; 5 years.

Claim.—1st. The combination of the piston having the annular flange, and the hollow piston rod, the expansible packing ring, the rod passing through the hollow piston, the cam affixed thereto, the push pins bearing on the inclines of the cam and extending through the annular flange, the springs bearing between the inner side of the packing ring and the push-pins, the arm secured to the outer end of the cam-rods, and a screw bearing on the free end of said arm, substantially as described. 2nd. The combination of the piston having the annular flange and the hollow piston rod, the expansible packing-ring, the rod passing through the hollow piston rod, the cam affixed thereto, push-pins bearing on the inclines of the cam and extending through the annular flange, the springs bearing between the inner sides of the packing ring and the push-pins, the arm secured to the outer end of the cam-rod, the plate having the scale and the bearing screw, said plate being secured to the hollow piston rod and the indicator hand on the cam rod, for the purpose set forth, substantially as described. 3rd. The piston and the hollow piston rod, in combination with the expansible ring, the rod passing through the hollow piston rod and carrying the cam, the spring-actuated push-pins operated by the cam and arranged to expand the packing ring, and the screw bearing against the free end of the cam-rod, substantially as described.

No. 22,724. Apparatus for the Manufacture of Vaporous and Gazeous Fuel Illuminating Gas, etc. (*Appareil pour la Fabrication du Gaz d'Eclairage, etc., avec du Combustible Vaporeux et Gazeux.*)

The Avery Gas Company (Assignee of the Assignee of Richard B. Avery), New York, N. Y., U.S., 2nd November, 1885; 5 years.

Claim.—1st. In apparatus for the manufacture of gas, superheating steam and like purposes, the combination, with a retort, of a series of cones arranged each series with thin apices in the same direction, and interposed perforated diaphragms, substantially as and for the purposes specified. 2nd. In apparatus for the manufacture of gas, superheating steam and like purposes, the combination with a retort, of a series of hollow cones having perforated flanges and arranged so that the apex of each cone enters the base of the preceding cone, substantially as and for the purposes specified. 3rd. The combination of two or more retorts, each provided with a series of conical deflectors and interposed perforated diaphragms, said retorts reversely arranged and coupled by a connecting-pipe, substantially as and for the purposes specified. 4th. In apparatus for the manufacture of gas, the combination, with a retort of a carburetting chamber provided with perforated diaphragms, a pipe for delivering the body of gas from the retort directly into the carburetting chamber, and an oil-induction pipe having perforated diaphragms, which deliver the oil to the carburetting chamber in a finely-divided condition, substantially as and for the purpose specified. 5th. In apparatus for the manufacture of gas, the combination, with a retort, of a carburetting chamber having perforated diaphragms and connected with the retort, so as to receive the body of gas directly therefrom, and the oil-injecting nozzle also provided with perforated diaphragms and connected with the retort by a jet pipe, substantially as and for the purposes specified. 6th. The deflector for superheaters, retorts, etc., consisting of the hollow cone having a perforated base flange, substantially as and for the purposes specified. 7th. The deflector for gas retorts, superheaters, etc., consisting of the hollow cone having a perforated base flange and an internal spider or supporting lugs, substantially as and for the purposes specified. 8th. In apparatus for the manufacture of gas, the carburetting chamber having in its interior a series of perforated diaphragms, an oil-induction pipe having one or more perforated diaphragms, said oil-pipe extending longitudinally into the carburetting chamber, and a retort connected with the carburetting chamber at or near the point of insertion of the oil-pipe, substantially as and for the purposes specified.

No. 22,725. Railway Signal or Semaphore. (*Signal ou Sémaphore de Chemin de Fer.*)

Charles A. Pettet, Belleville, Ont., 2nd November, 1885; 5 years.

Claim.—1st. In a railway signal or semaphore, the quarter shive D connected by shaft v to signal board H, and both having the same motion, as heretofore described. 2nd. In combination, the quarter shive D, lever G, weight W and stop B, as set forth and described. 3rd. In combination, the quarter shive D, connecting rod I, lamp-arm F and lamp C, as set forth and described. 4th. In combination, the drum K, frame L, lever M and friction band R, as set forth and described. 5th. In combination, the drum K, frame L, lever M and dogs P and N. 6th. The lever M, having at its lower end an adjustable socket corrugated upon its face to correspond with lever, and which secures friction band to lever, for the purpose of adjusting any wear from friction.

No. 22,726. Composition of Matter for Sidewalks and Pavements. (*Composition pour Trottoirs et Pavage.*)

Alfred Frigon, Sorel, Que., 2nd November, 1885; 5 years.

Claim.—The herein-described composition of matter, to be used for roadway or footpath pavements, consisting of coal cinders, roofing gravel, or both, soaked in coal tar, sand, pulverized stone, stone cement, coal tar and hard tar, in the proportions specified.

No. 22,727. Balanced Slide Valve for Steam Engines. (*Tiroir Equilibré pour Machines à Vapeur.*)

David A. Woodbury, Rochester, N.Y., U. S., 2nd November, 1885; 5 years.

Claim.—1st. In combination with the cylinder of a steam engine, a slide valve F formed with auxiliary inlet openings r, r' for the steam, one being on either side of the usual exhaust cavity in said valve, there being longitudinal steam passages or side pipes p, within the substance of the valve, opening into, or communicating with said openings r, r', substantially as shown and described. 2nd. A cylinder of a steam engine and a non-sliding relief plate G for the valve, said relief plate being formed with transverse cavities d₁ in its face next the valve, in combination with the valve F held between said relief plate and cylinder, and formed with auxiliary inlet steam openings r, r' and side pipes p, connecting said openings r, r', substantially as and for the purpose set forth. 3rd. A cylinder of a steam engine and a non-sliding relief plate G, for the valve, said relief plate being formed with transverse cavities d₁ in its face next the valve, in combination with the valve F held between said relief plate and cylinder, and formed with auxiliary exhaust openings s, s', substantially as shown. 4th. In combination with the cylinder of a steam engine, the slide-valve F formed with auxiliary steam openings r, r' and s, s', and steam passages p joining said openings r, r', a relief plate G formed with transverse cavities d₁, d₂, in its face next said valve, and wedges b, b', having their bearings upon seats upon the cylinder at either side of the valve, said relief plate being mounted upon said wedges, by means of which, when the latter are moved longitudinally, the relief plate will be forced in a direction away from the valve, or allowed to move toward the latter, substantially as described. 5th. In combination with the cylinder of a steam engine, the slide-valve F formed with auxiliary steam openings r, r' and s, s', and steam passages p forming said openings r, r', a relief-plate G formed with transverse cavities d₁, d₂, in its face next said valve, and wedges b, b', having their bearings upon seats upon the cylinder at either side of the valve, said relief plate being mounted upon said wedges by means of which when the latter are moved longitudinally, the relief-plate will be forced in a direction away from the valve, or allowed to move toward the latter, suitable stops being provided to determine the extent of motion of said wedges, substantially as and for the purpose specified. 6th. In combination with the cylinder of a steam engine, a valve F formed with auxiliary openings o, o', and the usual exhaust steam cavity l, and with the openings s, s', through the roof of said cavity l, and a relief plate G for the valve formed with transverse steam cavities d₁, substantially as described. 7th. In combination with the cylinder of a steam engine, a relief-plate G within the steam chest, slide-valve F held between said relief-plate and cylinder, and wedges b, b', to support said relief plate, one wedge being on either side of the valve, and wedges being rigidly joined by a cross-bar l, so that both wedges shall move together and alike, substantially as shown and described. 8th. In combination with the cylinder of a steam engine, a valve F, relief-plate G and wedges b, b', for supporting said relief plate said wedges being fitted to seats or bearings upon the cylinder, so that one of the planes of their opposite bearing edges or surfaces shall coincide with the plane of the back of the valve or opposing face of the relief plate, substantially as described. 9th. In combination with the cylinder of a steam engine, valve and relief-plate therefor, wedges b, b', for supporting said relief plate, with mechanism outside the steam chest, substantially as shown, for moving said wedges longitudinally connected with the latter, so that a forward motion of said mechanism will force the relief plate away from the valve, and a backward motion of the same will allow the relief plate to press upon the valve, a stop being arranged for the backward motion of said mechanism, to hold the wedge at a point at which said relief plate shall press only moderately upon the valve, substantially as described. 10th. In combination with the cylinder of a steam engine, valve and relief plate therefor, wedges b, b', for supporting said relief plate, with mechanism outside the steam chest, substantially as shown, for moving said wedges longitudinally connected with the latter so that a forward motion of said mechanism will force the relief plate to press upon the valve, a stop being arranged for the backward motion of said mechanism to hold the wedges at a point at which said relief plate shall press only moderately upon the valve, said stop being made adjustable to new positions as the wear of the parts takes place, substantially as described. 11th. In combination with a slide valve of a steam engine, having the valve-rod rigidly attached thereto, an adjustable bracket or rest for said valve-rod, connected and operating substantially as shown and described.

No. 22,728. Railroad Switch.

(Aiguille de Chemin de Fer.)

Edwin Gordon Hyde Park, Mass., U. S., 2nd November, 1885; 5 years.

Claim.—1st. Two pairs of connected switch rails, each pair connected with blocks and a guard rail, so as to permit of a lateral motion of the ends, the other ends being finished to fixed rails, substantially for the purpose and by the means described. 2nd. A pair of joint rails in combination with two pairs of switch rails, said joint rails being connected together by a spring rod acting in a metal case fastened to the ground beneath, substantially for the purpose and by the means described. 3rd. A pair of joint rails connected together by a spring rod, the ends of which lie against the point rails holding them in the proper distance apart, said rod having a slot at each end, in which a bracket attached to the point rail rests, substantially as and for the purpose described. 4th. The point rails B, B', the switch rails A, A' and the guard rails r, r', in combination, substantially as and for the purpose above described. 5th. The guard rail r attached to movable blocks, so as to prevent the wheel flanges from coming into dangerous contact with the ends of the point rails. 6th. The shoe t for holding the rail ends A, A', the block a and the guard rails r, r', substantially as and for the purpose above described.

No. 22,729. Walking-Wheel Cultivator.

(Cultivateur-Piocheur a Roues.)

John Goodenough, Indianapolis, Ind., U. S., 2nd November, 1885, 5 years.

Claim.—1st. The frame-bars f, forked at each end and adapted to swing freely in jaws J, J', upon pivot-bolts, the jaws J formed in-

tegral with the coupling s, l, mounted on axle a, the lower-arm L also connected with such coupling, the curved spring e attached at its lower end to the head of lever L, and at its upper end to the side of the arch Y, all combined in the manner and for the purpose hereinbefore described. 2nd. The spring support s, bolted to the upright of the arch, substantially as and for the purpose specified. 3rd. The forked carrier r, c bolted to the upright of the arch, substantially as and for the purpose herein described. 4th. The frame rods f, forked at each end and adapted to enter the jaws J in front, formed on coupling s, l, and the jaws J, in the rear formed integral with the standards and cross-piece p, and to swing freely on pivot bolts b, b₂ in such jaws, all combined substantially as and for the purpose described. 5th. The axle a divided in two parts at the top of the crank, the sleeve e, l for uniting the parts, the cross bar c attached to the tongue in front of the arch formed by the parts of the axle, the parallel rods b₂, b₂, on each side the arch bolted to the opposite sides of the cross-bar c, at the upper end, and having eyes at their lower ends, which fit loosely over the axle, all combined substantially as and for the purpose described. 6th. The bars f, forked at each end, pivoted in front to the jaws J of coupling s, l, by bolts b₁, and at the rear to jaws j₁, of arms a₁, the ploughs P their connecting cross-piece p and handles h, all combined substantially as described. 7th. The adjustable arch formed of uprights v connected to axles a, the screw e, l, for uniting the parts of the arch and allowing their adjustment to different widths, the parallel rods b₂, b₂, on each side, such arch pivoted at the upper end to cross-bar c, in front of the arch, and mounted on axles on the outside of coupling s, l, a frame composed of parallel bars carrying plough-shovels, all combined substantially as and for the purpose described. 8th. The frame-bars f having forked ends adapted to fit on the inside of jaws J, J₁, at front and rear, substantially as and for the purpose described. 9th. The coupling s, l, having jaws J and lever L integral therewith, substantially as described. 10th. The parallel rods b₂, b₂, on each side, the arch v, their upper ends pivoted to the cross-bar c, as shown, their lower ends fitting loosely over the axle, in combination with the adjustable arch v, substantially as and for the purpose described.

No. 22,730. Car-Coupler. (Accouplage de Chars.)

James G. Gammon, Wayo City, Ill., U. S., 2nd November, 1885; 5 years.

Claim.—1st. The combination, in a car-coupling, of a drawhead, a spring-seated sliding latch B located therein, and having a lower recess d, and a link guide consisting of parallel vertical members, playing through said drawhead and connected together with a horizontal portion f₁, which rests transversely in the link recess, and devices connected to said vertical members to operate the same, substantially as set forth. 2nd. In combination with the drawhead A, a sliding latch B and coupling pin the link guide F attached to the pivot arms G, flexible connections K, K₁, secured to the coupling pin and to a draw I attached to a shaft, the parts being constructed and organized substantially as and for the purpose hereinbefore set forth.

No. 22,731. Mechanism for the Manufacture of Boots and Shoes. (Machine pour la fabrication des Chaussures.)

Guillaume Bresse, Quebec, Que., 3rd November, 1885; 5 years.

Claim.—1st. The combination of the adjustable spring E₂, plunger K₂ having resisting-arm M₂ hinged thereto, mould F₁ having surface L₁ and knife-edge C₂, plunger K₁ having holes S₁, and rods A₂ with operating mechanism, the whole substantially as described for the purposes set forth. 2nd. The combination of the rigidly retained cylinder D₂, screw G₂, followers F₂ and H₂, spring E₂, cylinder F₂, plunger K₂ having a screwed neck U₂ placed therein, hinge N₂, resisting arm M₂ and bar A₂, the whole constructed and arranged substantially as described for the purposes set forth.

No. 22,732. Pump. (Pompe.)

John J. Bircher, Philadelphia, Pa., U. S., 3rd November, 1885; 5 years.

Claim.—1st. The plate d provided with a boss having a socket h; in combination with the sucker-valves g, g cut away at their central portions to fit around said boss, and provided on opposite sides with eyes through which passes the hinge-pin f secured within the socket h, substantially as set forth. 2nd. The plate d provided with a boss having a socket h, in combination with the sucker-valves g, g cut away at their central portions to fit around said boss, and provided on opposite sides with eyes through which passes the pin f, said pin being secured within the sockets by the same nuts that secure the sucker-rods to said plate, substantially as set forth. 3rd. The combination, with the socket A and simultaneously reversely-operating sucker-rods C, C₁, of the guide plates m, m, the stays n, n and the pulley o, substantially as specified. 4th. The combination of the stock A, guide plates m, m, stays n, n, and pulley o, with the sucker-rods C, C₁ rod k, connected to the sucker-rods at their upper ends, and crank I formed with bends above and below the axle portion a to form wrists to which the lower ends of said rods k, k are connected simultaneously and in opposite directions, substantially as set forth.

No. 22,733. Means for Procuring Water from the Earth. (Moyens de tirer l'Eau du Sol.)

William D. Andrews, Brookhaven, N. Y., U. S., 3rd November, 1885; 5 years.

Claim.—1st. The combination, with an air-tight reservoir sunk in the earth of tube or drive-wells having an air-tight connection with the upper portion of said reservoir and delivering their water thereto, and a pump for delivering water from said reservoir, substantially as herein described. 2nd. The combination, with an air-tight reservoir sunk in the earth, of tube or drive-wells having an air-

tight connection with the upper portion of said reservoir, and a pump extending downward through the closed head of said reservoir and below the level of water therein, substantially as herein described. 3rd. The combination, with an air-tight reservoir sunk in the earth, of drive-wells connected with the upper part of said reservoir, a pump for delivery water from said reservoir and an air pump connected with the top of the reservoir for exhausting air from said reservoir and wells, substantially as herein described. 4th. The combination, with an air-tight reservoir A sunk in the earth, of a pump extending downward through the closed head of the reservoir and having a discharge pipe above said head, a number of drive-wells connected with the upper part of the reservoir, and a continuously operating air-pump or auxiliary pump having its suction and discharge openings communicating respectively with the upper part of the reservoir and the discharged of the main pump, substantially as herein described. 5th. The combination, with an air-tight reservoir sunk in the earth, of a pump for delivering water therefrom, a main pipe extending from the upper part of said reservoir and a number of drive-wells connected with said main pipe, substantially as herein described. 6th. The combination, with an air-tight reservoir sunk in the earth, of a pump for delivering water therefrom, a main pipe E and drive-wells E connected with the main pipe and severally provided with valves *g*, substantially as herein described. 7th. The combination, with an air-tight reservoir sunk in the earth, of a pump for delivering water therefrom, main pipes E; severally provided with valves *h* and drive-wells E connected with said main pipes, substantially as herein described. 8th. The combination of the air-tight reservoir A sunk in the earth, a pump for delivering water therefrom, and main pipes and drive-wells E; E provided with valves *h*, substantially as herein described.

No. 22,734. Means for Procuring Water from the Earth. (*Moyens de tirer l'Eau du Sol.*)

William D. Andrews, Brookhaven, N.Y., U.S., 3rd November, 1885; 5 years.

Claim.—1st. The combination, with a main well consisting of an air-tight cylinder or tube sunk below the level of water on the earth, and having water inlet openings, at the lower part of supplemental tube or drive wells having an air-tight connection with the upper part of said main well, and a pump for delivering water from said main well, substantially as herein described. 2nd. The combination, with the air-tight main well having the flaring perforated lower portion which is sunk below the level of water in the earth, of a pump extending downward through the closed head of the well and below the level of water therein, and a number of supplemental drive-wells connected with the upper of the main well, substantially as herein described. 3rd. The combination, with a main well consisting of an air-tight cylinder sunk below the level of water in the earth, and having water inlets openings at the lower part of a pump extending downward through the closed upper end of the well, supplemental drive-wells connected with the upper part of the main well, and an air pump connected with the upper part of the main well, substantially as herein described. 4th. The combination, with a main well A having water-inlet openings at the lower part, of a pump extending downward through the closed head of the well and having a discharge outlet above said head, a number of supplemental drive-wells connected with the upper part of the main well, and an auxiliary pump having its suction connected with upper part of said main well, and its outlet connected with the discharge from said pump, substantially as herein described. 5th. The combination, with the main well consisting of an air-tight cylinder A having water-inlets at the lower part, of a pump extending downward through the closed head of the well, and an auxiliary pump connected with the upper end of the well, substantially as herein described. 6th. The combination, with the well consisting of an air-tight cylinder A having the downwardly flaring perforated and strainer, protected lower portion A1, of a pump cylinder or casing extending downward through the closed upper end of the well to a point below the water level therein, substantially as herein described. 7th. The combination, with a main well consisting of an air-tight cylinder sunk below the level of water in the earth, and having water-inlet openings at its lower part, of a pump for delivering water from said main well, a main pipe extending from the upper part of said well and a number of supplemental drive-wells connected with said main pipe, substantially as herein described. 8th. The combination, with a main well consisting of an air-tight cylinder sunk below the level of water in the earth and having water-inlet openings at the lower part, of a pump for delivering water from said main well, a main pipe G1 extending from the upper part of said main well, and supplemental drive-wells G connected with said main pipe and each provided with a valve *g*, substantially as herein described. 9th. The combination, with a main well consisting of an air-tight cylinder sunk below the level of water in the earth, and having water-inlets at its lower part, of a pump for delivering water from said main well, a number of main pipes G1 extending from the upper part thereof, and each provided with a valve *h*, and supplemental drive-wells G connected with said main pipes, substantially as herein described. 10th. The combination, with a main well A consisting of an air-tight cylinder having openings in its lower part, of a pump for delivering water therefrom, a number of main pipes G1, each provided with a valve *h*, and supplemental drive-wells G connected with said main pipes G1 and severally provided with valves *g*, substantially as herein described.

No. 22,735. Apparatus for Sinking Wells.

(*Appareil pour Percer les Puits.*)

William D. Andrews, Brookhaven, N.Y., U.S., 3rd November, 1885; 5 years.

Claim.—1st. The combination, with a well consisting of a cylinder or tube having a downwardly-flaring lower portion and an upwardly contracted shoe or tip within said lower portion, of a guard or lining tube extending upward from said upwardly-contracted shoe or tip, substantially as and for the purpose herein described. 2nd. The combination, with a well consisting of a cylinder or tube having a

downwardly-flaring lower portion, and an upwardly-contracted shoe or tip within said lower portion, of an upwardly-flaring guard or lining-tube extending from said upwardly-contracted shoe or tip, and fitted to the said cylinder at the top of said flaring lower portion, substantially as and for the purpose herein described. 3rd. The combination, with a well consisting of a cylinder or tube composed of sections united by internal flange-joints and having at and within the lower end an upwardly contracted shoe or tip, the smaller diameter of which is less than the internal diameter of said flange-joints, of an upwardly-flaring guard or lining-tube fitting the exterior of said shoe or tip and the interior of one of said flange joints, substantially as and for the purpose herein described. 4th. The combination, with a well consisting of a cylinder or tube having openings in its lower portion covered by a strainer of a removable guard or lining-tube extending upward within said cylinder to a point above said openings and serving to prevent the entrance of water through said openings, substantially as and for the purpose herein described. 5th. The combination, with a well consisting of a cylinder or tube having a perforated downwardly-flaring lower portion, and an upwardly contracted shoe or tip within said lower portion, of an upwardly-flaring guard or lining-tube removably fitted to the exterior of said upwardly-contracted shoe or tip and also removably fitted to the interior of said cylinder or tube above its flaring portion, substantially as and for the purpose herein described. 6th. The combination, with a well consisting of the cylinder A composed of sections united by internal flange-joints and having the downwardly-flaring perforated and strainer-protected A1, of the upwardly-contracted shoe or tip B and the upwardly-flaring guard or lining-tube C removably fitted to the exterior of said shoe or tip and to the interior of one of said flange-joints above the flaring portion A1, substantially as and for the purpose herein described.

No. 22,736. Pump. (*Pompe.*)

William D. Andrews, Brookhaven, N.Y., U.S., 3rd November, 1885; 5 years.

Claim.—1st. The combination, with an upright cylinder or casing having at its lower part a working-barrel, of a piston consisting of an annular body provided with valves, and an upward tubular extension also provided with valves, substantially as herein described. 2nd. The combination, with an upright cylinder or casing having at its lower part a working-barrel, of a piston fitting said working-barrel and consisting of an annular body provided with valves and an upwardly-flaring tubular extension forming a valve-seat *d*, substantially as herein described. 3rd. The combination, with an upright cylinder or casing and a working-barrel fitted to the lower end thereof and capable of being introduced and removed through said cylinder or casing, of a piston consisting of an annular body provided with valves and an upward tubular extension also provided with valves, substantially as herein described. 4th. The combination, with the cylinder or casing A having at its lower part a working-barrel B, and having above said barrel an annular enlargement of the piston consisting of an annular body provided with valves and an upwardly-flaring tubular extension also provided with valves, substantially as herein described. 5th. The combination, with an upright cylinder or casing having at its lower part working-barrel, of two pistons consisting of annular bodies provided with valves and upward and downward tubular extensions also provided with valves, substantially as herein described. 6th. The combination, with the cylinder or casing A and the removable working-barrel B, the cylinder having an annular enlargement above said working-barrel, of the upper valvular piston C having an upwardly-flaring extension and valve-seat *d*, *d*1, the lower valvular piston D having a downwardly-flaring extension and valve-seat *d*, *d*1 and mechanism for moving said pistons simultaneously toward and from each other, substantially as herein described.

No. 22,737. Well and Reservoir for Procuring Water from the Earth.

(*Puits et Reservoir pour tirer l'Eau du Sol.*)

William D. Andrews, Brookhaven, N.Y., U.S., 3rd November, 1885; 5 years.

Claim.—1st. A well or reservoir to be sunk in the earth having a downwardly-flaring lower portion and inwardly-contracted tip-piece or shoe connected thereto, substantially as and for the purpose herein described. 2nd. A well or reservoir to be sunk in the earth consisting of a cylinder composed of internally-flanged sections, and having a downwardly-flaring lower portion, and a downwardly-flaring tip-piece or shoe within the lower portion, substantially as herein described. 3rd. A well or reservoir to be sunk in the earth consisting of the cylinder A composed of sections united by internal flange-joints *a*, and having a downwardly-flaring or upwardly-contracted shoe B adapted to receive the lining-guard E or perforated tube F, the upper end of which shoe B is smaller in diameter than the internal diameter of the flange-joints *a*, substantially as and for the purpose herein described. 4th. A well to be sunk in the earth consisting of a cylinder having a downwardly-flaring lower portion in which are inlet openings protected by a perforated or reticulated strainer, substantially as and for the purpose herein described. 5th. A well to be sunk in the earth consisting of a cylinder composed of internally-flanged sections having a downwardly-flaring and perforated lower portion protected by a strainer, and also having an upwardly-contracted shoe within the said lower portion, substantially as herein described. 6th. The combination, with a well consisting of a cylinder having a downwardly-flaring and perforated lower portion protected by a strainer, and having an upwardly-contracted shoe within said lower portion, of a supplemental strainer extending from said shoe to the interior of the cylinder at a point above the openings in said downwardly-flaring portion, substantially as and for the purpose herein described. 7th. The combination, with the cylinder A having a downwardly-flaring and perforated lower portion and the upwardly-contracted shoe B, of the removable tube G and its strainer fitting upon the exterior of said shoe and extending therefrom upward to a point above the perforated and flaring lower portion, substantially as herein described.

No. 22,738. Well and Pump for Procuring Water from the Earth. (*Puits et Pompe pour tirer l'Eau du Sol.*)

William D. Androws, Brookhaven, N. Y., U. S., 3rd November, 1835; 5 years.

Claim.—1st. The combination of a well consisting of a cylinder or tube sunk below the level of water in the earth, and having water-inlets at its lower part thereof, of a pump arranged with the well and serving to deliver water therefrom, substantially as herein described. 2nd. The combination, with a well consisting of a cylinder or tube sunk below the level of water in the earth, and having water-inlets at its lower part thereof, of a pump cylinder or casing arranged within the well with its lower portion below the water level and its upper portion and discharge above the top of the well, substantially as herein described. 3rd. The combination, with a well consisting of a cylinder or tube sunk below the level of water in the earth, and having water-inlets at its lower part, of a pump cylinder or casing arranged within the well with its lower portion below the water-level therein and its upper portion and discharge above the top of the well, the top of the well being closed air-tight around said pump-cylinder or casing, substantially as herein described. 4th. The combination, with a well consisting of a cylinder or tube sunk below the level of water in the earth, and having supplemental drive-wells extending downward through its bottom, of a pump arranged within the well for delivering water therefrom, substantially as herein described. 5th. The combination, with a well consisting of a cylinder or tube sunk below the level of water in the earth, and having inlet-openings for water in the lower portion of its sides, of supplemental drive-wells extending downward from the bottom of said cylinder and a pump arranged within the cylinder for delivering water therefrom, substantially as herein described. 6th. The combination, with a well consisting of a cylinder A sunk below the level of water in the earth, and having the perforated and strainer-protected lower portion A' and closed bottom of the supplemental drive-wells F extending downward from said bottom, and a pump arranged within the cylinder for delivering water therefrom, substantially as herein described. 7th. The combination, with a well consisting of a cylinder or tube sunk below the level of water in the earth, and having water-inlets at its lower part of the pump cylinder or casing G, having a working-barrel H extending downward within said well-cylinder or tube below the water-level therein, and a valvular piston or pistons working in said barrel, all substantially as herein described. 8th. The combination, with a well consisting of a cylinder or tube sunk below the level of water in the earth, and having supplemental drive-wells F extending downward from its bottom, of the pump cylinder G and working barrel H, arranged within said well-cylinder or tube and a piston or pistons working in said barrel, all substantially as herein described. 9th. The combination, with a well consisting of a cylinder or tube sunk below the level of water in the earth, and having strainer-protected openings in its lower portion, of supplemental drive-wells F extending downward from its bottom, the pump-cylinder G or casing and its working barrel H arranged within said well-cylinder or tube, and extending downward into the water therein, and a valvular piston or pistons working within said barrel, substantially as herein described.

No. 22,739. Manufacture of Chair Backs or Seats, &c. (*Fabrication des Dos ou des Sièges de Chaises, &c.*)

Herbert J. Harwood, Littleton, Mass., U. S., 3rd November, 1835; 5 years.

Claim.—1st. The new article of manufacture, substantially as described, consisting of two veneers of wood laid one upon the other and cemented together and having the grain of one crossing that of the other, and a covering embossed or pebbled and coloured or cemented upon the outer surface of one of such veneers, all being essentially as set forth. 2nd. A new article of manufacture, consisting of two veneers of wood, laid flat one upon the other, and fixed or cemented together with the grain of one crossing that of the other, a covering embossed or pebbled and glued or cemented on the outer surface of one of such veneers, and a water proof finishing covering applied to the pebbled surface, all being essentially as set forth.

No. 22,740. Machine for Making Stovepipe Elbows. (*Machine pour faire les Coudes des Tuyaux de Poêles.*)

Louis J. Hérad, Montreal, Que., 3rd November, 1835; 5 years.

Claim.—1st. The combination of the cylinder C, bearing plate E, bearing head N, connecting rod M, crank shaft I, having crank K and cams L, sleeve D and slide block F, with the creasing jaws R and jaws G, &c., substantially as described. 2nd. The combination of the gripping jaws R and G, creasing jaws R with the cylinder C, bearing plate E, bearing head N, with a mechanism, substantially as described, whereby the bearing head N and bearing plate E are bent backwards rectilinearly to form the crease into a pleat, the table, substantially as described.

No. 22,741. Centrifugal Governor for Automatic Car Brakes. (*Gouverneur Centrifuge pour Freins Automatiques de Chars*)

The American Brake Company, (assignee of George H. Poor,) St. Louis, Mo., U. S., 3rd November, 1835; 5 years.

Claim.—1st. In a centrifugal governor, the combination, with the centrifugal arm of an adjustable tension-spring, substantially as and for the purposes specified. 2nd. In a centrifugal governor, the combination, with the centrifugal arm, of a concentrically-coiled tension-spring and a rotatable bolt or shaft to which one end of the tension-spring is attached, substantially as and for the purposes

specified. 3rd. In a centrifugal governor, the combination of a centrifugal arm, a coiled tension-spring secured at one end to the centrifugal arm, a rotatable bolt or shaft to which the opposite end of the tension-spring is secured, and a pawl and ratchet mechanism for securing the rotatable bolt, substantially as and for the purposes specified. 4th. In a centrifugal governor, the combination of the bifurcated centrifugal arm, the centrifugally coiled tension spring arranged in the bifurcation of the centrifugal arm, the cross-pin for securing the spring to the arm, and the pivot bolt having a lug or projection for securing the opposite end of the tension-spring, substantially as and for the purposes specified. 5th. In a centrifugal governor, the combination, with a centrifugal arm, a coiled tension-spring and a pivot bolt to which the tension-spring is secured, of the shouldered pin for securing the pivot bolt, and the series of lugs arranged around the bearing of the pivot bolt, substantially as and for the purposes specified. 6th. The hollow cast malleable-iron pivot-bolt for the centrifugal arm, of the governor, substantially as and for the purposes specified.

No. 22,742. Centrifugal Governor for Automatic Brakes. (*Gouverneur Centrifuge pour Freins Automatiques.*)

George H. Poor, St. Louis, Mo., U. S., 3rd November, 1835; 5 years.

Claim.—1st. In a governor for an automatic brake, the combination of a collar fixed to the axle, a collar movable along the axle and having radial flanges and weighted arms pivoted at one end of the fixed collar, and to the movable collar by a pin or pins movable in guide ways in the radial flanges, substantially as and for the purposes specified. 2nd. In a governor, the combination, with a collar fixed to the axle and centrifugal arms pivoted on the fixed collar and provided at the opposite ends with projecting pins, of a sliding disk composed of two more sections each section having radial slotted flanges for the reception of the pins on the centrifugal arms, substantially as and for the purpose specified. 3rd. The combination, with the pivoted governor arms having the slots for the reception of the free ends of the springs, of the leaf or bow springs bearing upon such arms, substantially as described.

No. 22,743. Locomotive Brake. (*Frein de Locomotive.*)

The American Brake Company, (assignee of George H. Poor,) St. Louis, Mo., U. S., 3rd November, 1835; 5 years.

Claim.—1st. In a locomotive brake, the combination, with a horizontal cylinder direct-acting push bars and brake heads actuated thereby, all arranged between the drive wheels, of the independent channel plates or angle iron secured to the locomotive frame and the hangers for suspending the brake heads therefrom, substantially as and for the purposes specified. 2nd. In a locomotive brake, the combination with the piston rod which actuates the brake head, of a push-bar having a socket for the reception of the piston rod, substantially as and for the purposes specified. 3rd. In a locomotive brake, the combination, with the piston rod which actuates the brake-head, of a push-bar having a socket for the reception of the end of the push-rod, and a liner or liners interposed between the end of the piston rod and the bottom of the socket of the push-bar, substantially as and for the purposes specified. 4th. In a locomotive brake, the combination, with a suspended brake-head, of a horizontal cylinder having a piston with a cup or socket for the reception of the end of the piston rod, a piston rod having a round or ball end to form a ball-socket joint with the piston of the cylinder, and an adjustable push-bar, substantially as and for the purposes specified. 5th. In a locomotive brake, the combination, with a brake head and an horizontal cylinder for operating the same, of an interposed rod having a curve or bend to compensate for lack of alignment between the cylinder and brake head, substantially as and for the purposes specified. 6th. A push-bar for locomotive brakes having at one end a socket for the piston rod, and at the opposite end a toe or oblique projection for a brake-head adjusting screw, substantially as and for the purposes specified.

No. 22,744. Cylinder and Piston. (*Cylindre et Piston.*)

The American Brake Company (Assignee of George H. Poor), St. Louis, Mo., U. S., 3rd November, 1835; 5 years.

Claim.—1st. In combination, with its two opposite and equal pistons, a cylinder open at each end, having on its inner surface near the end thereof a channel or groove to collect and discharge the water of condensation, substantially as and for the purposes specified. 2nd. A cylinder open at each end, having on its inner surface at or near the end of the cylinder, a drip groove, or channel, and a discharge channel arranged to one side of the vertical median line of the cylinder, substantially as and for the purposes specified. 3rd. In combination with their cylinder open at each end, two equal and opposite pistons having each on its interior face a truncated projection adapted for impact, and on its opposite side a projection with a cupped recess to form a ball-and-socket connection with the piston rod, said projections, both interior and opposite, being integral with the piston, substantially as and for the purposes specified. 4th. In combination with their cylinder open at each end, two equal and opposite pistons, one of which has on its interior face a truncated projection adapted for impact, and both of which have on the opposite side a projection with a cupped recess to form a ball-and-socket connection with the piston-rod, said projections being integral with the piston, substantially as and for the purposes specified.

No. 22,745. Animal Trap. (*Piège.*)

Samuel Dennis, Hornellsville, N. Y., U. S., 3rd November, 1835; 5 years.

Claim.—In a trap of the class described, the jaws E, E'; lug E², trigger I having the setting shoulder I¹, hook portion I² and projection I³; and the bait pans F, its supporting arm F¹ having the notch

or shoulder *F* and spring *J*, in combination with the base *A* having the integrally cast arms *P*, *B*, *C*, *G*, the lugs *G* and *H* forming bearings for said trigger and butt pad support, the swivel *D* and upwardly projecting lug *B*, substantially as specified.

No. 22,746. Underground Conduit for Electric Wires. (*Conduit Souterrain pour Fils Electriques.*)

Joseph S. DuBois, Camden, N.Y., U.S., 3rd November, 1885, 5 years.

Claim.—1st. An underground conduit provided with cylindrical pockets or troughs for supporting the electric wires made of light sheet metal, cylindrical or polygonal in cross section, and having a narrow longitudinal slot in its upper part, the said pockets being arranged side by side in rows in the same horizontal plane, and the rows being arranged one above the other, as shown, substantially as and for the purpose specified. 2nd. Two or more pockets for underground conduits formed of sheet metal, cylindrical or polygonal in cross section, provided with outwardly flanged ends and having a longitudinal slot in their upper surface, in combination with clamping mechanism, substantially as set forth, to clamp said pockets end to end in a continuous line forming a long section made up of small parts and in position to be placed bodily into the conduit, substantially as and for the purpose specified. 3rd. A pocket for underground conduits, consisting of sheet metal tube *D*, having longitudinal slot *d* and flanges *D*, in combination with rings *E* and bolts or clamps to clamp said rings together, uniting the two sections of tube, substantially as and for the purpose specified. 4th. A pocket for underground conduits, consisting of sheet metal tube *D* having longitudinal slot *d* and flanges *D*, in combination with rings *E*, bolts or clamps to clamp said rings together, uniting the two sections of tube and brackets formed to receive said rings and tube sections, substantially as and for the purpose specified. 5th. The bracket *C* having side frames *C*, scalloped as at *c*, in combination with slotted troughs *D* having flanges and rings *E*, substantially as and for the purpose specified. 6th. The bracket *C*, having side frames *C*, scalloped as at *c* and cross bars *F*, in combination with slotted troughs *D* having flanges and rings *E* provided with lugs *E*, substantially as and for the purpose specified. 7th. The bracket *C* having side frames *C*, scalloped, as at *c* and cross bars *F*, in combination with slotted troughs *D* having flanges, rings *E* provided with lugs *E* and bolts *G*, substantially as and for the purpose specified. 8th. In a conduit for electric wires, a frame provided with supporting brackets, in combination with a series of pockets or troughs to carry the electric wires supported by said brackets close to each other, but insulated from both the brackets and the adjacent pockets or troughs, substantially as and for the purpose specified.

No. 22,747. Apparatus for the Manufacture of Illuminating Gas. (*Appareil de Fabrication du Gaz d'Eclairage.*)

Theodore Ayers (Assignee of Frederic Egnor), St. Louis, Mo., U.S., 3rd November, 1885, 5 years.

Claim.—The combination, substantially as before set forth, of the generator bench of retorts, hydraulic seals, valves, pipes and exhaustor, connected as herein described and operated as a whole together.

No. 22,748. Automatic Grain Scale and Register. (*Peseur Compteur à Grain Automatique.*)

Moris F. Koch, New York, N.Y., U.S., 3rd November, 1885, 5 years.

Claim.—1st. The combination, with the oscillating box and scale beam of an automatic weighing machine, of oppositely arranged adjustable detent levers *o* provided with ribs *o*, whereby the oscillating box is locked in one or the other of the positions in which it is filled, and released by the downward movement of the scale beam and oscillating box, as described. 2nd. The combination, with the oscillating box and scale beam of an automatic weighing machine, of oppositely arranged detent levers *o* provided with ribs *o* and adjusting screws or abutments *o*, whereby the oscillating box is locked in one or the other of the positions in which it is filled and released by the downward movement of the scale beam and oscillating box, as described. 3rd. The combination, with the oscillating box and scale beam of an automatic weighing machine, of oppositely arranged detent levers *o* provided with ribs *o*, hangers *o* and adjusting screws or abutments *o*, whereby the oscillating box is locked in one or the other of the positions in which it is filled and released by the downward movement of the scale beam, and oscillating box, as described. 4th. The combination, with the oscillating box and scale beam of an automatic weighing machine, of oppositely arranged adjustable detent levers *o* provided with ribs *o*, whereby the oscillating box is locked in one or the other of the positions in which it is filled and released by the downward movement of the scale beam and oscillating box and anti-friction rollers *q* acting against said levers *o*, as described. 5th. The combination of the oscillating and vertically movable box *L*, provided with the rigid central longitudinal bar *O* having bevelled edge on its upper surface, with the roller *r* hung in the stationary part of the weighing machine for preventing the said oscillating box from resting in a central position without at any time stopping its motion, as described. 6th. In an automatic scale, the pivoted and vertically movable weighing box *L*, having gates *r* in the bottom and central partition *P* combined with the spout *N* which dips into the chambers of the weighing box alternately, so as to prevent overflowing the partition passing beneath said spout when the box oscillates, as specified. 7th. In an automatic scale, the pivoted and vertically movable weighing box *L*, having gates *r* in the bottom and central partition *P*, combined with anti-friction rollers *q* bearing against said gates *r*, and with the spout *N*, which dips into the chambers of the weighing box alternately, so as to prevent overflowing the partition, passing beneath said spout when the box oscillates, as specified. 8th. The combination, with an oscillating weighing box, of the sustaining vertically movable uprights *n* with the de-

tent levers *o* and with pins *x* engaging said detent levers, substantially as shown and described. 9th. The combination, with an oscillating weighing box, of the sustaining vertically movable uprights *n* with the detent levers *o* and with pins *x*, provided with anti-friction rollers *q* engaging said detent levers, substantially as shown and described. 10th. The combination of the pivoted weighing box *L*, having partition *P* with the roller *r*, uprights *n*, detent levers *o*, and means for moving said detent levers, substantially as shown and described. 11th. The pivoted weighing box *L*, combined with the adjustable weight *S* at one end of the said boxes, as specified. 12th. The combination of the scale beam *H* and its slotted arm *I*, with the screw *J*, the nut having wedges or supports *s* and with the weight *K*, substantially as and for the purpose herein shown and described. 13th. The weighing box *L*, combined with the uprights *n*, frame *m*, scale beam *H* and with the steadying mechanism *X*, *Z* and frame *A*, substantially as described. 14th. The weighing box *L*, combined with the uprights *n*, frame *m*, scale beam *H* and with a steady support *X* and adjustable bracket or guide *Z*, substantially as described. 15th. The weighing box *L*, of the uprights *n*, frame *m* and scale beam *H*, provided with marks or characters for the proper adjustment of the weight *K*, substantially as described. 16th. The weighing box *L*, combined with the uprights *n*, frame *m*, scale beam *H*, provided with marks or characters for the proper adjustment of the weight *K*, and with the steadying mechanism *X*, *Z* and frame *A*, substantially as described. 17th. The combination, with the oscillating box and scale beam of an automatic weighing machine, of oppositely arranged and independent adjustable detent levers *o*, whereby the oscillating box is locked in one or the other of the positions in which it is filled and released by the downward movement of the box, as described. 18th. The combination of the lever *F*, ridge plate *E*, weight *G*, abutment or cushion *e* and valve *Q* operated by the lever *F*, substantially as herein shown and described. 19th. In a grain weighing machine, the oscillating box *L* made with a partition *P* and hinged bottom valves *r*, *r*, in combination with the rods *o* provided with anti-friction rollers *q*, substantially as herein shown and described, so that the machine may be adjusted to receive and discharge grain, or similar material, by the oscillation of said box *L*, as set forth.

No. 22,749. Roofing for Buildings. (*Couverture pour Bâtisses.*)

Lewis D. Cartwright, Hyde Park, Ill., U.S., 3rd November, 1885, 5 years.

Claim.—1st. A metallic roofing plate or shingle blank, having a pentagonal piece cut from one of its corners, and the side adjoining such corner thereby pointed, whereby the sides of the blank may be folded to each other in the completed shingle, substantially as described. 2nd. A metallic roofing plate or shingle, having two of its sides approaching one of its corners bent or folded inwardly and then outwardly to a point, and two of its sides approaching the diagonally opposite corner, straight or unfolded, whereby in laying the roof the straight or unfolded edges may be inserted in the bent or folded edges of its fellows, substantially as described. 3rd. A metallic roofing plate or shingle, having two of its contiguous sides or edges bent or folded inwardly and then outwardly to a point, both the folds being on the under side of the shingle, and two of its contiguous sides or edges straight or unfolded, whereby in laying the roof the bent or folded edges will overlap and cover the straight or unfolded edges of adjoining shingles, substantially as described. 4th. A roof for buildings, consisting of a series of metallic plates, each provided with laps or folds, as described, on its two sides or edges, extending from a point at the lowest corner and with straight or unfolded edges on its two sides extending from the highest corner, whereby the upper and unfolded edges are inserted into the bends or laps in the lower and folded edges of the plates forming the next upper series, substantially as described. 5th. A roof for buildings, consisting of a series of metallic plates, each provided with laps or folds, as described, on two of its sides or edges adjacent to each other and with straight or unfolded edges on two of its sides, also adjacent to each other, the corresponding folded edges of the several plates being lines parallel to each other, whereby the said unfolded edges are inserted into the bends or laps in the folded edges of its fellows, substantially as described. 6th. A roof for buildings, consisting of a series of interlocking or interlapping plates in which the first row of plates is laid at the comb or apex of the building, and each successive row farther down, substantially as described and for the purpose set forth.

No. 22,750. Method of Preventing Explosions in Oil Tanks. (*Mo' Prévenir les Explosions dans les Réservoirs d'Huile.*)

Russell Thayer, Philadelphia, Pa., U.S., 3rd November, 1885, 5 years.

Claim.—1st. The method of preventing explosions in oil tanks, which consists in forcing steam into the tank above the oil, whereby all of the accumulated explosive gases are saturated with moisture and rendered non-explosive. 2nd. The method of preventing explosions in oil tanks, which consists in forcing steam into the tank above the oil, whereby all of the accumulated explosive gases are saturated with moisture and rendered non-explosive and finally expelling said mixture of steam and gases from the tank, their place being supplied by steam alone.

No. 22,751. Mop Wringer. (*Essoreuse à Torchon.*)

Charles Clifford and John T. Richards, (assignees of Arthur M. Barnham), Gardiner, Me., U.S., 3rd November, 1885, 5 years.

Claim.—1st. A mop wringer constructed with a base frame, paired bell-crank levers fulcrumed thereto, wringer rolls carried by said levers and a foot lever on the bell crank levers to press the wringer rolls together, substantially as set forth. 2nd. The combination of the base-frame, bell crank levers fulcrumed thereon and carrying wringer rolls *a*, U-shaped foot lever bearing on the bell crank levers

and the retracting springs, substantially as and for the purposes set forth. 3rd. The combination of the base-frame, the lugs and clamp screw for holding a pall or tub, the bell-crank levers having wringer rolls journaled therein and the U-shaped foot lever, substantially as and for the purpose set forth. 4th. In a mop wringer, the combination, with a base-frame, of paired bell-crank levers having their upper extremities bent toward one common center, and carrying the wringing rolls and a treadle lever for operating said bell-crank levers, substantially as set forth. 5th. In a mop wringer, the combination, with a base-frame, of paired bell-crank levers carrying the wringing rollers and a treadle lever to which said bell-crank levers are connected so as to move in union therewith as set forth. 6th. In a mop wringer, the combination, with a base frame and a treadle lever projecting beyond said frame, of the arms 14, for the purpose explained. 7th. In a mop wringer, the combination of a base-frame, a pair of rock shafts journaled therein, a pair of bell-crank levers secured to each of said rock-shafts, a roller carried by each pair of bell-crank levers and a treadle lever for operating said bell-crank levers, as explained. 8th. In combination, the frame 1, the paired bell-crank levers 6 fulcrumed thereon and having the rollers 7, the treadle lever 10 having steps 9 and pins 12 and the springs 13, all constructed and arranged substantially as set forth.

No. 22,752. Still for Concentrating Sulphuric Acid. (*Atombic pour Concentrer l'Acide Sulphurique.*)

Charles A. Bartsch, Bridgeport, Ct., U.S., 3rd November, 1885; 5 years.

Claim.—1st. In an apparatus for concentrating sulphuric acid, the combination, with a furnace, of a still extending outside of the furnace, and having an outlet-pipe extending from the lowest part of the still and outside of the furnace, substantially as described. 2nd. In an apparatus for concentrating sulphuric acid, the combination, with a still having an outlet pipe at its lowest point, of an equalizing jar connected to the still by said outlet pipe, whereby the depth of the acid in the still is determined by the jar, as set forth. 3rd. In an apparatus for concentrating sulphuric acid, the combination of a still practically cylindrical in form, a separable cover having an opening connected with a condenser, an outlet pipe at the lowest point of the still and outside the fire-box, a jacketed equalizing jar connected to said pipe and an outlet for the said jar, substantially as described.

No. 22,753. Embroidery Attachment for Sewing Machines. (*Machine à Coudre faisant la Broderie.*)

Jane Halliwell, (assignee of Joseph P. Lavigne.) New Haven, Ct., U.S., 3rd November, 1885; 5 years.

Claim.—1st. In an embroidery attachment, the combination of the vibrating arm D hung to the base-plate and provided with the carrying eye at its free end and with a stud *d* upon one side of the arm and a stud *e* upon the opposite side of its pivot, the reciprocating slide F constructed with a hook *l* upon one side and a like hook *m* upon the opposite side, said hooks corresponding respectively to the studs *d, e*, the bottom of the recess in the edge of the plates by which the hook is formed inclined outward and the lever G hung to the base and constructed for engagement with the needle arm of the sewing machine, substantially as described, and whereby a longitudinal reciprocating movement is imparted to said slide F between said studs *d, e*, the inclined edge of the recesses in the slide operating upon the respective studs to impart vibratory movement to said slide in a horizontal plane between said studs.

No. 22,754. Machine for Producing Relief Surfaces for Letter Press Printing. (*Machine pour Produire des Surfaces en Relief pour Impression Typographique.*)

Ottmar Mergenthaler, Baltimore, Md., U.S., 3rd November, 1885; 5 years.

Claim.—1st. A continuous matrix-bar having a series of intaglio characters formed in its edge to be read transversely thereof, as contrasted with a series of matrices united by a flexible band or cord. 2nd. The improved matrix-bar for use in a stereotyping-machine consisting of a continuous bar having in its edge a series of transverse grooves or notches, each with an intaglio character therein, substantially as described and shown. 3rd. An improved matrix-bar for use in a stereotyping-machine consisting of a continuous bar tapered on its side faces, and provided in its edge with intaglio characters arranged in the order of their width and with intervening surfaces raised above the characters. 4th. The improved matrix-bar for use in stereotyping consisting of a tapered bar having at its edge intaglio characters arranged in the order of their widths, and blank spacing surfaces of different widths also arranged in the order of their width at suitable points between the characters. 5th. A matrix-bar or strip provided at its edge with a line or series of intaglio characters and with a series of spacing-surfaces of different widths distributed between the characters, substantially as described and shown, whereby all the bars may be moved in the same direction and each bar caused to present a character or a space at the aligning point as demanded. 6th. The matrix-bar containing the intaglio characters and the notches to receive an aligning device. 7th. The matrix-bar containing the intaglio characters and the transverse perforations, substantially as shown. 8th. The combination, substantially as described, and shown of a series of bars, each tapered endwise and in the opposite direction from the bar or bars next adjacent thereto, and each provided at the edge with a series of characters, whereby single characters in theseveral bars may be brought to a common line without being thrown from a vertical position. 9th. In a machine for producing type-bars and the like, the series of parallel bars or carriers, each provided with a line of intaglio characters and intervening spacing-surfaces arranged in the order of

their width, said bars being combined and adapted for independent motion in a longitudinal direction, substantially as described. 10th. In a machine for producing printing bars, the combination of a plurality of independently movable bars arranged side by side tapered alternately in opposite directions, and provided at one edge with intaglio characters and spacing surfaces, substantially as described. 11th. The series of longitudinally moving bars tapered alternately upward and downward and provided with intaglio characters and spacing surfaces, in combination with a series of finger keys to designate the characters devices, substantially as described, for arresting the individual bars at different points, and the connecting mechanism, substantially as described, between the keys and stop devices, whereby the designated characters and spaces may be assembled in a common line to form a matrix. 12th. A temporary or convertible matrix for type-bars or lines consisting of a series of parallel independently movable bars, provided at their edges with intaglio characters, and intervening blank surfaces rising above the characters. 13th. The matrix-bars B tapered in one direction and connected to heads D and the intermediate matrix bars tapered in the reverse direction and connected with slides E by intermediate devices, substantially as described, causing them to move in the opposite direction from said slides, in combination with stop pins engaging respectively the heads of the bars B and the slides of bars B. 14th. In combination with the series of matrix-bars alternately tapered upward and downward and each having characters arranged therein in the order of their width, the heads attached to all the bars, the reversely-moving slides connected to the alternate bars, the stop-pins arranged in rows extending at right angles to the length of the bars, and the latterly movable frame provided with adjusting pins each arranged to act upon the corresponding stop-pins of all the bars. 15th. The combination, substantially as described, of the sliding heads D having the tapered matrix bars attached, the grooved guide-plates for said heads, the slides F, the cords or chains E passing over pulleys from slides F to the alternate matrix bars, and the two series of stop-pins extending rearward different distances to engage the heads and slides, respectively as shown. 16th. In combination with the matrix-bars and stop-pins, the adjusting pins slotted at one end and the crank-shaft extending through said slots, as shown. 17th. The vertically grooved guide plate *i, i*, the latter provided with shoulders or notches, in combination with the sliding heads D having the matrix-bars attached, the dogs Q, pivoted to said heads and provided with the two shoulders at the lower end, the springs to actuate said dogs, the lifting-head P and the stop-pins. 18th. In combination with the stop-pins G, G₁, sustaining frame H, the retracting plate I, the supporting studs *n* on which said frame and plate move forward and backward and the vertically-movable frame *o* seated in grooves in the frame H, and provided with the sinuous slots connected with the retracting plate, and the studs *n*, as described and shown, whereby the longitudinal motion of the frame *o* is caused to effect the joint and independent motion of the pin frame and retracting plate and thereby the various adjustments of the stop-pins. 19th. In combination with the gravitating matrix-bars and their sustaining heads, the transverse sustaining bar, the stop pins, the laterally movable frame K, the adjusting pins therein and the connection, substantially as described, between said frame and the bar, whereby support is afforded for those bars not called into action. 20th. The combination, substantially as described and shown, of the matrix-bars, finger keys to designate the characters, the intermediate stop mechanism, substantially as described, whereby the keys are enabled to arrest the advance of the respective bars, and the bar or support to prevent the advance of those bars which are not called into action. 21st. The series of matrix-bars, combined substantially as described and shown, with the finger-keys, the laterally movable frame provided with adjusting pins, the stop-pins, the lifting head P, the dogs Q and the sliding bar, whereby designated characters of the respective bars may be brought to a common line and those bars not called into use retained in their normal position. 22nd. The tapered independently movable matrix-bars, each provided with intaglio characters and two or more spacing surfaces differing in width, in combination with finger keys designating the respective characters and spaces and intermediate stop devices, substantially as described and shown, acting directly to arrest the respective bars, with their predetermined characters and spaces in a common line. 23rd. The adjusting pins, slotted as shown, in combination with the crank shafts passing through the slots, the springs applied to rock said shafts, the finger keys and the rods extending from the keys to the shafts, whereby the springs are caused to retract the adjusting pins and lift the keys. 24th. The matrix-bars, the finger keys to designate the characters, mechanism, substantially as described, to arrest the advance of the individual bars, the rods O to actuate said mechanism, the cam slides *a²* attached to said rods, and the indicating mechanism, substantially as described, connected to and operated by said slides whereby the aggregate width of the designated characters is automatically shown. 25th. In combination with the slides *a²* and *d²*, the dogs *j²* and *j²*, the indicator rod and its returning spring provided with the projection *u²*, the detent *r²* and the spring actuated arm, whereby the indicator is automatically operated and restored to the starting point. 26th. The alarm bell and its spring actuated striker having the arms to release the dogs, in combination with the slide *d²*, dogs *j²* and *j²*, indicator rod *g²* with the stud *u²* and detent *r²*, whereby the alarm is operated to indicate the completion of the line and the indicator automatically restored to the starting point. 27th. The bell and its spring actuated striker bearing two trip arms, in combination with the indicator rod bearing studs *u²*, *j²*, its restoring spring, the detent *r²* bearing the shoulder *v²*, the dog *j²*, *j²*, plate *d²* and slides *a²* connected to the respective finger keys. 28th. In the combination with the bell and spring actuated striker, the detent having both the extremity and the shoulder to engage the striker, and the indicator rod provided with the two studs *v²* and *u²*, whereby the alarm is caused to sound twice, as and for the purpose described. 29th. In combination with the stop pins arranged in horizontal rows, as described and shown, the laterally movable frame K having adjusting pins J mounted therein, the two weights tending to move the frame K in opposite directions, and mechanism, substantially as described, for throwing said weights into action alternately at will, whereby the series of adjusting-pins may be carried backward past the successive stop pins to effect the justification or correction of the

spacing. 20th. The independent tapering matrix-bars, each provided with a plurality of spacing surfaces, the row of stop pins for each bar, the series of adjusting pins mounted in the laterally movable frame, the finger keys and connections, whereby they are enabled to project the adjusting pins, the bar V provided with the slides to arrest the backward movement of the adjusting pin frame, the space indicating bar and its connections to project the slides, and the device, substantially as described, to restore said slides connected with all the spacing keys, whereby the operator is enabled to first adjust the stop pins for all the characters in a line and subsequently adjust the intermediate stop pins for the spaces. 31st. In combination with the matrix-bars and stop pins, the laterally movable adjusting frame K, the rack bar V, the slides I therein, the shaft provided with the pinion and the two escape wheels ϵ_1 , ϵ_2 , the detent ϵ , the lever u to project the slides rearward, the arm h to restore the slides and engage the detent wheel ϵ , and devices, substantially as described, connecting the lever u with the spacing bar V and the arm h with the space keys, as described, whereby the operator is enabled at will to set the machine for the use of spaces of any desired width. 32nd. In combination with the matrix-bars provided with spacing surfaces, the finger keys and intermediate mechanism, whereby the keys are enabled to arrest the bars with the designated characters or spaces at the aligning point, the counting or indicating mechanism, substantially as described, to show the aggregate width of the selected characters and spaces, a connection between said mechanism, substantially as described, and those finger keys which represent characters, and a separate connection, substantially as described, between said indicating mechanism and the independent space bar U, as described, whereby the aggregate width of the selected characters and intermediate spaces of minimum width may be indicated, and the devices adjusted to bring the characters in position previous to adjusting the devices for bringing the spaces in position so that the operator may effect the spacing or justification of each line after the designation of the characters therein. 33rd. In combination with the perforated matrix bars, the aligning rod arranged to be projected through the series of bars. 34th. In combination with the series of perforated matrix-bars, the aligning rod and automatic mechanism, substantially as described and shown, for advancing and retracting the same. 35th. The perforated matrix-bars, in combination with the laterally acting clamp and the aligning rod attached to one of said clamps, as described. 36th. In combination with the perforated matrix-bars, the aligning rod and the clamps having the rod attached, the stripper-plate Y, as described and shown, to prevent the bars from moving laterally and biting upon the rod. 37th. In combination with the matrix-bars, the aligning-rod, the clamp and the stripper, the stripper retracting rod connected with the clamp and having a limited independent motion, as described. 38th. In combination with the notch matrix-bars, the aligning blade arranged to enter the notches, as described. 39th. In combination with the perforated and notched matrix-bars, the aligning rod, the aligning blade and automatic mechanism, substantially as described, for advancing the rod and the bar in the order named. 40th. In combination, with the matrix-bars and finger-keys and intermediate mechanism, substantially as described, for bringing into action a larger or smaller number of bars, the slide to sustain those bars which are not called into action, and lateral clamping devices acting only on those bars which are in action. 41st. The series of independent movable matrix bars, the head P to lift said bars to a common height and lower them in unison, the finger-keys to designate the characters, intermediate mechanism, substantially as described and shown, adjusted by the keys to arrest the descent of the individual bars, and a lateral clamp acting below the points to which the lower ends of the bars are raised by the lifting-head, whereby the clamp is enabled to act upon those bars which are called into action and permitted to pass beneath those bars, which are not called into action without acting thereon. 42nd. The laterally acting clamps, in combination with the independently movable matrix bars, and mechanism, substantially as described, for lifting the bars above the level of the clamps, whereby the clamps are permitted to pass beneath the bars which remain elevated to act upon those which have been called into use. 43rd. In a machine for producing printing bars, the combination, substantially as described and shown, of a changeable matrix composed of independent movable lines or series of intaglio characters, and a casting mechanism to co-operate with the selected and aligned characters, whereby the matrix may be caused to present any desired characters in a line and a cast be then taken of all the aligned characters at a single operation. 44th. In a machine for producing printing bars, the combination, substantially as hereinbefore described and shown, of the series of independently movable matrix bars, the series of finger-keys to designate the characters, the stop mechanism actuated by the keys to arrest the individual bars with their designated characters in a common line, the mould extending transversely across the series of bars, and the mechanism for supplying the mould with molten metal. 45th. The mould, in combination with the series of matrix-bars to close the same on one side, and the meltin... not having a delivery-mouth to close the same on the opposite side. 46th. In a machine for producing printing bars, the combination, substantially as hereinbefore described and shown, of the independently-movable matrix bars, the finger keys to designate the characters, the intermediate stop mechanism connected with the keys to arrest the motion of the individual bars, the clamps to hold the adjusted bars, the mould extending across the bars and the melting-pot and force-pump, said members organized for joint operation, as described. 47th. In a machine for producing stereotype bars, the combination, substantially as hereinbefore described, of the changeable or convertible matrix, the mould co-operating therewith and appliances for melting metal and forcing the same into the mould. 48th. The matrix-bars, in combination with the clamping bar across their rear edges, the sectional mould across their front edges, the lateral clamps and the melting-pot closing the mould on one side and arranged to deliver molten metal therein. 49th. In combination with the movable melting-pot and movable clamping-bar A₁, the intermediate matrix-bars and mechanism, substantially as shown, to close said members against the bars. 50th. The matrix-bars, the sliding clamping bar, the movable melting-pot combined with the levers and links connecting the clamp and pot, as shown. 51st. In combination with the

matrix-bars, the clamping-bar A₁, the aligning bar mounted therein and the actuating devices, substantially as described, whereby the aligning bar is advanced previous to the advance of the clamp. 52nd. The separable sliding mould, as described, having one of its parts provided with the longitudinal rib to prevent lateral displacement of the casting, and with the stud to carry the casting endwise as the mould is opened. 53rd. In combination with the mould having the sliding top, the ejector ϵ to detach the casting therefrom. 54th. In combination with the two-part separable mould, as described, the vibrating ejector ϵ to detach the cast from the open mould, and the reciprocating rod to deliver the detached cast in an endwise direction. 55th. In combination with the matrix-bars, the shouldered mould-sections and the clamp σ_1 , σ_2 , connected to said sections, whereby the width of the assembled matrix-bars is caused to determine the length of the mould. 56th. In a machine for the production of printing bars, the combination, with automatic mechanism, substantially as described, of the independently movable matrix-bars, the finger-keys to designate the characters, the stop pins to arrest the respective bars, devices connected with the keys to set the stop-pins, the mould, the melting-pot and force-pump and the movable frame, whereby the stop-pins previously adjusted by the connections are first moved into position to arrest the bars, and subsequently restored to their original positions, whereby the casting of one bar and the designation of the characters for another are permitted to take place at the same time. 57th. In combination with the matrix-bars and the clamping bar A₁, movable to and from the same, the lateral clamps mounted on slides on the bar A₁, as shown. 58th. In combination with the melting-pot, the movable mould section provided with a wiper to traverse the mouth or delivery orifice of the pot. 59th. In combination with the movable mould section adapted, as described, to carry the cast, the fixed knife to dress the edge of the cast, whereby the casts are rendered uniform in height and straight on the base. 60th. In combination with the matrix bars the pivoted melting-pot provided with the face to close the mould, and with the delivery orifice in said face and mechanism, substantially as described, to effect the rocking motion whereby it is caused to serve the additional purpose of a clamp to hold the bars in position. 61st. In combination with the laterally movable pin frame K, the indicating mechanism and the stop pin frame movable forward and backward, the hand-lever M connected therewith by means, substantially as described, whereby the various parts may be instantly restored to their initial positions to permit the commencement of a new line in the event of an error having been committed. 62nd. In combination with the indicator rod ρ_1 and dogs ρ_2 , ρ_3 , the striker provided with arms to trip the dogs, the detent τ and the slide g having inclined surfaces to trip the detent and striker and subsequently release the striker. 63rd. In combination with a mould open on two sides a series of movable matrices grouped in a line against one side of the mould, a pot or reservoir acting against the opposite side of the mould, and a pump to deliver the molten or plastic material into the mould, as described and shown. 64th. In combination with the matrix-bars, mould and melting-pot, the finger-keys to designate the characters, the stop mechanism, substantially as described, between the keys and bars to arrest the motion of the latter, the dogs to sustain the adjusted bars independently of the stop mechanism and the automatic mechanism, substantially as described, for moving the adjusted stops into the path of the bars, and subsequently restoring them to their normal position, whereby the two operations of forming one bar and designating the characters for another, may be carried on simultaneously. 65th. The matrix-bar having therein transverse grooves with the intaglio characters in the bottom, said grooves being of uniform width at the edge of the bar, but of different widths at the bottom, corresponding to the heights of the respective characters. 66th. In combination with the adjusting pins J terminating at different vertical planes, the crank-shaft L arranged in two vertical rows, as described. 67th. The series of bars provided with spacing surfaces of different widths, in combination with the stops, substantially as described, adapted to arrest the bars with any one of the spaces at the aligning point, whereby the particular space to appear in a line may be positively determined. 68th. A series of independently reciprocating bars, each provided with a series of characters and a series of spacing surfaces, in combination with a series of stop pins for each bar, one for each character and one for each space, substantially as described and shown, whereby each bar may be positively stopped to present a character or a space at a point of alignment to the series. 69th. The combination of the series of parallel matrix-bars and the mould having its parts mounted, substantially as described, to move transversely of the bars, whereby the removal of the casting is facilitated. 70th. In combination with the expandable mould, the series of independent matrix-bars lying transversely across the face of the mould, and a clamp or pressure device, substantially as described, to urge the bars edgewise toward the mould, whereby they may be released for adjustment and then clamped tightly to the mould. 71st. In combination with a mould a series of matrices adapted for arrangement in line, and a series of spacing devices adapted for insertion between the matrices, said matrices and spacing devices adapted to jointly close the face of the mould in order to secure the production of casts bearing relief characters and depressed spaces between them, as described. 72nd. The herein-described method of producing printing bars, consisting in applying a series of matrices, and intermediate spacing devices to close the face of a mould, and delivering into said mould molten or other plastic material.

No. 22,755. Machine for Heading Packing Cans. (*Machine à Fencer les Boîtes à Liquides*.)

David Hunter, Alberton, P.E.I., 4th November, 1885. 5 years.

Claim.—1st. The combination, with the piston D and lever F of the piston-head E, spring ring K and cam bracket J, as set forth for the purpose described. 2nd. The combination of the standard B, having ring 3, and piston D having head 2 and lever F, as set forth for the purpose described. 3rd. The combination, with the standard B, of the adjustable arms C, C', lever F, piston D, head E, cam bracket J and spring ring K, as set forth for the purpose described.

4th. The combination, with the standard B, of the adjustable arms C, Ci, lever F, piston D, head 2 and ring 4, as set forth for the purpose set forth.

No. 22,756. Wire Fence Stay.

(*Etai de Clôture Métallique*)

William J. Adam, Joliet, Ill., U.S., 4th November, 1885; 5 years.

Claim.—The say for wire fences described, consisting of a single wire bent centrally to form the two parts *a, a*, each having hooks formed therein at intervals along their lengths, the hooks on one part being reversed from those on the other part and opposite thereto and arranged to inclose and support the fence wires *w*, as and for the purpose set forth.

No. 22,757. Roofing Finishing.

(*Finissage de Toiture.*)

Lewis D. Cartwright, Hyde Park, Ill., U.S., 4th November, 1885; 5 years.

Claim.—1st. A ridge or valley constructed of metal bent longitudinally at A, B and C, substantially as described and for the purpose set forth. 2nd. A ridge or valley constructed of metal bent longitudinally at A, B and C and provided with strip D, substantially as described and for the purpose set forth. 3rd. A ridge or valley provided with longitudinal laps or bends for the reception of the roofing material, whereby it is adapted to be placed in position on the roof of the building before the roofing material is applied, substantially as described. 4th. A ridge or valley provided with longitudinal laps or bends for the reception of the roofing material, whereby such material will cover one portion of the ridge or valley, and in turn be covered by another portion of the ridge or valley, substantially as described. 5th. A ridge or valley provided with longitudinal laps or bends for the reception of the roofing material, constructed substantially as described, whereby it is made convertible from one into the other, substantially as described.

No. 22,758. Skate. (*Patin.*)

Charles G. Lamont, Astoria, Oregon, U.S., 4th November, 1885; 5 years.

Claim.—1st. In a skate, the combination, with the plates B, C having transverse grooves, of a runner held on the said plates, and provided with upwardly-projecting guide-lugs M, the clamping bars or plates E on the plates B, C, and the longitudinally sliding strip J for actuating the clamping plates, which strip J is provided on its under side with longitudinal grooves in which the guide-lugs M pass, substantially as herein shown and described. 2nd. In a skate, the combination, with the runner A and the plates B, C, of the clamping-plates E, the longitudinally-sliding strip J for actuating the clamping plates and provided on its under side with teeth P, and the upwardly projecting stud or pin O on the front part of the top of the runner, substantially as herein shown and described. 3rd. In a skate, the combination of the toe and heel plates having pendent screws, and the nuts fitted upon said screws, and securing the runner to said plates, substantially as and for the purpose set forth.

No. 22,759. Music Type-Writer.

(*Graphotype à Musique.*)

Charles Spro, New York, N.Y., U.S., 4th November, 1885; 5 years.

Claim.—1st. A type-writer, comprising a handle having a support and spindle, and a type-wheel mounted on the spindle and provided with a hub to be rotated by the thumb and fore-finger while the handle and its supports is in the hand of the operator, substantially as specified. 2nd. A type-writer, comprising a handle with a support arranged to rest upon and move upon the surface to be printed, a rotatable type-wheel mounted on said handle and inking mechanism substantially as specified. 3rd. A type-writer, comprising a handle with a support arranged to rest upon and move upon the surface to be printed, a rotatable type-wheel mounted thereon, inking mechanism, substantially as described, and a working wheel mounted at the extremity of the spindle, substantially as specified. 4th. A type-writer, comprising a handle, a type-wheel rotatably mounted thereon, an inker arm loosely mounted thereon, an impression rod spring seated therein and having the inker arm operating lug, substantially as specified. 5th. The combination of a handle free to move in all directions, a type-wheel having musical characters at its periphery and provided with a hub for its rotation inking mechanism, substantially as specified. 6th. The combination, with a handle free to move in all directions, a type-wheel rotatably mounted thereon, an inker arm and an ink roll adjustably mounted thereon, and an impression rod for operating the inker arm, substantially as specified. 7th. The combination, with a base having a guide and ratchet, of a handle having a support removably arranged within the guide, a pawl, an angular spindle, a type wheel rotatably mounted thereon, and intermediate gearing for rotating the type wheel, substantially as specified. 8th. The combination, with the handle A, of the type wheel B having the hub Bt, the inker D, inker arm C having the slotted arm Ci, the impression rod E, the lug G and the spring Ez, substantially as shown and described. 9th. The combination, of the handle A, type-wheel B, having hub Bt, inking mechanism, substantially as described, working wheel H and inker Hi, substantially as specified.

No. 22,760. Check, Draft and other Money Orders. (*Cheque, Traite et autres Mandats d'Argent.*)

William T. Doremus, Flatbush, N. Y., U.S., 4th November, 1885; 5 years.

Claim.—A check draft, or other money order, made substantially as herein shown and described, with spaces A, B, C to receive the name of the place, and the date, the name of the drawer and the

order and the name of the payee, with a space D containing the digits in their natural order, with two or more spaces E to receive a statement of the sum in words, with spaces F to receive the signature of the drawer, and with spaces G, H, corresponding with the spaces P, the spaces I containing the names of the various denominations, and the spaces G to receive numerals representing the amounts of the various denominations, or ciphers, as set forth.

No. 22,761. Lubricator. (*Graisneur.*)

Fortunatus G. Kellogg, Winnipeg, Man., 4th November, 1885; 5 years.

Claim.—1st. The lubricator consisting of tube A, cup *b*, cylinders *d* attached to the tube ends, valves *f*, stems *h* and springs *g*, combined for operation, as described. 2nd. The combination, in a lubricator, of cup *b*, tube A, cylinder *d*, valve *f*, stem *h* and spring *g*, substantially as described. 3rd. An oil cup formed with ways *i, i* and provided with a cover formed with a stem *k*, substantially as described. 4th. In a lubricator, the combination, with the lubricant feeding valves and the stems *h* of the steam actuated mechanism acting upon said stems *h* to open the valves, substantially as and for the purpose set forth.

No. 22,762. Desk or Table.

(*Pupitre ou Table.*)

Thomas, Little, Galt, Ont., 4th November, 1885; 5 years.

Claim.—1st. A desk or table, provided with a rotary cylinder shelf case having openings on its opposite sides, substantially as described. 2nd. A desk or table, provided with a rotary shelf case having openings on its opposite sides, and a door between said openings, substantially as described. 3rd. A desk or table, provided with a rotary shelf case having a curved door partly encircling such case and closing the opening in the desk or table in which such case revolves, substantially as described. 4th. A desk or table, provided with a rotary shelf case having a curved door and compartments between said door, and the sides of the main divisions of the case, substantially as described. 5th. A desk or table, provided with a rotary shelf case having openings on opposite sides, and two curved doors either of which will close the openings in the desk or table in which such case revolves, substantially as described. 6th. A desk or table having openings on opposite sides and provided with a revolving shelf case having door to close the openings in the desk or table in which such case revolves, substantially as described.

No. 22,763. Trap for Throwing Targets.

(*Trebuchet pour Lancer les Cibles.*)

Joseph L. Raub, New London, Ct., U.S., 4th November, 1885; 5 years.

Claim.—1st. In a target trap, the combination of the base A provided with a pocket *a* adapted to receive the disk target, and the spring arm C hung below and so as to work in the plane of the pocket, the upper end of the arm curved backward and downward, substantially as described. 2nd. In a target trap, the combination of the base A provided with the pocket *a* adapted to receive a disk target, and the spring arm C adapted to work in the plane of the pocket, substantially as described. 3rd. The combination of the base A, constructed with the pocket *a* adapted to receive a disk target, the spring arm C adapted to work through said pocket and in the plane of the pocket, the lever L arranged to swing in a plane parallel with the said spring arm C, the spring arm constructed with a projection *l* in the path of movement of said arm and a trip on the face of the trap adapted to throw the said lever out of engagement with the said arm as the arm approaches its extreme rear movement substantially as described. 4th. The combination of the base A constructed with the pocket *a*, a cylinder E opening into said pocket at right angles to the plane of the pocket, the said cylinder adapted to receive a succession of flat disks, a spring follower F arranged in said cylinder to bear against said column of disks, a spring arm C arranged to work in a plane through and parallel with said pocket and across the mouth of the disk substantially as described. 5th. The combination of the base A, constructed with the pocket *a*, the cylinder E opening into said pocket at right angles to its plane, the said cylinder adapted to receive a succession of flat disks, a spring follower F in said cylinder adapted to bear against said disks, the said cylinder constructed with a removable head *l* and the longitudinal slot S with a spring arm C arranged to work in a plane through and parallel with said pocket across the mouth of the said cylinder, substantially as described. 6th. The combination of the base A constructed with the pocket *a*, the cylinder E opening into said pocket at right angles to its plane, a spring follower in said cylinder, a spring arm C and the lever L, the said arm constructed with a projection *l* in the path of and back of the said lever with a trip adapted to disengage said lever from said projection, substantially as described. 7th. In a target trap in which the target is thrown by an arm arranged to work in the plane of the direction in which the target is to be thrown, a coiled spring arranged upon a stud at right angles to the plane in which the arm moves, one end of the spring arranged to resist the opening movement of the arm and thereby apply the force of the spring to throw the arm forward, the other end of the coil of the spring turned inward, the end of the stud constructed with two or more radial grooves adapted to receive the turned in end of the spring and a holder adapted to hold the said turned in end in either of said radial grooves, substantially as and for the purpose described. 8th. The herein described target for trap shooting consisting of a thin disk of non-metallic material having its edge coated with varnish, substantially as described. 9th. A target for trap shooting consisting of a disk one side presenting a light surface, and the other a dark surface, substantially as described. 10th. A series of target for trap shooting consisting of several disks numbered consecutively, substantially as described. 11th. A package of targets for trap shooting consisting of a series of disks secured together by a band, the said band adapted to be readily broken, substantially as described.

No. 22,764. Top Spinning Roll.*(Cylindre Supérieur de Machine à Filer.)*

Jeremiah O'Neill, Cornwall, Ont., 4th November, 1885; 5 years.

Claim.—1st. In a speeder spinning frame or railway head, spinning rolls B of solid leather, rings D compressed together on the roll shaft A, as described and shown substantially as and for the purpose hereinbefore set forth. 2nd. In spinning rolls B, the combination of solid leather rings D compressed together on the roll shaft A, as shown and described and for the purpose hereinbefore set forth. 3rd. The combination of the roll shaft A and the leather rings D, as shown and described for the purpose hereinbefore set forth.

No. 22,765. Liquid Measure. (Mesure Liquide.)

Louis Bredannez, Toronto, Ont., 4th November, 1885; 5 years.

Claim.—1st. A liquid measurer, constructed as described, having four arm-lets or more-projecting from the outer shell of a tap, each arm provided with a measure and when one of the measures is brought round to given point shown in the upper part of the middle shell, it will be filled with liquid and indicated to be full by the projecting stem of an air valve which is pressed upwardly from the valve chamber of the liquid therein, as set forth. 2nd. A liquid measurer composed of a tap B having outer shell *b*₁ and four arm-lets or more *b*₂, *b*₃, *b*₄, *b*₅ attached thereto, also an inner shell *b*₆ and centre piece *b*₇, nuts *b*₈, *b*₉, *b*₁₀, *b*₁₁ and a nut *b*₁₂ on the bottom of the centre piece for securing the handle *b*₁₃, the combination of the measures *c*, *c*₁, *c*₂, *c*₃, each provided with a delivery tap *c*₄ and having a projecting stem *c*₅, of an air chamber *c*₆ to indicate when the measure is full, as specified and described and for the purposes set forth.

No. 22,766. Machine for Pointing Wire Nails, etc. (Machine à Faire les Pointes des Clous en Fil de Fer.)

Samuel Loring, Danburg, and Ephraim S. Morton, Plymouth, Mass., U.S., 4th November, 1885; 5 years.

Claim.—1st. In an organized machine for pointing headed wire nails and other articles, the combination of a chute or raceway, a grinding wheel, a fixed plate having a continuous surface or support for the shanks of the nails, and a shoulder to support the heads of the nails, a belt running substantially parallel with said fixed plate and causing the nails to roll along the latter devices, substantially as described, for pressing the belt against nails interposed between said surface and belt, the belt and cooperating fixed plate being arranged to receive the nails from the raceway and to present their ends to the wheel, as set forth. 2nd. The combination of the grinding wheel, the chute, the fixed shouldered plate forming a bearing for the nails, the belt and its pressure devices, the separator and means substantially as described, for operating the separator, whereby the nails are kept separate while being presented to the grinding wheel, as set forth. 3rd. The combination of the grinding wheel, the frame *f*, the fixed shouldered plate *g* having a substantially vertical surface, the belt *r* and pulleys *q*, *q*₁ supported by said frame, and means, substantially as described, whereby the frame may be adjusted vertically and horizontally to modify the form of the points made by the grinding wheel and positively held at any position to which it may be adjusted, as set forth. 4th. The combination of the grinding wheel, the shouldered plate *g* having a corrugated surface below its shoulder, the belt *r* and its supporting pulleys and the pressure blocks *t*, *t*₁, as set forth.

No. 22,767. Water Wheel. (Roue Hydraulique.)

John W. Wesson, Attala, Ala., U.S., 4th November, 1885; 5 years.

Claim.—A water wheel having buckets provided with inclined straight faces *a*, said buckets or blades being thickened near their lower ends at the points *b* and narrowed or reduced to their lower ends at the point *c*, whereby the water ways of passages between the buckets or blades are widened at the upper side of the wheel and narrowed near the lower side thereof, the blades presenting flared opening below the point *b*, substantially as described.

No. 22,768. Method and Apparatus for Treating Wood for Paper Pulp.*(Méthode et Appareil de Traitement du Bois pour la Pâte à Papier.)*

Charles S. Wheelwright, Providence, R. I., and George E. Marshall, Turner Falls, Mass., U.S., 4th November, 1885; 5 years.

Claim.—1st. The improved process for treating wood and similar fibre for paper making, the same consisting in boiling the material under pressure in a solution containing sulphuric acid in a digester, the upper portion of which is connected with a condenser by which the gases expelled are condensed so as to prevent accumulation or change, as described. 2nd. The process herein described for regaining the chemicals used in the boiling of wood and their fibres, the same consisting in passing the gases through a condenser or condensers connected with the digester, as described. 3rd. The combination, with the digester A, of the condenser H constructed to condense the gases during the process of boiling, as described. 4th. The combination, with a digester of a condenser connected with the steam space of the digester and constructed to condense the gases during the process of boiling, as described. 5th. The combination, with the digester and the blow-off pipe I, of the tank L and condenser K constructed to condense the gases and heat the water, as and for the purposes described. 6th. The combination, with the digester A, of the blow-off pipe I, the valve *v*, the coil K and tank L connected with the digester by the pipe *o*, as described. 7th. The combination, with the digester, constructed and arranged, substantially as set forth, of the pipe N having the branch *u*, the chamber *w* having the T-headed, branch *w* and the valved steam pipe *o*, substantially as described. 8th. An improved digester having double walls made in

sections and united section to section and wall to wall by rings, substantially as described. 9th. The combination, with the shell sections O, P, of the rings Q to which the said sections are bolted, substantially as described. 10th. The combination, with the sections *p*₁, *p*₂, *q*, the hood and the cap of the rings Q₂ and the bolts *r*₅, substantially as described. 11th. The combination, with the digester constructed as described, and provided with the cap and hood, of the rings Q₂, *r*₆ and the bolts hanged to said ring *r*₆ and arranged to enter recesses in the ring Q₂, substantially as described. 12th. The combination, with the shells O, P composed of the sections *p*₁, *p*₂, *q*, the hood and cap, of the rings Q, Q₂, the belts *r*, *r*₁ and the rivets *r*₂ with the sleeve *r*₃, constructed and arranged substantially as described. 13th. The combination, with a digester composed of separate sections, of a lining formed also in separate sections, each of which overlaps the edges of the shell sections, the said surplus portions being united so as to form tight joints and constitute a continuous lining, as set forth.

No. 22,769. Electric Belt. (Ceinture Electrique.)

Leo Hughes, Marshall, Mo., U.S., 4th November, 1885; 5 years.

Claim.—1st. The combination, in a battery, for electric belts and other like purposes, of the position and negative plates or elements and the connecting conductors having brushes at their extremities bearing upon the connected plates, substantially as and for the purposes specified. 2nd. The combination, with the belt, of the battery connected in sections by the connecting conductors having brushes at their extremities, and the metallic disks or pads connected to the terminal conductors, substantially as and for the purposes specified. 3rd. The combination, with the belt proper, the battery and the metallic disks or pads of the flaps adapted to cover said disks or pads, substantially as specified. 4th. A conductor for connecting the zinc and copper plates, of a battery for electric belts consisting of strands of wire twisted together between their ends and having said ends spread apart in the form of brushes, substantially as and for the purpose set forth.

No. 22,770. Pencil Sharpener. (Taille-Crayon.)

John Williamson, Camden, N.J., U.S., 4th November, 1885; 5 years.

Claim.—1st. A pencil sharpener, consisting of a holder B provided with a U-shaped blade depression or channel, a longitudinal slot in the holder, a V-shaped blade to fit in the said depression, and a thumb nut and screw for holding the blade at any point of the length of the slot, as set forth. 2nd. A pencil sharpener, consisting of a holder having a coating of gritty substance, and a U-shaped depression to receive the V-shaped adjustable blade sharpened at both ends, and openings *d* in the holder, as set forth.

No. 22,771. Harrow. (Herse.)

Manly D. Bronner, Hion, N.Y., U.S., 4th November, 1885; 5 years.

Claim.—The combination of the circular harrow, having the circular plate or ring E and the pivotal bolt at the centre of the harrow, the draft-beam G and the guide-beam H having handles *h* and beams being pivoted independently of each other on the bolt F and the straps *k* secured to the guide and draft beams, and bearing over and under the projecting outer flange or edge of the ring E, substantially as described.

No. 22,772. Preparation of an Agent for Use in the Treatment of Sewage and other Liquid, or semi-Liquid Putrescent or Putrescible Matters, and Treatment of such Matters. (Préparation d'un Agent pour le Traitement des Matières d'Egouts et autres Matières Liquides ou semi-Liquides en État de Putréfaction ou Sujettes à se Putréfier, et Traitement de telles Matières.)

John W. Slater, Holloway, and William Stevens, London, Eng., 4th November, 1885; 5 years.

Claim.—1st. The preparation of muriate of alumina for use in the purification of sewage and other like matters, by treating minerals containing terhydrate of alumina with muriatic acid, substantially as hereinbefore described. 2nd. The use in the treatment of sewage and other like matters, of muriate of alumina prepared by treating minerals containing terhydrate of alumina with muriatic acid. 3rd. The use in the treatment of sewage and other like matters, of muriate of alumina, prepared as hereinbefore described, in conjunction with clay and charcoal, or carbon, or liquid, substantially as hereinbefore described. 4th. The use in the treatment of sewage, of blood, in conjunction or admixture, with muriate of alumina, prepared as hereinbefore described, or in conjunction or admixture with such muriate of alumina and clay, or carbon, or liguite, substantially as hereinbefore described.

No. 22,773. Horse Shoe. (Fer à Cheval.)

Luther H. Bellamy, Brockville, Ont., 5th November, 1885; 5 years.

Claim.—1st. Horse shoes, having the metal *b* projected in front of the toe-calk and containing a nail hole, as shown and described. 2nd. A horse-shoe toe-calk having the ends considerably thicker than the intermediate part, and on a distinct horizontal plane to form a clearance at the toe to lessen the chance of stumbling and to promote evenness of wear, as described. 3rd. The web of a horse shoe provided with ends curved inwardly to form spring bearings for frog, lessen the shock of concussion, produce an improvement in knee action and provide for the natural expansion of the foot and hump on its lower side seven bearings, arranged substantially as shown and described. 4th. In a horse shoe, the toe-calk made slightly shallower than the side and heel calks, as and for the purpose set forth. 5th.

A calked horse shoe provided with heel-calks D, D, and frog-calks E, E, the latter on a rearward curve of web and behind the heel-calks, substantially as shown and described.

No. 22,774 Telephone Instrument.

(Appareil de Téléphone)

Fredero N. Gisborne and David H. Keeley, Ottawa, Ont., 5th November, 1885, 5 years.

Claim.—The arrangement of the magnet *m, m*, and the tubular or solid pole pieces *e, e*, upon both sides of the vibratory diaphragm *d*, with the coils *b* so connected in circuit that currents of electricity will traverse their respective cores in opposite directions, and increase and decrease the magnetic attraction exerted by the magnets *m, m*, upon the respective sides of the diaphragm.

No. 22,775. Railroad Track Clearer and Flanger. (Nettoyeur des Voies le Chemins de Fer.)

Matthew Ellis, St. Paul, Minn., U.S., 5th November, 1885, 5 years.

Claim.—1st. A railroad track clearer and flanger consisting of a plough D, suspended by its forward end from a car in the rear of the locomotive, and means whereby said plough may be raised at its rear end by the action of a current of compressed air, or steam, under the control of the engineer of said locomotive. 2nd. The combination, with the car A, of the plough D suspended beneath it by its forward end and provided with shoes H, H, cylinder of ploughs G, G, provided with plungers and connected to said ploughs by chains C, C, and means whereby compressed air or steam may be introduced into said cylinders, substantially as described and for the purpose set forth. 3rd. The combination of a track clearer and pneumatic appliances for operating the same, substantially as described.

No. 22,776. Automatic Cut-Off for Gas Burners. (Coupe Gaz Automatique.)

John E. Bush and Donald Henderson, Winnipeg, Man., 5th November, 1885, 5 years.

Claim.—1st. An automatic cut-off burner, consisting of an outer gas chamber provided with a tip, an expansible air chamber located therein and formed of two parts sealed with mercury, one of said parts being provided with a flange and the other with a set of holes to constitute, with said flange, a valve which is opened and closed by the expansion and contraction of the air within the air chamber, substantially as described. 2nd. In an automatic cut-off burner, the combination with a gas burner, of a valve provided with an expansible air chamber and a supplemental jet in close proximity to the burner and air chamber, whereby the lighting of said supplemental jet will produce the initial expansion of air and start a flow of gas through the burner, substantially as described. 3rd. In an automatic cut-off burner, the combination, with a gas burner of a gas valve connected to the movable part of an expansible air chamber, an escape valve located in the movable part of an expansible air chamber and having an operating arm extending to a point near the gas burner, whereby it will be operated by an undue expansion of the air in said chamber by contact with the burner as set forth. 4th. The combination, with the outer case *c*, the flanged and suspended air cell / containing mercury in its bottom and having gas holes *v* in its flange, and the rising and falling cylinder *d* having a close top and flange valve overhanging the gas holes *v* and having its lower end seated in the mercury, as shown and described. 5th. The combination of a case *a* having an enlarged screw-threaded upper section *e*, the screw-threaded cap *e* with the socket tip *d* of the flanged air cell / having perforated sustaining flange *s*, the rising and falling air cylinder *d* having flange valve at the top and the mercury seal at the bottom, substantially as shown and described. 6th. The combination, with the enclosing shell *a, c*, and the air cell / of the rising and falling air cylinder *d* having a gas valve attached thereto, and the valve *k* and valve stem provided with spring *f* and nut or holding bar *g*, as and for the purpose described. 7th. The combination, with case *a*, having an enlarged shoulder section *e*, of the air cell / having flange *s*, with gas holes *v* and the regulator or adjusting ring *j* having similar holes laid between the flange of the air cell and the shoulder of the case, and made axially adjustable to increase or diminish the flow of gas at will, substantially as described. 8th. The combination, with the gas burner having a pneumatic cut-off of the tube *a*, and conduit or gas pipe, the stem having valve *e* at one end and push button *s* at the other, and the coil spring surrounding said stem, substantially as and for the purpose described.

No. 22,777. Brake for Railroad Rolling Stock. (Frein de Chemin de Fer.)

Watson P. Widdifield, Uxbridge, Ont., 5th November, 1885, 5 years.

Claim.—1st. In an apparatus for operating the brakes of a tender attached to the locomotive by friction mechanism, put in motion by the application of a friction pulley to a revolving axle of a truck distinct from the locomotive, a chain or rod suitably connected at one end to the friction pulley and at the other end to an appliance on the locomotive, and convenient to and by which the driver of the locomotive may draw upon the rod or chain for throwing the friction pulley against the revolving axle, in combination with a power chain Q attached at one end to the axle or hub of the friction pulley and its other end to the brake-lever of the tender-trucks, substantially as and for the purpose specified. 2nd. In an apparatus for operating the brakes of a tender attached to the locomotive by friction mechanism put in motion by the application of a friction-pulley to a revolving axle of a truck distinct from the locomotive, a chain or rod suitably connected at one end to the friction pulley and at the other end to an appliance on the locomotive and convenient to and by which the driver of the locomotive may draw upon the rod or chain for throwing the friction pulley against the revolving axle, in combination with a power chain Q attached at one end to the axle or

hub of the friction pulley and at its other end to the centre of the equalizing lever, the ends of which are respectively connected to the brake-levers of the tender-truck and to an equalizing lever on the locomotive, substantially as and for the purpose specified. 3rd. A spindle T fixed to a friction-pulley X, arranged to be brought in contact with the revolving axle of the truck, for the purpose of imparting a revolving motion to the spindle, a chain Q attached to and arranged to wind upon the spindle T, and connected at its other end to the centre of the equalizing bar V, and extending diagonally to the centre of the equalizing lever H on the locomotive, in combination with the rod U connecting the other end of the equalizing lever V to the brake beam lever *l* and the rod T for connecting the latter lever to the brake-beam lever N. 4th. The brake-shoes A, connected to the levers D pivoted to swinging hangers E between the driving-wheels or pilot wheels of the locomotive on either side thereof, the said levers D being connected to the equalizing lever H by the rods G, in combination with mechanism arranged to impart motion to the equalizing lever H for the purpose of applying the brakes, as specified. 5th. In a system of brake mechanism, in which brakes applied to the driving or other wheels of a locomotive and operated from the same power by which the tender-truck brakes are operated, an equalizing lever H interposed between the motor-power and the levers for operating the locomotive brakes, in combination with an adjustable stop block by which the motion of the equalizing lever H may be arrested, if desired, for the purpose of preventing the application of the locomotive brakes, when the tender brakes are being applied, substantially as and for the purpose specified. 6th. In an apparatus for operating the brakes of a car or tender by bringing a friction pulley against a revolving axle carrying the car or tender, in combination with such friction pulley and axle *b* bearing *5* for said axle held within an axle-box having a space between its side and the bearing, and a set screw or screws arranged to hold the bearing rigidly, whereby the friction pulley is prevented from being set in motion at the wrong time, substantially as described. 7th. As an improved system of brake mechanism, in which both trucks of a car or tender are provided or equipped with brakes, the levers L, M, N and O pivoted respectively, one of each brake beam, the short arm of the levers L and M on one truck, being connected together by the rod R, and the short arms of the levers N and O on the other truck by the rod T, in combination with the rod S running diagonally from the lever M on the outside of one truck, to the lever N on the outside of the other truck, the long arms of the levers N and O being connected respectively to either a fixed point or motive power, substantially as and for the purpose specified.

No. 22,778. Electric Battery. (Batterie Electrique.)

Charles S. Bradley, Yonkers, N Y, U.S., 5th November, 1885, 5 years.

Claim.—1st. A secondary electric battery, in which the electrolyte is a bromide. 2nd. A secondary electric battery in which the electrolyte is a metallic bromide. 3rd. A secondary electric battery in which the electrolyte is zinc bromide. 4th. A secondary electric battery in which the electrolyte is a solution of a metallic bromide, which is decomposed when the battery is charged, the metal being deposited upon one electrode and the bromine being set free at the other electrode. 5th. A secondary electric battery, in which the electrolyte is a solution of zinc bromide which is decomposed when the battery is charged, the zinc being deposited upon one electrode and the bromine being set free at the other electrode. 6th. A secondary electric battery, in which the electrolyte is a solution of a metallic bromide, which is decomposed when the battery is charged, the metal being deposited upon one electrode and the bromine being set free at the other electrode, the bromine thus liberated being taken up by the solution. 7th. A secondary electric battery, in which the electrolyte is a solution of a metallic bromide, which is decomposed when the battery is charged, the metal being deposited upon one electrode and the bromine being set free at the other electrode, the electrode upon which the metal is deposited being placed above the one on which the bromine is set free, whereby the free bromine tends to remain near its own electrode and to be kept away from the electrode upon which the metal is deposited. 8th. The herein described electrical conducting material, consisting of gas retort carbon, or other carbon which is hard and sharp, and gutta-percha or india-rubber. 9th. The herein described electrical conducting material, consisting of gas retort carbon or other carbon which is hard and sharp, and gutta-percha or india rubber, said gutta-percha or india rubber being calcined with bromine.

No. 22,779. Method of Producing Haloid Compounds of Metals. (Mode de Production des Composés Halogènes de Métaux.)

Richard Gratzel, Hanover, Prussia, 5th November, 1885, 5 years.

Claim.—1st. The process of causing aluminum chloride to act in solution on an alkalic fluoride, and of separating from the liquor the precipitate obtained, substantially as and for the purpose described. 2nd. The process of causing a solution of aluminum chloride to act on an alkalic fluoride combined with aluminum fluoride and of separating the solid from the liquid portion, substantially as and for the purpose specified.

No. 22,780. Telephone Transmitter.

(Transmetteur Téléphonique.)

Fredero N. Gisborne and David H. Keeley, Ottawa, Ont., 5th November, 1885, 5 years.

Claim.—The arrangement of the microphonic contacts comprising,

the carbon button B fixed to the diaphragm *d* and the conducting block G, with the balls *c*, *r*, *m* of carbon rubber and metal respectively combined together, substantially as and for the purpose set forth.

No. 22,781. Machine for Oiling the Axles of Waggon, etc. (*Machine à Graisser les Essieux de Wagons, etc.*)

Theodore F. Guy, Nanticoke, Ont., 5th November, 1885; 5 years.

Claim.—The application of the cylinder E screwed into the boxing of axle cover, the inner shoulder D of same inside the spokes of wheel K, in combination with the piston G for forcing the oil through cylinder and screwed into same at I, as and for the purpose hereinbefore specified and set forth.

No. 22,782. Fire-Extinguishing Fluid.

(*Fluide Extincteur d'Incendie.*)

E. Austin Barnes, (assignee of Francis S. Peck,) Syracuse, N.Y., U.S., 5th November, 1885; 5 years.

Claim.—A fire extinguishing fluid composed of bicarbonate as soda, muriatic acid, aqua ammonia, chloride of sodium and water, prepared and compounded substantially in the proportions and in the manner hereinbefore specified.

No. 22,783. Hot Air Generator.

(*Générateur d'Air Chaud.*)

George S. Sperry and George M. Lanckton, New Richmond, Wis., U.S., 5th November, 1885; 5 years.

Claim.—In a hot-air generator, the combination, with a stove, of a drum A having detachable ends or heads *c*, F, a central pipe G secured at one end to the lower head F, and extending upward through a passage formed in the upper head E above the drum, for any desired distance, partition H, H', secured to the central pipe on opposite sides and dividing the space around the pipe into two compartments I, I', the lower ends of the partitions being provided with openings *i* forming a means of communication between the compartments pipe D extending from the stove and discharging into the compartment I and pipe J passing through the head E so as to connect with the compartment I', as set forth.

No. 22,784. Contracting Car Wheel Chill.

(*Coquille de Coulage à Retrait des Roues de Chars.*)

Jacob N. Barr, Milwaukee, Wis., U.S., 7th November, 1885; 5 years.

Claim.—1st. In combination with the segmental chill blocks, an outer metallic ring and means applied to the ring for receiving a force and imparting to the chill blocks an equable and simultaneous radial movement, all as and for the purpose set forth. 2nd. The combination of chill segments and an outer expansible and contractile ring provided with means for receiving heating and cooling agents, substantially as and for the purpose set forth. 3rd. In combination with segmental chill blocks, an external supporting frame work and means applied to the supporting frame work for the purpose of imparting a simultaneous and uniform radial movement to the chill segments, as and for the purpose set forth. 4th. An outer segmental chill, and means, substantially as described, for imparting to the chilling surface of the segment, a uniform and simultaneous radial movement in addition to that caused by the molten metal, as and for the purpose set forth.

No. 22,785. Weather Strip

(*Bourrelet de Porte.*)

Solomon Funk, Spirit Lake, Iowa, U.S., 10th November, 1885; 5 years.

Claim.—1st. The combination of the door sill A, carpet strip A', plate B, its lower edge resting on the sill and its upper edge against the carpet strip when the door is open, the stop C bevelled at the lower end to form a keeper for the end of the plate, and a door adapted to bring the upper edge of the plate in contact with the bottom thereof when closed, substantially as described. 2nd. The combination of the plane door sill A, carpet strip A', plate B, door-step C having its lower end bevelled to admit the end of the plate and with the sill retain it in position, and the door D having a bevel-headed screw in the bottom to lift upper side of the plate as the door closes, substantially as shown and described. 3rd. The combination of the door D having a bevel-headed screw in the bottom carpet strip A', door-step C bevelled at the lower end, plate B its lever end resting on the sill and forming pivot for its slight movement, and door-sill A having nail *a* near each end of the plate, all constructed, arranged and adapted to operate substantially as and for the purpose set forth.

No. 22,786. Tool for Trimming Horses' Hoofs. (*Boutoir de Maréchal.*)

Jean Bernadac, New Siberia, La., U.S., 10th November, 1885; 5 years.

Claim.—1st. The combination of the blade having, the cutting-edge formed on each side and provided at one end with a stationary handle, and the cylindrical handle centrally pivoted to the opposite end of the said blade, in the manner and for the purpose shown and set forth. 2nd. The combination, with the blade having the cutting edge formed on each side, and provided at one end with the stationary handle, of the cylindrical handle having the projections formed therewith and centrally pivoted to the opposite end of the said blade, in the manner and for the purpose shown and set forth.

No. 22,787. Machine for Cleaning and Grading Wheat. (*Machine à Nettoyer et Trier le Blé.*)

Milton Forder, Dassell, Minn., U.S., 10th November, 1885; 5 years.

Claim.—1st. In a wheat-cleaner, the feed-tube *b* and hopper having flexible sides, combined with the rotary screen and its frame, substantially as described. 2nd. In a wheat-cleaner, the board *d* and flexible side pieces *e*, combined with feed-tube *b* and standard A, substantially as and for the purpose specified.

No. 22,788. Straw-Cutting Attachment for Thrashing Machines. (*Coupe-Paille pour Machines à Battre.*)

James A. Buchanan, Hunts City, Ill., U.S., 10th November, 1885; 5 years.

Claim.—1st. The combination with a thrashing machine of cutters arranged at the rear of the straw carrier, floor or apron to receive the straw as it comes from said floor and out it before finally leaving said machine, substantially as set forth. 2nd. The combination in a thrashing machine, of the straw carrier floor B and the cutters C, the latter being arranged at the rear end of the former and adapted to receive the straw therefrom and reduce it into chop, substantially as set forth. 3rd. The combination, in a thrashing machine, of the frame work having wings *a*, *a'*, straw carrier floor B, the cutters C mounted on shafts *c*, *c'* provided with pulleys and gear wheels *c*, *c'*, *c*, *c'*, substantially as shewn and specified.

No. 22,789. Pin Machine. (*Machine à Epingles.*)

Louis A. Fontaine, Toledo, Ohio, U.S., 10th November, 1885; 5 years.

Claim.—1st. In a pin machine, for the purpose described, two friction rails, one of which is elastic, substantially as and for the purpose set forth. 2nd. In a pin machine, for the purpose described; two continuous friction rails, one of which is elastic its whole length, substantially as specified. 3rd. In a pin machine, for the purpose described, an elastic upper friction rail formed on the stationary disk G and consisting of a thin flat elastic metal ring, and of an elastic and pliable fabric, substantially as and for the purposes set forth. 4th. In a pin machine, for the purpose described, the combination of the stationary disk G, segmental ring N and elastic bearing O interposed between them, substantially as specified. 5th. The combination of the stationary disk G having segmental bearing flange K and recess *p*, of the segmental ring N having hook *o* and of the elastic bearing O, all arranged substantially as specified. 6th. In a pin machine, for the purpose described, the combination of a solid stationary disk G provided with an elastic friction rail and of guards R secured to said solid disk, substantially as specified. 7th. In a pin machine, for the purpose described, the scraper H when arranged to ride upon the lower friction rail, substantially as described.

No. 22,790. Tool-Holder for Cutting Inside Screw Threads in a Lathe.

(*Porte-Outil de Tour à Fileter les Tarauds.*)

Edward F. Noyes, Hamilton, Ont., 10th November, 1885; 5 years.

Claim.—1st. In a tool-holder for holding tools for cutting internal screw-threads, the combination of the bar A and a movable tool box D attached thereto and provided with openings for cutting tools to be inserted therein, substantially as and for the purpose specified. 2nd. In a tool-holder, the combination of the bar A, movable box D, and tool F for cutting screw threads on large internal diameters, substantially as specified. 3rd. In a tool-holder, the combination of the bar A, movable tool box D and tool N for cutting screw-threads on small internal diameters, substantially as specified. 4th. In a tool-holder, the lug E attached to the bar A and the projection *a* on the movable box D, the former to act as a bed rest for the latter, substantially as specified. 5th. In a tool-holder, the combination of the movable box D, bar A and lever O and pin *a*, substantially as and for the purpose specified. 6th. In combination with the movable box D, the groove J and collar K, and cup set screw L for securing the box to the bar A, as specified.

No. 22,791. Sewing Machine.

(*Machine à Coudre.*)

Charles E. Tibbles, Chicago, Ill., U.S., 10th November, 1885; 5 years.

Claim.—1st. In a four-way feed for sewing machines, the feed-bar in combination with ways for supporting it, a driving shaft connecting devices and a cam to move said feed-bar positively in direct lines to and from the operator, and feed points actuated in a line crossing the line or travel of the feed-bar, substantially as set forth. 2nd. In a feed mechanism for sewing machines, the cam *e* for reciprocating the feed-bar, having hole *b* and semi-circular depression *e*, in combination with the stationary sleeve B provided with movable pin *b*, and the driving shaft B, substantially as described. 3rd. In a sewing machine feed mechanism, the pitman bar E passing to one side of the shaft, in combination with two contact arms *c*, *c*, cam *e* to reciprocate the feed-bar, feed-bar F and operating mechanism connecting the feed-bar and pitman bar E, substantially as set forth. 4th. The stitch regulating bar G and vibrating lever H, in combination with box I, flat gib *h*, screw *i* and screw *i'* passing through screw *i* and abutting against gib *h*, all constructed, arranged and operated as described. 5th. The driving shaft B, sleeve B provided with notches *n*, *n'*, spring pin *b*, cam *e* provided with hole *b* and depression *e*, pitman rod E having adjustable contact arms *c*, *c*, vibrating lever H provided with a movable fulcrum, feed-bar F and stitch-regulating bar G, all constructed, arranged and operated as set forth. 6th. A shuttle latch for sewing machines, having two distinct contacts for the shuttle to strike, and an intermediate thread guide bar, in combination with the carrier B₁, substantially as and for the purpose described. 7th. The shuttle carrier B₁, having its

heel-end turned up to form abutment *b*¹¹¹¹, in combination with latch *C*, screw *d*¹¹ and spring *S* to regulate the relation between the carrier and the latch, substantially as specified. 8th. In combination with the shuttle-carrier, the latch *C* pivoted to the end of the carrier at *d*, *d*¹, and having the broadened peaked portion or contact *c*¹¹, bent slightly at *c*¹¹¹, the narrow torsional bar *g*¹¹¹¹ and the broadened downwardly curved portion or contact *a*¹, all constructed as set forth. 9th. In a sewing machine shuttle, the spring *E*¹ provided with a hole or holes having the edges doubled back, substantially as described. 10th. In a sewing machine shuttle, spring *E*¹ having the extension *E*¹¹, doubled back on the body to engage the latch-hinge substantially as set forth. 11th. Spring *E*¹, having the extension *E*¹¹ doubled back on the body and provided with headed pin *f*¹¹¹, in combination with the shuttle body *A*¹¹, provided with the slot *d*¹¹¹¹, substantially as described. 12th. Spring *E*¹ having a bifurcated end *e*⁷, in combination with grooved screw *D* and shuttle body *A*¹¹, substantially as and for the purpose specified. 13th. The heel-latch *C*¹ yieldingly secured and provided with stop-lug *j*¹¹, and bevelled fastener lug *g*¹¹¹¹, in combination with the heel of the shuttle case having slot *j*¹¹¹ and hole *g*¹¹¹¹, substantially as described. 14th. In a sewing machine shuttle, the combination of spring device, substantially as described, for holding the bobbin end-wise with a curvilinear thread-race, as set forth. 15th. The shuttle-case *A*¹¹, provided with the curved slot *r*, in combination with the slot *r*¹ connecting the curved slot out through the heel, substantially as and for the purpose described. 16th. The rock shaft *I*¹ provided with arm *l*¹¹, in which is cut a cam-slot *m*, in combination with the take-up lever *H* and a crank-arm *H*¹¹ to connect the take-up lever with arm *l*¹¹, substantially as specified. 17th. The piece *l*¹¹ on to the end of the needle bar rock-shaft and provided with cam-slot *m*, in combination with the pivoted piece *l*¹¹¹ having a constant spring pressure applied to it, substantially as described. 18th. The tension spring having the interior coil *K* and oppositely wound exterior coil *K*¹, in combination with a sustaining plate provided with recess *l*¹¹¹¹ and the holding screw *J*, *J*¹, substantially as set forth. 19th. In a sewing machine shuttle lever pivot, the bearing *M* having a tapered interior, and the shaft *N* in combination with the intermediate sleeve *R* having its exterior surface tapering in two directions substantially as set forth. 20th. The spindle *N* and a tapering sleeve *R* in combination with an open bearing *m*, substantially as described.

No. 22,792. Thread Releaser for Sewing Machines. (*Appareil à Sgager le Fil pour Machines à Coudre.*)

Charles E. Devine and Charles Parton, Plattsburg, N. Y., U. S., 10th November, 1885; 5 years.

Claim.—In a sewing machine, the combination, with the presser-bar lifter, of a pivoted bell crank lever with turned up end, connected with the lower plate of the tension device, and operated directly by the presser-bar lifter to loosen the tension simultaneously with the raising of the present bar, as set forth.

No. 22,793. Hose Coupling. (*Joint de Tuyau Elastique*)

Charlie E. Mark, Flint, Mich., U. S., 10th November, 1885; 15 years.

Claim.—1st. A hose-coupler, in two parts, wherein the passages which lead from one part to the other, when the parts are connected together, are at right angles, or nearly so, to the axis of the hose with which they are connected, substantially as and for the purposes described. 2nd. A hose-coupler in two parts, for a system of air or steam brakes, attached to and supported by the draw-head or buffer of a car, and having a longitudinal movement therewith, substantially as and for the purposes specified. 3rd. A self-acting hose-coupler in two parts, in combination with the flexible pipe or hose connections of an air or steam brake system, such coupler having a longitudinal movement with the buffer or with the draw-head to which it is attached, and by which it is supported, and an independent and limited like movement, substantially as and for the purposes set forth. 4th. A hose-coupler, in two parts, in combination with the flexible pipes or hose connections of an air or steam brake system which will mechanically couple the flexible pipes upon the adjacent cars, when said cars are brought together, substantially as and for the purposes described. 5th. A hose-coupling in two parts, each of which is provided with a hook-shaped point, a flaring mouth, and a socket adapted to receive the hook points, which are guided into said sockets by the flaring mouth, substantially as specified. 6th. A hose-coupler, in two parts, each of which is the reverse of the other, each having hook-shaped points, sockets to receive the same flaring mouths to guide such points into said sockets, contracted air passages connecting with enlarged air passages which connect with the hose, elastic bushings surrounding the contracted air passages, and the means, as described, for supporting such coupler, substantially as and for the purposes set forth. 7th. In combination with the hose-coupling of a system of air or steam brakes, the links which hold such coupling suspended from the draw-head or buffer, against lateral motion, and without interfering with the longitudinal motion of such coupler, substantially as described. 8th. In combination with the coupling of a system of air or steam brakes, the hose of which is required to be detachably connected between the cars to which the system is attached, the links which support the hose couplings, the means which keeps a constant forward pressure on said couplings, and the chain *n*, which limits the extent of such pressure, substantially as and for the purposes specified. 9th. The hose-coupler *f*, pivotally supported near its rear end to the draw-head or buffer by means of the link *kl*, with its front or free end supported from such draw-head by the link or yoke *k*, which allows a vertically radial movement at that end of the coupler, substantially as and for the purposes set forth.

No. 22,794. Valve for Air Brakes. (*Valve de Frein Atmosphérique.*)

Charles E. Mark, Flint, Mich., U. S., 10th November, 1885; 15 years.

Claim.—1st. In combination with the operating lever of a car-

coupling, a stop-cock or valve in an air brake system, whereby the actuation of the lever for coupling the cars will at the same time open the valve for the passage of the air, substantially as described. 2nd. In combination with the operating lever of a car-coupling, a stop-cock or valve whereby the actuation of the lever for uncoupling the cars will simultaneously throw close said valve, thereby preventing the escape of air from the system of air brakes employed on the disconnected car, substantially as specified. 3rd. In combination with each car section of brake pipe of an air brake system, a two-way cock placed at either end of a car, one way of said cock establishing an air connection through the brake pipe, and the other way forming an exhaust port for the brake pipe, substantially as set forth. 4th. In combination with a rock shaft, which forms the actuating lever of a car-coupling, a valve having its actuating plug secured upon said rock-shaft, substantially as described. 5th. In combination with a rock-shaft which forms the actuating lever of a car-coupling, and with the brake pipe of an air pipe, a two-way stop valve in the end of a car section of said pipe, having its operating plug secured upon said rock-shaft, whereby, by the actuation of said rock-shaft for the purpose of coupling and uncoupling the valve is simultaneously operated in the desired manner, substantially as specified.

No. 22,795. Waste Valve. (*Soupape de Décharge*)

Joseph H. Bacon, Ebenezer S. Bacon and Van Courtland Secord, Detroit, Mich., U. S., 11th November, 1885; 5 years.

Claim.—1st. In combination with a water service pipe, a water waste pipe, or conduit, connecting therewith, and having a waste automatically operated by the temperature of the water in said pipe, substantially as described. 2nd. In combination with a water service pipe and a waste water pipe, a conduit connected with both, and having an automatically actuated valve, such actuation being produced by the varying temperature of the water in the conduit, and controlling the flow of water from the service to the waste pipe through such conduit, substantially as specified. 3rd. In combination with a water service and a waste water pipe, a conduit connecting near its upper end with the former, and at its lower end with the latter, and having a valve seated therein to control the passage of water to such waste pipe, such valve having a stem adjustably secured at its upper end, and made of a metal, the expansion and contraction of which is greater than that of the said conduit, substantially as set forth. 5th. In combination, the service pipe *A*, communicating with any suitable water supply, the conduit *D*, having a connection with such service pipe, a valve *E* seated in such conduit *D*, and controlling the outflow through the connection *B*, with the waste pipe *C*, a valve stem *F* actuating such valve *E*, a cap *G* on the top of such conduit, a rod *H*, tapped into the top of such valve stem, and adjusting nut *d* upon such rod *H*, the parts being constructed and operating substantially as and for the purpose described.

No. 22,796. Smoking Pipe. (*Pipe à Tabac.*)

Matthew T. Wyatt, Quebec, and William F. Ramsay, Montreal, Que., 11th November, 1885; 5 years.

Claim.—1st. In a pipe, the bowl *A*, interposed between the stem and the tobacco-holder proper, as and for the purposes described. 2nd. The combination with the bowl *A*, and draft tube *F*, of the bowl *B*, perforated at bottom and hinged to *A*, as and for the purposes set forth. 3th. The combination of the bowls *A* and *B*, and seat *D*, substantially as herein described. 4th. The combination with the bowl *A*, of the lining or cup *E*. 5th. The combination with the bowl *B*, with perforated stop or bottom, bowl *A*, and draft tube *F*, of the held *G*, as and for the purposes set forth.

No. 22,797. Pipe Reamer. (*Curette à P. ve.*)

Matthew T. Wyatt, Quebec, and William F. Ramsay, Montreal, Que., 11th November, 1885; 5 years.

Claim.—1st. A pipe reamer, consisting of a tapering body and radial blades, projecting therefrom, substantially as specified. 2nd. A pipe reamer, consisting of a tapering body and plain and serrated blades projecting radially therefrom, substantially as specified.

No. 22,798. Jar and other Receptacles. (*Jarre et autres Ustensiles.*)

Edwin Johnson, Manchester, Eng., 13th November, 1885; 5 years.

Claim.—1st. The improved construction of jar, or other receptacle, with a spiral groove *b* and openings *c*, corresponding with projections formed on the inside of the lid, substantially as and for the purposes set forth. 2nd. The construction, entirely in earthenware, or other similar material, of air tight jars and other similar receptacles, with an internal groove *g*, formed with openings *h*, *h*¹, to receive corresponding projections *k*, *k*¹ on the lid or upon a metal plate above the lid, and which lid is capable of being tightened in position and rendered air tight by the application of an elastic washer *l*, substantially as and for the purpose hereinbefore set forth.

No. 22,799. Sheaf Band Cutting Machine. (*Machine à Couper les Haris des Gerbes.*)

Harry J. Davis, East Zorra, Ont., 13th November, 1885; 5 years.

Claim.—1st. The combination of the cutters *K*, *K*¹, and the feeding rollers *V*, as and for the purpose hereinbefore set forth. 2nd. The combination of frame *A* and lower frame *P*, as and for purpose hereinbefore set forth. 3rd. The combination, with the cutters *k*, *h*, and rollers *l*, *R*, and carriers *V*, as and for the purpose hereinbefore set forth.

No. 22,800. Creamer. (*Boite à Lait.*)

James A. Rutherford, Georgetown, P. E. I., 13th November, 1885; 5 years.

Claim.—1st. The cone-shaped cover *B*, embracing the fins *h*, *h*¹, and

wire gauze screen or band *i*, in combination with creamers, substantially as and for the purpose hereinbefore set forth. 2nd. The combination of the cone-shaped cover B, with the handle and the mode of locking the latter into the cover as at *b*, *b*, substantially as and for the purpose hereinbefore set forth.

No. 22,801. Lantern. (*Lanterne*.)

Mortimer McRoberts, Chicago, Ill., U.S., 13th November, 1885; 15 years.

Claim.—1st. In a lantern, the combination, substantially as hereinbefore described, of the main frame and a sliding globe frame having a globe seat and side wires extending from the base of the globe to the top of the main frame, and there provided with a thumb piece, whereby in lifting the globe, as for trimming and lighting, the portions of the lantern intervening between the bottom of the globe and the top of the main frame, as wholly free from lighting strains. 2nd. The combination with the main frame, the sliding globe cap which controls the top of a globe, but permits its vertical movement, of a sliding globe frame provided with a globe seat and extending from the lamp to the top of the main frame, and separated from portions of the lantern intervening between the globe and the top of said main frame, substantially as described. 3rd. The combination of the main frame, the sliding globe cap, and the sliding globe frame having a globe seat and extending from the base of the globe to the top of the main frame and independently of the cap, substantially as described. 4th. The combination of the main frame having inclined sides, and the sliding globe frame having a globe seat and correspondingly inclined side wires extending from the base of the globe to the top of the frame, and friction guides on the main frame at or near its top and at its sides near the bottom, substantially as described.

No. 22,802. Vehicle Axle. (*Essieu de Voiture*.)

Charles Wonacott, Bishop Creek, Cal., U.S., 13th November, 1885; 5 years.

Claim.—1st. In a vehicle axle, the spindle having its interior end enlarged and screw-threaded, together with an interior sleeve fitting said spindle, having its interior end correspondingly threaded and provided with an interior shoulder against which the hub of the wheel may turn, substantially as herein described. 2nd. In a vehicle axle and spindle, having an enlarged screw-threaded portion at the inner end, and exterior sleeve fitting said spindle having a corresponding enlargement at its inner end, the interior of which is screw-threaded to fit the screw upon the spindle, the exterior forming a shoulder, and tapering inwardly from the shoulder, substantially as herein described. 3rd. In a vehicle axle, the concavo-convex disk secured to the inner end of the spindle, a sleeve surrounding the spindle, having a shoulder upon its inner end and made tapering inwardly from said shoulder together with the wheel hub, having a box fitting against the shoulder of the sleeve, and provided with a projecting vertical flange, which fits within the disk upon the axle, while the exterior portion of the hub projects over and beyond the disk, substantially as herein described. 4th. A vehicle axle, having a spindle, the interior end of which is enlarged and screw-threaded, an exterior sleeve fitting the spindle, having an enlargement at its interior end to form a collar, and screw-threaded to fit the spindle, together with the exterior nut screwing upon the end of the spindle, and having a shoulder which braces against the outer end of the sleeve, substantially as herein described.

No. 22,803. Machine for Scraping and Splitting Cane. (*Machine à gratter et écafer la Canne*.)

Edward M. Ellis, Gardner, Mass., U.S., 14th November, 1885; 5 years.

Claim.—1st. In a machine for scraping and splitting rattan or cane, the combination, with a series of radially movable scraper blades, of mechanism for automatically separating the said blades to admit the cane between the ends of the said blades, a guide for the cane, which guide is held in front of the knives or knife-holders, a lever connected with the mechanism for adjusting the blades, which lever extends to said guide and is adapted to be acted upon by the cane passing through the guides, and feed rollers arranged between the said guide and the disk on which the cutter-blades are held, whereby the mechanism for adjusting the cutter-blades is acted upon by the cane before the cane enters the disk carrying the blades, and whereby the cane is fed and carried toward the disk from the time that it has acted upon the blade regulating mechanism to the time that it is acted upon by the scraper, substantially as herein shown and described. 2nd. In a machine for scraping and splitting cane or rattan, the combination, with radially movable scraper-blades, of mechanism for automatically separating the said blades to admit the cane between the ends of the said blades, a guide for the cane which guide is held in front of the scraper-blades, feed rollers arranged between the said guide and scraper-blades, and a lever projecting into the said guide and connected with the mechanism for operating the scraper-blades, substantially as herein shown and described, whereby the cane will be fed to the scraper-blades, and the blades adjusted by the passage of the cane through the guide, as set forth. 3rd. In a machine for scraping and splitting cane or rattan, the combination, with feed rollers for drawing the cane into the machine and carrying it between the scraping-blades, which scraping-blades are held in a disk, of means for separating the blades of the scraping mechanism to admit the cane in between the ends of the said blades, a tube held between the feed rollers in such a manner that the cane must pass through the said feed rollers to be carried to the scraping mechanism, a lever projecting into the tube, levers for transmitting the motion from the lever in the tube to the blades, of the scraping mechanism, and a series of feed rollers interposed between the said tube and scraping mechanism, substantially as herein shown and described. 4th. In a machine for scraper and splitting cane, the combination with the feed rollers D, of the tube P₃, arranged in the line of the feed, the rod Q₂, the roller Q, pivoted in the forked end of the rod Q₂, and projecting into the tube P₃, the lever Q₂, operated by the said rod Q₂,

and operating the shaft R, which is provided at one end with an arm R₂, carrying a latch-lever for releasing a sliding bolt, and of the clamping half-rings S₃, held open by the said sliding bolt, which clamping half-rings are limited with a cam mounted on a shaft and adapted to operate a device for separating the knives of the scraping mechanism to admit of passing the cane between the inner ends of the said blades, substantially as herein shown and described, and for the purpose set forth. 5th. In a machine for scraping and splitting cane, the combination, with the shaft R, of the latch-lever R₂, pivoted to an arm of the said shaft, provided with an upturned end, the standard *r*, supporting the pintle *r*, in the path of said upturned end, the sliding bar S, retracted by said latch-lever, the spring *r*, bearing against said bar, devices for rocking the shaft R, by the introduction of a piece of cane into the machine, clamping half-rings mounted on the shaft and held open by the sliding bar S, a cam mounted loosely on the shaft and connected with the clamping half-rings, and devices for separating and closing the blades of the scraping mechanism, which devices are operated from the cam on the shaft, substantially as herein shown and described, and for the purpose set forth. 6th. In a machine for scraping and splitting cane, the combination, with the rocking shaft R, of the latch-lever R₂ on an arm thereof, the sliding bar S, tripped by said latch-lever, the disk T₂, mounted on the shaft, the half-rings S₃ surrounding the disk T₂, and provided with arms S₂, the bar T, pivoted in the arms S₂, a spring for pressing the arms S₂ together and a cam connected with the half-rings S₃ and adapted to operate devices for separating and closing the blades of the scraping mechanism, substantially as herein shown and described, and for the purpose set forth. 7th. In a machine for scraping and splitting cane, the combination, with the rocking shaft R, of the latch-lever R₂, on an arm thereof, the sliding bar S tripped by said latch lever, the disk T₁ mounted on the shaft, the half-rings S₃ surrounding the disk T₁, and provided with the arms S₂, the bar T, pivoted in the arms S₂, the standard T₂, the spring *t*, surrounding T₁, and pressing the arms S₂ together, and a cam connected with the half-rings S₃ and adapted to operate devices for separating and closing the blades of the scraping mechanism in the machine, substantially as herein shown and described, and for the purpose set forth. 8th. In a machine for scraping and splitting cane, the combination, with the rocking shaft R, of the latch-lever R₂, on an arm thereof, the sliding bar S, tripped by said latch lever, the disk T₂ on the driving shaft, the clamping half-rings S₃ provided with the arms S₂, the bar T, the disk *u*, mounted on the shaft, and provided with a cam V, the pintle *v*, uniting the joint of the half-rings S₃, with the disk *u*, the rod W, and devices for separating and closing the blades of the scraper, which devices are operated by the rod W, substantially as herein shown and described, and for the purpose set forth. 9th. In a machine for scraping and splitting cane, the combination, with a series of feed rollers and scraping and splitting devices, of a centering device consisting of two guide rollers L₃ mounted on standards L₂, secured on rollers K₁, mounted on standards K, which rollers K₁ are provided in the peripheries with notches adapted to receive a slightly conical plug L, half of which is contained in the recess of each disk K₂, substantially as herein shown and described, and for the purpose set forth. 10th. In a machine for scraping and splitting cane, the combination with a series of feed-rollers and scraping and splitting devices, of rollers K₁, the spring K₁, connecting said rollers, the rollers L₃, journaled in rollers K₂, and the plug L, held in notches in the edges of the rollers or disks K₁, substantially as herein shown and described and for the purpose set forth. 11th. In a machine for scraping and splitting cane, the combination with a series of feed rollers and scrapers and splitting devices, of the plate J, the plate O, sliding transversely on plate J, the side screws O₁, for adjusting said plate O, the disks or rollers K₁, provided with the notches K₂, in their edges, the rollers L₃ journaled on rollers K₁ and the plug L, fitting in the notches K₂, in the disk K₁, substantially as herein shown and described, and for the purpose set forth. 12th. In a machine for scraping and splitting cane, the combination, with the shaft B, of the feed roller D, provided with circumferential grooves *d*, *d*, of different sizes, the removable collar *b*₂, the key A₂ and the cap D₁, substantially as herein shown and described, and for the purposes set forth.

No. 22,804. Brine Cover.

(*Couvercle à Eau Salée*.)

Herbert M. Goff, Richford, Vt., U.S., 14th November, 1885; 5 years.

Claim.—1st. A perforated or open-work lid or cover adapted to be received within a brine container, provided with a central pivoted handle C, and two or more sliding bolts D, having their inner ends adapted to have their outer extremities projected beyond the edge of the cover and enter into the container material. 2nd. The combination of the central bar A, cross bars B, pivoted handle C, arms c, bolts D, points d and guides a. 3rd. The handle e, bolts D and guides a, in combination with a lid or cover, all substantially as set forth and described and for the purpose set forth.

No. 22,805. Roof Sheet Crimping Machine.

(*Machine à Cambrier les Feuilles Métalliques à Toiture*.)

Longley L. Sagendorph, Cincinnati, Ohio, U.S., 14th November, 1885; 5 years.

Claim.—1st. In a roof sheet bending machine, eccentrics *a*₁ mounted on a shaft S, at one side, in combination with horizontal reciprocating arms *e*, and adjustable arms *a*₂, *d*₁ pivoted to a total joint adapted to reciprocate vertically the dies C, C₁, and the dies C, C₁, substantially as and for the purposes specified. 2nd. In a roof sheet bending machine, the combination of a bed plate L, and die seats M, M₁, adapted to receive the sheets at one end and permit withdrawal at the other, and reciprocating dies C, C₁, substantially as set forth. 3rd. The combination of regulating weight *p*, dies C₁, C₁, and die seats M, M₁, as and for the purposes described. 4th. In roof sheet crimping machines, dies C, C₁, and die seats M, M₁, in combination with adjustable stops *v*, to regulate the outer leg of a crimp, substantially as described. 5th. The combination in a sheet crimping machine for roofing purposes, of reciprocating dies C, C₁, moving in guides *m*, *m*₁,

die seats M, adapted to receive the dies, adjustable weight *p* suspended in the frame work, as described, and adjustable stops adapted to regulate the outer leg of a crimp, substantially as described. 6th. The herein-described arrangement of containing frame A, shaft S, carrying eccentrics *e*, horizontal reciprocating arms *e*, toggle-joint arms *n*, *d*, *t*, die C, *G*, die seats M, *M*, bed plate L, adapted to allow insertion and withdrawal of sheets at the ends, adjustable weight *p* and regulating stops *e*, the whole combined, arranged and operating substantially as and for the purposes specified.

No. 22,806. Cobbling Last. (*Forme de Sauterier*.)

James Burko, Springfield, Mass., U. S., 14th November, 1885; 5 years.

Claim.—1st. A cobbling last, having two foot pieces *a*, *b*, and having the heel and shank portion formed to bear against the heel and shank on the inside of a shoe, the two being connected by a uniting part *c*, substantially as shown. 2nd. A cobbling last formed of two foot pieces, united at the heel, as shown, and having stem receiving openings *d*, in combination with a button *e*, provided with a stem *f*, substantially as shown. 3rd. A cobbling last formed of a single casting having two foot pieces of a different size united at the heel portions, and having the heel and shank portions thereof raised or formed to bear against the shank and heel of a boot or shoe on the inside, and with one or more removable adjustable buttons, substantially as set forth.

No. 22,807. Machine for Lifting Loads of Hay and Grain. (*Monte-Charge pour le Foin et le Grain*.)

Fred Lansdell, Toronto Gore, Ont., 14th November, 1885; 5 years.

Claim.—The combination of the bull wheel D and the dog H, operated by the spiral spring I, and the handle or lever K, substantially as and for the purpose hereinbefore set forth.

No. 22,808. Snap Hook. (*Porte-Mousqueton*.)

Edward J. Miller, Farmersville, Pa., U. S., 16th November, 1885; 5 years.

Claim.—1st. As an improved article of manufacture, a spring-bolt snap-hook having said bolt automatically locked upon contact between the front end of the bolt and the open end of the head A₂, by a sub-lock, having a tail dropped within a recess in said bolt, or in the rear of the bolt stem, and provided with a spring at its front or head to retain the sub-lock in place, substantially as shown and as and for the purposes hereinbefore set forth. 2nd. As an improvement in snap-hooks, the bolt B, having a reduced stem portion B₂, forming a shouldered seat for a spiral spring E, a guide perforation A₆, provided for said stem, at the base of the bolt pocket or bore A₁, in combination with the bolt head B₂, slot a₄, sub-lock C and tail C₁, as described, substantially as and for the purpose hereinbefore set forth.

No. 22,809. Grinding Machinery.

(*Machine à Doucir*.)

James D. Storie, Oshawa, Ont., 16th November, 1885; 5 years.

Claim.—1st. The combination, with a grinding wheel, of a holding-wheel L having a series of recesses R and notches k, as shown and described. 2nd. A wheel L having a series of recesses shaped to receive the castings to be acted upon, in combination with mechanism designed to impart a revolving movement to the wheel L, so that each recess shall be brought opposite to and the casting contained therein held against a grinding wheel sufficiently long to remove from the surface of the said casting the gate or ragged edge, as specified. 3rd. A wheel L, having a series of recesses made in it and fastened to the axle K, in which the wheel J is secured, the arms O, P, journaled on the axle K designed to support the pinion I, which is held in contact with the pulley J, in combination with the revolving pinion designed to impart motion to the pulley H, which is secured to the pinion I, substantially as and for the purposes specified. 4th. A wheel L, having a series of recesses made in it and fastened to the axle K on which the pulley J is secured, the arms O, P, journaled on the axle K, designed to support the pulley H and pinion I, which latter is held in contact with the pulley J, in combination with the weight S connected to the arms O, P, by the rope R, and spring *e* designed to hold the pulley H against the pinion F. 5th. The axle-boxes *e* designed to support the axle R and fit into slots made in the arms O, P, in combination with the spring *e* and spring holder *p* adjustably connected to the arms O, P, substantially as and for the purpose specified. 6th. The holding wheel L connected to a shaft K, deriving motion, as specified, and supported on a bracket attached to the table *l*, in combination with mechanism for adjusting the said table *l*, so as to bring the wheel L closer to or farther from the grinding wheel A without stopping the grinding mechanism, substantially as and for the purpose specified. 7th. A holding wheel L, having a series of recesses M made in it, as specified, in combination with the spring *m* designed to form an elastic bottom for each recess, substantially as and for the purpose specified.

No. 22,810. Argand Lamp. (*Lampe d'Argand*.)

William Duffield, London, Ont., 16th November, 1885; 5 years.

Claim.—1st. In an argand lamp burner, the wire coil A composed of one or several concentric spirals closed on top and open at bottom, for heating the air in its passage upward and outward to the flame, substantially as shown and specified. 2nd. In combination with the coil A, the wires B, D, bar E and nut F, for supporting and regulating said coil, substantially as shown and specified. 3rd. An argand lamp chimney, consisting of a long tube *a*, bulb *b*, throat *c* and base *d*, substantially as shown and specified.

No. 22,811. Contact Maker for the Holders of Incandescent Electric Lamps, etc. (*Commutateur pour Lampes Electriques Incandescentes, etc.*)

Alfred Swan, Low Fell, Gateshead, Eng., 16th November, 1885; 5 years.

Claim.—A contact maker, consisting of an outer part *pi*, which can be fixed on one part of the lamp, or the like to the forked pieces or split screws, which receive the main wires, in combination with an inner part *d* provided with means for retaining it in the outer part, and for pressing it outwards so that it is capable of being pressed inwards, to give a good contact or spring bearing of the inner part with the contact pieces on the other part of the lamp on the like, substantially as hereinbefore described with reference to the accompanying drawings.

No. 22,812. Stock Car. (*Char à Bestiaux*.)

Henry C. Hicks, Minneapolis, Minn., U. S., 16th November, 1885; 5 years.

Claim.—1st. The combination of corner irons C₁, C₂, cross bars a₁, a₂, slots r₁, pivoted bars D₁, D₂, D₃, D₄, stanchions B, B, or their equivalents, and means for connecting said pivoted bars to the body or frame of a car or other place, when animals are to be fed, substantially as and for the purpose set forth. 2nd. The combination of the stanchions or similar devices B, corner irons C₁, C₂, bars L₁, D₁, D₂, D₃, and tanks G, substantially as shown. 3rd. The combination of the stanchions B, corner irons C₁, C₂, cross bars a₁, a₂ having projecting ends, stanchions B, B, and pivoted bars D₁, D₂, D₃, D₄, substantially as specified. 4th. In a stock-car, the combination of the stanchions B arranged in pairs, guards P, cars M and means for raising and lowering said bars, substantially as described. 5th. The combination, in a stock car, of a folding feed rack, a swinging watering trough and a set of partition bars M adapted to be raised and lowered, substantially as and for the purpose herein specified. 6th. In a stock car, the endless chains K, bars L, having rods *u* and straps *v*, and means for connecting said bars to said chains, substantially as and for the purpose specified. 7th. In a stock car, the combination of a series of endless chains K, arranged substantially as described, and bars M, as and for the purpose set forth. 8th. In a stock car, door T having stanchions B₁, folding feed racks and pivoted watering tanks, and means, substantially as described, for swinging said door outward away from the side of the car when it is to be opened. 9th. The combination, in a stock car, of doors T having stanchions B₁, folding feed racks and pivoted watering tanks, hinged and pivoted hangers R, R, tracks *t*, and means whereby said jointed hangers may be operated to move said doors outward and toward away from or nearer to said car, substantially as set forth.

No. 22,813. Fastening for Boot and Shoe Uppers. (*Agrafe de Chaussures*.)

Osmus Phillips, Lynn, Mass., U. S., 16th November, 1885; 5 years.

Claim.—1st. The improved clamp or fastener, composed of the two parts 2 and 3, formed to operate substantially as described. 2nd. The clamp or fastener, composed of the two parts 2 and 3, formed to operate as described, and connected by a joint, as set forth.

No. 22,814. Bailed Hollow Ware.

(*Ustensiles à Anse*.)

Donald M. McLean, Toronto, Ont., 16th November, 1885; 5 years.

Claim.—The nose N, in combination with the said double bail and ends a₁, a₂ thereof, in the manner described.

No. 22,815. Circle for Buggies, etc.

(*Rond d'Avant-Train*.)

Robert M. Laurence and William J. Lawrence, Bradford, Ont., 16th November, 1885; 5 years.

Claim.—1st. A circle provided with jaws to fit over the axle-bed or head-block, as specified, and strengthened by a bar forming part of, and extending across the diameter of the circle, substantially as and for the purpose specified. 2nd. A circle C, provided with a lug J, having a hole through it, and shaped as specified, in combination with the bolt K, passing through the hole in the lug J, and screwed into the bottom reach brace L, as specified. 3rd. The bottom reach-brace L, shaped to clip the front of the circle C, in combination with a bolt K, and lug J, substantially as and for the purpose specified. 4th. The circle D, having a plate O, made solid with it, which plate is bent to fit a hollow made in the top of the axle-bed A, in combination with clips R, fitting into recesses *f*, made in the plate O, substantially as and for the purpose specified. 5th. The plate Q, having a notch *o*, made in it, in combination with the king-bolt clip N, having a ridge or bar *h*, to fit into the notch *o*, substantially as and for the purpose specified. 6th. A tie plate Q, designed to fit onto the bottom of the axle A, and having formed solid with it the clips *h*, *d*, and a king-bolt S, substantially as and for the purpose specified.

No. 22,816. Machine for Cutting up Plastic or Yielding Substances. (*Machine à Tailler les Corps Plastiques ou Elastiques*.)

John G. Baker, Philadelphia, Pa., U. S., 16th November, 1885; 15 years.

Claim.—The combination of the casing and the feed screw, having a knife and carrying at its outer end a journal *d*, with a perforated end plate A, having bearing X, for the said journal, substantially as set forth.

No. 22,817. Milk Creamer. (Boîte à Lait)

James A. Rutherford, Georgetown, (assignee of Henry D. Wadman, Charlotretown, P. E. I., 16th November, 1885, 5 years.

Claim.—1st. The metal screw plug *d*, in combination with cork attachment *e*, as shown and described. 2nd. The combination of circular glass *g*, rubber bands *f, f*, and metal screw frame or shell *A*, substantially as shown and described. 3rd. The bottom *E, F*, for collecting and holding sediment, substantially as described. 4th. The winged flap *U*, substantially as and for the purpose hereinbefore set forth.

No. 22,818. Sawing Trestle. (Chevalet de Scieur.)

Arthur Lacoste, (assignee of Camille Gontesso,) Montreal, Que., 16th November, 1885; 5 years.

Claim.—In a sawing trestle, the combination of the legs *A, A* and *B, B*, having a semi-circular shape and bevelled at *a, d*, with the cross bar *C*, projecting at *e*, bar *D* and rings *E, E*, as above specified and for the purposes set forth.

No. 22,819. Leather Boot and Shoe. (Chaussures en Cuir.)

George Agnow, (assignee of Henry W. Joslin,) Titusville, N.J., U.S., 16th November, 1885, 5 years.

Claim.—A leather boot or shoe, made substantially as herein shown and described, with a strip of waterproof material secured to the outer side of the upper along the edge of the sole at the forward part of the boot or shoe, as set forth.

No. 22,820. Revolving Chute for Grain Elevators. (Godet à Bascule pour Elevateurs à Grain.)

John Hughes, Minneapolis, Minn., U.S., 17th November, 1885; 5 years.

Claim.—In a grain elevator, the grain-chute *C*, composed of hoppers *c*, cover *e* and bottom *e*, provided with caster *c*, said chute being pivoted to a post by means of the box *e*, and blocks *b*, substantially as and for the purpose set forth.

No. 22,821. Thill Coupling. (Arçon de Limonière.)

Benjamin C. Smith and Charles W. Prido, Boston, Mass., U.S., 17th November, 1885; 5 years.

Claim.—In a thill coupling, the frame *A*, having a recess *E*, the bottom plate *A* having an opening *E*, the pivoted latch *E*, having a shoulder *a*, the arm *F*, and the rubber *H*, provided with the lip *H*, in combination with the hinged cover *D*, having the recess *D*, and the shoulder *D*, the latch *D* having a shoulder *b*, substantially as shown and described.

No. 22,822. Rocking Chair. (Fauteuil à Bascule.)

Albert H. Ordway, Melrose, Mass., U.S., 17th November, 1885; 5 years.

Claim.—1st. As an improvement on bent wood chair frames, the side piece *E*, having its back portion *e*, and arm rest *e*, made in a continuous piece with the return bend *e*, terminating as the back piece *e*, secured in its upper end to the rear of piece *e*, as and for the purpose set forth. 2nd. In a chair frame, the continuously bent side piece *E*, having its rear end *e*, jointed to the back of the upright *e*, as described, in combination with the inwardly projecting strengthening rib *e*, as and for the purpose set forth. 3rd. In a chair, the herein described truss-base consisting of a pair of side frames, each composed of outer and inner curved pieces *e, e*, united together at or near their lower ends *e, e*, and provided about midway with one or more stays or connections *e, e*, as and for the purpose set forth.

No. 22,823. Cash Indicator and Recorder for a Cash Drawer. (Compteur à Monnaie pour Caisse de Comptoir.)

Edward W. Blackhall, Toronto, Ont., and John H. Smith, Buffalo, N.Y., U.S., 17th November, 1885, 5 years.

Claim.—1st. A cash indicator consisting of one or more digit places *G* carried in an adjustable box *F*, in combination with one or more fingers *E*, attached to one or more bars *D*, having figures printed on its top to correspond with the figures on the digit plates *G*, arranged substantially as and for the purpose specified. 2nd. The bars *D*, carried on the board *K*, through which an aperture *H* is made, to expose figures made on the top of the bars *D*, fingers *E*, formed on the end of the bars *D*, designed to fit below digit plates *G*, corresponding with figures exposed through the aperture *H*, in combination with a box *F*, arranged to be supported by the bevelled head *g*, of the slide *J*, so that the said box *F* shall be raised or lowered, according to the direction in which the slide *J* is adjusted for the purpose of exposing the figures on the digit plates *G*, substantially as and for the purpose specified. 3rd. A cash indicator and recorder consisting of one or more digit plates *G*, carried in an adjustable box *F*, a finger or fingers *E*, attached to one or more bars *D*, having figures on its top to correspond with the figures of the digit plates *G*, and a type plate *L* placed on its bottom so that each number on the top of its particular bar *D*, in combination with the roll of paper *L*, arranged to receive impressions from the plate, *a*, and means for adjusting the box *F*, so as to expose figures on the digit plates *G*, corresponding with the figures imprinted on the paper *L*, substantially as and for the purpose specified. 4th. The hinged board *K*, forming a cover for the top *C*, and carrying the bars *D* with their connections, as specified, in combination with the sliding plate *F*, arranged to actuate the spring catch *J*,

attached to the drawer *A*, and a spring *Q*, for operating the drawer *A*, as specified. 5th. One or more adjustable bars having indicating figures or letters on one side, and corresponding type on the opposite side to record an impression of the figure or letter, as specified, in combination with mechanism attached to the cash drawer, and so arranged that the opening of the drawer shall expose a letter or figure corresponding with the one recorded.

No. 22,824. Furniture Caster. (Roulette de Meuble.)

Henry W. Rozell, (assignee of Albert B. Diss,) Brooklyn, N.Y., U.S., 17th November, 1885; 5 years.

Claim.—In a furniture caster, the frame composed of the wrought metal part *B*, having integral portions *e, d*, bent in opposite directions, to form a socket for the reception of a pintle *A*, substantially as and for the purpose herein set forth.

No. 22,825. Feeding Device for Long Length Spools. (Appareil d'Alimentation pour Bobines Longues.)

Walter Weilson & Co., (assignees of Walter Wilson,) Montreal, Que., 17th November, 1885; 5 years.

Claim.—1st. A feed attachment to a sewing machine consisting of the following elements, viz: a spool stand, a long length spool and a plate secured on top same, and of greater diameter than the spool as and for the purpose set forth. 2nd. The combination of the spool stand and pin, long length spool and plate secured on top of same by pin, and an arm or standard with curved end through which the thread passes, all as and for the purposes described. 3rd. The combination, with a sewing machine, of a spool stand secured thereto, carrying spool and provided with arm or standard, as and for the purposes described.

No. 22,826. Process for Ornamenting the Surface of Wood, etc. (Procédé pour Orner le Bois, etc.)

Frederick Mankey, Williamsport, Pa., U.S., 17th November, 1885; 5 years.

Claim.—The herein-described improved process of ornamenting the surface of wood or analogous material, which consists in, first producing in the surface of said material, a series of elongated recesses or depressions transversely, or at an angle to the grain, and secondly, dividing said material into strips, cloaks, or pieces by cutting it at an angle to said indentations or recesses; and thirdly, uniting or securing said strips together, so as to form a surface having a new configuration.

No. 22,827. Electro-Magnetic Thermoscope. (Thermoscope Electro-Magnétique.)

Henry J. Haight, New York, N.Y., U.S., 17th November, 1885; 5 years.

Claim.—1st. A transmitting-thermoscope having a thermometric index, a circuit-closing arch or plate having teeth corresponding with the degrees of temperature, and a flexible contact strip borne by said index, and adapted to close the circuit by coming in contact successively with the teeth of the said arch, in combination with a receiving thermoscope and battery and circuit-closing wires connecting the two thermoscopes. 2nd. A transmitting-thermoscope provided with a thermometric index, a thermostatic coil actuating the said index, a circuit-closer corresponding with the degrees of temperature, separately insulated temperature increasing and temperature decreasing electric circuits, and a computing device, substantially as specified in combination with a receiving-thermoscope, and battery or return and increasing and decreasing temperature wires, for the purpose set forth. 3rd. In combination with the transmitting-thermoscope, and connecting wires, a receiving-thermoscope having its index actuated in opposite directions by electro-magnets magnetized alternately by currents passing, respectively, through the temperature-increasing and temperature-decreasing wires, and provided with two additional electro-magnets, alternately magnetized by the said currents, and means for engaging and disengaging the connection between the armatures of the actuating electro-magnets and the index shaft by the armatures of the said additional electro-magnets. 4th. In a transmitting-thermoscope, the combination of a thermostatic hand or index *E*, circuit closing and breaking strip *G*, and guides *H, H*, for keeping the hand or index in proper position in relation to the said strip. 5th. In a transmitting-thermoscope, a commutating slide *M*, provided with circuit closing contact rods *v, v*, respectively in electric connection with temperature increasing and temperature decreasing transmitting wires, and a temperature determining hand or index *E* actuated by a thermostatic coil and provided with a contact pin *N*, located between the said circuit closing rods, substantially as and for the purpose herein specified. 6th. In a receiving thermoscope, the combination of a thermoscopic scale, a thermoscopic hand or index, a worm wheel on the shaft of the said index, a worm screw geared to the worm wheel, a temperature increasing electro-magnet, a temperature decreasing electro-magnet, and means for transmitting motion from the said electro-magnets, respectively to the shaft of the said worm-screw. 7th. In a receiving-thermoscope, the combination of a thermoscopic scale, a thermoscopic index, a worm wheel on the shaft of the said index, a worm screw geared to the worm wheel, a temperature increasing electro-magnet, a temperature decreasing electro-magnet, means for transmitting motion from said electro-magnets, respectively, to the worm-screw shaft, means for coupling the said worm-screw shaft, and the mechanisms connecting the said electro-magnets to the said worm-screw shaft, respectively, and uncoupling it: there from, and means for coupling and uncoupling the said connecting mechanisms to and from the worm-screw shaft alternately by the temperature increasing and temperature decreasing currents. 8th. In receiving thermoscope, the combination of a

thermoscopic scale, a thermoscopic index, a worm-wheel on the shaft of the said index, a worm-screw geared to the said worm-wheel a temperature increasing electro-magnet, a temperature decreasing electro-magnet, means for transmitting motion from the said electro-magnets, respectively, to the worm-screw shaft, means for coupling and uncoupling the said transmitting mechanisms to and from the worm-screw shaft, respectively, and two electro-magnets for alternately actuating the said coupling and uncoupling mechanisms by the temperature-increase and the temperature decrease currents. 9th. The combination of the index E, provided with a flexible strip, *n*, and the strip or ridge G, provided with the circuit closing teeth or projections *m*, *m*, substantially as and for the purpose herein specified. 10th. The combination of the index E, provided with the flexible strip *n*, the strip or ridge G, provided with the teeth or projections *m*, *m*, and the guide rods H, H, substantially as and for the purpose herein specified. 11th. The combination of the supporting standard B, of the transmitting thermoscope in one part of an electric circuit, and insulated from the standard B, a toothed circuit-closing strip or ridge U, in electric connection with the said standard, and a flexible circuit-closing strip *n*, in electric connection with the index substantially as and for the purpose herein specified. 12th. The combination of the arms K, L, respectively, in electric connection with the temperature-increasing and temperature-decreasing wires, and insulated from each other and from the standard of battery-wire connection, and the commutating slide M, having two divisions insulated from each other and mounted, respectively on the said arms, substantially as and for the purpose herein specified. 13th. The combination of the arms K, L, commutating slide M, light springs *u*, *u*, and contact pin N, whereby the slide is always retained in every position left by the said contact pin, substantially as and for the purpose herein specified. 14th. The combination of the arms K, L, in different electric circuits, the commutating slide M, formed in two divisions, insulated from each other, and having respectively, parallel branch rods *v*, *v*, and the contact pin N, on the index E, substantially as and for the purpose herein specified. 15th. The combination of the electro-magnets R, S, armature levers A₁, B₁, pawls *l*, *m*, reversely acting ratchet wheels D₁, E, worm-screw shaft G₁, clutch teeth *u*, *v*, electro-magnets T, U, and armature lever J₂, coupled to the said ratchet wheels, substantially as and for the purpose herein specified. 16th. The combination of the armature levers A₁, B₁, pawls *l*, *m*, ratchet wheels D₁, E, worm shaft G₁, adjustable stops *q*, *q*, substantially as and for the purpose herein specified. 17th. The combination of the armature levers, A₁, B₁, pawls, *l*, *m*, ratchet wheels D₁, E, detents, O, P, and stops *q*, *q*, substantially as and for the purpose herein specified. 18th. The combination of the ratchet-wheels B₁, E₁ provided with grooved sleeves L₁, L₁, worm-screw shaft G₁, and armature-lever J₂, provided with forked arms *x*, *x*, and coupling pins *y*, *y*, substantially as and for the purpose herein specified. 19th. In a receiving thermoscope, the combination of a scale W, main index X, actuated by electric currents from a transmitting thermoscope, a highest temperature index Y, and lowest temperature index Z, for the purpose herein specified.

No. 22,828. Lamp Chimney Cleaning Device.

(Appareil à Nettoyer les Cheminées des Lampes.)

Edward H. Hall, Goulph, Ont., 17th November, 1885; 5 years.

Claim.—1st. The strips B, made of felt or similar material, and secured at one end to the stick, A, in combination with the sliding head D, fitted onto the stick A, and arranged to hold the other ends of the strips B, substantially as and for the purpose specified. 2nd. The strips B, made of felt, or similar material, having inserted into them the springs E, and secured at one end to the stick A, and arranged to hold the other ends of the strips B substantially as and for the purpose specified. 3rd. A lamp-chimney cleaning device consisting of a stick A, having a soft cap or tip F, attached to its end, and a series of soft elastic strips B, fastened at one end to it, and at their other end to a head, D, fitted onto the stick A, substantially as and for the purpose specified.

No. 22,829. Enamelled Letters or Figures.

(Lettres ou Chiffres Emailés.)

Julius Caesar, New York, N. Y., U. S., 17th November, 1885; 5 years.

Claim.—1st. A letter or other character for signs, consisting of a foundation plate composed of sheet metal, convex-concave from edge to edge, and a layer of enamel thereon, substantially as described. 2nd. A letter or other character for signs consisting of a foundation plate, composed of sheet metal convex-concave from edge to edge, and a layer of enamel covering both sides, and the edges of said foundation plate, substantially as described. 3rd. A letter or other character for signs, consisting of a foundation plate, composed of sheet metal, convex-concave from edge to edge, and tapered in thickness at the edges, and a layer of enamel covering said plate, substantially as described.

No. 22,830. Pulley. (Poulie)

John D. H. Cleaveland, Smithfield, Minn., U. S., 17th November, 1885; 5 years.

Claim.—1st. A cast metal pulley constructed with dove tail or locking recesses in or across its rim or outer peripheral portion, and provided with wooden keys arranged to fit within said recesses to facilitate the securing of leather or clothing on the pulley, substantially as specified. 2nd. A pulley having its rim or body of metal constructed with dove tail or locking recesses in or across its periphery, wooden keys inserted in said recesses, and the whole covered by leather or clothing secured by nails to the keys, essentially as shown and described.

No. 22,831. Electrode for Secondary Batteries.

(Electrode pour Piles Secondaires.)

Ernest M. Gardner, Brookline, Mass., U. S., 17th November, 1885; 5 years.

Claim.—1st. In an electrode for secondary batteries, a solid metal rim or frame, and a series of troughs integral therewith disposed within said rim and having a curved or arched shaped section. 2nd. In an electrode for secondary batteries, a metal supporting plate containing an opening, and in said opening a series of shelves or ledges formed of the material of and integral with said plate and disposed one above the other. 3rd. In an electrode for secondary batteries, a supporting plate containing an opening and a series of troughs integral with said plate and extending across said opening, and a material active in the storage battery contained in said troughs. 4th. In an electrode for secondary batteries, a supporting plate containing an opening, integral with said plate and set out therefrom and turned in a horizontal position, in the manner set forth. 5th. In an electrode for secondary batteries, a composition containing a conducting material in combination from, an active material in combination from, and an electrically inert cement. 6th. In an electrode for secondary batteries, a composition containing an active material, a conducting material calcined magnesia and the mother liquor from salt manufacture, the said ingredients being mingled and combined to form first a plastic mass, and on setting and drying, a hard body. 17th. In an electrode for secondary batteries, a composition containing lead oxide, carbon and calcined magnesia mingled with dilute hydrochloric acid to form first a plastic mass, and on setting and drying a hard body.

No. 22,832. Galvanic Battery.

(Batterie Galvanique.)

Ernest M. Gardner, Brookline, Mass., U. S., 17th November, 1885; 5 years.

Claim.—1st. In a galvanic cell containing electrodes and two fluids a porous partition of conducting material interposed between the electrodes and not in contact with either electrode. 2nd. In a galvanic cell, the combination of the zinc electrode, an exciting fluid a carbon electrode, a depolarizing fluid and a porous partition composed wholly or mainly of carbon separating the liquids and interposed between the electrodes and not in contact with either electrode. 3rd. In a galvanic cell, a cup composed of porous carbon, and not in electrical contact with either electrode. 4th. In a galvanic cell, the combination of a porous cup, a shallow vessel within said cup and containing mercury, an electrode in said porous cup having its lower end immersed in said mercury. 5th. In a galvanic cell, the combination of an electrode, a cup of porous carbon or shallow vessel containing mercury and of non-conducting material placed in the bottom of said porous cup, and an electrode with its lower end resting upon the bottom of said vessel and in the mercury, and separated from contact with said porous cup by the intervening side or sides of said vessel. 6th. In a galvanic cell, the combination of an electrode, a porous cup, a vessel containing mercury within said cup, an electrode within said cup and having its lower end immersed in said mercury, and a conductor communicating at one end with said mercury and at the other end with a terminal of the cell. 7th. In a galvanic cell, the combination of the electrode, cup, containing mercury, and conducting rod T having an iron tip V.

No. 22,833. Type-Writing Machine.

(Graphotype.)

Edward E. Horton, Toronto, Ont., 17th November, 1885; 5 years.

Claim.—1st. In a type-writing machine, a surface carried by a movable paper-carriage for receiving the blow from the type-bars, the face of said surface being at an angle to the horizontal plane of the machine, and in a plane parallel with or the same as that of the arc or arcs of a circle or circles to which the type-bars are pivoted, said arc or arcs being also at an angle to the horizontal plane of the machine, substantially as set forth. 2nd. In a type writing machine, the fixed flat platen J, K, attached to a movable paper-carriage, the face of said fixed flat platen being at an angle to the horizontal plane of the machine, and in a plane parallel with or the same as that of the arc or arcs of a circle or circles to which the type bars are affixed, said arc or arcs of circles being also at an angle to the horizontal plane of the machine, in combination with the rollers L, M, P, Q, the spring rollers N, O, the ratchet wheel R, the pawl S, the movable arms U, V, rod *m*, the pallets o and p, gear *n*, and connections, as and for the purpose specified. 3rd. In a type-writing machine, the combination of the shaft *h*, *s*, with the cogged wheels *e* and *f*, the ratchet-wheel *g*, the pinion *k*, the spools *c* and *d*, the paper-carriage W, X, and the pawl *g*, connecting the ratchet wheel *g* with the cog-wheels *e*, *f*, substantially as and for the purpose specified. 4th. In a type-writing machine, the combination of the rod *m*, operated by means, substantially as described, with the pin *u*, the cross-bar *h*, *s*, the rods and springs *f* and *g*, and the cross-bar *q*, as and for the purpose specified. 5th. In a type-writing machine, and in combination with the frame A, B, C, D, rails *a*, *b*, of said frame, and the paper-carriage W, X, provided with wheels X, Z, and rack-bar *m*, as described, the shaft *h*, *s*, pinion *k* on said shaft, ratchet-wheel *g*, pallets o and p, standard *r*, cross-bar *q*, rods and springs *f*, *g*, bar *n*, *s*, pin *u*, and the movable bar *m*, as and for the purpose specified.

No. 22,834. Reversible Self-Heating Smoothing Iron. (Fer à Repasser Réversible à Foyer.)

Thomas H. Fitzsimons and Walter J. Smith, London, Ont., 17th November, 1885; 5 years.

Claim.—1st. A reservoir G, formed with two wick tubes F, F, in combination with an iron A, formed with enlarged openings *a*, *a*, and openings A₁ and A₂, substantially as shown and described and for the purpose specified. 2nd. A handle B and spring C formed with a stud C₁, in combination with an iron A, in which sockets A₁, A₂ are formed, substantially as shown and described and for the purpose specified. 3rd. The combination and arrangement of the handle B, formed with sockets B₁, with an iron A on which studs B₁, B₂ are formed, substantially as shown and described and for the purpose specified. 4th. The combination of wick tubes F, F, formed

with a screw thread F, reservoir G, formed with a screw-thread G₂ and hollow iron A, substantially as shown and described and for the purpose specified. 5th. A reservoir G, in which a vent or perforation I is formed, in combination with a hollow iron A, substantially as shown and described and for the purpose specified. 6th. The combination and arrangement of the reservoir G, formed with studs N, N, with the iron A, and spring-holders K, K, formed with slots K₁, K₁, substantially as shown and described and for the purpose specified.

No. 22,835. Metal Roofing Plate.

(*Plaque Métallique à Toiture.*)

The Sheet Metal Roofing Company (Assignee of Charles B. Cooper), New York, N.Y., U.S., 18th November, 1885; 5 years.

Claim.—1st. A metal roofing plate, provided at its overlapping end with a curved bracing corrugation, as and for the purpose set forth. 2nd. A metal roofing plate, provided at its overlapping end with a bracing corrugation that is made highest at the middle of the plate and gradually shallower from the middle to the ends of the corrugation, as and for the purpose set forth. 3rd. A metal roofing-plate, provided at its upper end with two or more dams extending continuously across the plate, as and for the purpose set forth.

No. 22,836. Rocking Chair. (*Chaise à Bascule*)

Albert H. Ordway, Melrose, Mass., U.S., 18th November, 1885; 5 years.

Claim.—1st. In a base rocking chair, the base or base parts a, a, having inclined ways C, C, adapted to serve as beds on which the frame is rocked, as and for the purpose set forth. 2nd. In a base rocker, the base or base parts a, a, having the inclined ways C, C, and the frame b, b, with its rockers B, B, in combination with the springs d, d, secured respectively to the said inclined ways and rockers, as and for the purpose set forth. 3rd. In a base rocker, the base or base parts a, a, having the inclined ways C, C, and stops e, e, in combination with the frame b, b, its rockers B, B, and springs d, d, constructed and arranged in a manner and for the purpose as herein set forth.

No. 22,837. Staple Lock. (*Serrure à Gâche.*)

George W. Lenchenburg and John F. Hesse, Cincinnati, Ohio., U.S., 18th November, 1885; 5 years.

Claim.—1st. A staple lock, consisting of the case E, having a pair of spring-catches D, D, a coupled cap G provided with a key-hole H, and an inner plate K pierced with a secondary key-hole k, thereby affording a receptacle for the check S which acts as a seat for said staple-lock, as herein described. 2nd. The lock-case E, tapering downwardly at its opposite sides from top to bottom, and provided with a pair of automatic catches D, D, and means for retracting the same, in combination with a staple or keeper B, whose converging opening C has notches c, c, whereby with said catches engage the transverse form of the case E, and the shape of said opening C being such as to compel the key-hole of said case to be presented outwardly, substantially as herein described. 3rd. In combination with a lock-case E, having one or more catches D, D, the slide U provided with a corresponding number of stops V, for retaining said catches in their retracted condition, as herein described.

No. 22,838. Water Closet. (*Cabinet à l'Anglaise.*)

William H. McAndrews and Albert M. Gerstle, Youngstown, Ohio., U.S., 18th November, 1885; 5 years.

Claim.—1st. In a water-closet, the perforated water chamber E communicating with a suitable water supply said chamber E encircling the prolonged portion of the main shell or cone chamber 9, and provided with suitable perforations in the inner wall thereof, in combination with a suitable water supply, as described, whereby a spray seal is formed in the closet and the gasses prevented from rising while the closet is in use, substantially as hereinbefore set forth. 2nd. In water closets, the automatic attachment for opening and closing a pan water seal, consisting of the rod J, the tumbling rod C and the weight I, in combination, substantially as described in the foregoing specification, and for the purposes therein expressed. 3rd. In water closets, the drip safe W in which the valve U rests and the hollow of which communicates with the interior of the closet by means of perforations, substantially as described in the foregoing specifications and for the purpose therein expressed. 4th. In water closets, the stuffing box a composed of a cylinder closed at one end and provided with threads around its circumference near the open end, in combination with a rod provided with a shoulder, substantially as described in the foregoing specifications and for the purpose therein expressed.

No. 22,839. Car-Coupler. (*Accouplage de Chars*)

William C. Beate and Theodore Starbuck, Ferdinand, Pa., U.S., 18th November, 1885; 5 years.

Claim.—The combination of the draw-head A, having the rearwardly curved horn or casting c, provided with aperture e, coupling pin B having a reduced part forming shoulders j and p, and curved lever C having a slot a at its rear end confined between the shoulders or efforts on the pin, substantially as and for the purpose shown and set forth.

No. 22,840. Candy Machine. (*Machine à Candi.*)

Ford G. Birchard and H. L. Simmons, Williamsport, Pa., U.S., 18th November, 1885; 5 years.

Claim.—1st. A candy machine having adjustable rolls of the form of truncated cones correspondingly arranged with an outward inclination around a common centre at equal distances from each other, and from the common centre and rotated in the same direction, substantially as described. 2nd. A candy machine, with the correspond-

ingly arranged conical rolls F, in combination with feed-rollers, substantially as described. 3rd. A candy machine, with the correspondingly arranged conical rolls F, in combination with feed-rollers and an intermediate die, substantially as described. 4th. A candy machine, with the adjustable and correspondingly arranged conical rolls F, the feed rollers and an endless belt to carry away the candy, substantially as described. 5th. A candy machine, with the correspondingly arranged conical rolls F, corrugated or embossed, substantially as described. 6th. A candy machine with the rolls F, combined with means for heating the same, substantially as described. 7th. A candy machine, having corrugated, embossed or ornamental feed-rolls, in combination with conical rolls for twisting the candy, substantially as described. 8th. A candy machine, having a corrugated or ornamental die intermediate, a set of feed rollers and a set of rolls for twisting the candy, substantially as described.

No. 22,841. Composition of Matters for Oiling Car Axles. (*Composition de Matières pour Huiler les Essieux des Chars*)

Joseph Plante, Lévis, Que., 18th November, 1885; 5 years.

Reclame.—L'emploi du soufre et de la tourbe (terre noire de savane) avec l'huile ordinaire, dans les proportions et pour les usages ci-dessus décrites.

No. 22,842. Indicator for Street and Railway Cars. (*Indicateur pour Chars et Tramways et de Chemins de Fer.*)

Colin C. Feetum, Toronto, Ont., 18th November, 1885; 5 years.

Claim.—1st. In an automatic indicator for street cars or railway cars, having the rollers A and D with the web D, provided with placards shafts C, with socket key-class and gear wheel in combination with the shaft F, wheel E and B, pawls H and I and ratchet J, with the connecting mechanism, whereby the web D is operated, as described, substantially as and for the purpose hereinbefore set forth. 2nd. The combination of the rails K, k₁, with the wheel E, F, and axle F, substantially as and for the purposes hereinbefore set forth.

No. 22,843. Spring Locking Device for Drill Hoes and Cultivator Teeth. (*Appareil à Ressort pour Assujétir les Dents des Semoirs en Ligne et des Cultivateurs.*)

James Noxon and Thomas H. Noxon, Ingersoll, Ont., 18th November, 1885; 5 years.

Claim.—1st. A double-coiled wire spring, connected to the drag-bar by means of two cylinders around which the spring is coiled in combination with means for connecting the spring to the hoe, so that its draft shall be directed simultaneously against both ends of the spring. 2nd. A double-coiled wire spring C wound round two cylinders B attached to the drag-bar A, and having one of its outwardly-turned ends a fitting over the lug D attached to the hoe or cultivator tooth E, in combination with the dog F provided with the lugs d fitting against the outwardly-projecting end b on the spring C, and connected to the hoe or cultivator tooth E by the braces G, substantially as and for the purpose specified. 3rd. A double-coiled wire spring C wound round the cylinders B, attached to the drag-bar A, and having one of its outwardly-turned ends a fitting over the lug D, attached to the hoe or cultivator-tooth E, in combination with the dog F, provided with the lugs d fitting against the outwardly-projecting end b on the spring C, and flanges e for lapping over the edges of the braces G used to connect the dog to the hoe or cultivator tooth E, substantially as and for the purpose specified.

No. 22,844. Spring Locking Device for Drill Hoes and Cultivator Teeth. (*Appareil à Ressort pour assujétir les Dents des Semoirs en Ligne et des Cultivateurs*)

James Moxon and Thomas H. Moxon, Ingersoll, Ont., 18th November, 1885; 5 years.

Claim.—1st. A coiled wire spring wound round a cylinder journalled in the drag-bar, and having one of its ends arranged to direct pressure against the locking-stud, while the other end directs pressure against a projection formed upon or attached to the hoe or cultivator tooth, so that the draft of the latter shall be directed simultaneously against both ends of the spring. 2nd. The coiled wire spring A wound round the cylinder B and having one of its ends attached to a projector d, in combination with a disc E journalled in the cylinder B and provided with a projection a to connect with the end of the spring A, and a projection b to connect with the projection e on the socket-stud F, substantially as and for the purpose specified. 3rd. A spring A coiled round a cylinder C, attached to the socket-stud F, which is journalled in the drag-bar J, as specified, a projection d formed upon or attached to the stud F, in combination with the disc E journalled on the cylinder J and provided with projections a and b for connecting it to the spring A and locking-stud B, substantially as and for the purpose specified. 4th. The socket-stud F journalled on the end of the drag-bar, and having a socket formed in it to receive the hoe or cultivator tooth H, having a hook i formed on it to fit round the said stud, as specified, in combination with the coiled wire spring A, one end of which is connected to the socket-stud F, while its other end is connected to the locking-stud D, which latter is connected by the brace I to the hoe or cultivator tooth.

No. 22,845. File Holder and File for Horse's Teeth. (*Lime et Porte-Lime pour les Dents des Chevaux.*)

Robert Watkins, Hamilton, Ont., 18th November, 1885; 5 years.

Claim.—1st. The combination of a file and file holder for horse dentistry, of the file D, the end of which are semi-circular with two

cutting sides, the elongated holder A having a wood handle A1 and provided with a screw joint E, for convenience in carrying the flanges B to overlap a portion of the file, and the end flanges C rounded to partially protect the horse's mouth from the file, substantially as and for the purpose hereinbefore set forth.

No. 22,846. Horse Teeth Nippers.

(*Davier de Vétérinaire.*)

Robert Watkins, Hamilton, Ont., 18th November, 1885; 5 years.

Claim.—The combination, in a nipper for horse dentistry, of the jaws A made of tempered steel, the two handles B of any desired length, joined together in a box joint form C and fastened by the screw D, substantially as and for the purpose hereinbefore set forth.

No 22,847. Device for Chromatic Printing.

(*Appareil d'Impression en Couleurs.*)

Thomas J. Lindley and Frank M. Robinson, Lyons, Ia., U.S., 18th November, 1885; 5 years.

Claim—1st. A device for printing in colours consisting of a rectangular frame adapted to be set in a type-bed or chase with ordinary type or electro plates, and provided with a movable type form, and mechanism for automatically operating it by the movements of the press, to apply the coloured ink and impress the same upon the paper, substantially as and for the purposes specified. 2nd. The combination, with the frame of the rock shaft flattened on one side to form a seat for the type form, and journalled in bearings in the frame, of the curved levers fulcrumed to the sides of the frame and engaging suitable crank pins on the ends of the rock shaft and the springs, whereby it is turned to shift the type form or form, substantially as specified. 3rd. The combination, with the rock shaft, of the transverse partition extending across the frame and the set screw, whereby the movement of the rock shaft and type form or frame may be arrested to present the face of the type squarely to the surface of the paper, substantially as specified. 4th. The combination, with the frame and the rock shaft provided with crank pins at its ends, of the curved levers slotted, as described, so as to yield to the impression cylinder, substantially as specified. 5th. The combination, with the frame, of the tumblers pivoted within the same and having bearings for the journals of the inking cylinder and the adjustable springs, whereby the inking cylinder is pressed normally forward and allowed to yield to the type form and be rotated thereby as it is shifted, substantially as and for the purposes specified. 6th. The combination, with the frame, of the tumblers having spring bearings to receive the journals of the inking cylinder, substantially as specified. 7th. The perforated inking cylinder for containing the ink and distributing it to the felt or other covering, substantially as specified. 8th. The perforated inking cylinder divided by suitable partitions into one or more compartments to receive different colours and distribute them to the type, substantially as specified.

No. 22,848. Rod and Bolt Cutter.

(*Cisailles pour Couper les Barres et Boulons.*)

William H. Camsbock, (assignee of David R. Nichols, Brockville, Ont., 19th November, 1885; 5 years.

Claim.—The improved bolt-cutter consisting of the branches A and P, the branch A having the fixed cutter B and provided with the bit-hollow having diverging guide guide-walls a, guide slot d, the pivot aperture and the opposite branch F with the eccentric V, the pivot-bar Z and the movable bit-holder G arranged in the said hollow, and provided with the circular aperture to be engaged by the eccentric, substantially as specified.

No. 22,849. Trunk. (Coffre.)

Kenneth McLeod and Zéphirin Brabant, Montreal, Que., 19th November, 1885; 5 years.

Claim.—A trunk having an inner box of boards, an outer sheeting of thin wood or veneer, arranged in slots loosely upon said box, with spaces between their edges and cleats covering the joints, substantially as and for the purpose specified.

No. 22,850. Buggy Top. (Couverture de Voiture.)

Erastus L. Booth, Mount Zion, Ill., U.S., 20th November, 1885, 5 years.

Claim.—The combination, with a shaft to which the braces of a buggy top are rigidly attached, of a lever provided with a sliding bolt adapted to engage the said shaft, and an inclined plane adapted to disengage the bolt from the shaft by the action of the lever, as and for the purpose set forth.

No 22,851. Shaft Coupling. (Embrayage d'Arbre.)

Frederick G. Beckett, Hamilton, Ont., (assignee of William B. Turner, New York, N.Y., U.S., 21st November, 1885; 5 years.

Claim.—1st. In a shaft coupling, the cam levers J, as described. 2nd. In a shaft coupling, the combination, with the cam levers J, of the caps E and F, as described. 3rd. In a shaft coupling, the combination, with the cam levers J and rods S and nut or nuts T, of the caps E, F, as described. 4th. In a shaft coupling, the combination, with the cam levers J, of the caps E, F, and stationary seat B, as described. 5th. In a shaft coupling, the combination with the yoke-shaped cam levers J, of the movable caps E, F, as described. 6th. In a shaft coupling, the combination, with the casing A, of the movable caps E, F, levers J, and cams P, Q, as described, and all operating substantially as and for the purposes set forth.

No. 22,852. Shoe. (Soulier.)

Joseph Sequin and Jean B. Lalime, (assignees of Charles H. Kirkland, St. Hyacinthe, Que., 21st November, 1885; 5 years.

Claim.—1st. A shoe having its upper formed of one piece comprising the vamp quarters or flaps and a centre piece or flap, an in-union piece and a back strap all substantially as described. 2nd. The blank A, with flap a, as herein shown and described.

No. 22,853. Axle. (Essieu.)

Willard I. Corey, Cincinnati, Ohio, U.S., 21st November, 1885; 5 years.

Claim.—1st. The combination of the axle roller R journalled thereon, the axle having bearing J1 and flattened end having bearing J and cap B, provided with tongue m1 having groove J2, substantially as and for the purposes specified. 2nd. The combination of the axle and roller R journalled thereon in bearing, as J1, and bearing lying in the flattened end of the axle, and said flattened end having angular projection N and cap B having tongue m1, provided with groove J2, and angular opening n and screw pin and nut, substantially as and for the purposes set forth. 3rd. An axle provided with an anti-friction roller, the inner end of said anti-friction roller being so journalled in the solid axle that its journal end is completely surrounded by the solid axle, substantially as and for the purposes specified. 4th. The axle provided with an anti-friction roller, the inner end of said anti-friction roller being so journalled in the solid axle that the journal bearing of the said anti-friction is completely surrounded by the solid axle, the bearing being also situated in the journal portion of the axle external to the inner rim, substantially as and for the purposes set forth.

No. 22,854. Machine for Spreading Manure.

(*Machine à Distribuer les Engrais*)

William H. Crandall, Stow, Mass. U.S., 21st November, 1885, 5 years.

Claim.—1st. The tail-board B, hinged at the top to the wagon body, the bar a having holes d and the pin r, in combination with the toothed roller F, arranged below such tail-board, whereby such tail-board can be adjusted to different positions, so that the manure can be passed between it and the roller, as set forth. 2nd. The endless apron E, its operative mechanism consisting of pawl h, ratchet t and cam k and the toothed roller F and its operative mechanism consisting of the gearing and its shipper-lever i, in combination with the tri-armed lever w and the connecting-arms v and x, all combined, arranged and contracted as and for the purpose set forth.

No. 22,855. Art or Process for Refining and Illuminating Coal Oil. (Art ou Procédé de Disinfection et d'Épuration du Pétrole.)

Donald A. Stewart, Hamilton, Ont., 21st November, 1885; 5 years.

Claim.—1st. The process of treating illuminating refined Canadian petroleum or coal oil, by mixing therewith ammonia, or any of its compounds, bi-carbonate of soda, acetic acid, or about the proportions specified to each gallon of oil, the whole thoroughly agitated, decanted, and treated substantially as and for the purpose specified.

No. 22,856. Vapor Burner Cooking Stove.

(*Cuisinière à Gaz*)

James A. Marsh, Cleveland, Ohio, U.S., 21st November, 1885, 5 years

Claim.—1st. In a vapor burner, the combination of the generating chamber, the plug-valve, the needle-valve which controls the flow of vapor to the burner and the lever for operating said needle-valve fulcrumed below the drip-cup and extending laterally to one side of the stove cover, substantially as set forth. 2nd. In a vapor burner, the combination of the generating chamber provided with valves and levers, as described, a subsidiary jet and valve located at one side of said chamber and having wings or guards, and a commingling chamber provided with laterally and downwardly extending openings immediately over the subsidiary jet and burner jets, substantially as set forth. 3rd. In a vapor burner, the combination of a generating chamber provided with valves, as described, a commingling chamber, a pipe connected to said commingling chamber near its base and provided with a supplemental burner and valve at its outer extremity, and a vessel holder for said supplemental burner, substantially as set forth. 4th. In a vapor burner, the combination of a generating chamber provided with valves, as described, a commingling chamber having a chambered deflecting cap and vertical and horizontal orifices p, p', a perforated disc contiguous to the cap, a pipe connected to said commingling chamber near its base and provided with a supplemental burner and a controlling valve at its outer extremity, and a vessel for said supplemental burner, substantially as set forth. 5th. In a vapor burner, the combination of a generating chamber having valves as described, a commingling chamber, a supplemental burner provided with a cut off valve and a pipe connecting the supplemental burner and commingling chamber, as set forth. 6th. In a vapor burner, the combination of a generating chamber provided with suitable valves, a commingling chamber having a chambered cap provided with a series of vertical and a series of horizontal perforations and a perforated disc secured loosely immediately above said cap, substantially as set forth. 7th. In a vapor burner, the combination of generating chamber provided with burner jets and a perforated disc secured contiguous to said burner jets, whereby the flames are spread and perfect combustion is secured, as set forth.

No. 22,857. Toilet Paper - Holder

(*Porte-Papier de Toilette.*)

George S. Wilson, Montreal, Que., 21st November, 1885; 5 years.

Claim.—In a toilet paper holder, slots, ways, or guides, formed in the sides to receive the ends of the spindle on which a continuous roll of paper is wound, as and for the purpose set forth.

No. 22,858. Metallic Frame for Cars and Platforms and Draft Bar for such Cars. (*Châssis Métallique pour Chars et Plateformes, et Tige de Traction pour ces Chars.*)

John T. Goodfellow, Troy, N.Y., and Robert M. Cushman, Franklin Park, N.J., U.S., 31st November, 1885. 5 years

Claim.—1st. The combination, with the longitudinal tubes *a, a*, of intermediate bearing blocks between such tubes, clips passing around the tubes, and bolts passing through the bearing blocks and the clips, substantially as set forth. 2nd. The combination, with the longitudinal tubes, of intermediate bearing blocks, clips passing around the tubes, struts below the lower clips, and tie bars or braces connect to the lower end of the struts, substantially as set forth. 3rd. The combination, with the longitudinal tubes, clips, bearing blocks, and struts, of T-shaped bars connecting the lower ends of the struts and longitudinal truss bolts, substantially as specified. 4th. The combination, with the longitudinal tube clips, and bearing blocks, of struts that are inclined, the bars connecting the lower ends of the inclined struts, and longitudinal truss bolts passing below the tie bars and at the sides of the longitudinal tubes, substantially as specified. 5th. The combination, with the longitudinal tubes, of clips and divided intermediate bearing blocks, bolts to connect the same and bolts passing through the divided bearing bars, substantially as set forth. 6th. The combination, with the longitudinal tubes and clips, of divided bearing blocks, bolts connecting the clips and bearing blocks and bolts passing between the divided bearing blocks, substantially as set forth. 7th. The combination, with the longitudinal tubes and clips, of intermediate bearing blocks, a transom beam, and bolts for connecting the respective parts, substantially as set forth. 8th. The combination, with the longitudinal tubes, of the clips, the intermediate bearing blocks, the saddle having eyes at the end portions, and the diagonal braces passing through the eyes, substantially as set forth. 9th. The combination, with the longitudinal tubes and clips, and bearing blocks to connect the tubes together, of clips passing around the tubes, vertical stanchions and clamping plates for the same, substantially as set forth. 10th. The stanchion, the clips and plates, the longitudinal tubes, and the socket or rest for the braces, substantially as set forth. 11th. The stanchion, the clip and plate for the same, and a hook upon the side plate and a tie brace having an eye for the said hook, substantially as set forth. 12th. The combination, with the longitudinal tubes, of the end bearing pieces, the connecting bolts and the end sill of a flanged iron, substantially as set forth. 13th. The shoe pieces *s* and bolt *t*, in combination with the longitudinal tubes and the longitudinal sill pieces and flooring, substantially as specified. 14th. In combination with the longitudinal tubes, of plugs passing into the tubes, bolts through such plugs, and ears to hold the head of the bolt, substantially as set forth. 15th. The thimble *o*, having a polygonal head, in combination with the tube *a*, and end socket, substantially as set forth. 16th. The bearing blocks having recessed ends and shoulder for the purposes set forth. 17th. The clips *b* adapted to set over the tube *a*, and having shoulders at *b* adapted to interlock with the shoulders *f* of the bearing blocks *c*, substantially as set forth. 18th. The clips adapted to set against the tube *a* and provided with the struts *d*, substantially as set forth. 19th. The plates *u* adapted to set against the tube and to receive the plates *v* and *r*, substantially as set forth. 20th. The plates *u*, *v*, *r*, *c*, having notches, projections, and ribs, substantially as specified, so as to interlock when set together. 21st. The thimble *o* adapted to receive the bolt *r* and having a polygonal head, substantially as set forth. 22nd. The shoe *s* having a flat portion to set against the sill, and a concave portion to rest against the tube, substantially as set forth. 23rd. The saddle *n* adapted to resting against the bearing block and having the openings for the bolts, substantially as set forth. 24th. The door stop, formed as a hook at one end, and adapted to rest against the longitudinal tube and provided with holes for the bolts as specified. 25th. The abutment tubes *r*, *r*, and parallel tubes *m*, secured between the end beam *l* and transom beam *m*, in combination with the follower plates *e*, *e*, spring *e* and draft head, substantially as set forth. 26th. The blocks *c* and clips *b* having interlocking shoulders *f* and *g*, and the bolts by which the parts are secured together, substantially as specified. 27th. The combination, with the blocks *c*, of clips *b* having brackets *h* adapted to receive the flooring strips *h*, substantially as specified. 18th. The metal end sill *r*, in combination with plate *g*, tubes *a*, thimble *o*, and bolts *r*, substantially as specified. 29th. In combination with the transom, the blocks *c* having a hole at *l*, and projections *l*, the clips *b* and the bolt *m* passing through the transom and blocks, substantially as specified. 30th. The combination, with the tubes *a*, of the plates *u*, *v*, stanchion *t* and the clips *t*, substantially as specified.

No. 22,859. Anti-Fiction Journal Box.

(*Coussinet de Tourillon à Anti-friction.*)

John A. Cameron, Lancaster, Ont., 21st November, 1885. 5 years.

Claim.—1st. The combination of a journal A, collars A', box B, cover C, rabbet E, balls F, sleeve D and rollers *d*. 2nd. The combination of the journal box B, cover C, rabbet E, ball F and collars A', all substantially as shown and described and for the purpose set forth.

No. 22,860. Propeller Sled. (*Traineau Propulcur.*)

John McCormick, Skead's Mills, Ont., 21st November, 1885. 5 years.

Claim.—1st. The combination, with a sled having rails B, B, of the pushers C, C, having a reciprocating movement on the rails for propelling the sled, as set forth. 2nd. The combination, with a sled having rails B, B, of the pushers C, C, having handles C₂, staples C₁ and spring P, whereby the pushers are alternately raised and depressed at each reciprocation, as set forth. 3rd. The brake F hinged to the front bar of the sled and bent, whereby one end will bear on the ground and the other end bear on the floor of the sled, for the purpose set forth.

No. 22,861. Cash Indicator, Register and Recorder. (*Indicateur-Compteur à Monnaie.*)

William L. Horno, Moridon, Ct., U.S., 21st November, 1885. 5 years.

Claim.—1st. A group of separately-movable digit-signs arranged behind one another, in combination with another figure sign or group substantially as before set forth. 2nd. The combination, substantially as before set forth, of a group of separately-movable digit-signs ranged behind one another, with another figure sign or group and an accounting device. 3rd. The combination, substantially as before set forth, of a digit-sign a spring for retracting it, a key lever for projecting it, a bracket for supporting the stem of the projected digit-sign, and means, such as described, for pushing said stem from the bracket to cause the retraction of the digit-sign. 4th. The combination, substantially as before set forth, of a stationary cipher sign, and a group of independently-movable digit-signs. 5th. The combination, substantially as before set forth, of a digit-sign, a platform for supporting it when exposed, a slide for moving it from the platform a lever for operating the slide and a bell which is struck by the action of the lever in moving the slide. 6th. The combination, substantially as before set forth, of a group of independent key-levers, a corresponding group of separately movable digit-signs and a guard which compels the release of all the key-levers before the figures representing the amount received can be exposed to view.

No. 22,862. Traction Engine.

(*Machine Locomotive.*)

Loyal C. Tabor, Syracuse, N.Y., U.S., 21st November, 1885. 5 years.

Claim.—1st. In combination with the boiler A and forward axle *a*, the reach *r* extending from the axle to the rear portion of the boiler, and the brace B extending from the forward portion of the boiler to the rear portion of the same and having its attachment at the rear end, in common with that of the reach, substantially as set forth. 2nd. In combination with the boiler A, semi-spherical bearing post K and forward axle *a*, the sleeve *s* provided on top with the socket *h* and on the bottom with the stud-pin *u*, the reach *r* extending across the underside of the sleeve and provided with an eye for the reception of the stud-pin, and the coupling link *l* pivoted on the post *h* and connected with the forward end of the reach, whereby said post is retained in the socket without interfering with the oscillation of the axle, substantially as set forth and shown. 3rd. In combination with the boiler A having the downwardly extended fire box *v* and reach *r* and brace B, the keys embracing the bottom corner of the forward portion of the fire-box, and having forward projecting ears *n*, *n*, and bolt for the attachment of the reach and brace, substantially as described and shown. 4th. In combination with the boiler A, axle *a*, sleeve *s* provided with the socket *h*, hollow semi-spherical bearing post K provided with the side opening *c*, compensating gear R on the axle and the counter-shaft supported on the sleeve and having a universal joint in the hollow post K, and provided with the pinion *p* meshing in the rear K and the steering chains *h* wound in opposite directions on the shaft *r* and connected to the ends *h* of the sleeve *s*, as described, the check-chains *l* having their rear ends *h* attached stationary and independent of the steering chains and their forward end securely coupled to the steering chains, and each check chain of a length to be drawn taut by the unwinding of the steering chain to which it is connected, whereby the action of the steering chains is limited to prevent the binding of the counter shaft in the side opening of the bearing post and injury to the same and to the gears P, K, substantially as set forth.

No. 22,863. Loom for Weaving Double Pile Fabrics. (*Métier à Tisser les Tréous à Deux Poils.*)

Charles Coupland, Seymour, Ct., U.S., 21st November, 1885. 5 years.

Claim.—The combination of the following elements, to wit lower shuttle-boxes A and lay-beam *a*, upper shuttle-box B, rail skeleton race E and hinged or removable sides applied to the upper shuttle-boxes, substantially as described, whereby the shuttle may be removed therefrom or replaced thereon without interfering with the said skeleton race or with the warps, all substantially as herein set forth.

No. 22,864. Cable Coupling. (*Epissure de Câble.*)

Henry Gale, Syracuse, N.Y., U.S., 21st November, 1885. 5 years.

Claim.—In a cable coupling, of the class here described, the ferules or collars B, B', bevelled externally toward opposite ends, substantially as described and shown for the purpose set forth.

No. 22,865. Means and Apparatus for the Automatic Sale and Delivery of the Prepaid Articles. (*Moyens et Appareil pour la Vente et la Livraison Automatique des Objets Payés d'Avance.*)

William P. Kiceon, London, Eng., 21st November, 1885. 5 years.

Claim.—1st. In an apparatus for the automatic sale and delivery of prepaid articles, the use of a revolving band B, in combination with the mechanism, whereby the said band B is revolved, and the articles to be sold moved opposite an aperture C, substantially as described. 2nd. In an apparatus for the automatic sale and delivery of prepaid articles, the mechanical means whereby articles are ejected through an aperture C, and the automatic closing of the aperture for the admission of coins by shield U during the time the article is passing through exit aperture C, substantially as described. 3rd. In an apparatus for the automatic sale and delivery of prepaid articles, the arrangement of clutch pieces H and M, as described, so that the contact itself forms the connection between an external trigger E and the internal mechanism for the purpose of transmitting action thereto.

substantially as described. 4th. In an apparatus for the automatic sale and delivery of prepaid articles, the arrangement by which the coins when received are collected and stored on edge so as to economize space to the utmost, substantially as described. 5th. In an apparatus for the automatic sale and delivery of prepaid articles, the automatic sale and delivery of prepaid articles, the automatic closing of the admission aperture, so as to prevent the introduction of any further coins when no more merchandise or articles are contained by the apparatus by means of a shield U, in combination with a sliding carriage T, hook a, and the mechanical arrangement in connection therewith, substantially as described.

No. 22,866. Manufacture of Axes.

(Fabrication des Haches.)

Henry Hammond, New Haven, Ct., U. S., 21st November, 1885; 5 years.

Claim.—A blank for an axe-poll, hatchet, or other analogous article, formed with concavities c, c, aggregate bulk of which concavities substantially corresponds with the bulk of the eye to be formed.

No. 22,867. Hen's Nest. (Pondeuse.)

Joseph H. A. Sylvestro, Laprairie, Que., 23rd November, 1885; 5 years.

Reclame.—1o. Dans un pondeuse, le receptacle A, a, b, en combinaison, avec le nid, B avec la boite C munie d'un plan incliné C₁, tel que ci-dessus décrit et pour les fins mentionnées. 2o. Dans un pondeuse, la combinaison du receptacle A, a, b, du nid B, avec la boite C munie d'un plan incliné C₁, l'opercule articulée b₁, le ressort b₂, le tout tel que ci-dessus décrit et pour les fins sus-mentionnées.

No. 22,868. Fastenings of Guard Rails for Railways. (Clou de Contre-Rail pour Chemins de Fer.)

Stephen Stuart, Amherst, N.S., 23rd November, 1885; 5 years.

Claim.—1st. The chock to hold down the inner flange of the guard rail to the clasp A, by means of the bolt C, or its equivalent. 2nd. The chock B to hold down the inner flange of the guard rail to the clasp A, by its bearing against the under side of the head of the line rail and against the inner flange of the guard rail. 3rd. The combination of the clasp A, the chock B and the bolt C or its equivalent, all substantially as and for the purposes hereinbefore set forth.

No. 22,869. Knee, Thigh and other High Boots. (Bottes à Tige.)

John R. Dean, Westminster, Eng., 23rd November, 1885; 5 years.

Claim.—1st. A knee, thigh, or other high boot, having a "spring" or gusset, as a, inserted at the instep, as at C, or in any other convenient part of the boot, substantially as and for the purpose set forth. 2nd. A knee, thigh, or other high boot, having an elastic pad, as E, inserted in the back of the boot just above the heel, and by preference between the lining and outer leather, substantially as and for the purpose set forth. 3rd. A knee, thigh, or other high boot, having a strap, as F, by preference permanently attached to the boot at the instep, or other convenient part, and being secured to the heel of the boot by means of a stud or buckle, substantially as and for the purpose set forth. 4th. In knee, thigh, and other high boots, the combination of a spring or gusset, as a, with an elastic pad, as E, substantially as and for the purpose set forth. 5th. In knee, thigh, and other high boots, the combination of a spring or gusset, as a, with an instep strap, as F, substantially as and for the purpose set forth. 6th. In knee, thigh, and other high boots, the combination of a spring or gusset, as a, with a flap, as D, and instep strap, as F, substantially as and for the purpose set forth. 7th. In knee, thigh, and other high boots, the combination of a spring or gusset, as a, flap, as D, and instep strap, as F, substantially as set forth. 8th. In knee, thigh, and other high boots, the combination of the spring or gusset, as a, flap, as D, and elastic pad, as E, substantially as set forth. 9th. In knee, thigh, and other high boots, the combination of a spring or gusset, as a, elastic pad, as E, and an instep strap, as F, substantially as herein shown and described. 10th. In knee, thigh, and other boots, the combination of a spring or gusset, as a, flap, as D, elastic pad, as E, and an instep strap, as F, substantially as described. 11th. In knee, thigh, or other high boots, the combination of an orifice, as C, with a flap, as D, substantially as set forth. 12th. In knee, thigh, or other high boots, the combination of an orifice, as C, flap, as D, and elastic pad, as E, substantially as set forth. 13th. In knee, thigh, or other high boots, the combination of an orifice, as C, flap, as D, and instep strap, as F, substantially as set forth.

No. 22,870. Machinery for Ploughing, etc.

(Appareil pour Labourer, etc.)

William C. Norton, Colchill, Eng., 24th November, 1885; 5 years.

Claim.—The improvements in machinery for ploughing, of the engine pivoted and controlled from the centre J, J, by the straps K, with the self-clearing wheels A and B, and elevative and steering arrangements for turning quick corners, and the ploughs suitable for single or grouped use with independent and yet controllable action, as herein set forth.

No. 22,871. Composition for Bread.

(Composition pour le Pain.)

Julius T. Erdmann, Montreal, Que., 24th November, 1885; 5 years.

Claim.—The herein described composition for bread, consisting of Hagerman, Minnesota, and rye flour, mixed together in substantially the proportions specified.

No. 22,872. Manufacture of Axes.

(Fabrication des Haches.)

Henry Hammond, New Haven, Ct., U. S., 24th November, 1885; 5 years.

Claim.—The process of making the eye and head of an axe, which consists in beating an axe blank and in forcing the sides thereof apart at the eye portion, till that portion is expanded to the ultimate thickness and form desired, and in upsetting the upper end of the blank till it reaches the thickness and shape desired for the head of the axe, all substantially as described.

No. 22,873. Ironing Board.

(Planche à Repasser.)

Joseph M. Smyth, Windsor, Ont., 24th November, 1885; 5 years.

Claim.—1st. In an ironing board, the combination of the board G, provided with the flanged plates H, with the stand B, and the means for locking the parts together at any point within the length of the plates H, substantially as set forth. 2nd. In an ironing board, the combination of the board G, with the flange plates H secured thereto, with a stand B, provided with studs c designed to engage between the edges of the flanges c and the means for locking the parts together, substantially as and for the purposes specified. 3rd. In an ironing board, the combination of the stand B, hand wheel C, bolt E, board G, and flanged plates H, when constructed, arranged and operating, substantially in the manner and for the purposes described.

No. 22,874. Balanced Slide Valve.

(Troir de Vapeur Equilibré.)

Warren T. Reesor, Madison, Wis., U.S., 24th November, 1885; 15 years.

Claim.—1st. In a balanced slide-valve, the combination of supports having bearing surfaces, curved from a common center, cross arms rigidly connecting the supports in pairs, and a bar connecting the cross-arms with each other and with the valve, substantially as described. 2nd. In a balanced slide-valve, the combination of supports having bearing surfaces at top and bottom, curved from a common center, cross-arms rigidly connecting the supports in pairs and having toothed segments o, o, with a bar supporting the valve and having teeth that engage with those of the segments o, o, substantially as described. 3rd. The combination, with a slide valve and its seat, of vibrating supports having segmental or rocking bearings at their upper and lower ends, toothed segments connected thereto toothed segments e, e, toothed bars h, h, cross-bars e₁, e₂ and or bar G, substantially as described.

No. 22,875. Stop and Waste Valve.

(Soupape de Retenue et de Décharge.)

Patrick Harvey, Chicago, Ill., U.S., 25th November, 1885; 5 years.

Claim.—1st. In a stop and waste valve, the valve stem having the waste duct located therein, in combination with an automatic check valve seating inward to close said duct in the stem, substantially as set forth. 2nd. In a stop and waste valve, the valve shall have supply service and waste ports and cylindrical seat between the supply and service ports on one hand and the waste port upon the other hand, the valve stem having a valve to close the supply port, and another valve to close the waste port, and a third valve or piston rigid with it, and adapted to said cylindrical seat, and a duct within it opening to its surface beyond the last named valve or piston in the direction of the waste port, said piston being so located as to be in contact with said cylindrical seat throughout the entire stroke of the valve stem, whereby communication between the waste port and the other port is restricted to said duct in the stem, substantially as set forth. 3rd. In a stop and waste valve, in combination, the valve shall have supply service and waste ports and a cylindrical seat between the supply and service ports, on one hand and the waste port on the other hand, the valve stem having a valve to close the supply port, and another valve to close the waste port, and a third valve or piston rigid with it adapted to said cylindrical seat, and a duct opening to its surface beyond said piston in the direction of the waste port, and a check valve in said duct and adapted to close the same, by seating inward, said piston being so located on the stem as to be in contact with its said seat throughout the entire stroke of the stroke of the valve stem, substantially as set forth. 4th. In a stop and waste valve, in combination, substantially as set forth, the valve shell having the supply service and waste ports, the valve of uniform diameter, and the central waste duct, and the automatic check valve seating inwardly to close said duct. 5th. In combination, substantially as hereinbefore set forth, the valve shall have cylindrical valve seats and enlarged cavities adjacent thereto, and supply service and waste ports communicating through such seats and cavities, and the valve stem having piston valves rigid with it closing such communication when in their seats respectively, and standing in such enlarged cavities when out of their seats, the seat through which the supply and service ports communicate, and the seats through which the service and waste ports communicate being respectively on opposite sides of the enlarged cavities in which said valves respectively stand when out of their seats. 6th. In combination, substantially as hereinbefore set forth, the valve shall have cylindrical valve seats and enlarged cavities adjacent to said seats and supply service and waste ports communicating through said seats and cavities, and the valve stem having within it the waste duct communicating with the service port and with the waste port, and having piston valves rigid with it closing such communication between said ports when in their seats respectively and standing in said enlarged cavities when out of their seats respectively, the seat through which the supply and service ports communicate and the seats through which the service port communicate with the waste duct, being respectively on opposite sides of the enlarged cavities in which the valves respectively stand when out of their seats.

No. 22,876. Process for the Manufacture of Brake Shoes for Railway and other Car Wheels. (*Procédé de Fabrication des Sabots de Freins pour Roues de Chemins de Fer et autres.*)

John J. Lappin, Toronto, Ont., 25th November, 1885; 5 years.

Claim.—A process for the manufacture of brake shoes having chilled and unchilled parts in the face thereof, and cast in the sand with the down, as shown and described, so that the pure and heavier metal will fall to the bottom of the mould and form the face of the shoe, and the impure and lighter metal will rise to the top and form the back of the shoe, substantially as specified and described.

No. 22,877. Lubricator. (*Graisneur.*)

James Tennant, Swillington, Eng., 25th November, 1885; 5 years.

Claim.—1st. In a lubricator, as means for regulating the escape of lubricant, a coiled wire or spiral spring the arrangement being such that the length and pitch of the spiral can be varied at pleasure so as to allow more or less lubricant to pass, substantially in the manner and for the purpose described. 2nd. In a lubricator wherein the passage of lubricant is regulated by means of a coiled wire or spiral spring, a cup, such as *h*, at the bottom of the wire coil or spring and at the top thereof, a cup, such as *j*, provided with radial projections, such as *k*₁ and *k*₂, or with a washer, such as *k*, having such projections, substantially as and for the purposes specified. 3rd. In a lubricator of the kind hereinbefore referred to, the vessel *a* formed with an annular projection *b* and an annular groove *c*, substantially as and for the purposes described. 4th. The lubricator, comprising reservoir *a* with annular projection *b* and annular groove *c*, nozzle or neck *d* with outlets for lubricant, ring *g*, cup *h*, wire coil or spring *i*, inverted cup *j* with radial projections, or washer *k*, *k*₁, *k*₂ and grooves *l* or projections *m*, constructed, arranged and operating as described.

No. 22,878. Shaft Bearing. (*Coussinet d'Arbre.*)

Zotique Durocher, Iberville, Que., 25th November, 1885; 5 years.

Claim.—A shaft having the shoulder *a*, journal *a* and nut *c* having its inner portion made circular as shown, in combination with a frictionless gearing composed of the rollers *B*, rings *C*, and circular channel *D*, substantially as herein shown and for the purposes set forth.

No 22,879. Steam Engine. (*Machine à Vapeur.*)

The Detroit Lubricator Company, (assignee of Chester B. Turner), Detroit, Mich., U.S., 26th November, 1885; 5 years.

Claim.—1st. A steam engine having two steam cylinders side by side, wherein the arrangement of the ports and valves controlling such ports will cause the steam in rear of the piston in one of the cylinders to pass to the front of the piston in the other cylinder, when both pistons are travelling the same direction, substantially as and for the purposes described. 2nd. A steam engine having two steam cylinders, side by side, and having means, substantially as described, whereby the compression in rear of one of the pistons, when such compression is greater than the boiler pressure, is automatically relieved without the loss of steam, substantially as specified. 3rd. A steam engine having two steam cylinders, side by side, and of different areas, wherein the construction and arrangement of ports and valves controlling such ports, will admit steam to the larger cylinder from the smaller, at any desired position of the piston in the latter, substantially as and for the purposes set forth. 4th. A steam engine, having two steam cylinders, side by side, and of different areas, wherein the valves controlling the ports will allow live steam to actuate the piston in both cylinders, under the boiler pressure, and by expansion simultaneously, if desired, substantially as described. 5th. A steam engine having two steam cylinders side by side, and having an exhaust port located in the division wall, between such cylinders, and forming the only exhaust for both, substantially as specified. 6th. A steam engine, having two cylinders of equal length but of different areas side by side, with heads, piston heads, and stuffing boxes, in combination with a steam chest *H*, having an inlet port *G* and a slide valve ports *I*, *L*, *N*, *P*, *Q*, valve chambers *M*, *X* located at either end of the exhaust chamber *Q* and in the division wall between such two cylinders, valves *S* connected with the adjustable connecting rod formed of the two parts *W*, *X* adjustably secured together by the nut *X*, the parts being constructed, arranged and operating, substantially in the manner and for the purposes described. 7th. The combination, with the steam chest *H* and cylinder having ports *I*, *L*, of the slide valve *J*, having removable cover or cap, and the relief valve *c* operating loosely between said valve and cap, as set forth.

No. 22,880. Machine for Moulding Pulleys, Gears, and other Castings. (*Machine à faire le Moulage des Poulies, Engrenages et autres objets en Fonte.*)

Frank Bardex and James Campbell, San Francisco, Cal., U.S., 26th November, 1885; 5 years.

Claim.—1st. In a moulding machine, the combination of the stationary flask supporting rim, movable pattern holding ring *J*, movable center plate and intermediate ring *K*, substantially as herein described. 2nd. In a moulding machine, the combination of a flask supporting rim, a vertically adjustable holding follower, a vertical adjustable center plate, and means of moving and setting the said pattern holding follower and the center plate independently of each other, and in any required position with respect to the flask supporting rim, substantially as described. 3rd. In a moulding machine, the combination of a stationary flask supporting rim, a vertically adjustable pattern carrying follower, and a follower adjustable in like manner carrying a center plate, the screw shaft *E* and

operating nut *F*, and a means or device for setting and holding each follower in position of adjustment, substantially as described. 4th. In a moulding machine, a base *a*, a flask supporting rim *B*, supporting standards *A*, *A*, a pattern holding follower *D*, a center plate follower *F*, *G*, a screw shaft *E* and operating nut *F* as a mechanism for moving and setting the said followers, and the rings for extending the surface of the center plate and the flask supporting rim, substantially as described.

No. 22,881. Horse Power. (*Manège.*)

William Donovan, Lucan, Ont., 26th November, 1885; 5 years.

Claim.—The combination, with an overhead power, of a removable driving post *I* suitably connected to said power by means of a square box-shaped head *J*, and pivoted in socket *M* in floor by means of the round foot *L*, substantially as shown and described.

No. 22,882. Self-Acting Car-Coupler.

(*Accouplage de Chars Automatique.*)

John D. Ripson, Toronto, Ont., 26th November, 1885; 5 years.

Claim.—1st. A draw-head, divided into two parts, *A* and *B*, connected together by the springs *I*, and spindle *H*, substantially as and for the purpose specified. 2nd. A draw-head, divided into two parts, *A* and *B*, the curved lug *B*, and guides *G* designed to fit respectively into the hole or recess *F*, and recesses *t*, in combination with the springs *I* and spindle *H*, arranged substantially as and for the purpose specified. 3rd. A draw-head, divided into two parts, *A* and *B*, connected together by the spindle *H* and springs *I*, in combination with dovetailed projections *a*, designed to fit into corresponding recesses formed in the bracket *C*, substantially as and for the purpose specified. 4th. A draw-head, divided into two parts, *A* and *B*, the lower part being provided with projections *a* to fit into recesses made in the bracket *C*, in combination with the box *L* attached to the upper half *B*, and designed to fit below the head *e* of the coupling-pin *K*. 5th. A self-acting car coupler, in which the draw-head is divided into two parts *A* and *B*, and shaped to receive the head *e* of the coupling-pin *K*, a rod *O* connecting the upper half *B* of the draw-head to the end of the lever *P*, in combination with a pivoted hand-lever *R*, having a pin or projection formed on it to act against the curved end of the lever *P*.

No. 22,883. Tap. (*Taraut.*)

William Murohey, Toronto, Ont., 26th November, 1885; 5 years.

Claim.—1st. The cutter *E*, pivoted as described, in slots made in the mandrel *A* and actuated by the springs *F*, as specified, in combination with the spindle *B* inserted into the mandrel *A* between the cutters *E*, and connected to the cutter *C*, substantially as and for the purpose specified. 2nd. The cutters *E*, pivoted as described, in slots made in the mandrel *A*, and actuated by the springs *F*, as specified, a spindle *B* inserted into the mandrel *A* between the cutters *E* and connected to the cutter *C*, in combination with the gauge-rod *H* adjustably connected to the head *G* of the cutter *C*, substantially as and for the purpose specified. 3rd. The cutters *E*, pivoted as described, in slots made in the mandrel *A*, and actuated by the springs *F*, as specified, in combination with the spindle *B* inserted into the mandrel *A*, between the cutters *E*, and having a tapered head *b* to act against the inward projections *d*, formed on the cutters *E*, substantially as and for the purpose specified.

No. 22,884. Curry Comb. (*Etrille.*)

William Ellis, London, Ont., 26th November, 1885; 5 years.

Claim.—In a curry comb, the combination and arrangement of the disunited teeth *C*, *C*, each being formed with a bow *D*, and two tapered ends *E*, *E*, which tapered ends are inserted into the back *A*, to rigidly secure the teeth *C*, *C*, to said back, the bow *D* forming the point of the tooth, in combination with back *A* and strap *B*, substantially as set forth.

No. 22,885. Spring. (*Ressort.*)

Charles C. Hearle, Montreal, Que., 26th November, 1885; 5 years.

Claim.—The forming of a spiral spring out of the bar or rod of steel, or other metal *A*, which is straight and thick from *a* to *b*, tapered and thin from *b* to *c*, and thin and straight from *c* to *d*, substantially claimed and set forth in the foregoing specification.

No. 22,886. Carriage and Waggon Jack.

(*Chèvre à Voiture et Wagon.*)

Henry Midwood, Providence, R. I., U.S., 26th November, 1885; 5 years.

Claim.—1st. In a lifting jack, the combination, with the tubular column *A*, the head *B*, lever *C* and dog *E*, of the independently adjustable head *f*, substantially as described. 2nd. In a lifting jack, the combination, with the tubular column *A*, the head *B* constructed to slide on the column *A* and provided with the rack *D*, dog *E* and lever *C*, of the independently adjustable head *f*, supported on the head *B* by the stem *F*, provided with the stud *f*, as described, substantially as and for the purpose hereinbefore set forth. 3rd. In a lifting jack, the combination, with the hollow column *A* having the foot *a* and shoulder *a*, the hollow head *B* having the shoulders *b*, *b*, opening *b*₂, rack *D* and shoe *E*, of the lever *C* having the arms *c* provided with the rollers *e*, *e*, the stem *F* with the projections *f* and head *f*, constructed substantially as described.

No. 22,887. Saw Swage. (*Etampe à Scie.*)

Milo Covel, Chicago, Ill., U.S., 26th November, 1885; 5 years.

Claim.—1st. In a saw-swage, the combination, with a movable die-block, of an adjustable die inserted therein, a stationary die or anvil, and the means described for bringing said movable die into position

to swage the tooth, substantially as and for the purpose set forth 2d. In a saw-swage, the combination, with the movable die-block A and the guide *a*, of the spring *a*, substantially as and for the purpose set forth. 3d. In a saw-swage, the combination, with the stationary die or anvil C having a rounded swaging surface, of the adjustable guide *a* having the inner end bent upward to conform to the contour of said die, the spring *a* and the thumb nut *a*, substantially as and for the purpose set forth. 4th. In a saw-swage, the combination, with the base A, of the bracket B bolted thereto, the angular socket piece B, the operating handle inserted therein, the link B, the post B, the wedge-block D and the movable die block A, substantially as described. 5th. In a saw-swage, the combination, with the pivoted post B, of the roller C, the lever-arm C and the adjustable clamping-bolt C, substantially as and for the purpose set forth.

No. 22,888. Plough. (Charrue.)

Martin L. Rinehart, Richmond, Ohio, U. S., 25th November, 1885; 5 years.

Claim.—1st. The combination, with the standard B, formed with the dovetailed recess *b*, of the share *f* formed with the recess *h*, as shown, the cutter C fitting in the recess *h* of the chain with a dovetailed arm *c* fitting in recess *b* and dovetailed key D fitted in said recess against said arm, substantially as described. 2d. The combination of the mould board A, formed straight upon its upper portion and its working surface being concaved in forward section and convex in rear section, said curvatures being greatest on lines *N N* and gradually decreasing towards its top, of the share *f* having the recess *h* and the cutter or jointer C, provided with the arm *c* engaging with the post B, having dovetailed recess *b*, substantially as and for the purpose set forth.

No. 22,889. Knotter of Self-Binding Harvester. (Nœud de Moissonnage-Lance.)

John C. McLachlan, London, Ont., 26th November, 1885; 5 years.

Claim.—1st. In a harvester-binder, the cam A having groove *a* formed in its face for imparting motion to the lever C, by means of rollers E pivoted to said lever, and carried in groove *a*, substantially as shown and specified. 2nd. The lever C and roller E, said lever being pivoted to extension arm D of knotted frame, and in combination therewith, substantially as shown and described. 3rd. The jointed rod F pivoted to end of lever C and actuated thereby, substantially as shown and specified. 4th. The feed-block G, containing pawl *g* and spring *e* for controlling the ratchet, of cord-holder H and actuated by rod F and lever C, as above shown and described.

No. 22,890. Riding Plough. (Charrue à Vapeur.)

Frank Cockshutt, William F. Cockshutt and Mary S. Cockshutt (Executors of the last will and testament of James T. Cockshutt), Brantford, Ont., 26th November, 1885; 5 years.

Claim.—1st. In a riding plough, the axle D pivoted on the king-bolt B attached to the plough beam A at or near its centre as specified. 2d. In a riding plough, the axle D pivoted on the king-bolt B attached to the plough-beam A, in combination with the eccentric E pivoted on the plough-beam A and operated by a hand-lever H, substantially as and for the purpose specified. 3rd. In a riding plough the axle D being fixed to it the bracket C, shaped substantially as shown, and *U*-bearing bearings for the king-bolt B, which is attached to the plough beam at or near its centre, in combination with the eccentric E pivoted on the bolt F and resting upon the bracket C, the notched quadrant G rigidly fastened to the plough beam A and the hand-lever H rigidly fastened to the eccentric E, substantially as and for the purpose specified. 4th. The quadrant bracket L rigidly fastened to one end of the axle D, in combination with the hand lever M fastened to the hub *h* and pivoted at *a* to the quadrant L.

No. 22,891. Machine for Pulverizing Sugar, etc. (Machine à Pulvériser le Sucre, etc.)

James R. Woodburn, St. John, N.B., 6th November, 1885; 5 years.

Claim.—1st. The combination, in a pulverizing mill, with the anular central diaphragms V and the stationary diaphragms *u*, of the case C and the drum E having the radial blades *b*, substantially as and for the purposes described. 2nd. The combination in a pulverizing mill, of the shaft A, the case C, the drum E, the stationary diaphragms G, the revolving diaphragms *u*, the blades K and the fan X, Q, whereby the material being pulverized is directed in its course through the mill, and conveyed and violently brought in contact with the many hard, sharp edges of the swiftly revolving blades K in a series of pulverizing chambers, as described and for the purposes stated. 3rd. The combination, in a pulverizing mill, of the shaft A, the case C, the diaphragms G and the fan X, Q, with the drum E having the blades K and L diaphragms *u*, whereby the material being pulverized in its course through the mill is forced to pass alternately circumferentially and axially from one to another, of a series of pulverizing chambers and rot-chambers, substantially as and for the purposes described.

No. 22,892. Mowing Machine. (Fauçonne.)

Harley L. Hopkins, Chicago, Ill., U. S., 26th November, 1885; 5 years.

Claim.—1st. In a front-cut mowing machine, a vibrating main frame extending in front and rear of the axle, in combination with an equalizing spring arranged to act upon the rear extension of the frame, substantially as and for the purposes set forth. 2nd. In a front-cut mowing machine, a vibrating main frame extending in front and rear of the axle, in combination with a pole support extending in rear of the axle, and an equalizing spring arranged between the pole support and the main frame in rear of the axle, substantially as and for the purposes set

forth. 3rd. In a front-cut mowing machine, a vibrating frame extending in front and rear of the axle, in combination with a pole hinged to the main frame at points projecting therefrom above the axle, substantially as and for the purposes set forth. 4th. In a front-cut mowing machine, a vibrating main frame extending in front and rear of the axle, in combination with the pole hinged to the main frame at points above the axle, and an equalizing spring arranged to act upon the frame in rear of the axle and depress this portion of the frame, substantially as and for the purposes set forth. 5th. In a front-cut mowing machine, a vibrating main frame extending in front and rear of the axle, in combination with a pole hinged to the main frame at points above the axle and extending in rear of the latter, and an equalizing spring arranged between the rear pole-extension and the main frame in rear of the axle, substantially as and for the purpose set forth. 6th. A vibrating main frame A, in combination with a hinged pole D, a spiral spring F and a spring-holder and followers *f*, arranged and operating substantially as described. 7th. The vibrating main frame A, provided with upwardly-projecting lugs *a*, in combination with a pole support *d* provided with depending lugs by which it is hinged to the lugs on the main frame, a spiral spring F and a spring-holder and followers *f*, all arranged and operating substantially as and for the purpose set forth. 8th. In a mowing-machine, a vibrating coupling piece of bracket pivoted to its support, in combination with the inner shoe and its coupling-arm attached to the coupling piece above its pivot, substantially as and for the purpose set forth. 9th. The main frame A, in combination with a vibrating coupling piece pivoted to the main frame, the inner shoe and knuckle-joint connecting the said shoe to the coupling-piece at a point above its pivot support, substantially as and for the purposes set forth. 10th. The inner shoe *u*, provided with an arm *p* extending inward and upward, in combination with the knuckle H, the coupling-piece I, guide *i* and main frame A, substantially as described. 11th. The vibrating or rocking coupling piece pivoted to its support and free to rock in either direction, in combination with the inner shoe hinged to said coupling-piece, and a tilting bar hinged at one end to the coupling-piece and at the other connected to the main frame by means which permit a movement of said bar lengthwise within certain limits, whereby the coupling-piece and shoe are permitted to rock freely within the limits of the movement of the tilting bar, substantially as and for the purposes set forth. 12th. The inner shoe G, in combination with the vibrating coupling-piece I, the tilting bar K connected at one end to the coupling-piece and provided with a slot *k* at its other end, and the bolt J passing through the said slot to connect the tilting bar to the main frame, substantially as and for the purposes set forth. 13th. The vibrating coupling-piece to which the inner shoe is connected, in combination with the tilting bar K provided at one end with the slot *k* and a series of holes *k*, the fastening bolt J and the stop-pin L, whereby the movement of the tilting-bar may be regulated, substantially as and for the purposes set forth. 14th. The vibrating coupling-piece pivoted to its support, in combination with the slotted tilting bar, the inner shoe and finger-bar, the lifting chain and sheave and the lever for operating said sheave, substantially as and for the purpose set forth. 15th. The main frame A, in combination with the coupling-piece I, slotted tilting bar K, inner shoe G carrying the finger-bar knuckle-piece H, chain N, sheave O and lever P, arranged and operating substantially as and for the purposes set forth. 16th. The finger-bar, in combination with the rocking inner shoe and shoe-extension, the tilting bar K, the brace-bar M, the bracket *m* depending from the main frame and the lifting-lever P, whereby the cutter-bar is thrown up and supported for transportation, substantially as described.

No. 22,893. Car Pedestal. (Boite à Graisse.)

John M. Brody, (assignee of Bernard Brody.) Detroit, Mich., U.S., 26th November, 1885; 5 years.

Claim.—1st. In a pedestal for car axle boxes, a wearing plate constructed of channel bar iron, having perforated bosses formed in its channelled portion, substantially as described. 2nd. In a pedestal for car-axle boxes, a wearing-plate constructed on channel bar iron having perforated bosses formed in its channelled portion equidistant from its ends, substantially as described. 3rd. In a pedestal for car axle boxes, the combination of the adjustable wearing-plate B made of channel-bar iron and having perforated bosses formed in their channelled portions, and the screws G, *g* entering said bosses with the vertical arms of the pedestal, and the axle box held between the adjustable wearing-plates, substantially as described. 4th. In a pedestal for car axle boxes, the combination, with the adjustable wearing-plates B made of channel bar iron and provided with perforated bosses in their channel end portions and perforations in one of their flanges, and the screws in G, *g* and I, fitted respectively into said perforated bosses and flanges, with the vertical arms of the pedestal and the axle-box, substantially as described.

No. 22,894. Car-Coupler. (Accouplage de Chars.)

Washington McLean and John R. McLean, (assignees of Ezra N. Gifford), Cincinnati, Ohio, U. S., 27th November, 1885; 5 years.

Claim.—1st. In a car-coupler, the combination, with the draw-head and a swinging hook pivoted thereto, and a locking pin working in an arc-shaped slot in the draw-head, and a cam lever adapted to swing the pin out of engagement with the hook and elevate it, substantially as set forth. 2nd. In a car-coupler, the combination, with the draw-head and a hook pivoted thereto, of a gravity locking pin working in a elongated slot in the draw-head, a lever embracing the pin and fulcrumed on the draw-head, and inclined sections on the lever and draw-head, whereby the swinging of the lever elevates the pin and simultaneously throws it out of engagement with the hook, substantially as set forth. 3rd. In a car-coupler, the combination, with the draw-head and a swinging hook pivoted thereto, of a gravity locking pin resting in an arc-shaped slot in the draw-head, adapted to rest against the end of the hook shank, when in locked adjustment and to be raised therefrom by a movement parallel with the surface of the said end, substantially as set forth. 5th. In a car-coupler, the combination, with a draw-head provided with a curved slot, and a gravity pin adapted to move laterally within the slot, of a swinging hook pivoted to the draw-head, the end of the

shank of the hook resting against the pin when in coupled adjustment, and adapted to force the pin into snug contact with the end of the slot when strain is exerted upon the hook, substantially as set forth.

No. 22,895. Medicinal Composition for Facilitating Confinement. (*Composition Médicamenteuse pour Faciliter les Accouchements.*)

Arthur Bourret, (assignee of Joseph M. Beausoleil), Montreal, Que., 27th November, 1885; 5 years.

Réclame.—Une préparation médicamenteuse pour faciliter les accouchements composée de huit parties d'écorce d'orme rouge, d'une partie d'écorce de chêne, et de une demie partie de poudre de jalap, telle que ci-dessus d'écrite et pour les les fins sus-mentionnées.

No. 22,896. Railway Sleeping Car.

(*Char Dortoir de Chemin de Fer.*)

Lawrence Creighton, Cadillac, Mich., U.S., 27th November, 1885; 5 years.

Claim.—1st. In a railway car receptacles (one or more) arranged beneath the floor for storage of bedding, and provided with removable covers constituting part of the ordinary floor, substantially as set forth. 2nd. A railway car provided with a series of receptacles beneath the floor at the sides for storage of bedding by day and chairs by night, in combination with suitable berth apparatus, whereby the car may be converted at will into a sleeping car or chair car, substantially as specified. 3rd. In a railway car, a berth hinged to the side wall and adapted to be closed up when out of use, and provided with a hinged flap on its under side which when the berth is in use may be let down to constitute an end support for the berth from the floor, and a partition separating contiguous berth sections, substantially as specified. 4th. A railway car provide with receptacles B within the floor, provided with removable covers A constituting part of the floor space, when in place, and base frames for bed mattresses attached to the under side of said covers, in combination with removable partitions constituting when in position separating walls between contiguous berth sections, substantially as specified. 5th. The combination, in a railway car, of the receptacles B, provided with removable covers A, as specified, hinged upper berths D, provided with flaps e, substantially as and for the purpose specified. 6th. A railway car, provided with hinged upper berths D and permanent partitions A1 dividing sections, in combination with the hinged partition flaps e and removable partitions h, substantially as set forth.

No. 22,897. Car-Coupling. (*Accouplage de Chars.*)

Perry Brown, Louisville, Ky., U.S., 27th November, 27th November, 1885; 5 years.

Claim.—1st. The combination, with a draw-head A and wing J, of the incline K formed separately from the draw-head, substantially as described. 2nd. The combination, with a draw-head and the wing J, of the incline K formed separately from the draw-head and inserted in a hole formed in the bottom of the draw-head, substantially as described. 3rd. The combination, with a draw-head, of the wing J, the incline K and the pin I, constructed and arranged to perform the double function of a pintle for the wing and a fastening for the incline, substantially as described. 4th. The combination, with the draw-head A and pin B, of the keeper C constructed and arranged to be held over said pin by the coupling link when the cars are coupled together, substantially as described. 5th. The combination, with the draw-head A and pin B, of the stirrup D provided with the keeper C, substantially as and for the purposes specified. 6th. The combination, with the bumper A and pin B, of the stirrup D, constructed and arranged to perform the double function of carrying the keeper C and one of the coupling links, substantially as described. 7th. The combination, with the wing J and incline K, of the spring N, constructed and arranged to press on the wing and cause it to descend the incline, substantially as described. 8th. The combination, with a draw-head having a wing J, pin rest H and incline K formed separately from the draw-head, of the horizontal and parallel rollers E having bearings in said draw-head which will allow such rollers a vertical play, substantially as described. 9th. The combination, with a draw-head having a wing J, pin rest H and incline K formed separately from the draw-head, of the corrugations G formed in the draw-head in rear of and opposite its mouth, substantially as described. 10th. The combination, with a draw-head having a wing J, pin rest H and inclined K formed separately from the draw-head, of the rollers E and corrugations G, the parts being constructed and operating as described.

No. 22,898. Car-Coupling. (*Accouplage de Chars.*)

Peter A. Aikman, Windsor, Ont., 27th November, 1885; 5 years.

Claim.—1st. In a car-coupling device, and in combination with a draw-head provided with a hook coupler, substantially as described, a cam arranged to depress or elevate the free end of the coupling hook, substantially as set forth. 2nd. In a car-coupling device, the combination of the draw-bar A, hook coupler C, shaft F and cam H, when constructed, arranged and operating substantially as and for the purposes described.

No. 22,899. Heel Trimming Machine.

(*Machine à Parer les Talons.*)

James H. Busell, Boston, Mass., N.S., 27th November, 1885; 5 years.

Claim.—1st. The method of trimming boot and shoe heels, hereinbefore described, consisting in making two cuts with rotary trimmers which cut overlap between the seat and thread of the heel, one cut trimming around the top lift and above it, the other around the heel seat and below it, as set forth. 2nd. In combination, with a rotary cutter, a tread guide consisting of a disk of metal having an angu-

lar groove formed in its periphery, one wall of the groove forming a rest for the tread of the heel, and the other and shorter wall of the groove being flush with the adjoining-edges of the rotary cutter and forming a guide, so that the lower part of the heel is trimmed to conform to the shape of the lower corner of the top lift, substantially as and for the purpose set forth. 3rd. In combination, a rotary cutter and a rest for the heel arranged at that side of the cutter, which comes nearest to the top lift or tread of the heel, when the heel-seat is being trimmed, substantially as described. 4th. In combination, with a rotary cutter, the rotating counter-guard K having a rounded corner next the teeth of the cutter, and adapted to prevent contact of the upper with the cutter without marking the upper, substantially as set forth. 5th. In a heel trimming machine, the combination of a rotary cutter for trimming the heel seat, and a rotary rand-knife with a rand-guide and a heel-rest at right angles with the axis of the cutter, substantially as set forth. 6th. A rotary trimmer for heels having at one end, a tread-rest adapted to receive the corner of the top lift, and at the other end a guard, substantially as set forth. 7th. The counter-support f, in combination with the rotary cutter, the support f lying across the heel-seat end of the cutter, that is its upper end being within the circle formed by the heel-seat end of the cutter, while its lower end is without that circle, substantially as described. 8th. The combination, with a rotary cutter, of a rotary rand-guard and a support for the edge of the heel arranged at right angles with the axis of the cutter, substantially as set forth. 9th. In combination with a rotary cutter, the heel pin h for supporting the shoe secured to rod H capable of universal motion, substantially as and for the purposes set forth.

No. 22,900. Heel Trimming Machine.

(*Machine à Parer les Talons.*)

Homer Rogers, Boston, (as trustee of the Busell Manufacturing Association, Boston, assignee of James L. Lord, Lynn,) Mass., U.S., 27th November, 1885; 5 years.

Claim.—1st. The combination, in a rotary heel trimmer, of two sections overlapping each other and presenting a convex trimming surface curved to adapt it for the contour of the side of a heel, one of said sections having a yielding movement, whereby the convex trimming surface is automatically lengthened to act on the extended rear portion of the heel, substantially as set forth. 2nd. A rotary heel trimmer, composed of two sections overlapping each other, one formed to trim the heel seat, and the upper portion of the heel, and having a guard 2, while the other is formed to trim the lower portion of the heel, and has a top lift rest 3, one of each sections having a yielding movement whereby the trimmer is enabled to adjust itself to the varying width of the heel, as set forth. 3rd. The combination of an arbor, a trimmer section affixed thereto and provided with a guard formed to enter the groove between the counter and rand or heel seat of a boot or shoe, with knives formed to trim the heel seat and the adjacent portion of the surface of the heel, a trimmer section rotating with but adapted to slide on the arbor toward and from the other section, and form to trim the lower portion of the heel, a rest for the face of the top lift, attached to the sliding section, and a spring whereby said sliding section is enabled to conform to the variations in the width of the heel, said sections being formed to overlap each other, as set forth. 4th. In a rotary cutter, the separable sections a and a provided with peripheral cutting teeth and having their abutting faces made inclined or wedge-shaped, as set forth. 5th. In a rotary cutter, the arbor having the section a screwed to its outer end, said section having a rand guide, a rand cutter, and an inclined or wedge-shaped surface, combined with the yielding collar c having the top lift guide, and the cutter section a', the latter being affixed to the collar and provided with an inclined or wedge-shaped surface, as set forth.

No. 22,901. Churn. (*Baratte.*)

William J. Temple, Hampden, and Charles E. Hill, Bangor, Me., U.S., 27th November, 1885; 5 years.

Claim.—1st. In a swinging churn, the frame A, A', A, c, so formed at the bottom as to afford a seat or rest for the churn vessel E. 2nd. In a swinging churn, the combination of the frame A, A', A, c, bearing B, shaft or arbor D and lever L, with weight W. 3rd. In a swinging churn, the combination of the frame A, A', A, C, bearing B, curved bevelled rack E, shaft or arbor D and shaft T, formed with the bevelled pinion P. 4th. In a swinging churn, the combination of the frame A, A', A, C, bearing B having the curved bevelled rack R, shaft or arbor D, shaft T having the bevelled pinion P, shaft T and means of coupling or uniting the same to the shaft T, churn or vessel E and means of securing the same to the frame A, A', A, C, all as shown and described and substantially as and for the purpose specified.

No. 22,902. Speed Increasing Device.

(*Appareil pour Augmenter la Vitesse.*)

Frederick Newhouse, William H. Craig and Alphonse E. Rood, Toledo, Ohio, U.S., 27th November, 1885; 5 years.

Claim.—1st. The combination, with a locomotive and tender, of a vertically-adjustable shaft or pin mounted upon the underside of the tender, a bag connecting said shaft with the locomotive, and means for elevating said bar and shaft or pin, substantially as described. 2nd. The combination, with a locomotive and tender, of a vertically-adjustable shaft mounted on the underside of the tender, a bar having an elongated slot, and means for raising said shaft and bar, substantially as described. 3rd. The combination, with a tender, of a downwardly extending elevating bar, and a draft bar connected to said elevating bar, and the locomotive, substantially as described. 4th. The combination, with a tender, of a downwardly extending elevating bar, and a draft bar connected thereto, an elevating-bar and a draft bar, substantially as described. 5th. The combination, with a locomotive and tender, of hinged plates connected thereto, an elevating bar pivotally connected to the tender hinge-plate, and a draft bar pivotally connected to the elevating bar and the hinge of the locomotive, substantially as described. 6th. The combination, with the

draft and elevating bars pivotally connected to the locomotive and tender, and means for varying the angle of the elevating bar, substantially as described. 7th. The combination, with the locomotive and tender, of an elevating bar suspended from the tender, a draft-bar pivotally connected thereto and to the locomotive, and a laterally adjustable plate for varying the angle of the elevating bar, substantially as described. 8th. The combination, with the locomotive and tender, of an elevating bar, a laterally adjustable plate, and a tension-rod pivotally connected to the elevating bar and to the tender, substantially as described.

No. 22,903. Heel Trimming Machine.
Machine à Parer les Talons.

James F. Smith (Co-inventor with Joseph C. Wetmore., Lynn, Mass., U.S., 27th November, 1885; 5 years.

Claim.—1st. A rotary moulded heel trimming cutter, combined with a non-rotating top lift guard, as set forth. 2nd. The combination of a rotary moulded heel trimming cutter, a rand guide and a non-rotating top lift guard, as set forth. 3rd. A rotary moulded heel trimming cutter, combined with a rand guide and a top lift guard having a yielding movement, as set forth. 4th. A rotary moulded heel trimming cutter, having a rand guide, combined with a non-rotating top lift guard, having a yielding movement, as set forth. 5th. The combination of a rotary moulded heel trimming cutter, and a non-rotating rand guide, as set forth. 6th. The combination of a rotary moulded heel trimming cutter, a rand guide, a top lift guard, and means, substantially as described, for giving a yielding movement to said guard in a path parallel with the transverse curvature of the cutter, as set forth. 7th. The combination of the rotary moulded cutter, the rand guide, the top lift guard, the longitudinally movable and oscillating shaft supporting said guard, the springs whereby said guard is pressed toward the rand guide and outwardly from the centre, and the fixed moulded guide or collar whereby the top lift guard is guided in a curved path parallel with the moulded surface of the cutter, as set forth. 8th. The combination of the moulded cutter, the rand guide, and a fixed independent support to which the rand guide is rigidly attached, as set forth. 9th. The combination of the moulded cutter, the rand guide, the arm, to which said guide is rigidly attached, and means, as described, for detachably securing said guide to the supporting frame. 10th. The combination of the shouldered arbor, the cutter head having the bevelled shoulder, the cutting knives bearing against said shoulder and the set screw upon the arbor to hold the cutter head therein, and having a flange bearing against the knives and holding them in engagement with the bevelled shoulder on the head, as set forth.

No. 22,904. Rotary Engine. (*Machine Rotatoire.*)

Henry Sewter, Barrie, Ont., 25th November, 1885; 5 years.

Claim.—1st. The revolving piston D, provided with two wings E opposite to each other, in combination with the cylindrical dividing blocks H, journalled in chambers formed in the cylinder A opposite to each other and recessed at d, substantially as and for the purpose specified. 2nd. The revolving piston D, having wings F opposite to each other, and suitably journalled within a cylinder A, in combination with the revolving cylindrical dividing blocks H and rolling guides G, arranged substantially as and for the purpose specified. 3rd. The revolving piston D, provided with wings E opposite to each other, and suitably journalled within a cylinder A, provided with steam ports e entering the cylinder on one side of a dividing block, and exhaust ports P entering the cylinder on the opposite side of the dividing block, substantially as and for the purpose specified. 4th. The revolving piston D, provided with wings E opposite to each other, and suitably journalled within a cylinder A, the revolving blocks H, in combination with mechanism for holding the circumference of the blocks H against the circumference of the piston D, substantially as and for the purpose specified. 5th. A metal plate or disc F placed in the case A, and adjusted by set screw against the side of the revolving piston, substantially as and for the purpose specified.

No. 22,905. Adjustable Pedal Front for Organs. (*Corps de Pédales Mobile pour Orgues.*)

John T. Rowe, Ashter, Ont., 25th November, 1885; 5 years.

Claim.—1st. The adjustable pedal front, composed of the front back, slides and pedal board, carrying the pedal C and held at an required height on the organ by bolts, or other equivalent device. 2d. In a musical instrument, provided with a bellows and reed by pedal, the bellows straps A attached to the pumps G and the bottom part of the organ front, and passing intermediate reed reed, journalled in an adjustable pedal front. 3rd. In a musical instrument, the curtain D attached to the bottom bar F and wound up as a roller I, journalled in an adjustable pedal front, substantially as and for the purposes set forth.

No. 22,906. Steam Pump. (*Pompe à Vapeur.*)

Robert Boag, Stratford, Ont., 20th November, 1885; 5 years.

Claim.—1st. A steam pump, having an exhaust pipe E leading into a smoke pipe C, for the purpose of raising the temperature of the water, substantially as and for the purpose specified. 2nd. A steam pump having an exhaust pipe E connected to a chamber formed upon the end and communicating with the suction pipe C, substantially as and for the purpose specified. 3rd. A steam pump having a suction pipe C with a chamber D formed in or round it, and having an outlet e communicating with the exhaust pipe E and an outlet b communicating with the suction pipe C at a point remote from the outlet e, substantially as and for the purpose specified. 4th. A steam pump provided with an exhaust pipe E, communicating with its suction pipe C, in combination with the exhaust pipe F and three way cock B, substantially as and for the purpose specified.

No. 22,907. Ice Tripods. (*Tripes à Glace.*)

Joseph Hussong, Camden, N.J., U.S., 30th November, 1885; 5 years.

Claim.—1st. In an ice tripod, the combination of the following elements: main frame runners A, A' and B, drive wheel K, drive wheel M, sprockets S and P, chain O, crank shaft R, lever T and spring U connected to a folding arm V, substantially as described. 2nd. In an ice tripod, the combination of the following elements: main frame runners A, A' and B, frame K, drive wheel M, sprockets S and P, chain O, crank shaft R, lever T, spring U and arm V, notched at U, substantially as described. 3rd. In an ice tripod, the combination of the following elements: main frame runners A, A' and B, frame K, drive wheel M, sprockets S and P, chain O, crank shaft R, lever T, spring U, arm V, notched at U, and brake M, connected to the frame K by a rod G, Q, substantially as described. 4th. In an ice tripod, the combination of the following elements: main frame runners A, A' and B, frame K, lever T, brakes m, m and rods g, q, substantially as described.

No. 22,908. Stencil Holder. (*Porte Patron.*)

John W. Bennett, Halifax, N.S., 30th November, 1885; 5 years.

Claim.—1st. The combination, with a stencil holder constructed with two separable slotted plates or frames, of an adjustable check-plate held between the frames and provided with means for locking it in the desired position, substantially as herein shown and described. 2nd. The combination, with a stencil holder constructed with two hinged slotted plates or frames, of a check plate held on the lower hinged plate to slide in the direction of the length of the same, and a binding screw for locking the sliding check plate in place. 3rd. In a stencil holder, the combination, with the plates A, B, hinged to each other of the screw E, substantially as herein shown and described. 4th. In a stencil-holder, the combination, with the hinged plates A, B, of the screw E and the sliding check-plate D, substantially as herein shown and described. 5th. In a stencil-holder, the combination, with the hinged plates A, B, of the spring-actuated locking plate F, with bolts h, and the keeper i, substantially as herein shown and described. 6th. The combination, with a stencil holder constructed with two separable slotted plates or frames A, B, provided with the stiffening ribs b, c, respectively, of an adjustable cage plate held between the frames and provided with means for locking it in the desired position, substantially as herein shown and described.

No. 22,909. Electrical Incubator.

Charles Bassini and Adolf Heyden, Newark, N.J., U.S., 30th November, 1885; 10 years.

Claim.—1st. The combination, with an incubator box of a damper arranged therein, a mercurial thermometer containing a sealed tube through the side of which passes an electrode in permanent contact with the mercury in said tube, an electrode entering the mercury space in said tube above said first mentioned electrode, an electro-magnet and source of electricity in circuit with said electrodes, an armature in the field of said magnet and mechanism, such as a pivoted lever, whereby the movement of said armature is transmitted to said damper, substantially as described. 2nd. The combination, with an incubator box, of a damper arranged therein, a mercurial thermometer containing a sealed tube through the side of which passes an electrode in permanent contact with the mercury in said tube, two or more electrodes entering the mercury space in said tube, one above the other and both above said first mentioned electrode, an electro-magnet and a source of electricity means (such as a two-story switch) for establishing a circuit, including said source of electricity and magnet through either of said upper electrodes and the lower electrode, an armature in the field of said magnet, and mechanism, (such as a pivoted lever) whereby the movement of said armature is transmitted to said damper, substantially as described. 3rd. The combination of a mercurial thermometer containing a sealed glass tube, an electrode entering said tube and in permanent contact with the mercury, a second electrode entering the mercury space in said tube, a source of electricity, an electro-magnet in circuit therewith and with said electrodes, an armature in the field of said magnet and a valve actuated by said armature, substantially as described. 4th. The combination of a body capable of change in form or position under differences in surrounding temperature, and forming or thereby moving one electrode in an electrical circuit, a source of electricity and an electro-magnet included in said circuit, two or more electrodes with which said first mentioned electrodes is adapted to make successive contact, a means (such as two or more way switch) for closing the circuit through either of said electrodes, an armature in the field of said magnet and a valve actuated by said armature, substantially as described. 5th. The combination of the incubator box A, a thermometer tube N, electrode S, electrode U, electro-magnet Y, a source of electricity armature Z, rod a, damper M, spring d and circuit connections, substantially as described. 6th. The combination of the incubator box A, thermometer tube N, electro S, electrodes U, V, switch c, electro-magnet Y, a source of electricity, armature Z, rod a, damper M, spring d and circuit connections, substantially as described. 7th. In an incubator, the combination of a horizontally moving slide or table, and a stationary frame supported above said slide, the said frame containing transverse bars or strips between and upon which bars the eggs are received and supported, substantially as described. 8th. In an incubator, the combination of a horizontally moving slide or table, and a stationary frame supported upon said slide, the said frame containing transverse bars or strips between and upon which bars the eggs are received and supported, substantially as described. 9th. In an incubator, the combination of the movable slide H and stationary frame I containing transverse bars, the said bars being adapted to receive and support the eggs in the spaces between them, substantially as described. 10th. The combination, in an incubator, of the box A, ways G, movable slide H, rod K and stationary frame I containing bars, substantially as described. 11th. In an incubator, the combination of the enclosing box, egg receptacles therein, boiler heating coils D, E arranged in

said box, and respectively above and below said egg receptacles, damper M and a means (such as an electrical heat regulator, as described), for automatically opening said damper, when the internal temperature of the box exceeds a certain fixed limit, substantially as described. 12th. In an incubator, an enclosing box or case and in said box in successive order an air inlet, a heating device (such as a coil of pipe containing hot water or steam) egg receptacles, a second heating device (such as the foregoing) and an air outlet, the said heating devices and the egg receptacles containing openings to allow of free circulation of air around them and between the air inlet and outlet, substantially as described. 13th. In an incubator, an enclosing box or case, and in said box in successive order upwards, an air inlet, a heating device (such as a coil of pipe containing hot water or steam) an air moistening device (such as an open vessel of water) egg receptacle, a second heating device (such as the foregoing) and an air outlet, the said heating devices and egg receptacles containing openings and the said moistening device being supported to allow of free circulation of air around them and between the air outlet and inlet, substantially as described. 14th. In an incubator, an enclosing box or case, egg receptacles therein, an open water receptacle, a means (such as a tube containing hot water or steam passing through said receptacle) of communicating heat to said receptacle, and an air inlet, the said water receptacle and heating device being disposed in said box below the egg receptacles, and the air inlet being disposed below said water vessel and heating device, substantially as described. 15th. In an incubator, the combination of the incubator box A, egg receptacles therein, a boiler outside of said box, heating coils D, E within said box and respectively above and below said egg receptacles, open water vessels G, air inlet m, damper M and a means (such as the electrical heat regulator described) for automatically opening said damper when the temperature within said box exceed a certain degree, substantially as described.

No. 22,910. Art of Taping Furs.

(*Art d'Apprêter les Fourrures.*)

Frederick Vorck, New York, N.Y., U. S., 30th November, 1885; 5 years.

Claim.—1st. That improvement in the art of taping furs, which consists in preparing the skins for subsequent operations by stretching the same in a moist condition, and coating the back or flesh side thereof, with one or more layers of stiffening or size and allowing the same to dry while in the stretched condition, substantially as set forth. 2nd. That improvement in the art of taping furs, which consists in separating the out strips of fur from one another along their entire length at one operation, while maintaining the parallelism between the strips being thus separated, substantially as set forth. 3rd. That improvement in the art of taping furs, which consists in mechanically sewing the strips of fur to a fabric by a thread running loosely from the thread spool to the sewing machine needle, thereby producing loose or untightened stitches which permit the strips to lie smoothly on the fabric, substantially as set forth. 4th. That improvement in the art of taping furs, which consists in mechanically sewing the strips of fur to a fabric by a thread running loosely from the thread-spool to the sewing machine needle passing the needle with its loose thread through the edges of the strips and bights or bends of the fabric, and partially tightening or drawing up the stitches by the friction incidental to the passage of the thread through the strips and fabric but leaving the stitches sufficiently loose to permit the strips to lie smoothly on the fabric, substantially as set forth. 5th. That improvement in the art of taping furs, which consists in cementing the strips of fur upon a fabric, then further securing said strips upon the fabric by sewing, then stretching and rubbing the article thus produced and finally applying heat thereto, substantially in the manner herein set forth. 6th. The improved process of taping furs, which consists in first coating the skins with one or more layers of stiffening or size, then cutting the same into strips, then separating the strips the required distance apart, without completely destroying the interwoven condition of the hairs, then cementing the same under the application of heat upon a web of fabric by means of an interposed sheet of gutta percha, then further securing the strips upon the fabric by means of sewing, then stretching and rubbing the article produced and finally exposing the same again to the action of heat and slight pressure, all in the manner and for the purpose set forth. 7th. As a new article of manufacture, a fur composed of narrow strips of fur secured at suitable distances apart upon a fabric by means of loose sewing machine stitches without subjecting the needle thread to the mechanical tension, as and for the purposes herein set forth. 8th. As a new article of manufacture, a fur composed of narrow strips of fur, the skin of said strip being separated by interstices of suitable width, while the interwoven condition of the hairs is not completely destroyed, a web of fabric and a sheet of gutta percha interposed between said fabric and the strips of fur, and caused to act as cement between the two by the application of heat, the strips of fur being further secured to the fabric by loose stitches, such as are produced on sewing machines without subjecting the needle-thread to mechanical tension, all as herein set forth.

No. 22,911. Bee Hive. (*Ruche.*)

John M. Shuck, Des-Moines, Iowa, U.S., 30th November, 1885; 5 years.

Claim.—1st. The combination of angular arms or projections, with the ends of a movable honey frame for bee-hives, said arms or projections extending horizontally in opposite directions from the ends of the axis of the frame, and in the plane of said axis to suspend, fasten and invert the frame in a hive, in the manner set forth for the purposes stated. 2nd. A comb-frame provided with sheet metal plates H having projecting points J and ends K projecting from between said points, and the said plates fastened to the frame, as shown and described for the purposes stated. 3rd. The combination of the wall L, the strips N, the series of removable veneers 1, 2, 3, and a series of removable surplus honey sections 4, 5, 6, for the purposes stated. 4th. An invertible bee-hive composed of two separable mating wall sections, each having supports for invertible frames at

the inner edges of their ends, two detachable boards, each having a passage cut in one of its edges, and a series of invertible frames each having fixed outward projecting arms on the center of its side bars, to operate in the manner set forth for the purposes specified. 5th. A movable frame for bee-hives having arms or projections extending horizontally from the opposite ends of its axis, and in the plane of said axis, in combination with separable mating sections of the wall of a bee-hive, having rabbets in their mating edges adapted to receive the projections on the ends of the frames, for the purposes stated.

No. 22,912. Tubular Steam Generator.

(*Générateur de Vapeur Tubulaire.*)

Patrick Reilly, Brooklyn, N.Y., U.S., 30th November, 1885; 5 years.

Claim.—1st. In a tubular steam generator, in combination, four stand pipes, horizontal pipes connected to and between them at their upper ends and lower parts, and steam generating tubes, each connected to an upper and a lower horizontal pipe and inclined so as to come together at the upper central part of the generator, and furnace grate bars located directly under the steam generating tubes, substantially as described. 2nd. In a tubular steam generator, in combination, a main supporting frame comprising stand pipes and horizontal connecting pipes, furnace grate bars located within the same, central steam generating tubes connected to the upper and lower parts of the main supporting main pipes, and formed so as to extend over the grate bars, and tubular coils arranged around and supported by the central tubes and independently connected to the upper and lower parts of the main supporting frame pipes, substantially as and for the purpose set forth. 3rd. In a tubular steam generator, in combination, the stand pipes *a, a1, a2, a3*, the horizontal connecting pipes *b, b1, b2, b3, c, c1, c2, c3*, and triple bend connections *d, d1, d2, d3*, substantially as and for the purpose set forth. 4th. In a tubular steam generator, in combination, the stand pipes *a, a1, a2, a3*, the horizontal connecting pipes *b, b1, b2, b3, c, c1, c2, c3*, and the steam generating tubes *e, e, e1, e1*, substantially as and for the purpose set forth. 5th. In a tubular steam generator, in combination, the stand pipes *a, a1, a2, a3*, the horizontal connecting pipes *b, b1, b2, b3, c, c1, c2, c3*, the steam generating tubes *e, e, e1, e1* and the tubular coils *f, g, h, i*, substantially as and for the purpose set forth. 6th. In a tubular steam generator, in combination, the stand pipes *a, a1, a2, a3*, the lower horizontal connecting pipes *b, b1, b2, b3*, the upper horizontal pipes *c, c1, c2, c3* and bend connections *d, d1, d2, d3*, constituting the steam receiver, steam generating tubes connected to the pipes *b, b1, b2, b3*, and the pipes *c, c1, c2, c3* and the furnace composed of the walls *j, j* and grate bars *k, k*, substantially as and for the purpose set forth. 7th. A tubular steam generator consisting of a main frame of pipes *a, a1, a2, a3, b, b1, b2, b3, c, c1, c2, c3*, steam generating tubes *e, e, e1, e1, f, g, h, i*, furnace *j, j, k, k*, the water heater composed of the coils *l, m* surrounding the generator, and coils *q* and *r* located in the chambers *o* and *p* at the back of the generator, substantially as and for the purpose set forth.

No. 22,913. Machine for Cutting Burrs on Dental Instruments, etc. (*Machine à Ebarber les Instruments des Dentistes, etc.*)

Louis Maillard, Galt, Ont., 30th November, 1885; 5 years.

Claim.—1st. In a machine adapted for making dental excavating burrs, consisting of a base A, supporting pillars B, frame C, and provided with pulleys and shafts for revolving a cutter, and shafts and cams for adjusting the same, a combination of shafts, bevel gears and cams to adjust the bur to the cutter, and a dividing index disk operated by an eccentric pin wheel to revolve the bur sufficiently for a new cut after each cut of the cutter is completed, substantially as specified. 2nd. The shaft D, carrying the bevel gear O, the worm P, worm wheel Q, lever T, short shaft *g1*, cam *h1*, shaft *m1*, dovetailed to the cutter-holder *x1*, the cutter holder *x1* securing the cutter *x1*, the pulleys L, M, spindle L, bevel gear H, knuckle joint connecting rod *h11* and *p11*, hollow outer spindle *u1*, all arranged in relation to each other to revolve the cutter *x1*, substantially as described. 3rd. In combination with the shaft *m1*, of the shaft bearing box *n1* through which said shaft passes and, provided with slots *p1, p1*, and fastening bolts *o1, o1*, adjusting screw *d11* and operating wheel *o1* for regulating the depth of the cutter to the bur to be cut, as specified. 4th. Devices for regulating the length of the shaft connecting the cutter holder *x1* to the cam *h1*, consisting of the combination of the shaft *m1*, dovetail end *w1*, wheel holder frame *r1*, screw rod *t1*, wheel *u1*, friction block *q1*, screws *x1, x1*, all constructed and arranged substantially as and for the purpose specified. 5th. In combination with the shaft *m1*, the spring *v1*, to push back the friction block *q1* against the cam on each revolution of the cam, substantially as specified. 6th. In combination with the shaft *g1* and shaft R, the pinions *s1, s1* keyed on them respectively, to transmit motion from the upper shaft R to the lower one *g1*, substantially as specified. 7th. In combination with the pulley E and shaft D, of the clutch device F, G, to throw the working parts out of gear when necessary, as specified. 8th. In combination with the shaft D, worm P and worm wheel Q, the shaft R, bevel gears A1, G1, shaft F1, cam E1, shaft Z1 to revolve the bur to be cut, substantially as specified. 9th. In combination with the shafts R, F1, and Z1, the index disc A1 provided with holes 4 at the back and pins *f* in front, the elbow lever X provided with slots Q, c, d and spring pin *g* to engage with the pins *f*, all arranged and contracted substantially as specified. 10th. Devices for operating the disc A1, consisting of the combination of the shaft R, lever V, spring B1, pin wheel eccentric U, its dovetail plate 6, lifting pin c, bolt and nut e, elbow lever X, spring pin *g*, all constructed substantially as and for the purpose specified. 11th. In combination with the disc A1 and elbow lever X, the devices for operating the spring pin *g*, consisting of the combination of the nut h, bolt 4, spring *f*, spring pin *g*, slot 7 in pin *g* and pin 8 passing through the slot, all constructed substantially as specified. 12th. The pivoted cam lever *z11*, arranged to be operated at one end by the cam *z11*, to push a pin *d3* into one of the holes 4, of the rows at the back of the disc A1 to hold the disc steady while the cutting tool is cutting the bur, substantially as specified. 13th. The cam lever *z11* constructed to slide

in a slotted plate 9, secured by an adjustable nut a_3 , by which the said lever x_1 can be lengthened to enable the pin d_3 to be adjusted to enter the inner rows of holes in the disc A_1 , substantially as specified. 14th. The combination of spring e_3 , the pin d_3 , the bearing block b_3 , the disc A_1 , plate 9 and the lever x_1 , substantially as specified. 15th. The adjustable shaft bearing block f_1 made to slide in the grooved guide m (secured by a nut o to the frame C) and operated by the cam E_1 to push the shaft Z towards the cutter, so that the chuck D, which holds the bur to be cut will be in proper relative position to be operated on by the cutter, substantially as specified. 16th. The combination, with the bearing block f_1 , of the spring b_1 , to give the backward movement to the shaft Z , and chuck after being operated on by the cam E_1 , substantially as specified. 17th. In combination with the shaft Z and chuck D , the hollow spindle Y to enable the gear wheels to revolve in the chuck to operate or move the bur to be cut, and the spring p_3 around the spindle to prevent it from revolving too freely and moving backward, substantially as specified. 18th. The chuck D , consisting of the frame s , projections t , bevel gears v , z , pinions w , y , jaws r , thumb-screw q , spindle 10 , substantially as specified. 19th. In combination with the chuck D , the guide n to regulate the bur relatively to the cutter, as specified. 20th. In combination with the pulley holder f_2 , the dovetail plate r_1 and adjusting screw and nut k_1 for adjusting the pulley holder back and forth, substantially as specified. 21st. In combination with the pulley holder f_2 , the adjusting screw w_1 and nut o_1 to operate and adjust the pulley-holder from side to side, substantially as specified.

No. 22,914. Boots and Shoes. (*Chaussures.*)

Goswin Castle, Ava, N.Y., U.S., 30th November, 1885; 5 years.

Claim.—1st. In a boot or shoe, constructed substantially as described, and consisting of an upper A, an outer sole E extending from toe to heel, an inner sole F, a heel B to which the inner sole is directly attached, and a metal band C, which completely encircles the heel and is provided with a flange D, substantially as and for the purpose described. 2nd. In the manufacture of boots and shoes, a heel of wood, rubber, or other hard substance to which the uppers and the inner sole are tacked, and which is encircled by an iron or metallic band, substantially as and for the purpose described. 3rd. In the manufacture of boots and shoes, a metallic band C, which encircles the heel and is provided on one side with a flange D, equal in length to the breadth of the heel, and serving to unite outer sole and heel, as shown and set forth.

No. 22,915. Skate Clamp. (*Agrafe de Patin.*)

James E. Evans, Cincinnati, Ohio, U. S., 30th November, 1885; 5 years.

Claim.—1st. The combination of the foot plate A, clamps D pivoted at their inner ends to piece or link C, and provided with slots D, and studs P, respectively located in said slots D, and mechanism for advancing and retracting the inner ends of the clamps, substantially as and for the purposes specified. 2nd. On a skate-slotted clamps connected by a sleeve, which latter is moved forward and backward by a screw, substantially as and for the purposes specified. 3rd. The slotted clamps D pivoted to the sleeve C, in combination with the screw S, provided with collars e , e and turning in a stationary lug, substantially as and for the purposes specified. 4th. The combination of the plate A, lug B, sleeve C, clamps D pivoted to sleeve C and provided with slots D, and studs P respectively located in said slots, and screw S, which moves the flexible yoke D, D, C, substantially as and for the purposes specified. 5th. The combination of the foot plate A, lug B, clamps D, arms D, collar C and screw S provided with ring or flange e , substantially as and for the purposes specified. 6th. As a separate article of manufacture for attachment to the foot-plate of a skate, the combination of clamps D, arms D, collar C, screw S and bracket B, B, B, substantially as and for the purposes specified.

No. 22,916. Means for Preventing the Accumulation of Snow in Railway Cuttings. (*Moyens d'Empêcher l'Accumulation de la Neige dans les Coupes des Chemins de Fer.*)

William L. Howie, Eccles, Eng., 30th November, 1885; 5 years.

Claim.—As means for preventing the accumulation of snow on railway cuttings, the deflector or deflectors A supported in inclined planes, substantially as herein described and illustrated in the accompanying drawings.

No. 22,917. Frame for Woven Wire Mat-trasses. (*Châssis pour Sourmiers en Fil de Fer Tassés.*)

James F. Sloan, Toronto, Ont., 30th November, 1885; 5 years.

Claim.—1st. A woven wire mattress A fastened at one end to the cross-head B, which is connected to the side-bar C, and its other end to the cross-head E, in combination with the draw-bolts F and side-bars C, substantially as and for the purpose specified. 2nd. The woven wire mattress A fixed at one end to the cross-head B, which is rigidly fastened to the side-bars C and its other end to the cross-head E in combination with the side bars C having lugs G formed on its end, to receive the bolts D which are connected to the cross-head E, substantially as and for the purpose specified. 3rd. The side-bars C having their ends set upwardly, in combination with the cross-heads B and E arranged to carry the mattress A, substantially as and for the purpose specified. 4th. A woven wire mattress A connected to the cross-heads B and E, in combination with the divided side-bars C arranged to support the cross-heads B and E, substantially as and for the purpose specified.

No. 22,918. Mould for Making Printers' Inking Rollers. (*Moule pour faire les Rouleaux des Imprimeurs.*)

Joseph H. Osgood, Peabody, Mass., U. S., 30th November, 1885; 5 years.

Claim.—1st. The improved described mould for making printers' rollers in the two concentric tubes, one within the other, and supported on a common base, the inner one serving for forming the roller, and the space between the inner and outer one constituting an air or non-conducting space for equalizing the temperature, and insuring a gradual cooling of the composition, all as set forth. 2nd. In combination, with the concentric tubes B, C and their supporting base, the ring K, constructed and applied to the tubes, as and for the purpose set forth.

No. 22,919. Adjustable Shaping and Pressing Block and Iron. (*Moule Brist et Fer pour Former et Presser.*)

William Wilson and William Brown, London, Ont., 30th November, 1885; 5 years.

Claim.—1st. As a new article of manufacture, a wedge or inclined plane A, formed with an elongated slot B, substantially as set forth. 2nd. As a new article of manufacture, a wedge or inclined plane A, formed with a holding end C, substantially as set forth. 3rd. As a new article of manufacture, a wedge or inclined plane A, on the incline of which main grooves D, D and grooves D', D' are formed, substantially as set forth. 4th. As a new article of manufacture, a shaping or forming block formed in two parts E, E₁, on which main flanges F, F and flanges F₁, F₁ are formed, substantially as set forth. 5th. A wedge or inclined plane A, back and forth on which a shaping and forming block E, E₁ formed in two parts moves parallel, to give different sizes of shapes and forms to the bottoms of pants, substantially as set forth. 6th. A wedge or inclined plane A, back and forth, on which the two parts E, E₁ of the shaping and forming block move simultaneously by means of the pin G, rigidly secured at one end to the part of the block E, and moving in and out of a recess H in the part of the block E, substantially as set forth. 7th. A wedge or inclined plane A, formed with a slot B, holding end C, main grooves D, D, in each of which main grooves D, D, grooves D', D' are formed, in combination with a shaping and forming block E, E₁ formed with main flanges F, F, and on each of which main flanges F, F, flanges F₁, F₁ are formed, substantially as set forth and for the purpose specified. 8th. A wedge, or inclined plane A, formed with an elongated slot B and a shaping and forming block E, E₁, in which a recess H is formed, in combination with a pin or bar G, substantially as shown and described and for the purpose specified. 9th. A wedge or inclined plane A, and a shaping and forming block E, E₁, in combination with a pressing iron A, substantially as shown and described and for the purpose specified.

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

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| <p>498. J. F. TYRRELL, 2nd 5 years of No. 11,942, from the 7th day of November, 1885. Improvements in a Compound for Soups, 2nd November, 1885.</p> <p>499. H. S. CLARK, 3rd 5 years of No. 5,406, from the 24th day of November, 1885. Improvements on Vehicle Gears, 6th November, 1885.</p> <p>500. J. S. GUTHRIE, 2nd 5 years of No. 12,111, from the 11th day of November, 1885. Improvements on Corsets, 10th November, 1885.</p> <p>501. E. SMITH, 2nd 5 years of No. 11,993, from the 15th day of November, 1885. Improvements on Mowing and Grain Cutting Machines, 11th November, 1885.</p> <p>502. N. WASHBURN, 2nd 5 years of No. 12,075, from the 2nd day of November, 1885. Improvement in Railway Car Wheels, 11th November, 1885.</p> | <p>503. A. S. and J. B. VINET and N. BELANGER, 3rd 5 years of No. 5,382, from the 12th day of November, 1885. Improvements in Compositions for Removing Boiler Scale, 11th November, 1885.</p> <p>504. THE STANDARD BUTTON FASTENING CO. (Assignee), 2nd and 3rd 5 years of No. 13,788, from the 4th day of December, 1885. Improvements in Mechanism for, or means of Sewing Buttons to Clothes, or other Material, 18th November, 1885.</p> <p>505. F. JAQUES, 2nd 5 years of No. 12,000, from the 23rd day of November, 1885. Improvements in Neck Yoke Leather, 17th November, 1885.</p> <p>506. S. MAY, 2nd 5 years of No. 12,031, from the 6th day of December, 1885. Improvements on Billiard Cushions, 17th November, 1885.</p> <p>507. L. D. SAWYER, 2nd 5 years of No. 12,063, from the 1st day of December, 1885. Improvements on Single Drive Wheels, 21st November, 1885.</p> |
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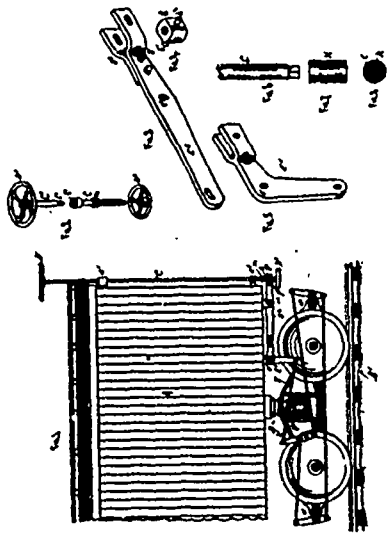
THE
CANADIAN PATENT OFFICE RECORD.

ILLUSTRATIONS.

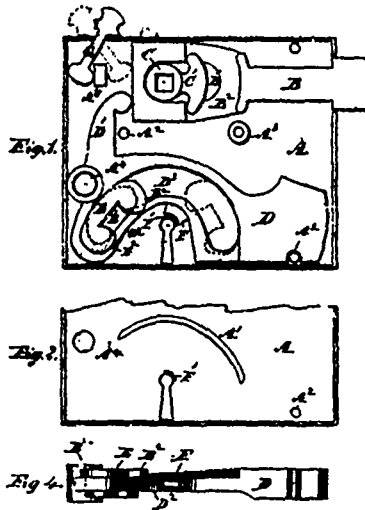
Vol. XIII.

DECEMBER, 1885.

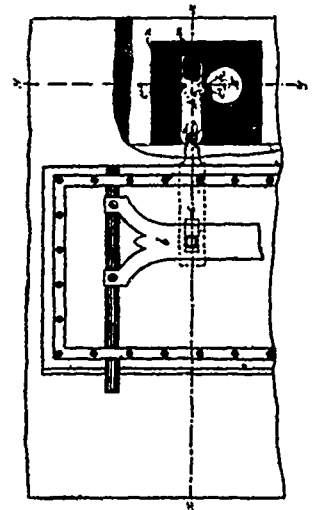
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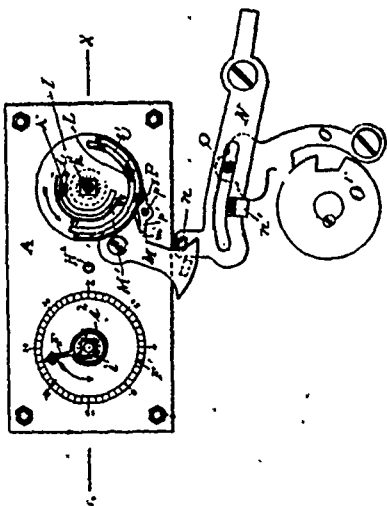
22699 Laufman's Car Brake.



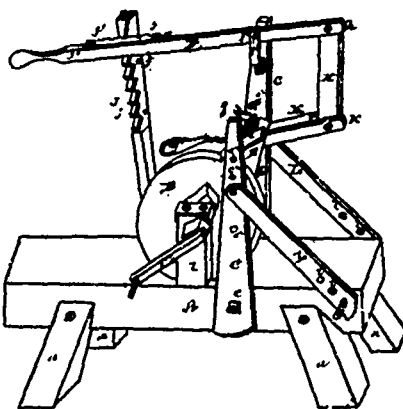
22700 Craig's Latch and Lock.



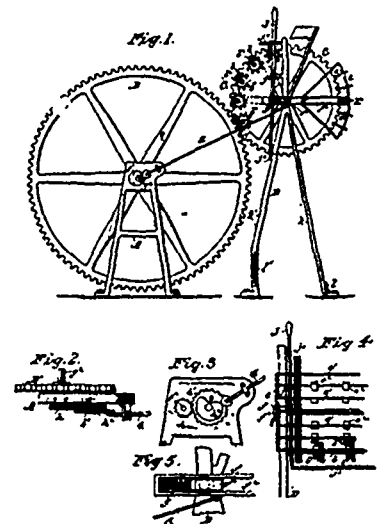
22701 Gross' Lock Mechanism for Safes.



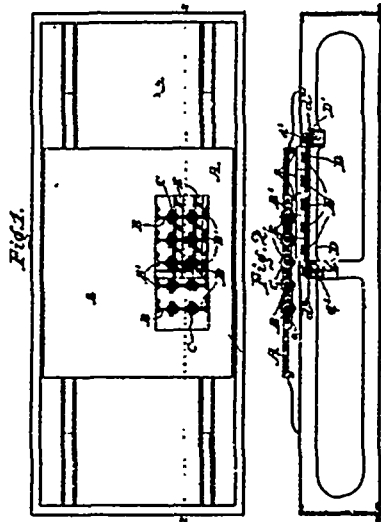
22702 Gross' Lock Mechanism for Safes.



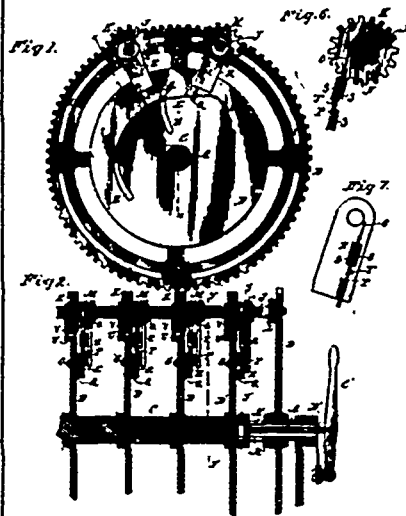
22703 Irickell's Machine for Grinding Tools.



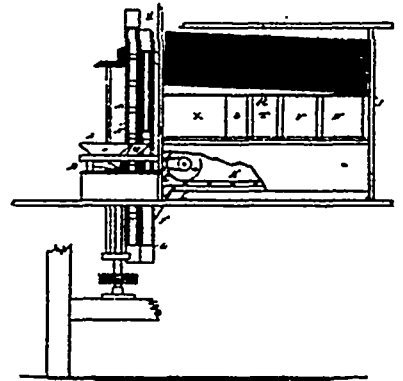
22704 Baker's Numbering Attachment for Printing Presses.



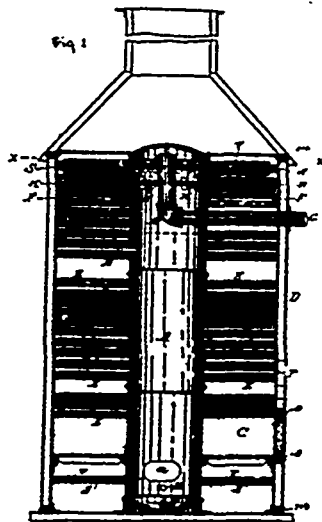
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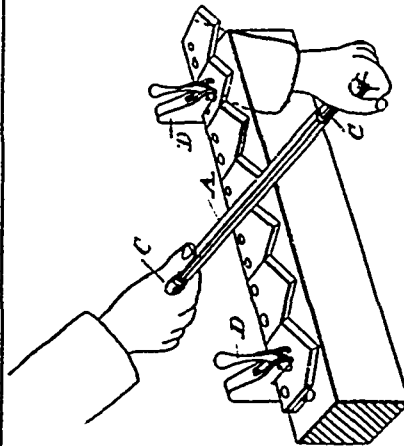
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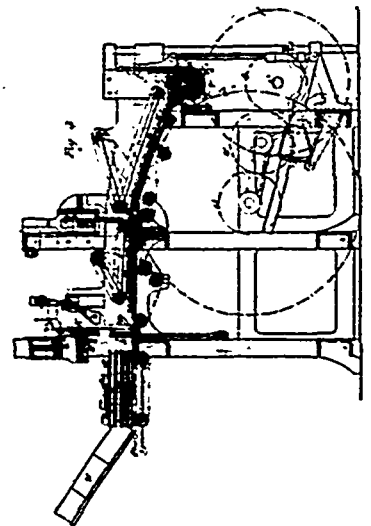
22707 Prevost's Grist Mill.



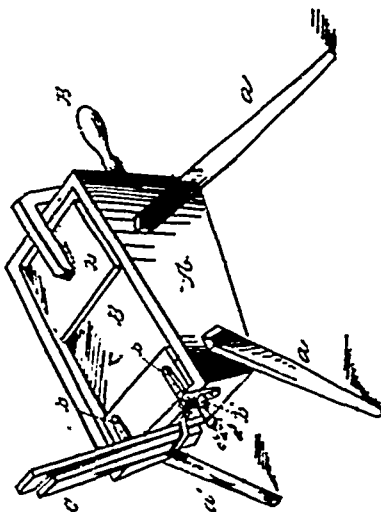
22708 Kennedy's Steam Boiler.



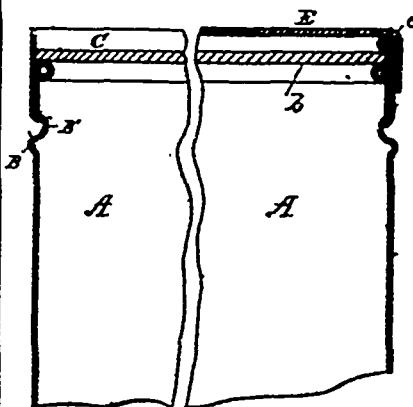
22709 Houghton's Sharpener for Reaper Knives, etc.



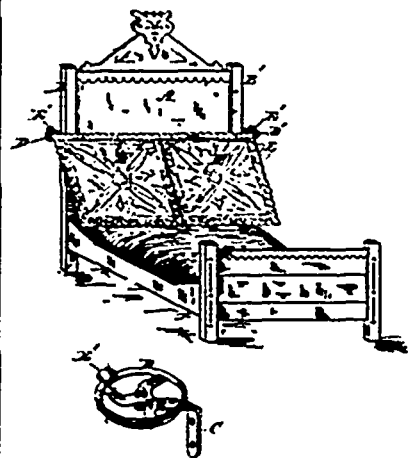
22710 Kingston's Machine for Cutting, Bundling and Tying Firewood.



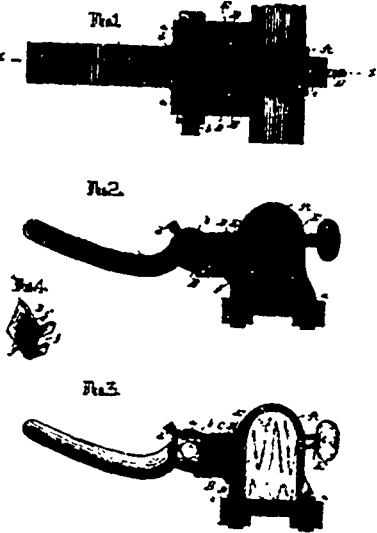
22711 March's Butter Worker.



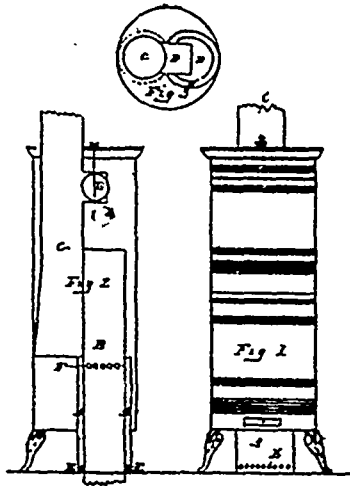
22712 Walsh's Sheet Metal Can.



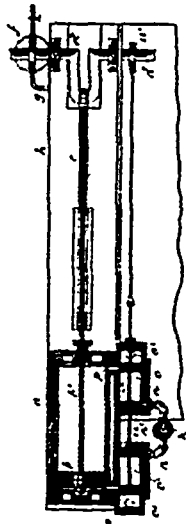
22713 Fercival's Pillow Sham Holder and Remover.



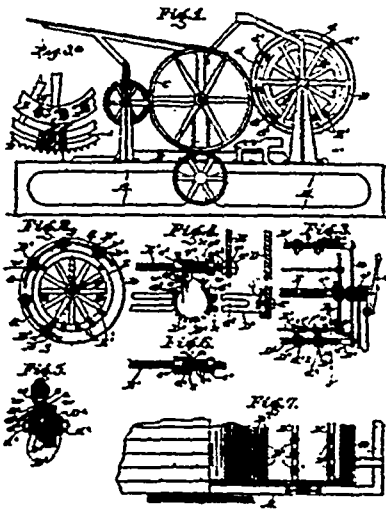
22714 Fahrney's Thill Coupling.



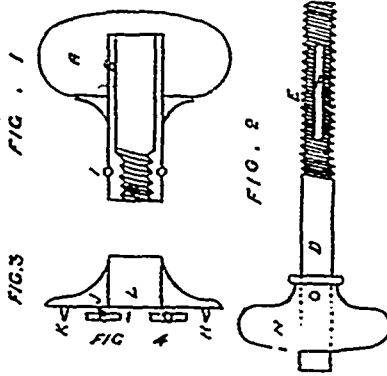
22715 Stephenson's Store Drum



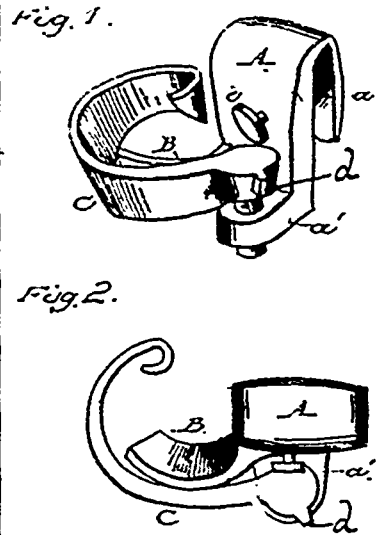
22716 Tobey's Gas Engine.



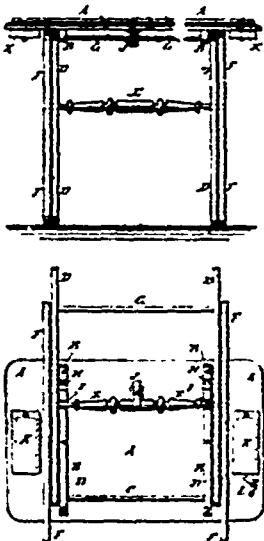
22717 Baker's Numbering Attachments for Printing Presses.



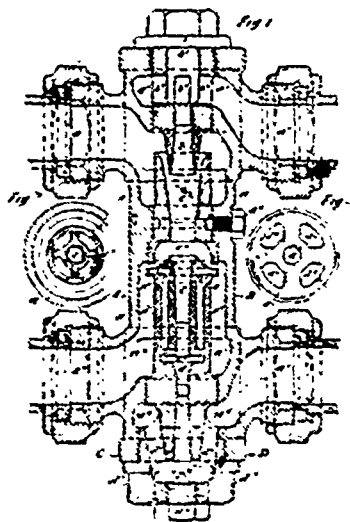
22718 Jeffrey's Door Knob



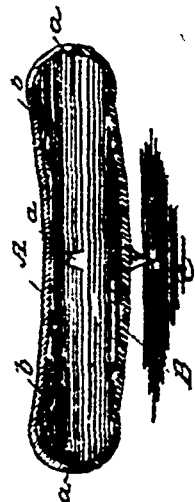
22719 Walter's Mop Wringer.



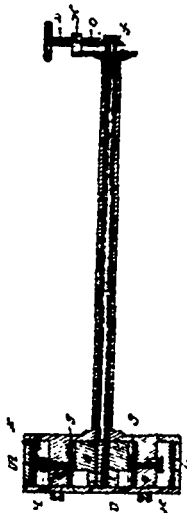
22720 Stowell's Folding Table.



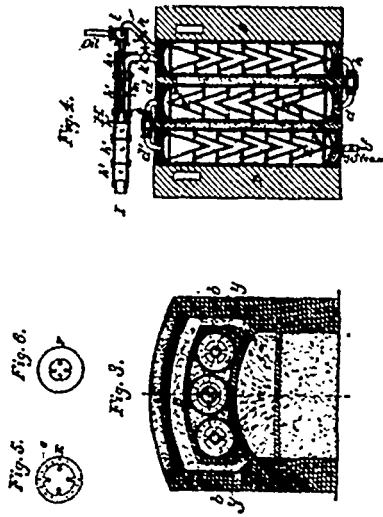
22721 Gresham's Infector.



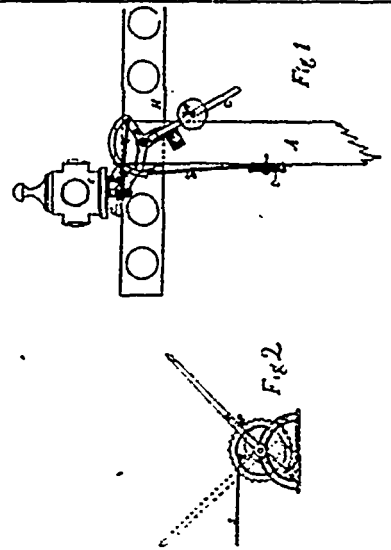
22722 Viger's Sound Amplifier for Pianos, etc.



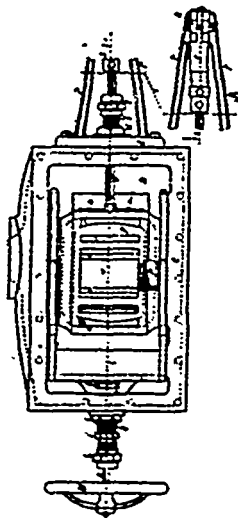
22723 Delagneau's Piston Packing.



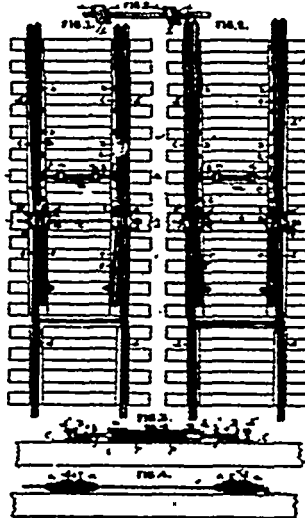
22724 Avery's Manufacture of Vaporous and Gaseous Fuel Illuminating Gas, etc.



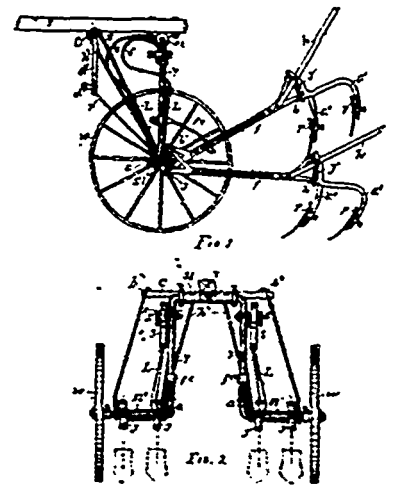
22725 Pettet's Railway Signal or Semaphore.



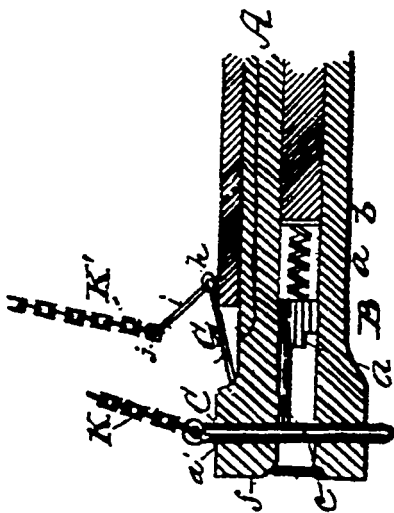
22727 Woodbury's Balance Slide-Valve for Steam Engines.



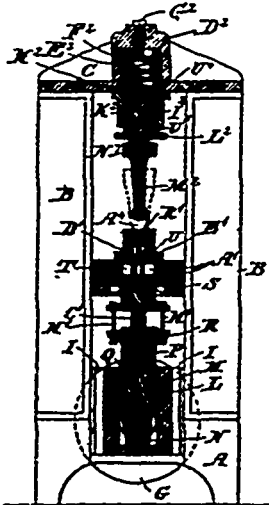
22728 Gordon's Railway Switch.



22729 Goodnough's Walking Wheel Cultivator.



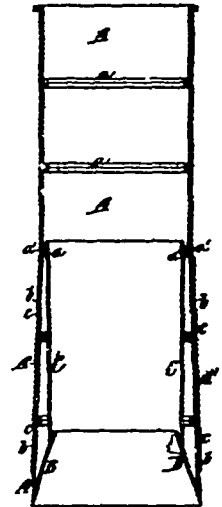
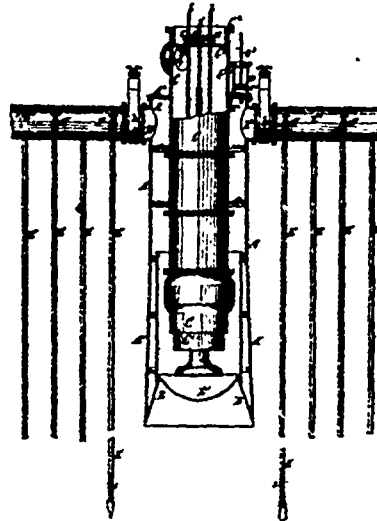
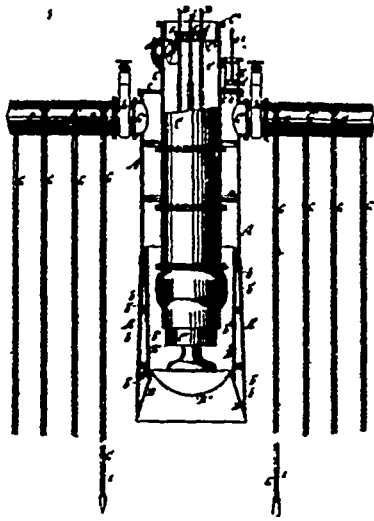
22730 Gammon's Car Coupler.



22731 Brosse's Mechanism to be used in the Manufacture of Boots and Shoes.



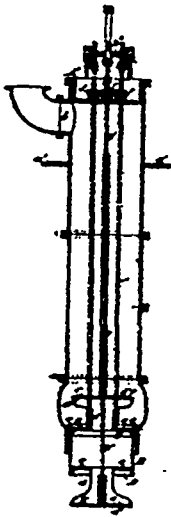
22732 Bircher's Pump.



22783 Andrews' Apparatus for Procuring Water from the Earth.

22784 Andrews' Apparatus for Procuring Water from the Earth.

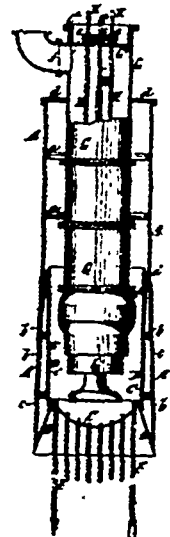
22785 Andrews' Apparatus used in Sinking Wells.



22786 Andrews' Pump.



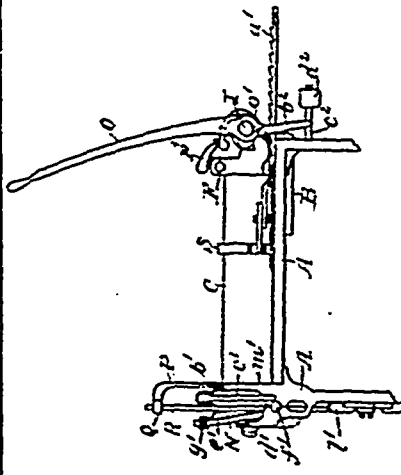
22787 Andrews' Well and Reservoir for Procuring Water from the Earth.



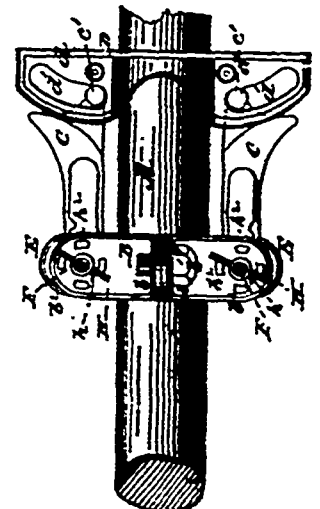
22788 Andrews' Well and Pump for Procuring Water from the Earth.



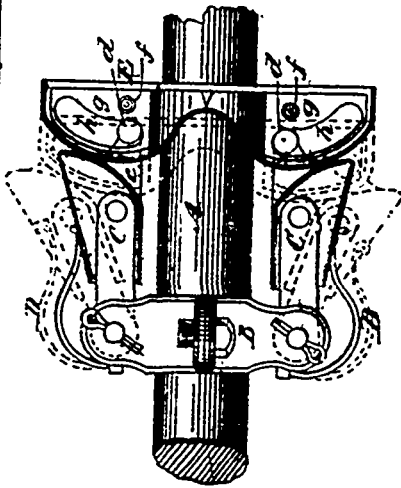
22789 Harwood's Manufacture to be used in Making Chair Backs, or Seats, etc.



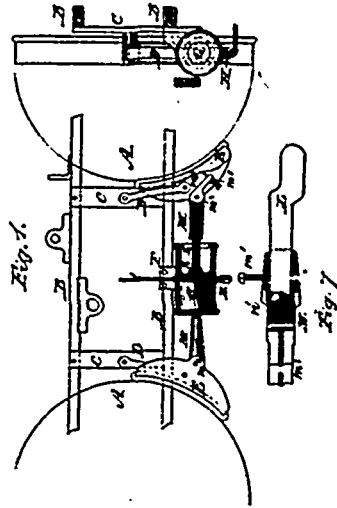
22790 Hérard's Machine for Making Stove-Pipe Elbows.



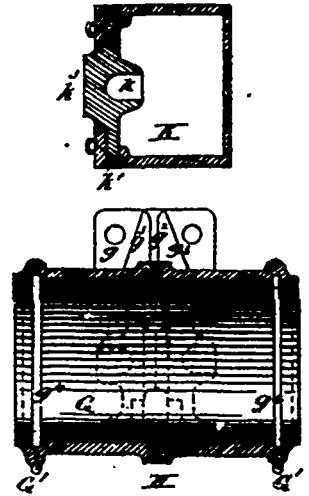
22791 Poor's Centrifugal Governor for Automatic Car Brakes.



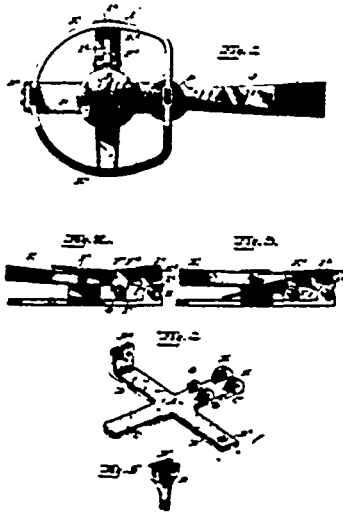
22742 Poor's Centrifugal Governor for Automatic Brakes.



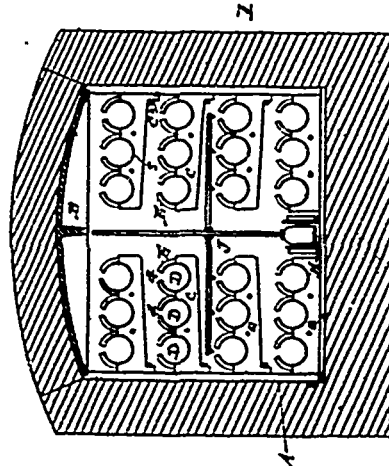
22743 Poor's Locomotive Brake.



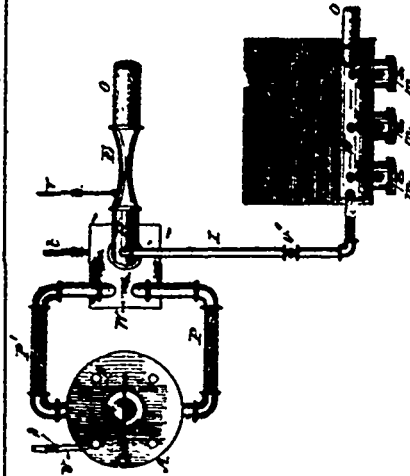
22744 Poor's Cylinder and Piston.



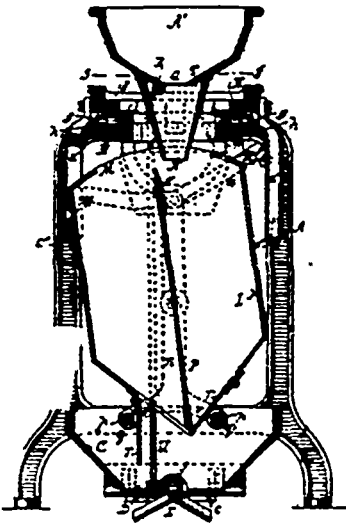
22745 Dennis' Animal Trap.



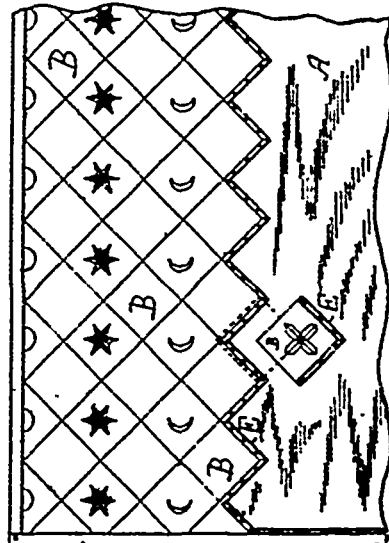
22745 DuBois' Underground Conduit for Electric Wires.



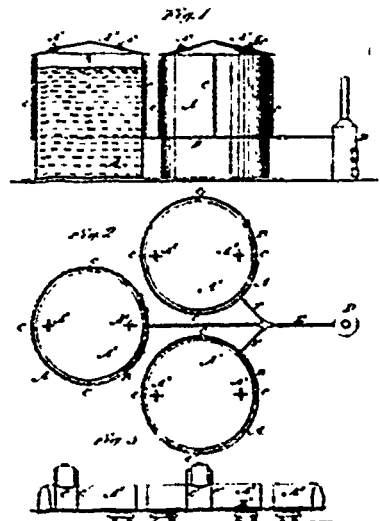
22747 Egner's Apparatus for the Manufacture of Illuminating Gas.



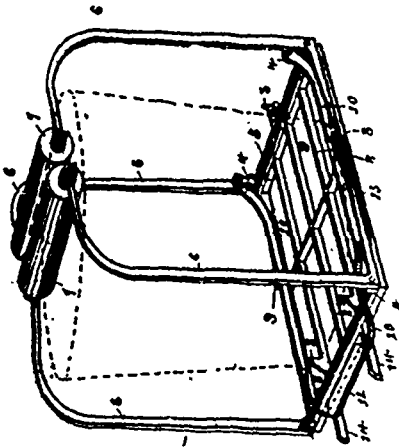
22743 Koch's Automatic Grain Scale and Register.



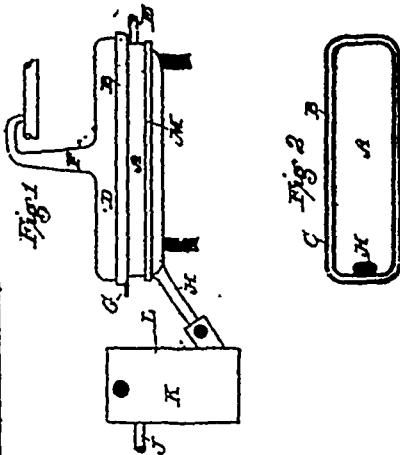
22749 Cortright's Roofing for Buildings.



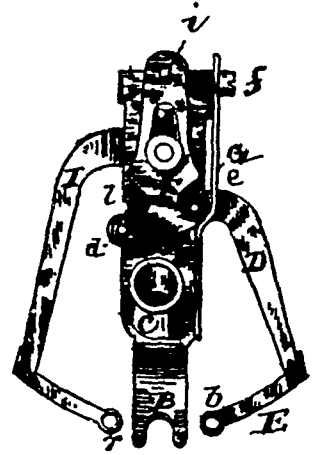
22750 Thayer's Method of Preventing Explosions in Oil Tanks.



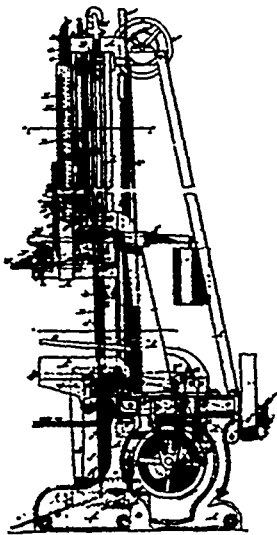
22751 Burnham's Mop Wringer.



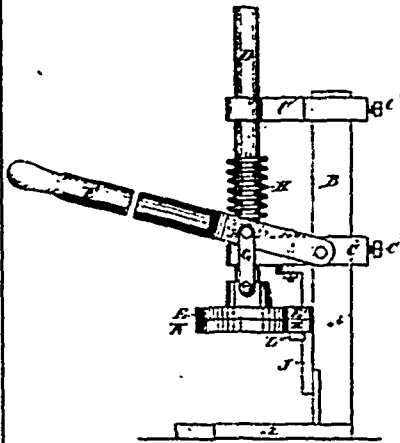
22752 Bartsch's Still for Concentrating Sulphuric Acid.



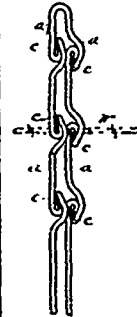
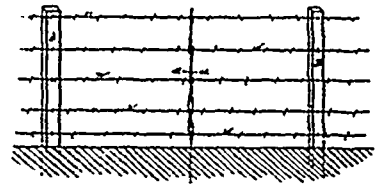
22753 Lavigne's Embroidery Attachment for Sewing Machines.



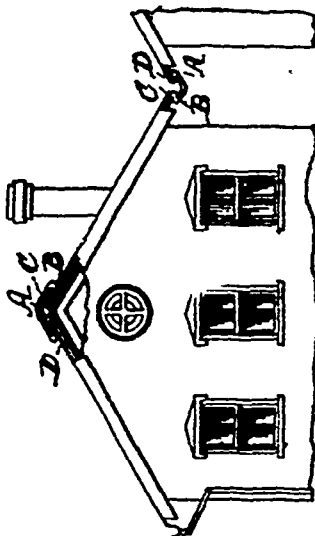
22754 Mergenthaler's Machine for Producing Relief Surfaces for Letter Press Printing.



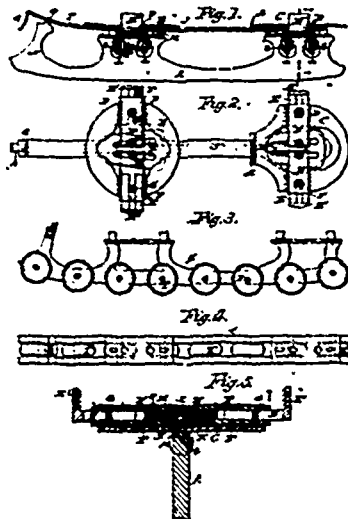
22755 Hunter's Machine for Heading Packing Cases.



22756 Adam's Wire Fence Stay.



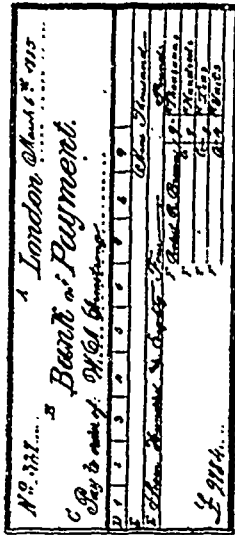
22757 Cortright's Roofing Finishing.

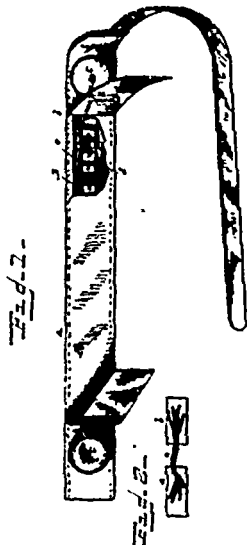


22758 Lamont's Skate.

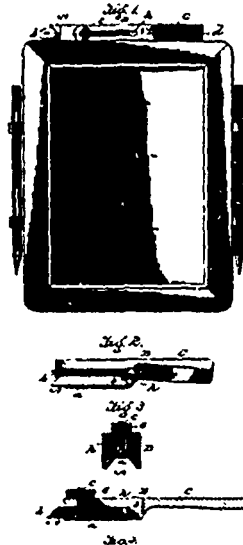


22759 Spiro's Music Typewriter.

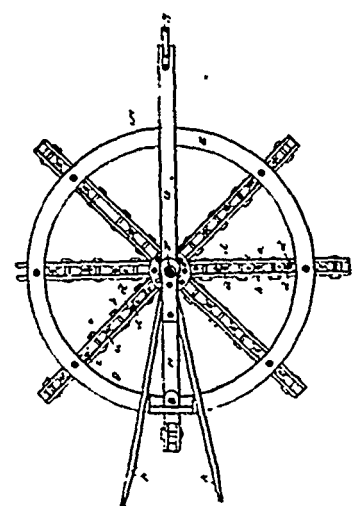




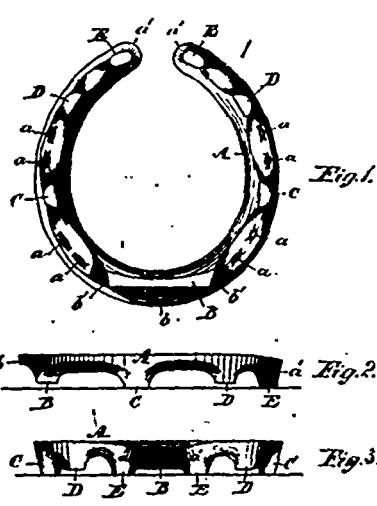
22769 Hughes' Electric Belt.



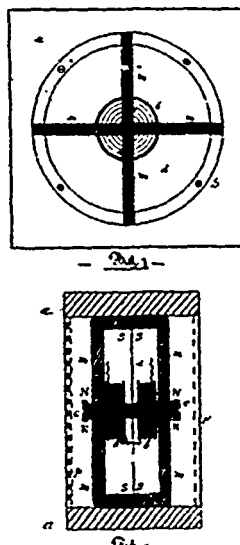
22770 Williamson's Pencil Sharpener.



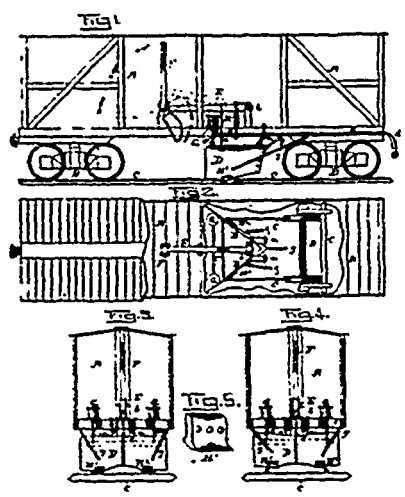
22771 Bronner's Harrow.



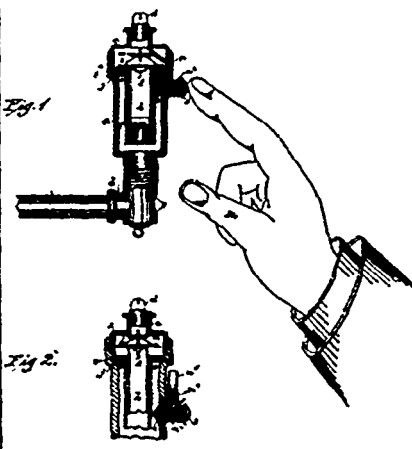
22773 Bellamy's Horse Shoe.



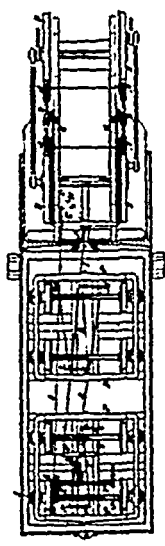
22774 Gisborne & Keeley's Telephone Instrument.



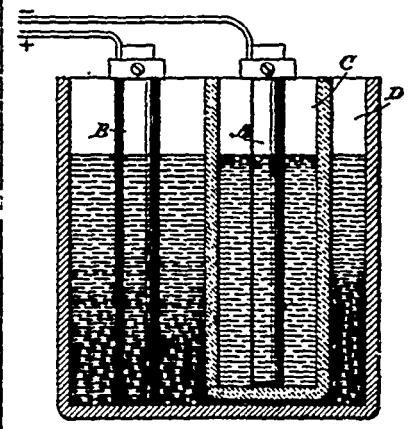
22775 Ellis' Railway Track Clearer and Flanger.



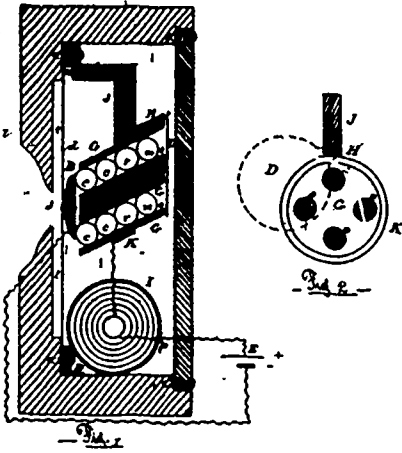
22776 Birch & Henderson's Automatic Cut-off for Gas Burners.



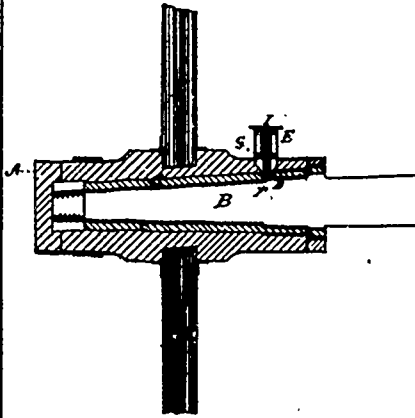
22777 Widdifield's Brakes for Railway Rolling Stock.



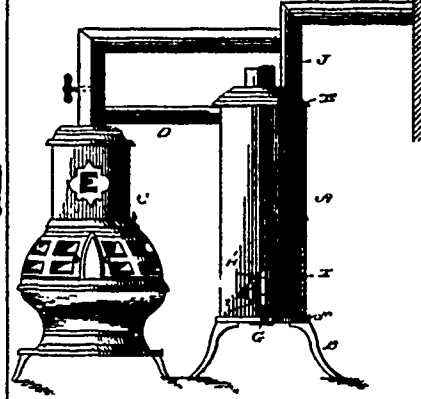
22778 Bradley's Electric Battery.



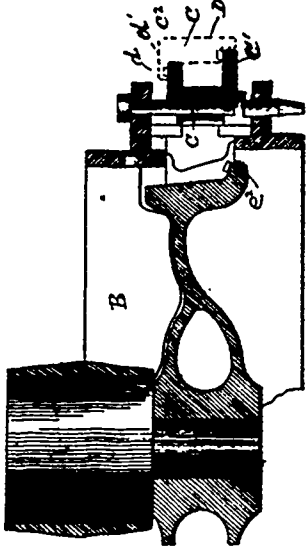
22780 Gisborne & Keeley's Telephone Transmitter.



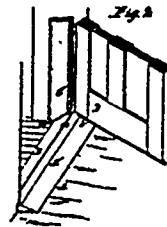
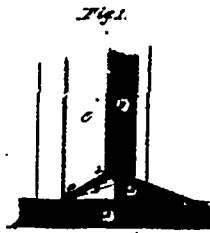
22781 Guy's Machine for Oiling the Axles of Waggon, etc.



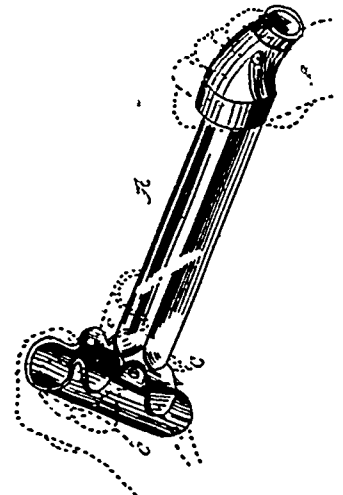
22783 Sperry's Hot Air Generator.



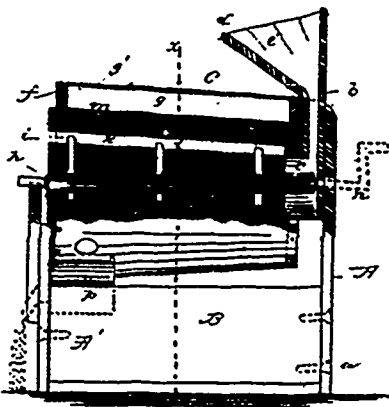
22784 Barr's Contracting Car Wheel Chill.



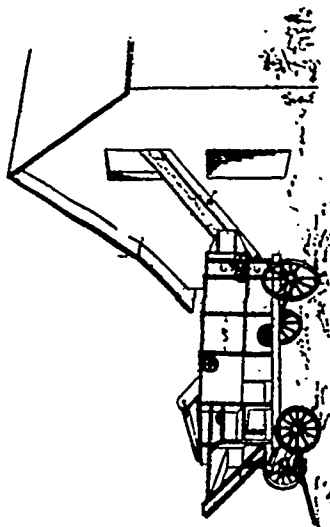
22785 Funk's Weather Strip for Doors.



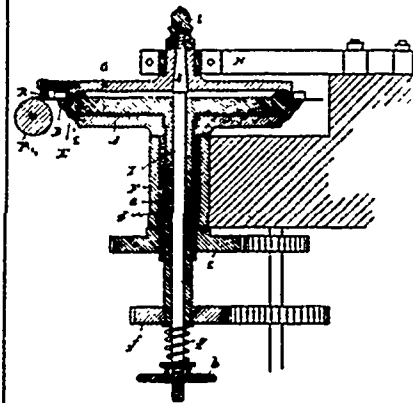
22786 Bernadao's Tool for Trimming Horses' Hoofs.



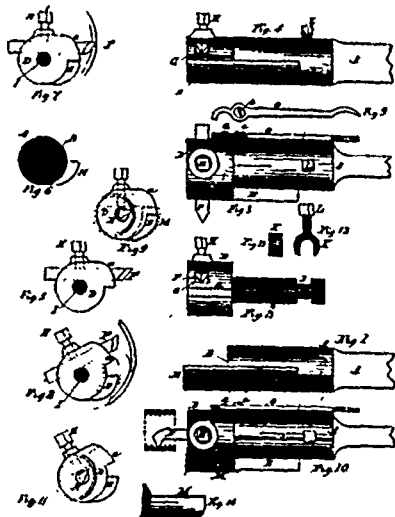
22787 Forder's Machine for Cleaning and Grading Wheat.



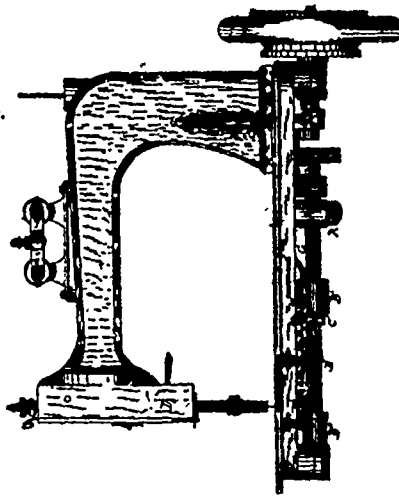
22788 Buchanan's Straw-Cutting Attachment for Thrashing Machines.



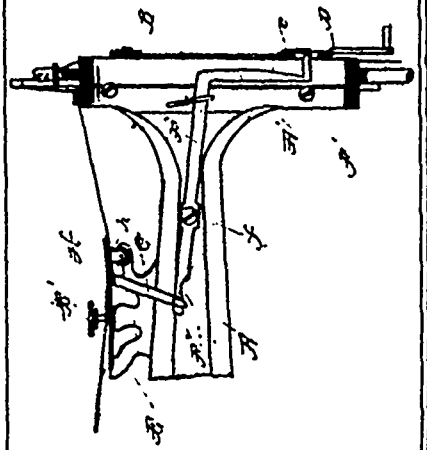
22789 Fontaine's Pin Machine.



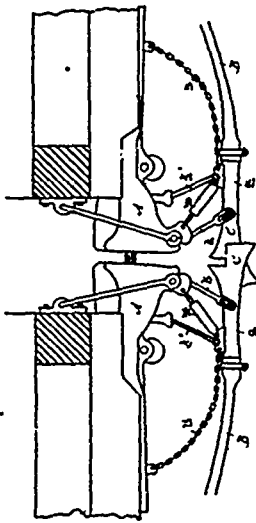
22780 Noyes' Tool-Holder for Cutting Inside Screw Threads in a Lathe.



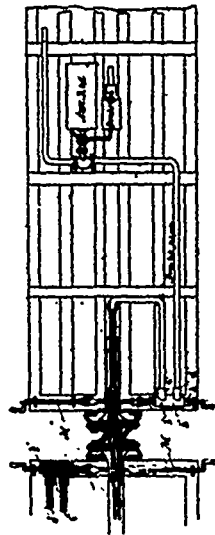
22791 Tibbies' Sewing Machine.



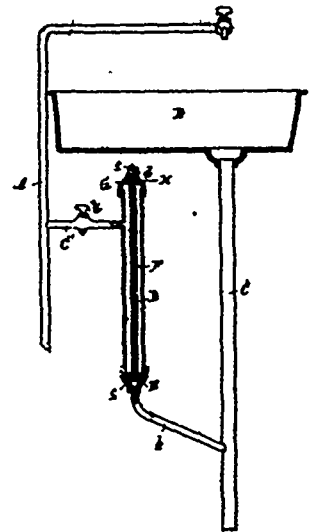
22782 Devine's Thread Releaser for Sewing Machine.



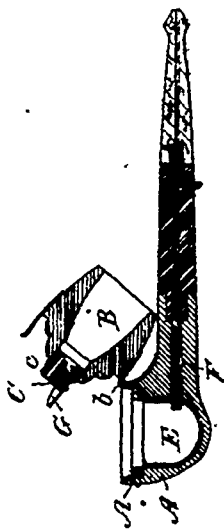
22793 Mark's Hose Coupling.



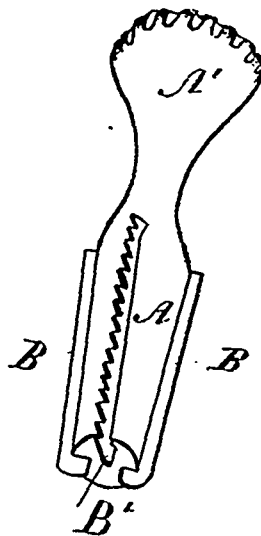
22794 Mark's Valve for Air Brakes.



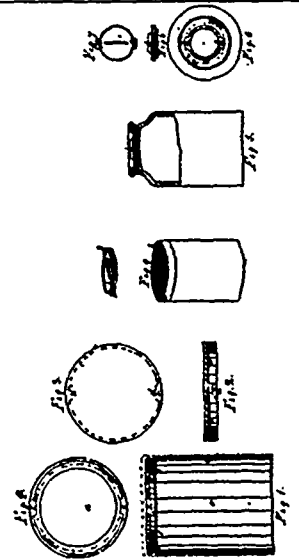
22795 Bacon & Seoord's Waste Valve.



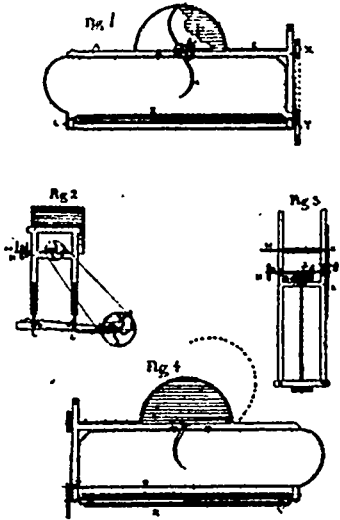
22796 Wyatt's Pipe for Smoking



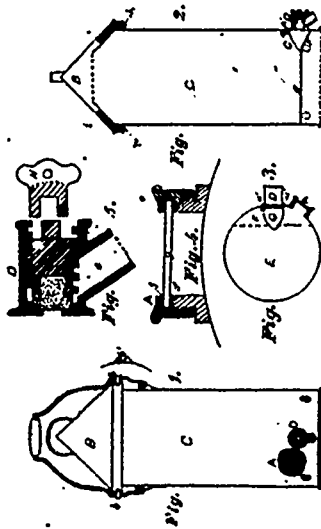
22797 Wyatt's Pipe Reamer,



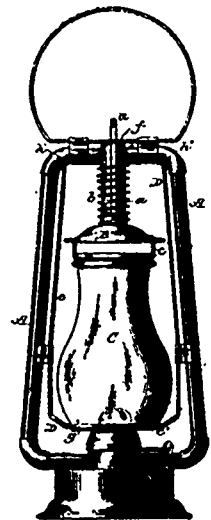
22798 Johnson's Jar and other Receptacles.



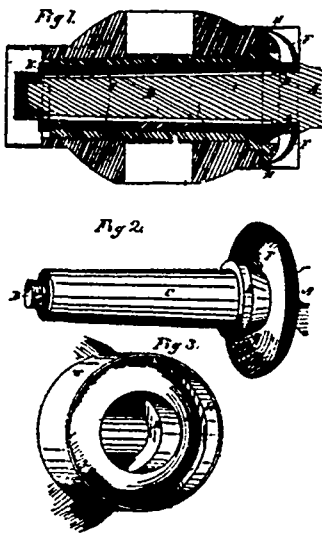
22799 Davis' Sheaf Band Cutting Machine.



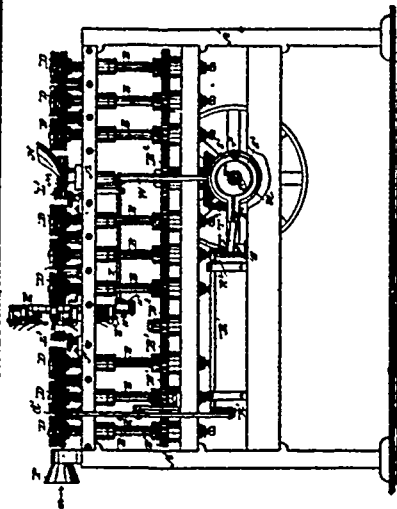
22800 Rutherford's Creamer.



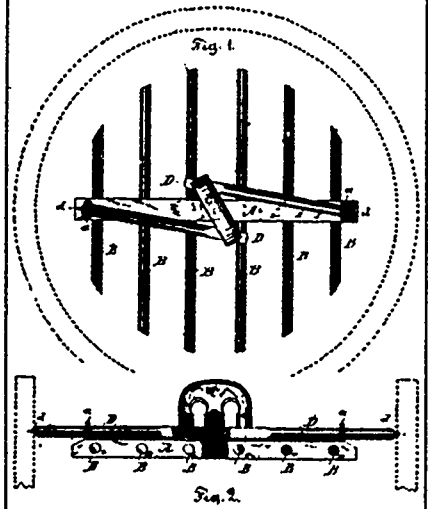
22801 McRoberts' Lantern.



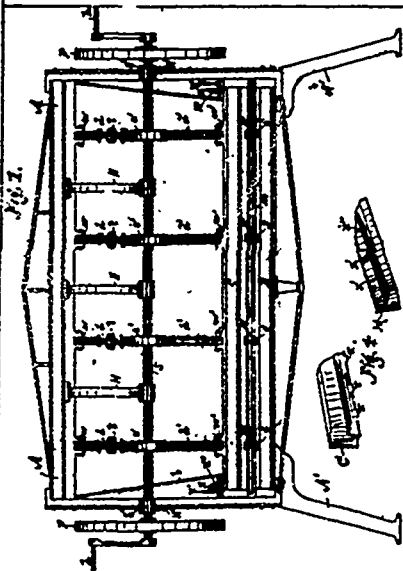
22802 Wonacott's Vehicle Axle.



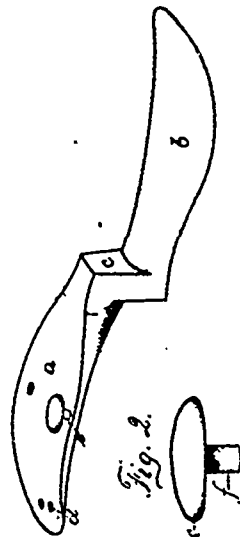
22803 Ellis' Machine for Scraping and Splitting Cane.



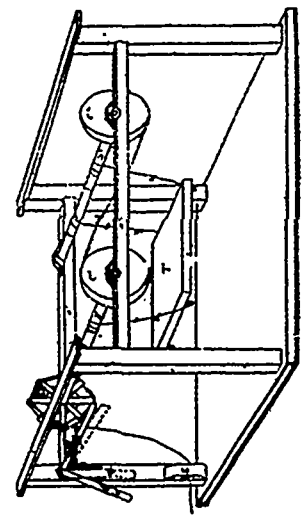
22804 Goff's Brine Cover.



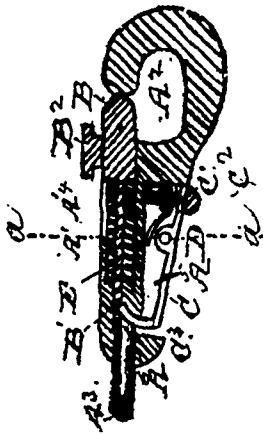
22805 Segendorph's Roof Sheet Crimping Machine.



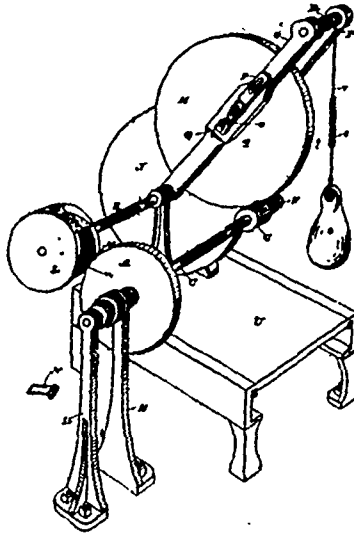
22806 Burke's Cobbling Last.



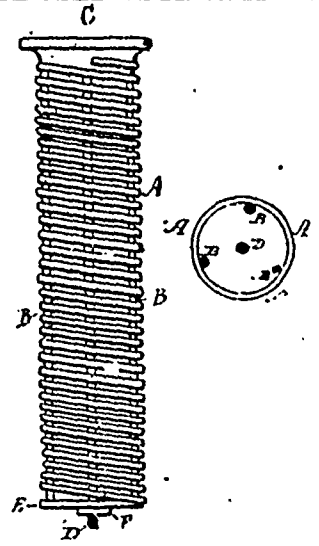
22807 Lansdell's Machine for Lifting Loads of Grain, etc.



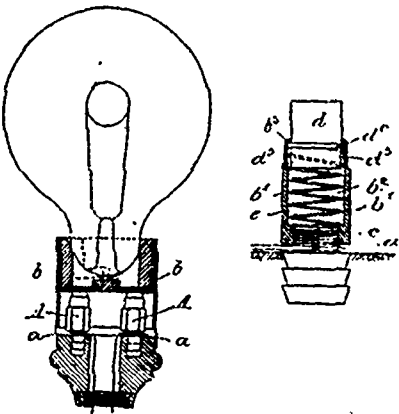
22808 Miller's Snap Hook.



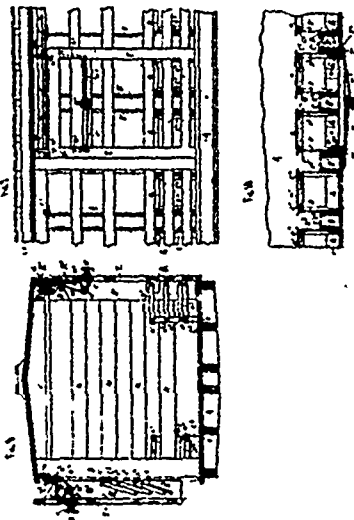
22809 Storio's Grinding Machinery.



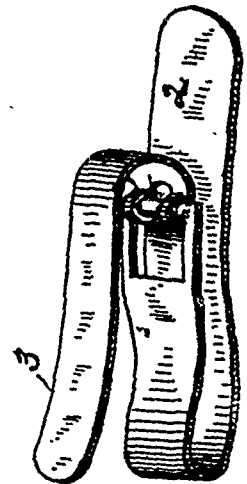
22810 Duffield's Argand Lamp.



22811 Swan's Contact Maker for the Holders of Electric Lamps, etc.



22812 Hicks' Stock Car.



22813 Phillips' Fastening for Boot and Shoe Uppers.

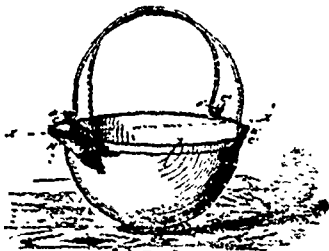


Fig. 1

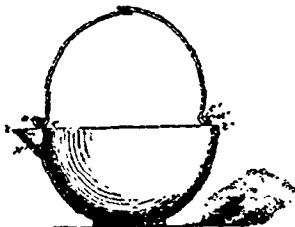
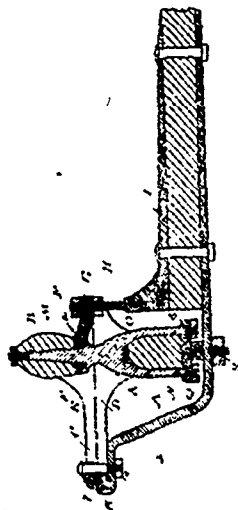
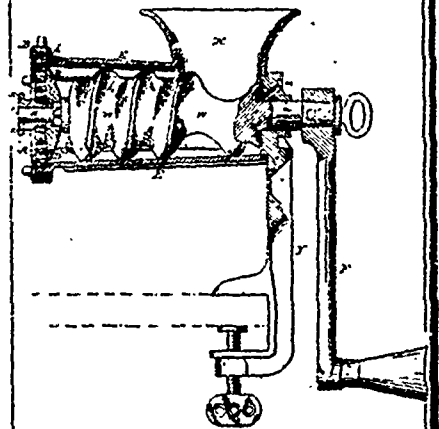


Fig. 2

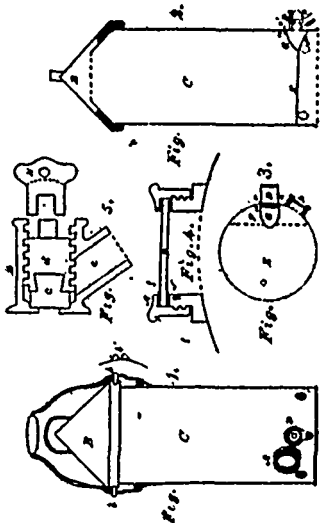
22814 McLean's Hatted Hollow Ware.



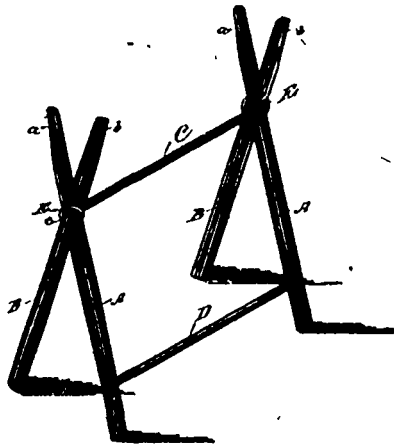
22815 Lawrence's Circle for Bugles, etc.



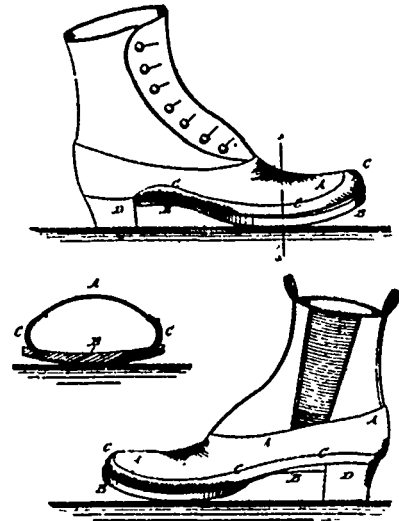
22816 Baker's Machinery for Cutting Plastic Substances.



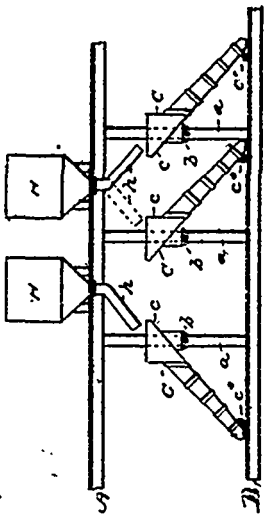
22817 Wadman's Creamer



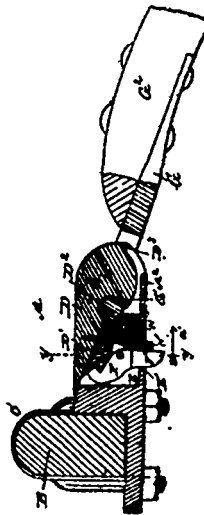
22818 Gontesso's Sawing Trestle.



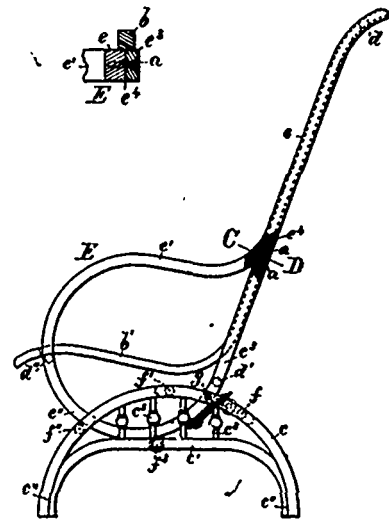
22819 Joslin's Leather Boot and Shoe.



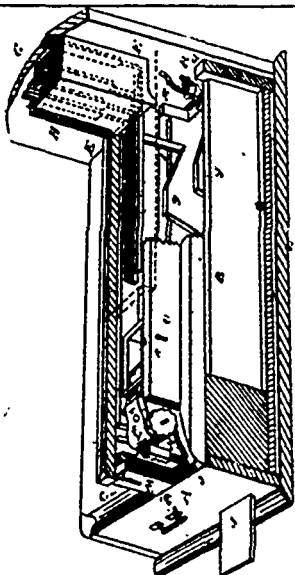
22820 Hughes' Revolving Chute for Grain Elevators.



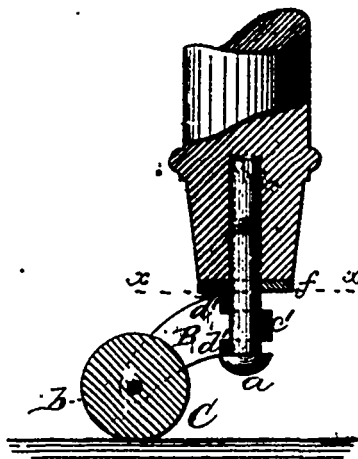
22821 Smith & Fride's Thill-Coupling.



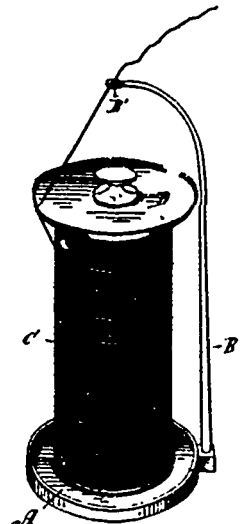
22822 Ordway's Rocking Chair.



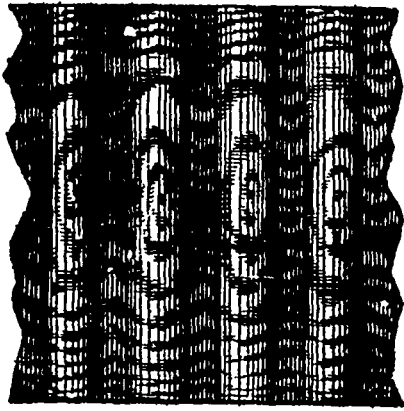
22823 Blackhall's Cash Indicator and Recorder.



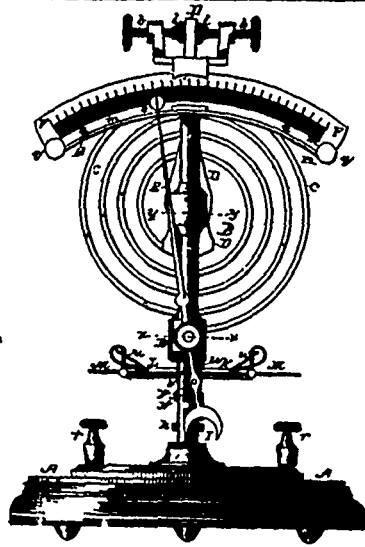
22824 Diss' Furniture Caster.



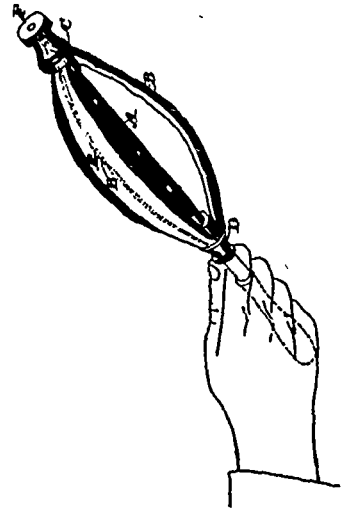
22825 Wilson's Feeding Device for Long Length Spools.



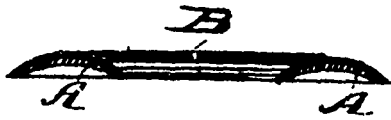
22826 Mankey's Process for Ornamenting Wood, &c.



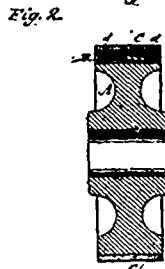
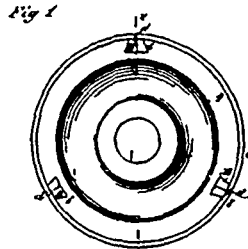
22927 Haight's Electro Magnetic Thermoscopes.



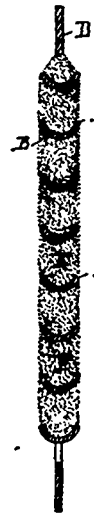
22828 Hall's Lamp Chimney Cleaning Device.



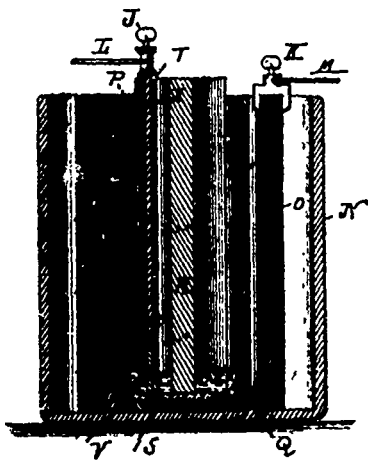
22829 Caesar's Enamelled Letters or Figures.



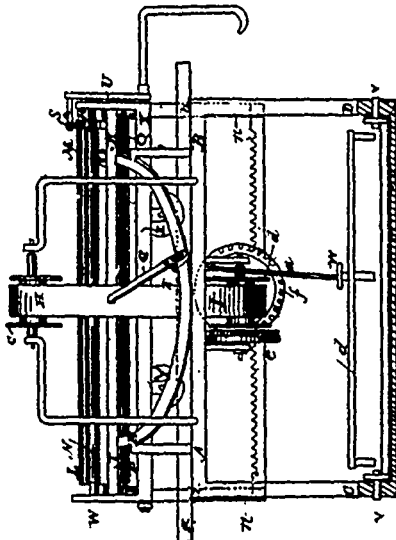
22830 Cleaveland's Pulleys.



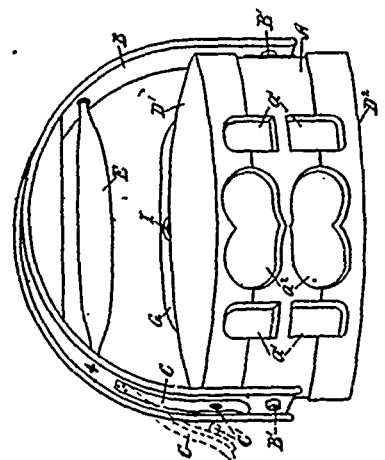
22831 Gardner's Electrode for Secondary Batteries.



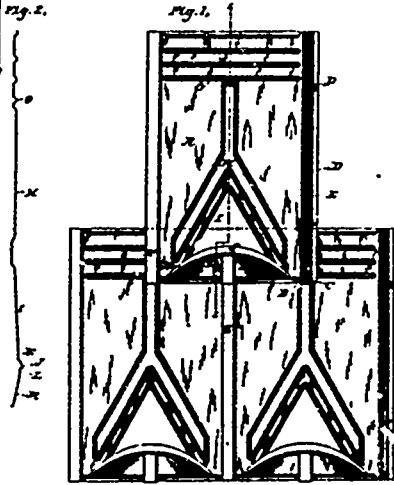
22832 Gardner's Galvanic Battery.



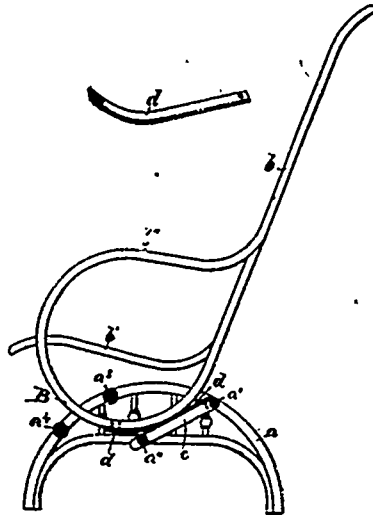
22833 Horton's Type Writing Machine.



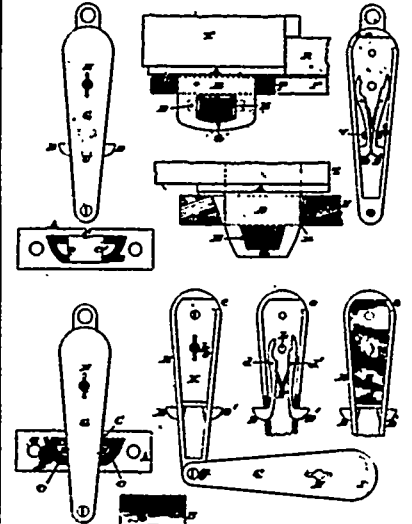
22834 Fitzsimons & Smith's Smoothing Iron.



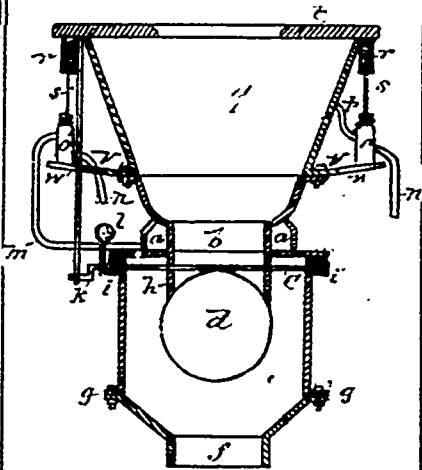
22835 Cooper's Metal Roofing Plate.



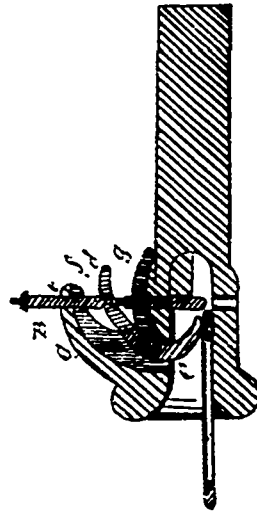
22836 Ordway's Rocking Chair.



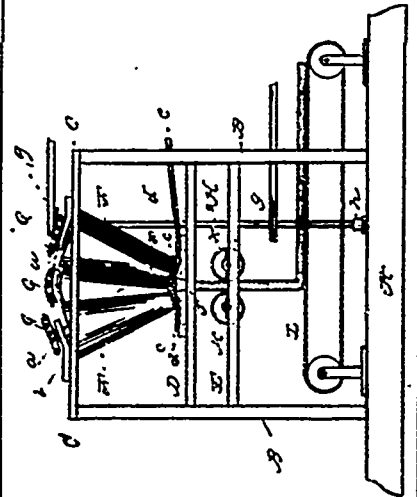
22837 Lenchtenberg's Staple Lock.



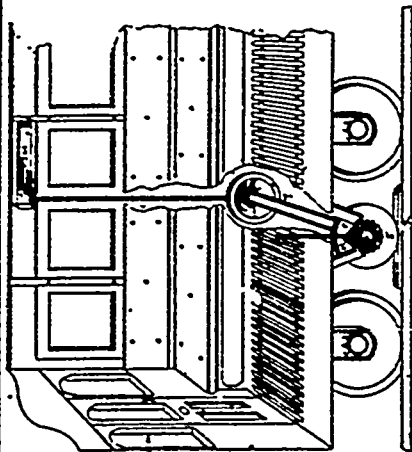
22838 McAndrew's Water Closet.



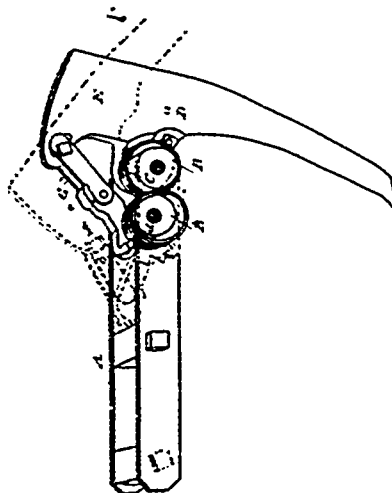
22839 Beal's Car-Coupler.



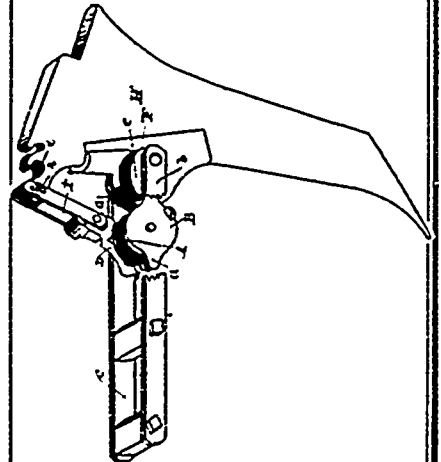
22840 Birchard's Candy Machine.



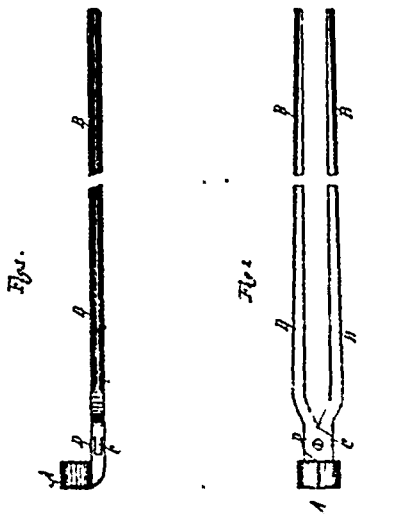
22842 Fectum's Indicator for Cars.



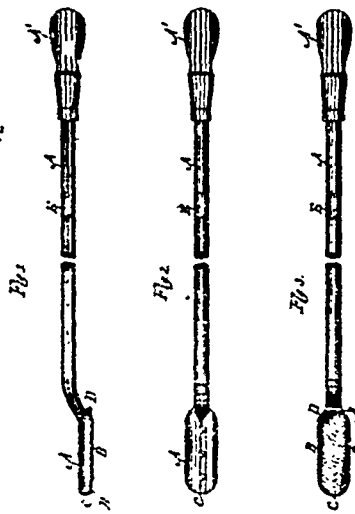
22843 Noxon's Spring Locking Device for Drill Hoes, &c.



22844 Noxon's Spring Locking Device for Drill Hoes, etc



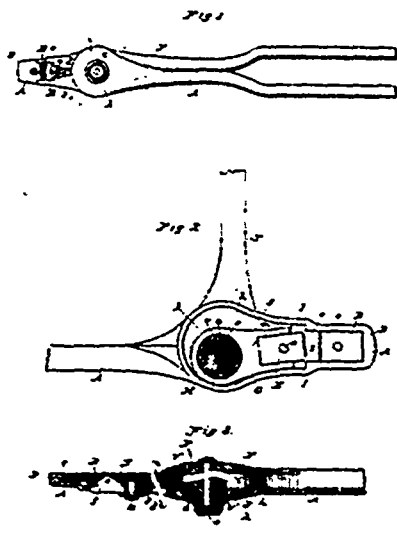
22845 Watkin's File-Holder and File for Horse's Teeth.



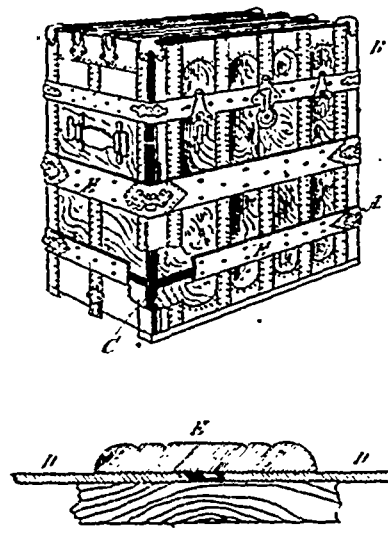
22846 Watkin's Nippers for Horses Teeth.



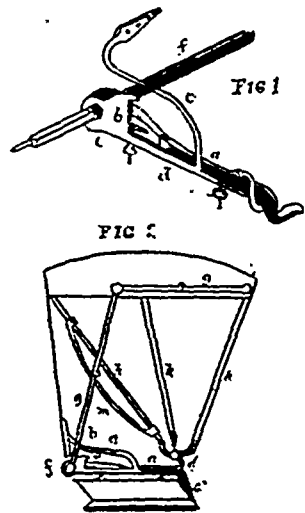
22847 Lindley & Robinson's Device for Chromatic Printing.



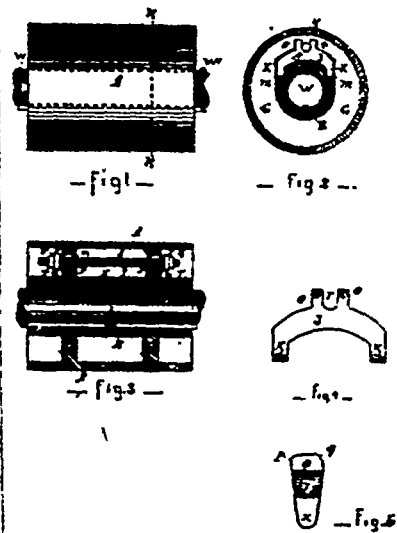
22848 Nichols' Rod and Bolt Cutter



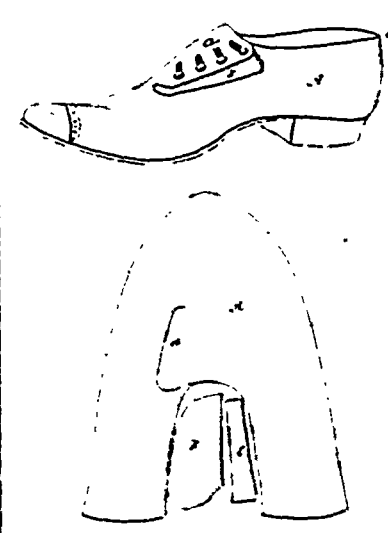
22849 McLeod & Brabant's Trunk.



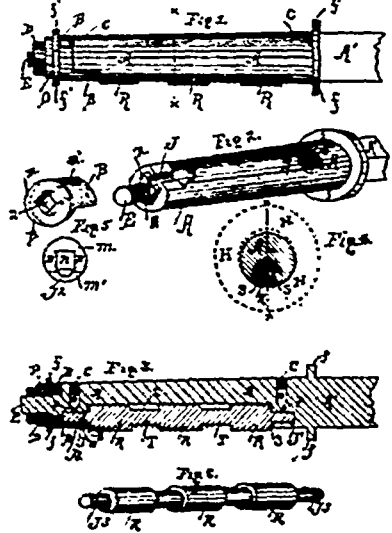
22850 Booth's Buggy Top.



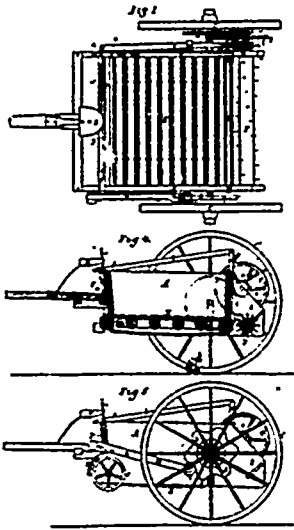
22851 Turner's Shaft Coupling.



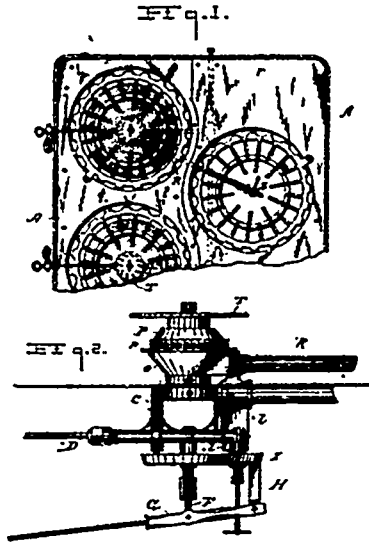
22852 Kirkland's Shoe.



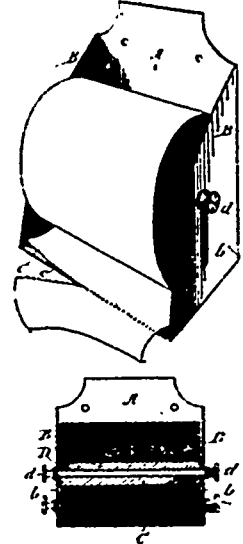
22853 Corey's Axle.



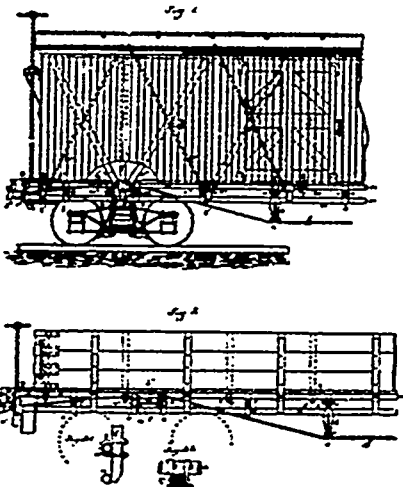
22854 Crandall's Machine for spreading Manure.



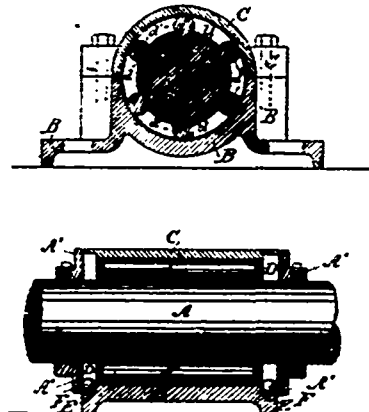
22855 Marsh's Vapor Burner Cooking Stove.



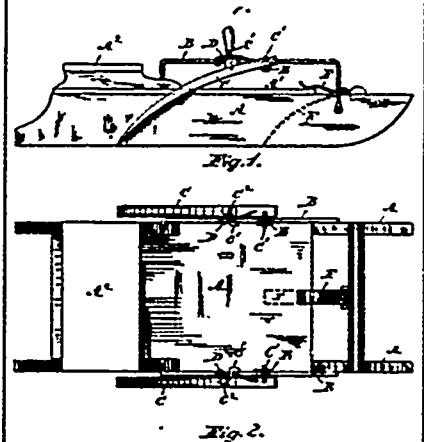
22857 Wilson's Toilet Paper Holder.



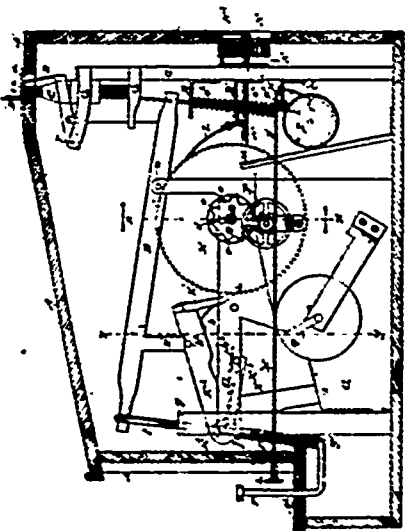
22858 Goodfellow & Cushman's Metallic Frame and Draft Bar for Cars.



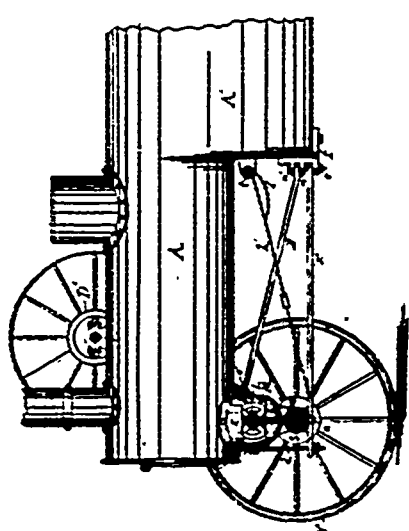
22859 Cameron's Anti-Friction Journal Box.



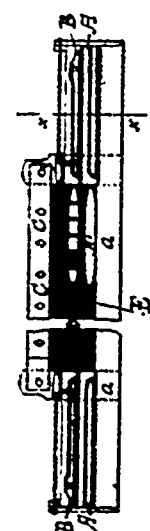
22860 McCormick's Propeller Sled



22851 Horne's Cash Indicator, Register and Recorder.



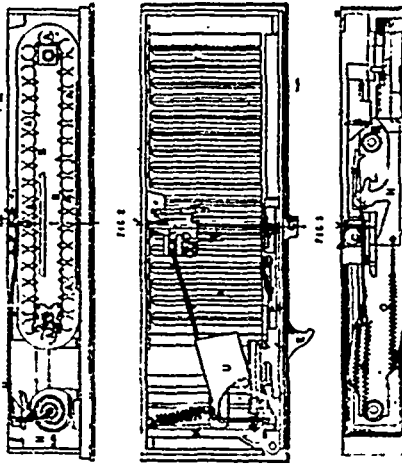
22852 Taber's Traction Engine.



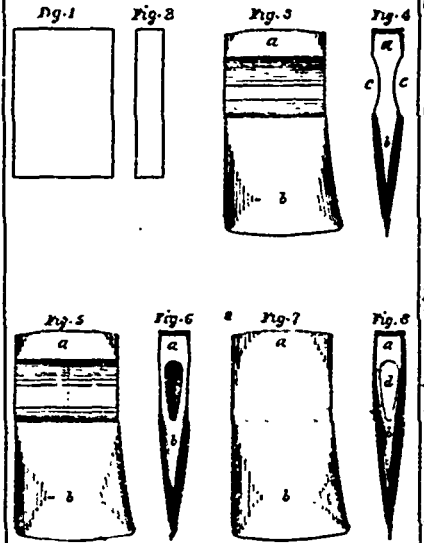
22853 Coupland's Loom for Weaving Double Pile Fabrics.



22854 Gale's Cable Coupling.



22855 Keeson's Apparatus for the Automatic Sale and Delivery of Prepaid Goods.



22856 Hammond's Axe.

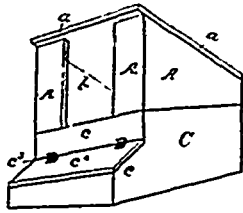


Fig. 1

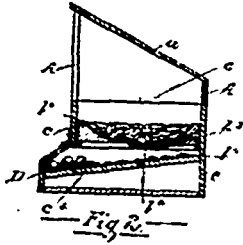
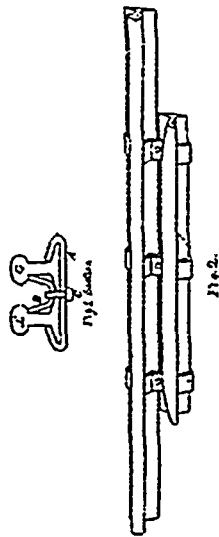
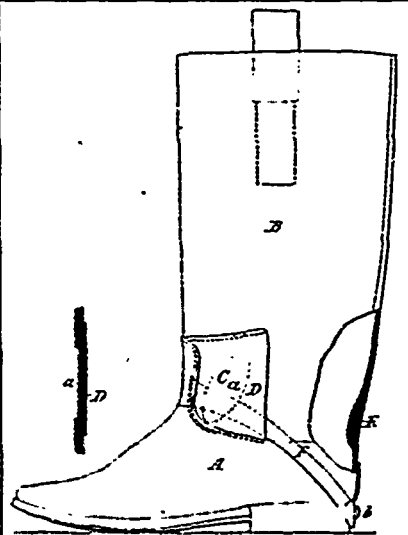


Fig. 2

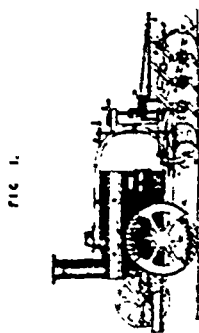
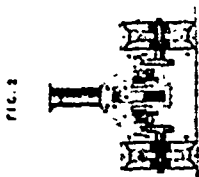
22857 Sylvestre's Hen's Nest.



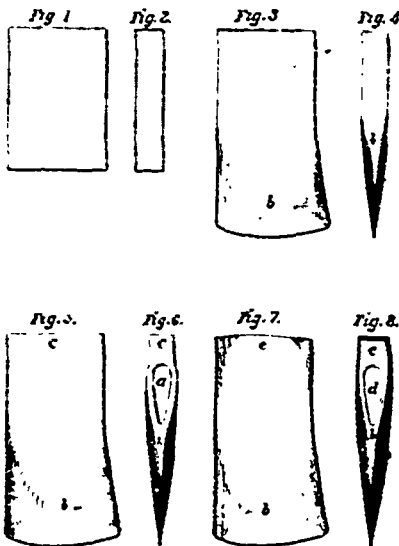
22858 Stewart's Fastening for Guard Rails.



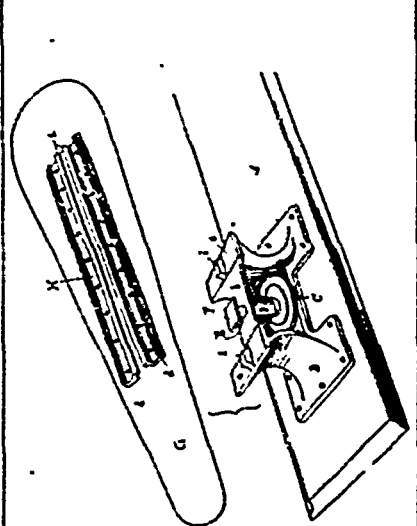
22859 Dean's Knee, Thigh, and Other High Boots.



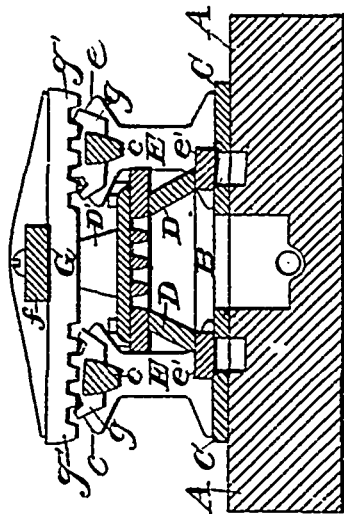
22870 Morton's Machinery for Ploughing, etc.



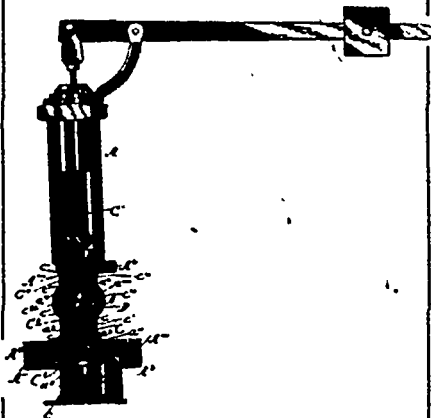
22872 Hammond's Axe.



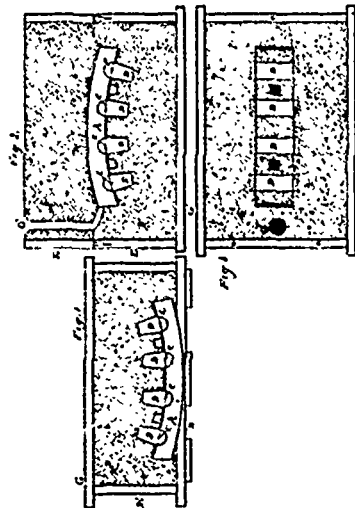
22873 Smyth's Ironing Board.



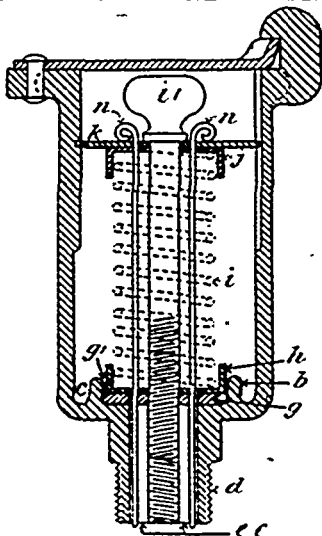
22874 Reaser's Balanced Slide Valve.



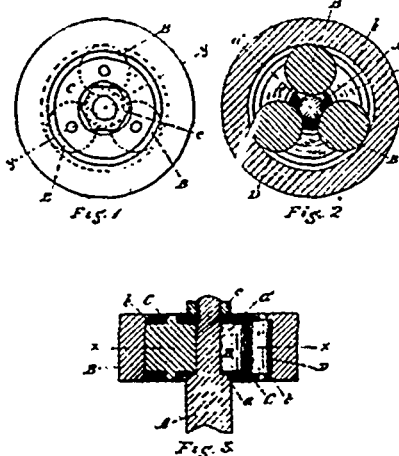
22875 Harvey's Stop and Waste Valve.



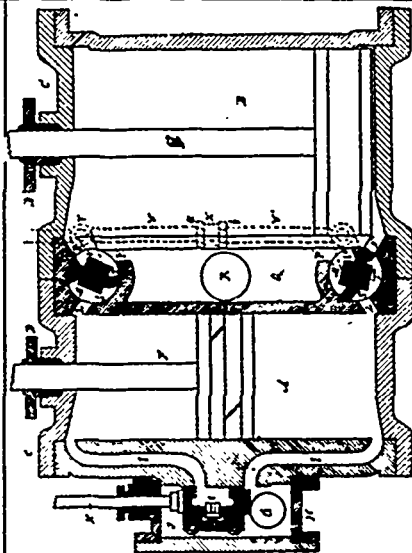
22876 Lappin's Process for the Manufacture of Brake Shoes for Car Wheels.



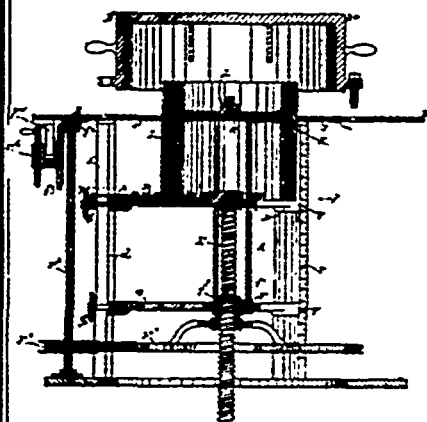
22877 Tennant's Lubricator.



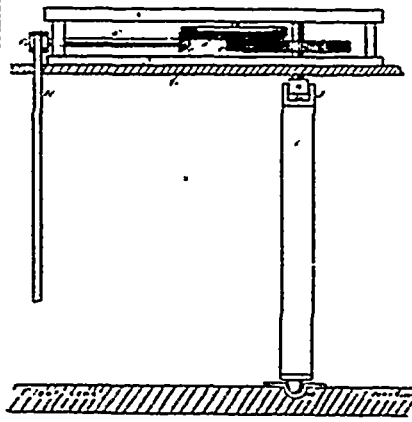
22878 Durocher's Bearing for Shafts.



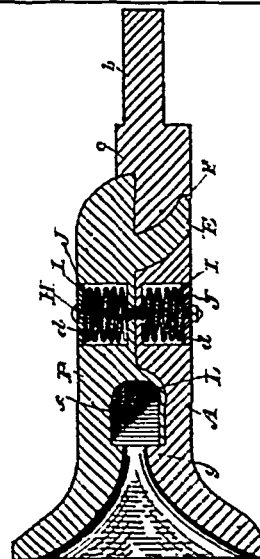
22879 Turner's Steam Engine.



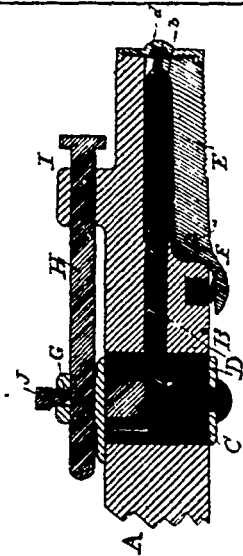
22880 Bardes's Machine for Moulding Pulleys, &c.



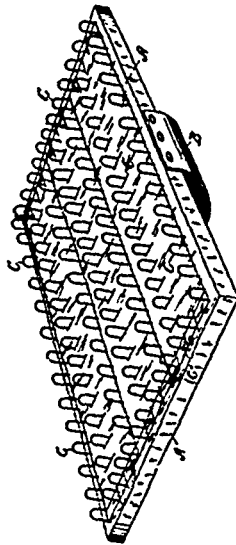
22881 Donovan's Horse Power.



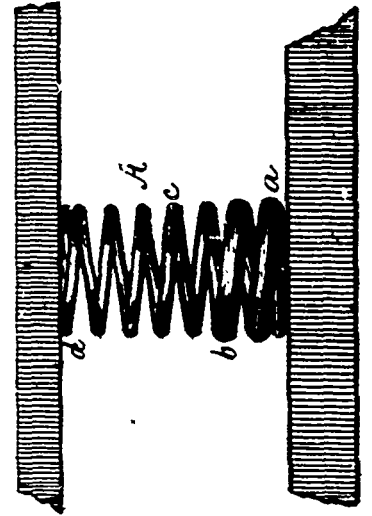
22882 Ripson's Self-Acting Car-Coupler.



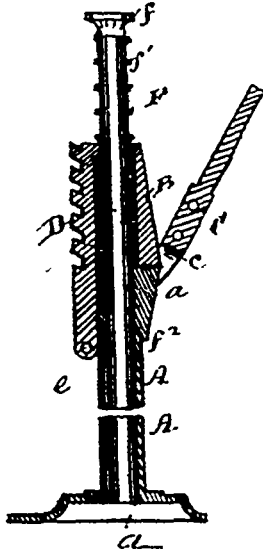
22883 Murchey's Tap.



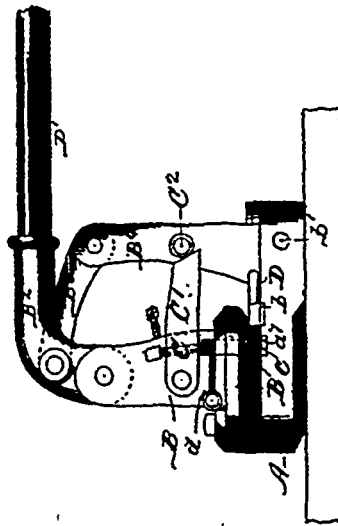
22884 Ellis' Carry Comb.



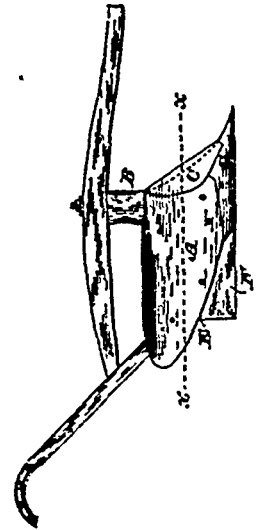
22885 Hearle's Spring.



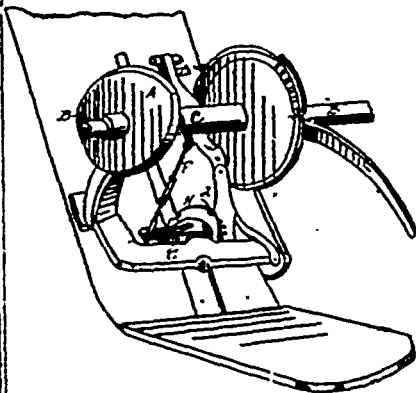
22886 Midwood's Carriage and Waggon Jack.



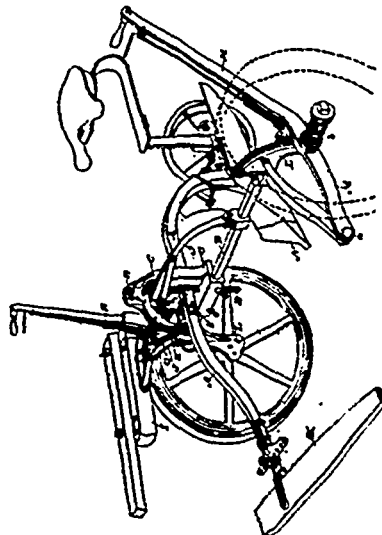
22887 Covell's Saw Swage.



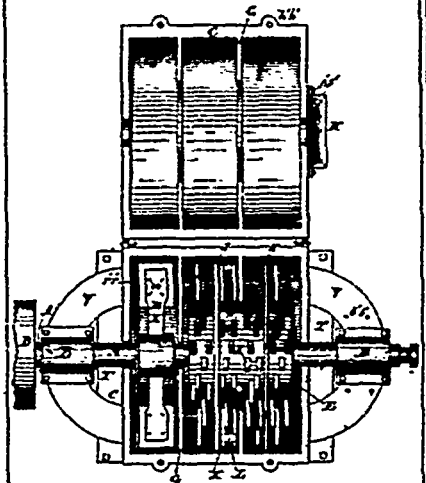
22888 Rinchart's Plough.



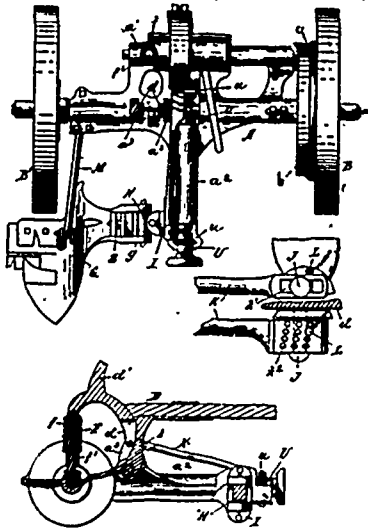
22889 McLachlan's Knotter for Self-Binding Harvesters.



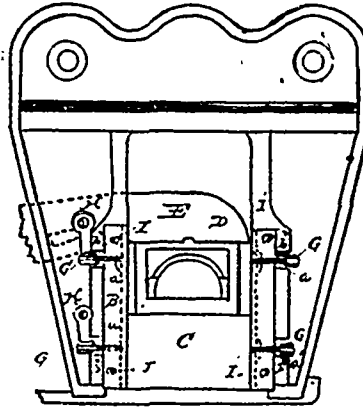
22890 Cockshutt's Riding Plough.



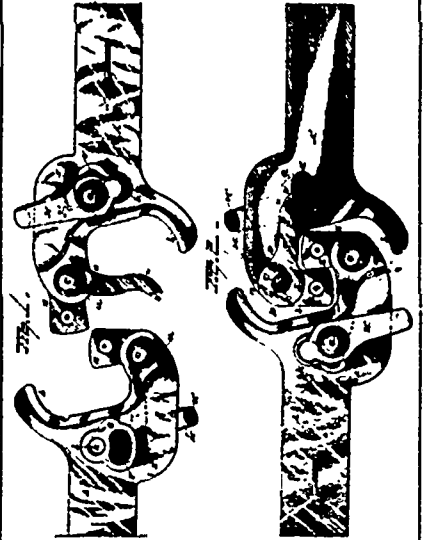
22891 Woodburn's Machine for Pulverizing Sugar and Other Friable Substances.



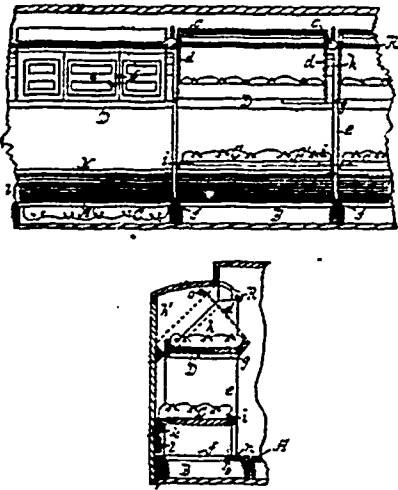
22892 Hopkins' Mowing Machine.



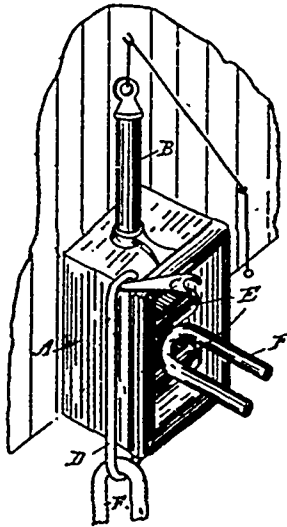
22893 Briody's Car Pedestal.



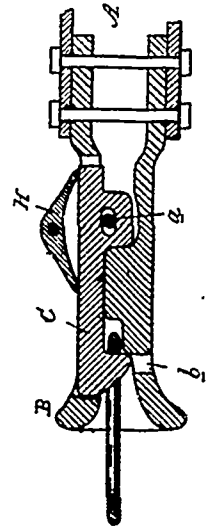
22894 Gifford's Car Coupler.



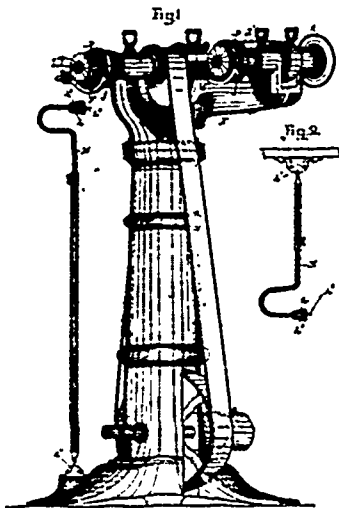
22896 Creighton's Railway Sleeping Car.



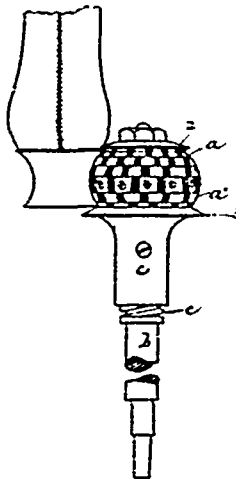
22837 Brown's Car-Coupling.



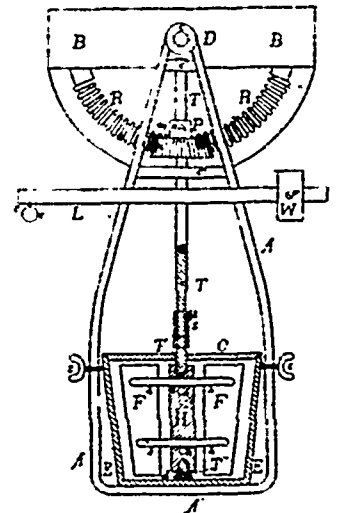
22898 Alkman's Car-Coupling.



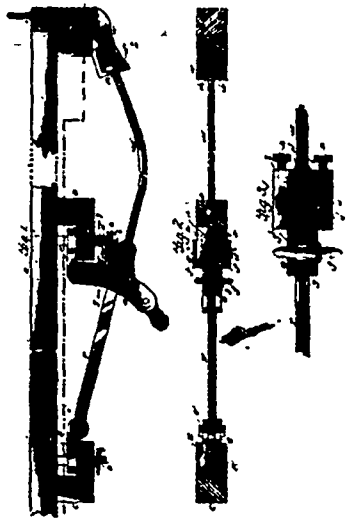
22899 Busell's Heel Trimming Machine.



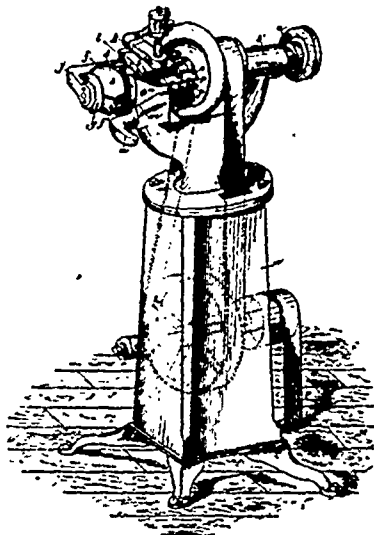
22830 Lord's Heel Trimming Machine.



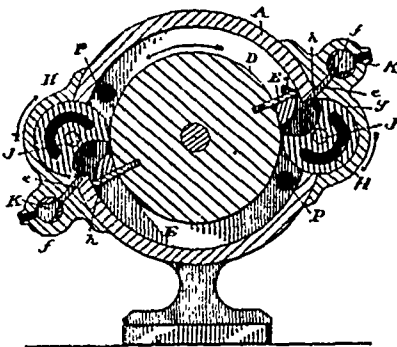
22901 Temple's Churn.



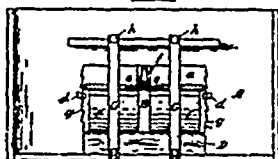
22902 Newhouse's Speed Increasing Device.



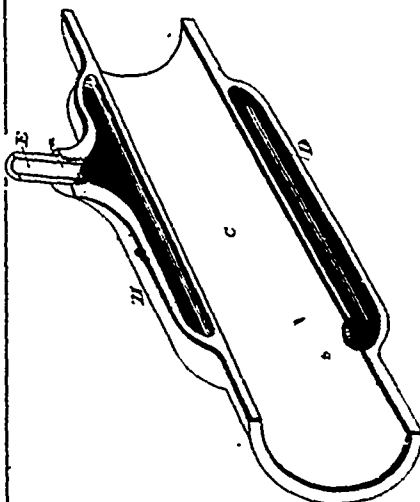
22933 Smith's Heel Trimming Machine.



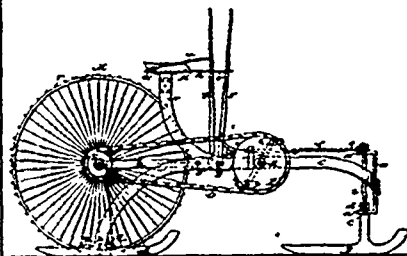
22934 Sewroy's Rotary Engine.



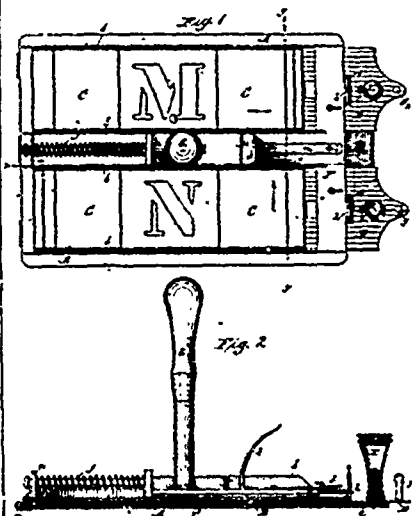
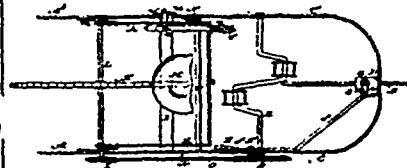
22935 Rowe's Adjustable Pedal Front for Organs.



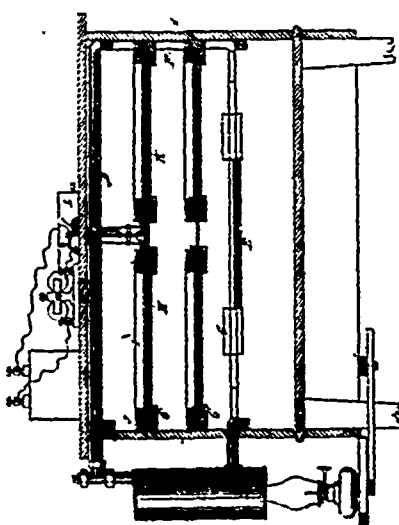
22936 Boag's Steam Pump.



22937 Hussong's Ice Tripod.



22903 Bennett's Stencil Holder.



22909 Bassini and Heyden's Electric Incubator.

Fig. 1.



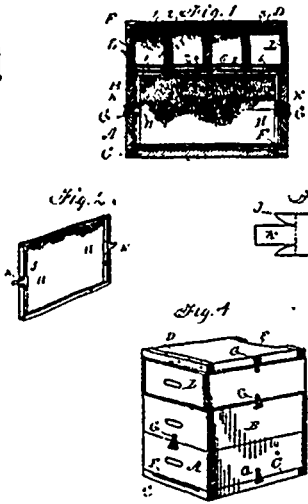
Fig. 2.



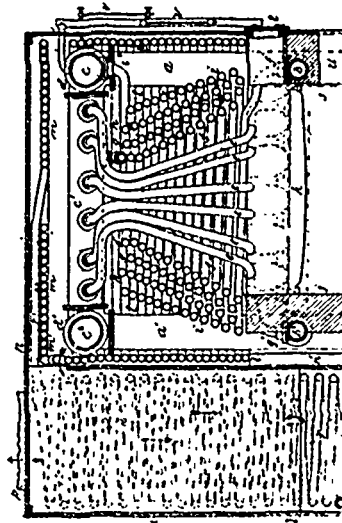
Fig. 3.



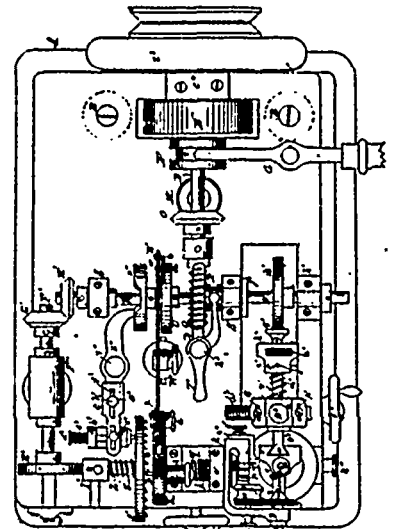
22910 Vorek's Art of Taping Furs.



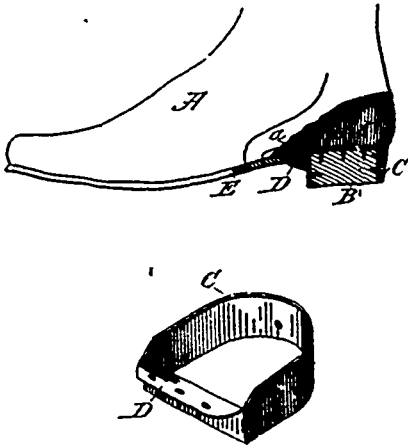
22911 Shuck's Bee hive.



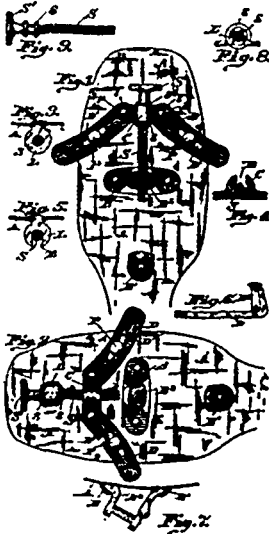
22912 Reilly's Tubular Steam Generator.



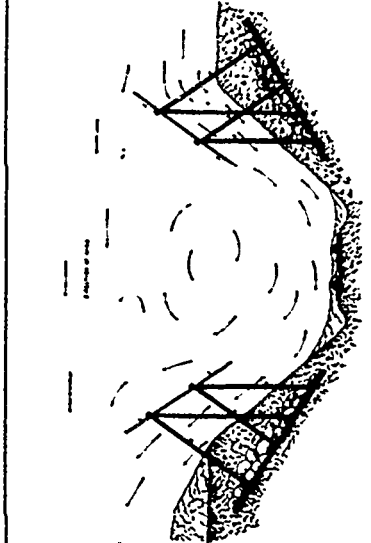
22913 Maillard's Machine for Cutting Joints on Dental Instruments, etc



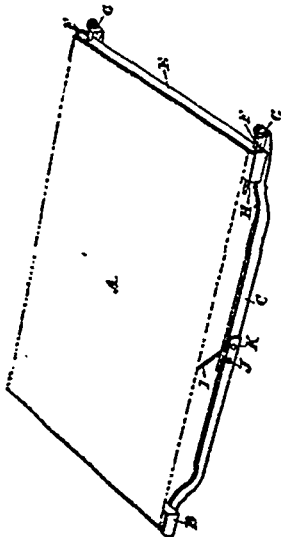
22914 Castle's Boot and Shoe.



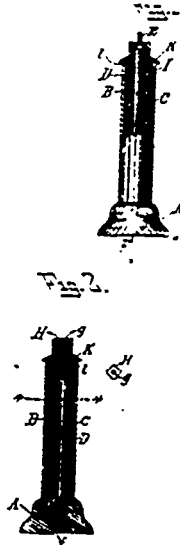
22915 Evans' Skate Clamp.



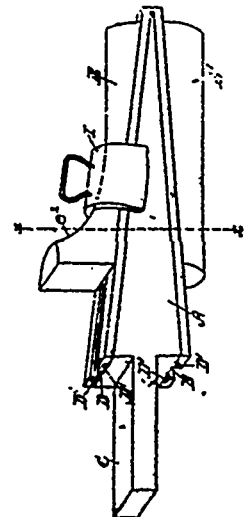
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22917 Sloan's Frame for Woven Wire Mattresses.



22918 Osgood's Mould for Making Printer's Inking Rollers.



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