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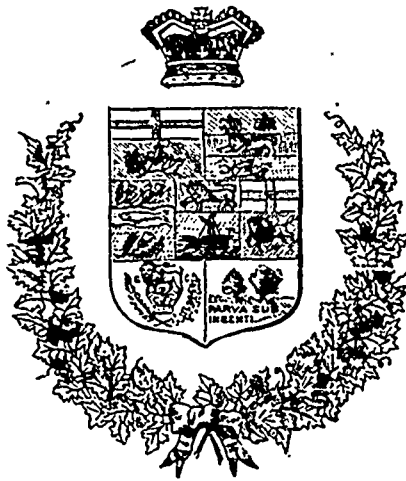
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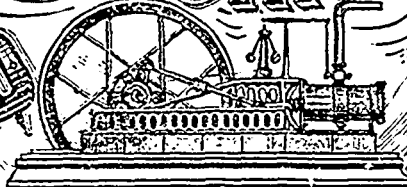
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INVENTIONS PATENTED.

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

No. 22,920. Potato Kettle. (*Bouilloire à Patates*.)

Lewis Grass, Sr., Columbus, (assignor of Lewis Grass, Jr., Manchester,) Ont., 1st December, 1885; 5 years.

Claim.—A potato pot or kettle A having a half cover B, permanently formed upon it, and a lid F hinged to the said cover, in combination with a spout E protected by parallel bars a, a bale C and handle D, located substantially as and for the purpose specified.

No. 22,921. Hame Tug. (*Mancelle*.)

Thomas L. Rivers, Mont Clair, and Elisha W. Goblo, Newark, N.J., U.S., 1st December, 1885; 5 years.

Claim.—1st. A hame-tug comprising a series of sections, flexibly and detachably connected together, each section having an opening or socket provided with lateral notches or seats at one end, and a projecting tongue at its opposite end, which tongue is formed with lateral flanges, the tongue and flange of one section engaging the sockets and seats respectively of the adjacent section, and being flush with the exterior faces thereof, substantially as described. 2nd. A hame-tug comprising a series of sections, flexibly and detachably connected together, each section of the tug having at one end an opening or socket *f* with lateral perforations or seats *f*, a channel *g* and a lower brace or cross-bar *h* at its extremity, and at its opposite end a projecting tongue *g* having a lug *h*, lateral lugs *i*, *j*, the tongue and its lugs of one section engaging the socket and seats of the adjacent section, and its flush with the exterior faces thereof, substantially as described. 3rd. A hame-tug comprising a series of sections, flexibly and detachably connected together, each section having substantially a T-shaped opening, and the trace-plate having a T-shaped lug adapted to be connected to any one of the openings of the sections, as set forth. 4th. A hame-tug comprising a series of sections, flexibly and detachably connected together, each section having an opening, and the trace-plate provided with a lever having one end engaging with the openings in any one of the hame sections, as set forth. 5th. The hame-tug comprising a series of sections, flexibly detachably connected together, said section having a rectangular frame projecting from their outer faces, which frame is formed with an opening, and a sheath of leather or other material, to cover the sections around the frame, so as to leave the opening thereof exposed, as set forth. 6th. A hame-tug comprising a series of sections, flexibly and detachably connected together, each section having at one end an opening or socket and a channel or depression, and at the other end a projecting tongue, the tongue of one section engaging with the opening or socket of the adjacent section and fitting within the channel or depression therein, so as to lie flush with the exterior face, as set forth. 7th. The combination, with the trace-plate, of a lever pivoted in an opening thereof, and a nib located at the outer end of the lever and projecting at right-angles to the latter, as set forth. 8th. The combination, with the trace-plate having the lug *g* of a form to fit an opening in any one of the series of hame-sections, of a pivoted lever having a nib, a cam projection on the lever, and a flat spring bearing against the same, as set forth.

No. 22,922. Door Sill. (*Seuil de Porte*.)

Allison M. Roscoe, George D. Hamor and Emmanuel Kuntz, DuBois, Pa., U.S., 1st December, 1885; 5 years.

Claim.—1st. A door sill made in sections, substantially as and for the purposes set forth. 2nd. A door sill made in sections, two of which are rigidly secured to the floor or main sill of the door frame, substantially as specified. 3rd. A sectional door sill composed of two end sections, rigidly secured to the floor or main sill, and a third section placed between, and removably held by the rigid sections, substantially as and for the purposes specified. 4th. In a sectional door sill, the combination of the two rigid sections suitably secured, a third section removably held between the rigid sections, and a spring latch button or other similar device, secured in one of the rigid sections and engaging the removable section, substantially as set forth.

No. 22,923. Organ Coupler.

(*Régistre d'Orgue*.)

Orison C. Whitney, Cleveland, Ohio, U.S., 2nd December, 1885; 5 years.

Claim.—1st. In a reed organ or similar instrument, a double-octave coupler attachment having rollers spanning two octaves, in combination with rollers spanning a single octave, and device substantially as described, connecting the keys and rollers, whereby a key, when depressed, will operate a valve, two octaves above simultaneously with that of the octave of the valve under the key. 2nd. In a reed-organ or similar instruments, the combination, with the rollers B, adapted to span two octaves and arranged, as shown, on the table C, of the levers F, arranged and operated substantially as described. 3rd. In a reed-organ or similar instrument, the combination, with a single-octave attachment arranged in front of the valve stems in the usual manner, of a double-octave attachment located in the rear of the valve stems and provided with suitable levers, by means of which the rollers in the rear are given an equal movement with the rollers in front, and arranged, as described, so that the two attachments single and double octave may be operated separately or together, substantially as set forth. 4th. In a reed-organ or similar instrument, the combination, with a double-octave attachment, of a single-octave attachment, substantially in the manner described, whereby it may by the keys next in succession above the keys that operate the double-octave attachment, substantially as set forth.

No. 22,924. Car Axle Lubricator.

(*Graisseur d'Essieu de Char*.)

William H. Wright, Tarrytown, N.Y., U.S., 2nd December, 1885; 5 years.

Claim.—1st. A sliding plate P, carrying lubricating roller W, and provided with guides restricting its lateral movements to horizontal motion in a direction parallel to the axis of the car-axle, such plate being provided to its inferior side with tension and pressure spring C, having its end sockets in such plate and in adjustment frame I respectively, substantially as herein described. 2nd. A guiding-frame F carrying a sliding plate or platform, restricted to horizontal lateral sliding motion, lubricating rollers, clips, yokes or flanges, journal boxes and one or more springs attached to such sliding plate, such guiding frame being also restricted to a vertical motion, substantially as described. 3rd. A car-axle lubricator with its roller operated by the contact and pressure of the car-axle, and provided with journal bearings, one or more tension and pressure controlling and restoring springs, such roller being restricted in lateral horizontal movements to those parallel to the axis of the car-axle by sliding plate P, its clips, yokes or flanges and by guiding frame F and I, its guides yielding and guided vertically by guiding frame F and its guideways or flanges, substantially in the manner and for the purpose described.

No. 22,925. Spark Arrester.

(*Arrête-Flammèche*.)

Carlton Foster, Oshkosh, Wis., U.S., 2nd December, 1885; 5 years.

Claim.—The combination, in a boiler furnace of a fire box or walls A, a boiler arranged longitudinally therein, and having the fire grate located under its front portion, a draft passage extending rearwardly beneath said boiler, a cylinder C located transversely at the rear end of the boiler, and communicating therewith, above and below

the same, a recess B formed in the rear wall adjacent to said cylinder, and a recess B₁ beneath said recess B, substantially as and for the purpose hereinbefore set forth.

No. 22,926. Heating Feed Water Boiler.
(*Chaudière pour Chauffer l'Eau d'Alimentation.*)

Charles N. Petesch, Chicago, Ill., U. S., 2nd December, 1885; 5 years.

Claim.—1st. The combination of the water-pipe B leading into the boiler, the closed chamber D placed within the boiler, the pipe E leading from the boiler into a reservoir outside of the boiler, the pipe I leading from said reservoir, conducting the water back into the boiler, and a boiler, substantially as specified and shown. 2nd. The pipes B, E, I and J, provided with stop-cocks substantially as shown, in combination with the boiler A and a sediment chamber or reservoir located outside of the boiler, substantially as specified and shown.

No. 22,927. Feed-Operating Gear of the Grain and Grass Seed Hoppers of Seeding Machines. (*Engrenage pour faire fonctionner les Tremies des Semoirs en Ligne.*)

James Noxon, and Thomas H. Noxon, Ingersoll, Ont., 2nd December, 1885; 5 years.

Claim.—1st. In a cultivator having the drag-bars of the hoes or teeth connected to a pivoted rod adjustably suspended, the combination of mechanism by which the said rod is raised and lowered for angling the teeth, and mechanism for turning the rod for zigzagging the same, substantially as specified. 2nd. A rod G having fixed to it the cranks H to which the drag-bars I are connected, arms for pivotally connecting the rod G to the frame of the machine, in combination with mechanism arranged to raise and lower the rod G, substantially as and for the purposes specified. 3rd. The rod G having fixed to it the cranks H, to which the drag-bars I are connected, the arms J and K, for pivotally connecting the rod G to the frame of the machine, in combination with the rod L, having the hand-lever O rigidly fastened to it, and connected to the rod G by the arm M and link N, substantially as and for the purpose specified. 4th. The rod L provided with arms M rigidly attached to it, and connected by the links N to the rod G, in combination with the hand-lever O rigidly fastened to the rod L, and connected by the link P to the rod G, the notched quadrant Q fastened to the tongue B and providing means for holding the hand lever O, as specified. 5th. The rod G, connected to the frame A by pivoted arms J, and to the drag-bars I by the crank H, in combination with the hand-lever O, rigidly fastened to the rod and arranged to engage with the notched quadrant T, held in the guide-bracket R by the block S, substantially as specified.

No. 22,928. Seeding Machine. (*Semoir.*)

James Noxon and Thomas H. Noxon, Ingersoll, Ont., 2nd December 1885; 5 years.

Claim.—1st. In connection with a chain of gear wheels, leading from the main axle of the seeding machine to the feed-rod of the grain hopper, the ratchet teeth a formed on the face of the hub of the gear wheel B, journaled on the axle A, in combination with an adjustable sleeve C, actuated by a spring D, having ratchet teeth formed on its face to engage with the ratchet teeth a, and mechanism for throwing the sleeve out of action, substantially as specified. 2nd. The gear wheel H journaled loosely on the projection m, and arranged to mesh with the gear wheel J, fastened to the feed-rod of the grass seed hopper K, a recess p formed in the face of the hub of the gear wheel H, in combination with the washer L having projections f, formed on its face, to engage with the recess p, substantially as and for the purpose specified.

No. 22,929. Boot Last. (*Forme de Botte.*)

Harry W. Mobbs and Alfred Lewis, Kettering, Eng., 2nd December, 1885; 5 years.

Claim.—A boot last, constructed substantially as shown and described, that is to say, with a foot-piece B and a heel-piece C, the said pieces B and C being formed with inclined faces and provided, the one with a hooked portion a and a recess b, and the other with a recess c to receive the hooked portion a, and a catch e to enter the recess b, said catch being pivoted in a recess and pressed outwards by a spring, as set forth.

No. 22,930. Washing Machine.

(*Machine à Laver.*)

William T. Venable, Christiansburgh, Ky., U. S., 2nd December, 1885; 5 years.

Claim.—1st. In a washing machine, the combination, with the circularly reciprocating disk T, of the shaft Q, the bevel pinion P on the same, the stud R on the neck of the pinion, the springs S, S, and two bevel half cogged wheels engaging with the bevel pinion P, substantially as herein shown and described. 2nd. In a washing machine, the combination, with the tub A, of the forks F, F, the shafts G, G, journaled in the same, the pulley J and the fly-wheel J, the shaft N, journaled in standards K, K, the coupling sleeves W, W, the bevel half cog wheels O, O on the same, the disk T mounted on the shaft Q, and the bevel pinion P, substantially as herein shown and described. 3rd. In a washing machine, the combination, with the tub A, of the circularly reciprocating disk T, the shaft Q, the collar Q₁ on the same, the yoke P₁ on the cover of the tub, the neck P₂ on the said yoke P₁, the bevel pinion P on the shaft Q, and gearing for revolving the pinion P, substantially as herein shown and described.

No. 22,931. Stave and Method of Fastening the Same. (*Douve et manière de l'ajuster.*)

Israel L. G. Rice, Brookline, Mass., U. S., 2nd December, 1885; 5 years.

Claim.—A pail, barrel, tub, or other article, made of staves bound together with elastic metallic corrugated hoops, the staves being grooved to admit the corrugation or corrugations of the hoop, substantially as shown and described.

No. 22,932. Bottle Forming Tool.

(*Outil pour Façonner les Boutelles.*)

Selden Tivitchell and Oscar Tivitchell (Assignees of William L. Boor-bach), Philadelphia, Pa., U. S., 2nd December, 1885; 5 years.

Claim.—1st. In a bottle-forming tool, a bit having an angular or V-shaped groove, substantially as and for the purpose set forth. 2nd. In a bottle-forming tool, the spring jaws A, A, in combination with spring arms D, D, bits C, C, bar E having shoulders J, means for adjusting the throw of the bits, and the plug B having recesses a, substantially as and for the purpose set forth. 3rd. A bottle forming tool, having jaws A, A, spring arms D, D, plug B, bits C, C, and screws E, each of the said screws being provided with two nuts G and H, for connecting the jaws and bits and adjusting the throw of said bits, substantially as and for the purpose set forth. 4th. A bottle forming tool, having jaws A, A, spring arms D, D, plug B, bit C, screws E, adjusting nuts G and H, and a bar E having shoulders J, said bar guiding the jaws A, A, and limiting the closing motion thereof, substantially as and for the purpose set forth. 5th. In a bottle-forming tool of the order stated, the bolt or pin F provided with means for adjusting the throw of the bit C, substantially as and for the purpose set forth. 6th. The jaws A, plug B and bit C, in combination with the bar E formed with shoulders J, substantially as and for the purpose set forth.

No. 22,933. Stone Lifter and Carrier.

(*Charriot Charge-Pierre.*)

Riley J. Hosner, Romeo, Mich., U. S., 2nd December, 1885; 5 years.

Claim.—1st. The combination, with a truck, of a frame engaged with the truck at the front and rear ends respectively, said frame consisting of two or more integral timbers bent upwardly intermediate of their ends and properly braced, substantially as described. 2nd. The combination, with a truck, of a frame engaged therewith, said frame consisting of integral timbers bent upwardly intermediate of their ends and suitably braced and hoisting gear mounted thereon, and consisting of a shaft provided with a sprocket wheel, and a ratchet wheel, said ratchet wheel operated by a pawl and lever, and said sprocket wheel provided with a chain having a gripping device connected therewith, substantially as described. 3rd. The combination, with a truck, of a frame engaged therewith, said frame elevated intermediate of its ends and provided with a sprocket wheel, a ratchet wheel and a brake, a pulley and lever to operate said ratchet-wheel, a dog to prevent back motion, and a gripping device connected with said sprocket wheel, the construction being such that, when the ratchet wheel is rotated in the proper direction, power will be applied through the sprocket-wheel to the gripping device, substantially as described. 4th. The combination, with a truck, of a frame engaged therewith, said frame consisting of two or more integral timbers bent upwardly intermediate of their ends, hoisting apparatus mounted thereon, consisting of a shaft provided with a sprocket wheel, and a ratchet wheel operated by a pawl and lever, a chain having a fixed engagement at one end with said frame and engaging said sprocket wheel, said chain supporting a gripping device, substantially as described.

No. 22,934. Railway Spike.

(*Chevillette de Chemin de Fer.*)

Robert M. Boyd, Racine, Wis., U. S., 2nd December, 1885; 5 years.

Claim.—1st. A spike having front and rear flanges connected by a web, said flanges and web being made of decreasing width from their upper to their lower ends, substantially as shown and described. 2nd. A spike, having a flat front and rear flanges, and longitudinal channels in its side faces open at their lower ends. 3rd. A spike body, consisting of a web and two flanges of unequal width, substantially as set forth. 4th. An H-shaped spike body, with one of the flanges or side* considerably wider than the other, substantially as described and for the purpose set forth. 5th. A spike, with back flange chisel-pointed from front to back, for the purpose described and shown, substantially as set forth. 6th. An H-shaped spike, having its web and front flange narrowed or tapered laterally at their lower ends. 7th. A rail spike, having flat front and rear flanges and channelled sides, the channels being open at their lower ends, and a solid unchannelled portion above the channels and below the head, of such depth as to enter the timber and cover the wood in the channels when the spike is driven its proper distance into the timber. 8th. A spike, having a broad rear flange G, provided with nick- or depressions B in said flange, just beneath the head, to permit the entrance of an extracting implement. 9th. The herein described spike, having head A, nicks B, B, flat neck C, curved chin D, front flange F, rear flange G, wider than flange F, web H and cutting edges I and K, all substantially as shown and described.

No. 22,935. Chalk Rack for Blackboards.

(*Porte-Craie pour Tableaux Noirs.*)

Joseph G. Plowman, White Pigeon, Mich., U. S., 5th December, 1885; 5 years.

Claim.—The combination, with marginal ledge, of the blackboard and a removable chalk trough having a false bottom of wire cloth, of the swinging bracket arms pivoted to said ledge and adapted when

the chalk trough is removed to be turned aside out of the way, substantially as specified.

No. 22,936. Apparatus for Disintegrating Ores. (*Appareil pour Broyer les Minerais.*)

Harrison B. Meech, Chatham, N. Y., U. S., 5th December, 1885; 5 years.

Claim.—1st. In an apparatus for disintegrating ores, the combination, with a steam-tight receptacle and a rotating shaft, of a frame secured to the shaft and adapted to move vertically thereon independently of the shaft, arms or links secured at one end to the frame and mullers secured to the lower ends of the arms or links. 2nd. In an apparatus for disintegrating ores, the combination, with a closed receptacle and a revolving shaft journaled thereon, of a vertically movable frame secured to said shaft, arms or links secured to the frame and mullers hinged to the lower ends of said arms or links. 3rd. In an apparatus for disintegrating ore, the combination, with a closed receptacle and a revolving shaft, of the mullers H, I, II, the adjacent edges of which are formed diagonally to their lengths and so arranged that the outer edge of the inner muller II will slightly overlap the track of the outer muller, substantially as set forth. 4th. An apparatus for disintegrating ore, consisting essentially of a closed or steam-tight shell having an arched top, and a cast-iron bottom, constructed substantially as described, and rigidly secured to the shell, removable grinding plates secured to said bottom, a revolving shaft, a vertically movable frame secured on said shaft, arms or links depending from the frame and mullers hinged to the lower ends of the arms or links, all of the above parts combined and adapted to operate substantially as set forth.

No. 22,937. Shutter Worker.

(*Fermeture de Boutique.*)

Russell G., Dudley, Newark, N. J., U. S., 5th December, 1885; 5 years.

Claim.—1st. In a shutter worker, the casing E and the bevel-gear D having a hub fitting into a bearing on one side of said casing only, and held in position by the bevel-gear F, in combination with the vertical shaft G carrying said bevel-gear F, and the arm H for operating the shutter, substantially as described. 2nd. The combination, with the spindle of a shutter operator, of the pivoted jaws I, M and the eccentric lever N, substantially as described. 3rd. In a shutter worker, the casing E and the bevel-gear D having a hub provided with a polygonal recess and fitting into a bearing on one side of the casing, in combination with a handle B also provided with a polygonal recess, and the bar A having its ends loosely fitting said hub and handle, substantially as set forth.

No. 22,938. Crane and Apparatus for Hoisting, Loading and Unloading Grain, etc. (*Grue et Appareil à Hisser, Charger et Decharger les Grains, etc.*)

Francis Service, Ebbro Vale, Eng., 5th December, 1885; 5 years.

Claim.—1st. The combination of two cranes C, C hinged on opposite sides of the column B and capable of swinging horizontally, and the hoisting chain or rope N of each jib moving in the same direction simultaneously, all as hereinbefore described and set forth. 2nd. In connection with two hinged cranes C, C, the hoisting chains N, the appliance by which said crane C can be swung round and governed, substantially as and for the purpose set forth. 3rd. The arrangement of coupled cranes C, C, with wing jibs thereon, and the method by which they and the hoisting chains or ropes can be operated, substantially as and for the purpose set forth. 4th. The combination of the swinging cranes C capable of moving at right angles to their supporting axle on which they have a swinging action, and adjustable as to height, substantially as and for the purpose set forth. 5th. The employment of two distinct crane jibs C having alternate motions from different axes on separate supports, but combined or arranged in connection with a coupled hoisting gear, substantially as and for the purpose set forth.

No. 22,939. Window. (*Fenêtre*)

Marion S. Buckner, Savannah, Ga., U. S., 5th December, 1885; 5 years.

Claim.—1st. The combination, with the horizontally folding sash-sections of the vertically-moving pieces I to which said sashes are hinged, substantially as described. 2nd. The combination, with a window-sash divided vertically into two parts and a window-frame having vertical guide grooves of vertical pieces I to the outer faces of which the two-part sash is hinged, and the headed bolts J passing through the said pieces I and provided with the fastening-nuts flush with the outer faces of said pieces, whereby the nuts will not interfere with the hinging movement of the sash, substantially as set forth. 3rd. The combination, with a window sash made in two parts and a window casing, of the hinges II, the hingepieces I, the flathead bolts J and the guide-plates K, substantially as herein shown and described, whereby the said sash can be raised and lowered like an ordinary sash and opened and closed like a door and will be securely connected with the casing, as set forth. 4th. The combination, with the folding-sashes D, E, of a locking device comprising a pivoted locking-arm, a spring retaining-arm and a stop arranged in proximity to the said retaining-arm, substantially as described. 5th. The combination, with the window-frame, of a sash divided into two vertical foldable sections, one of said sections having a projecting locking-arm and the other section provided with a socket for the reception of said arm, substantially as described. 6th. The combination of the vertical-moving pieces I, the upper and lower sashes divided into horizontally-folding sections, one section of each sash having a projecting arm and the other section a socket for said arm, a spring-pressed locking-arm pivoted to the lower rail of the upper sash, and a spring-arm and stop secured to the upper rail of the lower sash for the reception of said locking-arm, substantially as described.

No. 22,940. Heating Apparatus. (*Calorifere.*)

Edward E. Gold, New York, N. Y., U. S., 5th December, 1885; 5 years.

Claim.—1st. An improved heater formed of two distinct tubes or vessels, one placed within the other, the inner one being charged with a suitable heat-absorbing material, and the outer being adapted to receive steam or other heating-fluid, substantially as and for the purpose set forth. 2nd. An improved heater formed of an outer heating-tube provided with connections for admission of steam, in combination with a distinct inner tube charged with a suitable heat-absorbing material and sealed and placed loosely within the outer tube inclosed thereby, and free to expand or contract in said inclosing tube, substantially as herein shown and described. 3rd. A heater formed of two chambers or vessels one within the other, the outer one being adapted to receive steam or other heating-fluid, and the inner vessel being sealed and charged with a suitable heat-absorbing material and placed within the outer vessel, in such position as to leave a circumferential steam or heating space between the two circum-cribing the inner vessel, substantially as and for the purpose set forth. 4th. An improved heater formed of an outer steam-tube and an inner tube charged with a suitable heat-absorbing material placed within the outer tube in an eccentric position, substantially as herein shown and described. 5th. The outer tube a provided with screw-heads d and connections for admission of steam, in combination with the inner sealed tube b charged with a suitable heat-absorbing material. 6th. A heater formed of two wrought metal pipes placed one within the other, the end of the outer pipe being closed and adapted to connect with a supply of steam, while the inner pipe is charged with a mass of a suitable heat-absorbing material and sealed and placed loosely in the outer pipe, substantially as herein shown and described. 7th. The combination, with the inner sealed pipe b with welded heads, of the outer pipe a with its screw-heads d, d and connections for steam supply, substantially as and for the purpose set forth.

No. 22,941. Store Service Apparatus.

(*Appareil de Service pour Magasins.*)

Robert A. McCarty, Detroit, Mich., U. S., 5th December, 1885; 5 years.

Claim.—1st. A store service apparatus wherein are combined two or more service-lines diverging from a common point, each running to a single station, carriers traveling upon said lines and motors for projecting said carriers over said lines, substantially as set forth. 2nd. A store-service apparatus wherein are combined two or more horizontal service-lines diverging from a common point, each running to a single station, carriers traveling upon said lines, and stationary motors located at both ends of the lines, for projecting the carriers back and forth over said horizontal line, substantially as set forth. 3rd. A store-service apparatus wherein are combined two or more lines of varying lengths, diverging from a common point, each running to a single station, carriers traveling upon said lines, and adjustable motors for projecting the carriers over said lines, such motors being adjusted with relation to the length of two or more lines, substantially as set forth. 4th. In store-service apparatus, the combination, with the cashier's desk or other common point of delivery, of two or more service-lines diverging therefrom, two or more motors for projecting carriers over said lines, and a common frame in which said motors are mounted, substantially as set forth. 5th. In store-service apparatus, the combination, with two or more motors mounted in a common frame at a central point, horizontal lines diverging therefrom to separate stations and separate motors at such stations, all said motors being adapted to project carriers over such lines, substantially as set forth. 6th. In store-service apparatus, the combination, with a line of a spring-motor located at one end thereof, in position to receive and stop as well as to project a carrier traveling upon said line, whereby the motor spring will act also as a buffer, substantially as set forth. 7th. In store-service apparatus, the combination, with a line and a carrier traveling thereon, or a spring motor located at each end thereof in position to receive and stop as well as to project the carrier, substantially as set forth. 8th. In store-service apparatus, the combination, with a line and a carrier traveling therein, of a spring motor located at one end of the line in position to receive and stop the carrier as well as to project it over the line, a catch with which the carrier engages by its own momentum and an adjustment to the motor, whereby the motor spring can be brought into action as a buffer at the proper point to stop the carrier after it has engaged with the catch, substantially as set forth. 9th. In store-service apparatus, the combination, with a motor for projecting the carrier of adjustable operating-stops, arranged to cause the motor to act with different force to propel the carrier when lightly or heavily loaded, substantially as set forth. 10th. In store-service apparatus, the combination, with a spring-motor for projecting a carrier, of a catch for holding the carrier against tension of the spring, two or more cords for straining the spring and adjustable stops used said cords for releasing the carrier at different degrees of tension of the spring, substantially as set forth. 11th. In store-service apparatus, the combination, with the motor for projecting the carrier of a catch for holding the carrier carried by a plate pivoted forward of the catch and extending in rear of catch for engagement with operating stops, substantially as set forth. 12th. In store-service apparatus, the combination, with the motor and carrier, of a compound catch having a latch movable independently of a movable plate upon which it is mounted, substantially as set forth. 13th. In store-service apparatus, the combination, with the motor and carrier, of a pivoted spring catch-plate having a spring latch pivoted thereon and capable of independent movement, substantially as set forth. 14th. In store-service apparatus, the combination, with the stretched wire, of the spring-motor hung from ceiling and clamped to such wire and the lateral stay, substantially as set forth. 15th. In store-service apparatus, the combination, with a stretched wire way of a wheeled carrier traveling thereon, and adjustable screws limiting the vertical movement of the carrier on the wire, substantially as set forth. 16th. In store-service apparatus, the combination, with a stretched wire way, of a wheeled carrier traveling thereon and a receptacle suspended beneath the carrier and removably held thereto

by a depending ring, substantially as set forth. 17th. In storage apparatus, the combination, with a stretched wire way, of a wheeled carrier traveling thereon, a receptacle removably locked to such carrier, and a spring cover for the receptacle held permanently by the carrier, substantially as set forth.

No. 22,942. Cash and Parcel Carrier.

(*Coulisse à Monnaie et Paquet.*)

Robert A. McCarty, Detroit, Mich., U.S., 5th December, 1885; 5 years.

Claim.—1st. In combination with a carriage adapted to travel on a way, a spring arranged near one end of said way, means, substantially as described, of producing tension in said spring by drawing the same against the rear of said carriage, and a catch adapted to grasp said carriage and hold the same until the desired amount of tension has been produced in said spring, to project the carriage to the opposite end of the way. 2nd. A cash carrier system consisting of a way, a carriage adapted to travel thereon by the force of a spring apparatus, substantially as described, connections in each of the salesman for compressing said spring, and a catch for holding said carriage against the propulsive force of said spring, and a core or like connections within reach of the salesman for unclamping said catch, substantially as shown and described. 3rd. In an engine for propelling a carriage upon a way, the combination of a cord passing from the spring of said engine across the path of the carriage, a spring attached to said cord, and a cord or like connection with said spring within reach of the operator, whereby the spring may be expanded by force applied to said cord, substantially as described. 4th. In an engine for propelling a carriage upon a way, and in combination, a spring brought into tension by expanding the same, a cord to enable one end of said spring to hold or press against said carriage, and a second cord attachment to the other end of said spring passing over sheaves and brought downward to enable tension to be produced on said spring, substantially as and for the purposes described. 5th. In a cash-carrying system, the combination of an inclined way, a carrier adapted to move thereon and a projecting apparatus at the lower end of said way giving such carrier an initial impetus propelling it to the top of the way, the carrier being returned by gravity, substantially as set forth.

No. 22,943. Cash and Parcel Carrier.

(*Coulisse à Monnaie et Paquet.*)

Robert A. McCarty, Detroit, Mich., U.S., 5th December, 1885; 5 years.

Claim.—1st. In a cash or parcel carrier, the combination with a way and carrier adapted to move on said way, of means for giving an impetus to said carrier for the purpose of propelling it upon said way, substantially as set forth. 2nd. In a cash or parcel carrier, the combination, with a way and carrier adapted to move on said way, of means constructed to give an impetus to said carrier graduated or adjusted according to the length of the way over which said carrier travels, substantially as set forth. 3rd. In a cash or parcel carrier, the combination, with a way and carrier adapted to move on said way, of a spring constructed and arranged to give an initial impetus to said carrier for the purpose of propelling it on said way, substantially as set forth. 4th. In a cash or parcel carrier, the combination, with a way and carrier adapted to move on said way, of a stationary spring constructed and arranged to give an initial impetus to said carrier for the purpose of propelling it on said way, substantially as set forth. 5th. In a cash or parcel carrier, the combination, with a way and carrier adapted to move on said way, of a stationary spring constructed to propel said carrier on the way, means for placing said spring under tension and means for releasing it, substantially as set forth. 6th. In a cash or parcel carrier, the combination, with a way and a carrier adapted to move on said way, of a projecting device located at each end of said way for giving such carrier an initial impetus sufficient to drive it over the way, substantially as set forth. 7th. In a cash or parcel carrier, the combination, with a way and carrier adapted to move on said way, of a stationary spring at each end of said way for giving such carrier an initial impetus sufficient to drive it over the way, substantially as set forth.

No. 22,944. Manufacture of Starch.

(*Fabrication de l'Amidon.*)

Walter F. Birge, Buffalo, N. Y., U.S., 5th December, 1885; 5 years.

Claim.—1st. The herein-described method of extracting starch from grain, which consists in agitating the liquid containing the reduced grain in a closed vessel under pressure, whereby the starch becomes detached from the bran or offal and then separating the starch from the bran or offal, substantially as set forth. 2nd. The herein-described method of extracting starch from grain, which consists in reducing and steeping the grain, then reducing the liquid to the proper gravity, then agitating the liquid in a closed vessel under pressure, and then separating the starch from the offal, substantially as set forth. 3rd. The herein-described method of extracting starch from grain, which consists in reducing and steeping the grain, then reducing the liquid to the proper gravity, and adding the alkali, then agitating the liquid in a closed vessel under pressure, and then separating the starch from the offal, substantially as set forth.

No. 22,945. Support for Telegraph and Telephone Line Wires.

(*Support de Fils Télégraphiques et Téléphoniques.*)

Robert Angus, Charlottetown, P.E.I., 5th December, 1885; 5 years.

Claim.—1st. A telegraph or telephone wire support insulator consisting of an oblong block of wood subdivided in the direction of its length, and returning in an inclined direction to the outside at or near the middle of the block, whereby the insulated wire when placed transversely in the longitudinal cut is clamped by the parts C, C, when nailed, as set forth. 2nd. The combination, with a pole

or arm, of an electric telegraph or telephone line, of the wooden blocks C, B, nails E, F, wire D and insulatory material G, as set forth for the purpose described.

No. 22,946. Water Wheel and Support.

(*Roue et Support de Roue Hydraulique.*)

Calixto Ethier, St. Jérôme, Que., 5th December, 1885; 5 years.

Claim.—1st. The combination of the curved buckets a, outside band b, hub c and web d, all placed below the poststock floor A, with the guide blades A, cylinder gate B, shaft C, guide cover D and cut water ring having the cylindrical band e and flange f, as shown and described. 2nd. A turbine waterwheel, supported by means of a flange fixed to its shaft, and turning on conical rollers running in a fixed supporting channel, substantially as shown and for the purpose set forth. 3rd. The combination of the shaft C, of a turbine water wheel, with the conical rollers G running in a circular roller bed E and carrying the water wheel and shaft by the supporting flange F, substantially as shown and for the purpose set forth.

No. 22,947. Lamp Burner.

(*Bes de Lampe.*)

Edwin H. Hickok, Brooklyn, N. Y., U. S., 5th December, 1885; 5 years.

Claim.—1st. The combination, with a burner, of a wick tube, a movably supported deflector wick, operating mechanism and other mechanism, and the deflector, whereby provision is made for adjusting the wick without moving the deflector and for operating the deflector when desirable to cause it to extinguish a flame, substantially as specified. 2nd. The combination, with a burner, having a central air passage or tube and wick operating mechanism arranged in said tube, of an extinguisher supported so as to be vertically movable and intermediate connection between the extinguisher and the wick operating mechanism, whereby provision is made for controlling the movement of the extinguisher by the wick raising mechanism, substantially as herein shown and described. 3rd. In a burner, the combination, with a vertically movable deflector, a wick adjusting rack and a wheel for operating the said rack, of a spring for raising the deflector, means connected with the shaft of said wheel and operated by the wick adjusting mechanism for retracting the spring and thereby causing the descent of the deflector upon the wick, substantially as specified. 4th. The combination, with the main shell or body of a lamp burner, of a supplementary shell arranged at a distance therefrom so as to afford a space for the circulation of air between it and the main shell or body, and a circular portion adapted to interlock with an oil reservoir, substantially as specified. 5th. The combination, with the main shell or body, of a lamp burner having an open bottom communicating with the wick space or tube, of a supplemental shell arranged at a distance from the main shell, and a portion serving to attach the burner to an oil reservoir, substantially as specified. 6th. The combination, with an oil reservoir and a lamp burner, of a shell adjacent to which is an air space, substantially as specified. 7th. A body for a lamp burner having in one integral piece two upright tubular portions, and one or more intermediate transversely extending tubular portions, substantially as and for the purpose specified. 8th. A body for a lamp burner, having in one integral piece two upright tubular portions, the inner of which has a bottom, and one or more intermediate transversely extending tubular portions, substantially as and for the purpose specified. 9th. In a lamp burner, the combination, with a body made in one integral piece, and having two upright tubular portions and intermediate transversely extending tubular portions, of wick tube tips made separately therefrom and secured to the upright tubular portions, substantially as specified. 10th. In a lamp burner, the combination, with a body made in one integral piece and having two upright tubular portions, and intermediate transversely extending tubular portions of wick tube tips separately made and secured to the upright tubular portions, the outer wick tube tip being detachably secured in place, substantially as specified. 11th. In a lamp burner, the combination, with an annular wick space or tube which is intersected by a number of transverse air passages, of a circular wick above the said air passages, a number of strands or pieces of wicking extending from said wick past and between the said air passages, and a wick carrier to which both the wick and the strands or pieces of wicking are connected, substantially as specified. 12th. In a lamp burner, the combination, with an annular wick space or tube intersected by a number of transverse air passages, of a ring fitting such wick space or tube and having holes through which strands of wicking may be interlaced, and claws for grasping a circular wick, substantially as specified. 13th. In a lamp burner, the combination, with the wick space or tube, of the ring J, the holes J and the resilient claws J, substantially as specified. 14th. In a lamp burner, the combination, with a body comprising in one integral piece two upright tubular portions and intermediate transversely extending tubular portions, of a wick tube tip forming a prolongation of the inner tubular portion, a detachable wick tube tip forming, when in place, a prolongation of the outer tubular portion and a wick carrier ring, substantially as specified. 15th. In a lamp burner, the combination, with a wick space or tube, of a circular wick having a main portion of fibrous material and an outer portion of cotton or other stiff material, substantially as specified. 16th. In a lamp burner, the combination, with a wick space or tube, of a circular wick having a main portion of fibrous material and an inner portion of paper or other stiff material, substantially as specified. 17th. The combination, with a lamp burner having deflectors, arranged substantially in the relations described, of the chimney N having the large cylindrical base portion n, the globular portion n occupying such position with relation to the said deflectors that the flame emanating from the burner will be deflected abruptly outwardly into it directly from the wick, and the upper small cylindrical portion n₂ substantially as specified. 18th. In a lamp burner, the combination of the body A, comprising the tubular portions a, a', a'', the wick tube B, B' and the air distributors S, F, connected together and the lower resting on the tubular portion a of the body A, substantially as specified. 19th. In a lamp burner, the combination, with an annular wick space or tube having an opening at the top, of a button shaped spreader or deflector having on the under

side an annular rib at the edge, substantially as specified. 20th. In a lamp burner, the combination, with an annular wick space or tube, of an outer deflector having a corrugated or crimped upper edge, substantially as specified. 21st. In a lamp burner, the combination, with an annular wick space or tube, of an outer deflector terminating at the upper edge approximately on a level with the upper end of said wick space or tube, substantially as for the purpose specified.

No. 22,948. File for Letters, Invoices, etc. (*Serre Papier.*)

William A. Cooke, Jr., New York, N.Y., U.S., 7th December, 1885; 5 years.

Claim.—1st. In a file for letters, etc., the combination of the leaves or partitions *d, d*, connected therewith, the case or box and attachments to the back of the case which engage the hooks, substantially as specified. 2nd. The combination of the lower or partitions, the hooks *d, d*, attached thereto, and the case having the plates *D* attached to the back thereof in position, to engage the hooks *d, d*, substantially as specified. 3rd. The combination of the leaves or partitions, the hooks *d, d*, the plates *D*, the back plate *f* of the case and the case or box *A*, substantially as specified. 4th. The hook *d* and right angular plate *e*, in combination with the partition or leaves, substantially as specified. 5th. The combination of the indexed leaves or partitions *B*, hooks attached thereto, engaging plate or plates *D*, and a suitable inclosing box or case, substantially as and for the purpose specified.

No. 22,949. Manufacture of Cardigan Jackets, etc., and Apparatus therefor. (*Fabrication des Gilets, etc., et appareil pour cet objet.*)

Benjamin W. Russell and Thomas Huxley, Leicester, Eng., 7th December, 1885; 5 years.

Claim.—1st. In a knitting machine, the combination, with the ordinary needle bed *P*, of the supplemental needle bed *A*, whether for the purpose of making a border for the fabric in course of production upon the bed *P*, or for making a separate fabric, or for increasing the working width of the machine where a wider fabric is required than the bed *P* is capable of producing. 2nd. In a knitting machine having an ordinary needle bed *P* and moveable supplementary needle bed *A*, the combination, with said needle bed *A*, of the pattern wheel *C* adapted to change the position of *A* for the purpose of producing the pattern, substantially as specified. 3rd. In a knitting machine, having a fixed needle bed *P* and a moveable supplementary needle bed *A*, the combination, with said moveable supplementary needle bed *A*, of a fixed supplementary bed for the cover-needles, substantially as specified. 4th. In a knitting machine, the combination, with the ordinary cam box *K*, of the sliding cam *L* and blocks *m*, whereby the shape of the cam groove *W* and the throw of the needles is automatically varied, substantially as specified.

No. 22,950. Glazier's Point. (*Clou de Vitrier.*)

Edwin J. Van Reyper, Jersey, N. J., U. S., 7th December, 1885; 5 years.

Claim.—1st. A stop or point, comprising essentially a tang, as *e*, and a stop arm, as *c*, as set forth. 2nd. A stop or point consisting of a body having a tang arranged to be engaged with a frame, and a stop arm, as *c*, arranged upon a plane at right angles to the body, as and for the purpose specified. 3rd. A stop or point consisting of a tang, a body and a stop arm made integral, each part being arranged at right angles to the other, as set forth. 4th. A stop or point having tangs arranged to engage adjacent parts upon different planes, and to hold two plates or panes to their seats, as set forth. 5th. A glazier's point having two tangs arranged to hold two separate panes to their seats, and having an arm, as *c*, arranged to engage the edge of the upper pane, as set forth. 6th. The glazier's point described, consisting of the body *C*, having tang *e*, and the arm *c* bent at right angles to the body *C*, and having tang *e*, the whole constructed and arranged to serve as and for the purposes set forth.

No. 22,951. Injector for Raising and Forcing Water, etc. (*Injecteur pour Aspirer et Refouler l'Eau, etc.*)

Harry Holden, Robert G. Brooko and Thomas H. White, Salford, Eng., 7th December, 1885; 5 years.

Claim.—1st. In an injector, of the kind in which, in addition to the ordinary overflow opening, a supplementary overflow opening, or openings, is, or are, employed, to assist in starting or re-starting the injector, a valve, as *h*, or 2 so arranged that when the injector is at work the said valve automatically closes or shuts off the supplementary overflow opening or openings, to prevent entrance of air or vapour at the supplementary overflow opening or openings, substantially as heretofore described and shown. 2nd. The combination of the valve and slits, or openings *Z*, formed in the combining tube *Y*, substantially as shown for the purpose specified.

No. 22,952. Lace Boot and Method of Manufacturing the Same. (*Bottine Laccée et Mode de la Fabriquer.*)

James A. Linton, Montreal Que., 7th December, 1885; 5 years.

Claim.—1st. The herein described method of making lace boots, which consists in first shaping and crimping the blank and then cutting open the front, said blank being in one piece and forming the upper, for the purpose specified. 2nd. A lace boot having its upper formed from one piece of leather, with seam at back, and a straight single cut in front to form the opening between the flaps, substantially as described. 3rd. The blank or pattern *A* of the contour shown, for the purpose specified.

No. 22,953. Well Sinking Machine.

(*Machine à Percer les Puits.*)

James B. Crucial, Fargo, Dak., U.S., 7th December, 1885; 5 years.

Claim.—1st. In a machine for sinking artesian and other wells, the driving shaft, with a nut supported in a suitable frame, and means for rotating the nut, a pipe enclosing the driving shaft and connected thereto, and a suitable bolt on the end of the shaft, whereby the earth is perforated and the tube carried down, all substantially as described. 2nd. In a well-sinking machine, a driving shaft, an enlarged primary bolt having a double taper carried upon the lower end of the lower end of the shaft, a pipe enclosing the shaft having a matrix at the lower end, slotted and adapted to be spread when the bolt is withdrawn, thereby forming an enlarged chamber at the bottom, all substantially as described. 3rd. In a well-sinking machine, in combination, the driving screw and shaft, the hub *m*, with its arm moving in guides, the hub-extension adapted to be connected to the pipe, and means for connecting the driving shaft to the pipe, all substantially as described. 4th. In a well-sinking machine, a driving shaft, a primary bolt *P* fitting a double taper matrix *D*, formed in longitudinal section with open slots, the free ends of the sections impinging upon the upper tapering surface of the primary bolt, a flange and shoulder connections between the driving shaft and the matrix, all substantially as described. 5th. The matrix *D* formed of longitudinal sections, having an interior cylindrical surface adapted to bear upon the shaft, and shoulders adapted to be flanged upon by the shaft, and the lower edge combined with the double incline primary bolt, all substantially as described. 6th. In combination with the pipe and the driving shaft within the pipe both formed in sections and united, as described, the spurs or braces flexibly united with collar on shaft, and adapted to bear upon the pipe, all substantially as described. 7th. The central hub, having arms moving in guides, provided with an eye fitted to the square part of the screw shaft, and a cap with a circular eye fitted to admit the threaded part of the screw shaft and suspending the hub and guide arms from the square part, and the hub-extension adapted to be connected to the pipe, substantially as described. 8th. An elongated nut, having flange *P* bearing on the lower end of the hub, a nut 3 and a driving wheel connected rigidly to the elongated nut, all substantially as described. 9th. In combination, with the post *F*, the serrated spines, the blocks *d* fitted thereto, the rods *X, X*, connected to the sleeve, the driving shaft and the tube, all substantially as described. 10th. In a well-sinking machine, a frame consisting of a bottom *A*, posts and hub, with arms *L, L*, in combination with means for holding said frame and with nut and screw shaft of the driving shaft, substantially as described. 11th. In combination with the frame and the driving screw, the shaft piles *g* and braces *H*, all substantially as described.

No. 22,954. Machinery for Cutting or Dressing Stone. (*Appareil pour Tailler la Pierre.*)

Alexander McDonald, Cambridge, Mass., U. S., 7th December, 1885; 5 years.

Claim.—1st. In a machine for cutting or dressing stone by means of a rotary disc, cutter or cutters, as described, either or each cutter thereof arranged not only inclined upward to the plane of its path of cut in a direction radial, or about so, to and toward the orbital axis of motion of such cutter, but also inclined so that the axis of such cutter, or its spindle, shall in the direction of its orbital motion incline to the plane of the orbital axis and centre of the cutter, all being substantially as set forth. 2nd. In a machine for cutting or dressing stone by means of a rotary disc, cutter or cutters, as described, either or each cutter having its stem or spindle arranged in a permanent or fixed bearing and inclined in the rotary frame or head, so as to cause the cutter not only to incline upward to the plane of the path of cut, but to further incline so that its axis or spindle shall in the direction of its orbital motion incline to the plane of the orbital axis and centre of the said cutter, all being substantially as set forth. 3rd. In a machine for cutting or dressing stone by means of a rotary disc, cutter or cutters, having the spindle of each applied to a revoluble frame or head, each or either cutter arranged to incline in two directions, substantially as described, to the plane of its orbital or circular path of cut. 4th. In a machine for cutting or dressing stone by means of a rotary disc cutter or cutters, having the spindle of each applied to a revoluble frame or head, provided with mechanism for adjusting such cutter radially relatively to the axis of revolution of such frame or head. 5th. The revoluble frame or head, as provided, with the abutments for supporting the cutter spindle bearing carriers, and with mechanism for adjusting each of such carriers radially relatively to the axis of revolution of the said frame or head. 6th. In a machine for cutting or dressing stone by means of a rotary disc cutter or cutters having the spindle of each applied to a revoluble frame or head, such frame or head provided not only with mechanism for adjusting each cutter towards or from the stone, but with mechanism for adjusting the cutter nearer to or farther from the axis of its orbital revolution, such axis being that of the said frame or head.

No. 22,955. Proportional Scales or Balances.

(*Balance Proportionnelle.*)

Daniel L. Roberts, Royalton, N. Y., U. S., 7th December, 1885; 5 years.

Claim.—The combination, with the graduated scale-beam of an ordinary scale and its sliding weight, of the beam *M* secured to said scale beam, the sliding weight *P* mounted on said beam *M*, and the proportional weights adapted to be applied to the weight *P*, to determine the quantity of salt required to a given quantity of butter, as determined by the weight *P*, substantially as specified.

No. 22,956. Scaffold Binder.

(*Lien d'Echaffaud.*)

Joseph A. Moross, Detroit, Mich., U. S., 7th December, 1885; 5 years.

Claim.—1st. A scaffold binder, consisting of a yoke having its ends bent to form end arms, a cross-bar constructed to receive and connect said end arms, and binding devices engaged upon said end arms to hold and adjust said cross-bar upon said arms, substantially as described. 2nd. A scaffold binder, consisting of a yoke having its ends bent to form end arms, a cross-bar constructed to receive and connect said end arms, binding devices engaged upon said end arms to hold and adjust said cross-bar upon said arms, and a shoe grooved to receive the cross-bar to fit inside the same, substantially as described. 3rd. The combination, with the ledger A and upright B, of a yoke having its ends bent to form end arms, a cross-bar constructed to receive and connect said end arms, and a binding device engaged upon each of said end arms to hold and adjust said bar upon said arms, the construction being such that the ledger and the upright may be embraced by said yoke and cross-bar, and held firmly together by the adjustment of the bar upon said arms by said binding devices, substantially as described. 4th. A scaffold binder, consisting of a yoke having its ends bent to form end arms, a cross-bar constructed to receive and connect said arms, a binding device engaged upon each of said arms to adjust and hold the cross-bar thereon, a shoe G, grooved to receive the cross-bar and a toothed or serrated shoe G', constructed and arranged substantially as described. 5th. The combination, with a ledger A and an upright B, of a yoke having its ends bent to form end arms, a cross-bar constructed to receive and connect said arms, binding devices engaged upon said end arms to hold and adjust said cross-bar thereon, and one or more shoes, the construction and arrangement being such that the ledger and the upright may be embraced by said yoke and cross-bar with intervening shoe and be held firmly together by the adjustment of said binding devices upon the end arms, substantially as described.

No. 22,957. Device for Tapping Mains. (Appareil pour Tarauder les Tuyaux Principaux.)

Walter S. Payne, Fostoria, Ohio, U.S., 7th December, 1885; 5 years.

Claim.—1st. In a device for tapping mains, the combination, with a suitable casing provided with an opening S, having an upwardly-extending collar and a cap to fit the same, of a mandrel having screw-threads of various diameters, and an extension detachable therefrom, substantially as set forth. 2nd. In a device for tapping mains, the combination, with a suitable casing, of a revolving top plate and lugs for preventing said top plate from making more than one-half revolution, as set forth. 3rd. In a device for tapping mains, the combination, with a suitable casing having a revolving top plate provided with a downwardly-extending interiorly threaded tube, lugs for preventing said top plate from making more than one-half revolution, an exteriorly threaded plug fitting in the same, a frame carrying a feed screw, a drill tap and means for operating the same to form an opening in the main, as set forth. 4th. In a device for tapping mains, the combination, with a suitable casing having inwardly-extending diametrically opposite lugs, of a top plate having a downwardly extending lug, whereby said top plate is prevented from making more than one-half revolution, substantially as set forth. 5th. In a device for tapping mains, the combination, with a suitable casing, of a revolving top plate, handles for moving the same secured to the upper end thereof, and lugs for preventing said top plate from making more than one-half revolution, substantially as set forth.

No. 22,958. Agitator for Tan Vats.

(Agitateur pour Cuves de Tanneries)

Arthur T. Bull, William Hill, Jr., Limestone, N. Y., and Milo Bull, Sterling, Penn., U.S., 9th December, 1885; 5 years.

Claim.—A tanning apparatus, consisting of a sub-divided vat, each compartment of which is provided with a pipe or injector C suspended therein and perforated near its bottom, in combination with vertical pipes D provided with regulating valves, the horizontal pipe E, and air-supply pipe G and an air-forcing engine, as described.

No. 22,959. Machine for Stamp Cancelling and Postmarking Mail Matter.

(Machine à Maculer les Timbres-Postes et à Imprimer les Lettres.)

Arthur J. Bailey (Assignee of Martin Van B. Ethridge), Boston, Mass., U.S., 9th December, 1885; 15 years.

Claim.—1st. In an apparatus for stamp cancelling, postmarking and like purposes, an inclined moving support for the letters, cards, or other mail matter to be acted upon, said support being provided on its lower edge with projections for automatically adjusting or aligning the several letters, cards or other pieces, substantially as described. 2nd. In a postmarking and stamp cancelling apparatus, a hopper or receptacle having one side formed by a moving inclined support, provided on its lower edge with projections, as a adapted to receive and align the several letters, or other pieces of mail matter, and convey them consecutively to the printing and cancelling mechanism, substantially as described. 3rd. In a stamp cancelling, postmarking, or other printing machine, the combination of an inclined moving support, of aligning and conveying the letter or other articles to be printed, an automatically adjustable printing cylinder, an impression roll, a timing lever controlled separately by each letter, card or other piece to be marked or printed, and mechanism, substantially as described, for conveying each letter separately past the timing lever, whereby the impression of the printing dies is made with accuracy and at the proper points, substantially as described. 4th. The combination of the inclined travelling bands adapted to support and adjust letters, cards, or like objects placed thereon, an elevating guide arranged between said bands, a pressure guide suspended above said bands, a timing lever, an adjustable printing cylinder, an impression roll, and mechanism, substantially as described, for conveying each letter, or other article, past the timing lever at intervals, substantially as described. 5th. The combination of an inclined moving support for letters, cards and like objects, an auto-

matic printing mechanism, a delivery table or tray and a series of cams adapted to propel the letters, cards, or similar articles in a continuous line along said delivery table, substantially as described. 6th. The combination, with a printing cylinder, an impression roll and a moving support for letters or cards, said cylinder roll and moving support being arranged in an inclined position, of a hopper having one side inclined at an angle with the moving support and provided with an internally projecting horizontally-inclined lip or flange F, substantially as described. 7th. The combination, with the inclined bands D, D', having projections a, a, of a spring pressure arm or guide c, substantially as described. 8th. The combination, with the inclined bands D, D', having projections a, a, and the suspended timing lever e, of a letter elevating guide d projecting up between said bands and adapted to slightly raise a card or thin package and direct it surely to and against said timing lever, substantially as described. 9th. The combination of the inclined travelling bands D, D', a downward projecting pivoted timing lever e adapted to temporarily arrest the progress of each letter placed on said bands, and provided with a spring f for returning it to its normal position after the letter has passed, and mechanism, as I, I', for carrying each letter separately passed said timing lever, substantially as described. 10th. The combination, with the movable bands D, D', arranged in an inclined position and provided with projects a, a, of the upper guide or pressure arm c, the letter elevating guide d, the timing lever e, an automatically adjustable printing cylinder F and an impression roll E, substantially as described. 11th. The combination, with the adjustable printing cylinder F, of the pivoted clamping feet I, I', having a cam roller g and spring r, the rocker frame H having cam K and mechanism, substantially as described, for lowering the printing cylinder and its frame into printing position, said mechanism being actuated by the letter or card about to be marked or printed, substantially as described. 12th. The combination, with the rocker frame H, shaft H' and printing cylinder E, of the friction roller f and the cam P on the cylinder shaft, whereby the rocker frame and printing cylinder are automatically raised, substantially as described. 13th. The combination of the rocker frame H, the arm H' carrying a spindle G, the inking roll G mounted loosely on said spindle, the printing cylinder F mounted rigidly on a shaft F' journaled in the rocker frame, and the spring m for holding the inking roll and printing cylinder in frictional contact, substantially as described. 14th. The combination, with the printing cylinder F, having steel treads u and v, of the inking roll G, having a steel tread w, substantially as described. 15th. The combination, with the printing cylinder F, having a radial recess for movable type and a transversely rectangular opening z, of a perforated steel die Z and type Y, the bases of which project into said opening and are secured by a pin Z', whereby the type may be dislodged by inserting a wedge in the opening z after the locking pin has been withdrawn, substantially as described. 16th. The combination, with the inclined impression roll E and the inclined travelling bands D, D' having projections a, a, of an inclined printing cylinder carrying detachable postmarking and stamp cancelling dies, substantially as described. 17th. The combination, with travelling bands D, D', having projections a, a, the impression roll E and the printing cylinder F, said bands, roll and cylinder being arranged in a laterally inclined position, of a stationary and horizontal tray L having at one end an incline L', substantially as described. 18th. The combination, with the tray L having one end provided with a slotted incline L', of the cams M, M', adapted to pack letters and cards, delivered on the incline by the printing mechanism, and propel them along the tray to the sorting table, substantially as described. 19th. The combination, with the tray L, having an incline L', provided with slots Lz, of the yielding support N and the cams M, having stocks M' and curved elastic finger Mz, substantially as described.

No. 22,960. Car Axle Box. (Boite à Graisse.)

Russel Brewer and Charles M. Yeh, Newark, N. J., 9th December, 1885; 5 years.

Claim.—1st. In a car axle box, the combination, with the anti-friction roller bearing upon the axle journal, of an inner bearing frame supported in place by the axle journal, and having elongated bearings for the journals of said rollers, substantially as specified. 2nd. In a car axle box, the inner bearing frame carrying the anti-friction rollers, and having transversely convex lugs or rockers engaging convex bearings of the box, whereby the bearings are automatically governed by the vibratory movements of the axle journal, substantially as specified. 3rd. The combination, with an external box, of the internal roller frame engaging concave bearings of the box, and having a shifting bearing roller to engage the axle journal which automatically governs the roller frame, substantially as specified.

No. 22,961. Window Screen.

(Ecran de Fenêtre)

Charles J. Shreff, Brockville, and Richard T. Steele, Hamilton, Ont., 9th December, 1885; 5 years.

Claim.—1st. A window screen, consisting of a rectangular frame, having sections of wire or other netting overlapping at a distance from one another, the intervening spaces allowing an upward egress for flies, substantially as set forth. 2nd. In a window screen, the combination, with the vertical bar of the frame having a tongue, of the correspondingly grooved section H and wedge I to slide, as set forth, for holding the screen in position by spreading the tongue and grooved joint, as set forth.

No. 22,962. Tile Laying Machine.

(Machine à Poser les Tuiles.)

James P. Walls, William G. Engle and William A. Neal, Paxton, Ind., U.S., 9th December, 1885; 5 years.

Claim.—In a tile laying machine, the acute angled triangular frame A, A', A₂, provided with iron loop B, the hand-wheel C and screw C' having nuts d, and the wooden slide D provided with iron d flexibly attached to frame A₂ by link E, in combination with color

F having perforations *f*, and bolt *f*, adjusting wedges *g*, *g*, mule *G*, follower *G* and carrier chain *H*, provided with hooks *h*, as described and for the purposes set forth.

No. 22,963. Saw Set. (*Tourne à Gauche.*)

Josiah Laybolt, Wakefield, Mass., U.S., 9th December, 1885; 5 years.

Claim.—1st. In a saw-set, the head *A* having a fixed lower jaw and provided with a fixed handle *B*, in combination with a clamp-lever pivoted in said head and forming a movable upper jaw, a set-lever also pivoted in said head and adapted to engage the body of the saw automatically when the clamping jaws are closed, the outer end of said set-lever being provided with a slot, a screw for adjusting said set-lever, a pivoted handle for opening said levers simultaneously, and an adjustable gauge for determining the distance the tooth may enter the jaws, substantially as described. 2nd. In a saw-set, the head *A* having a fixed lower jaw and provided with a fixed handle *B*, in combination with a clamp-lever pivoted in said head and forming a movable upper jaw, a set-lever also pivoted in said head and adapted to engage the body of the saw automatically when the clamping jaws are closed, the outer end of said set-lever being provided with a slot, a screw for adjusting the inner end of said set-lever upon the inner end of said clamping lever, a pivoted handle for operating said levers simultaneously and an adjustable gauge for determining the distance the tooth may enter the jaws, substantially as described. 3rd. In a saw-set, the head *A* having a fixed lower jaw and provided with a fixed handle *B*, in combination with a clamp-lever pivoted in said head and forming a movable upper jaw, a set-lever also pivoted in said head and adapted to engage the body of the saw automatically when the clamping jaws are closed, the outer end of said set-lever being provided with a slot, a screw for adjusting the inner end of said set-lever upon the inner end of said clamping-lever, a set-screw for fastening said adjusting screw, a pivoted handle for operating said levers simultaneously, and an adjustable gauge for determining the distance the tooth may enter the jaws, substantially as described. 4th. In a saw-set, an adjustable gauge for the teeth, comprising a body, two upwardly extending side pieces having hooks at their ends for embracing one of the teeth, clamping jaws and set-screw passing through said body and adapted to be screwed against said jaw, substantially as described. 5th. In a saw-set, the head *A* having the shoulder *L* and provided with fixed handle *B*, in combination with levers having jaws for clamping and setting the saw teeth, and the pivoted handle *C* for operating said levers, the inner end of said handle abutting against said shoulder, whereby it is limited in its outward movement, substantially as described.

No. 22,964. Bee Hive. (*Ruche.*)

William P. Hamlin, Rogers, Ark., U.S., 9th December, 1885; 5 years.

Claim.—1st. A bee hive composed of the end boards *A* having flanges *C*, the frames *O* forming the brood-chamber and clamped between the end boards, the frames *K* above frames *O* and forming the surplus honey chamber, slides *L* between the ends of the frames *K* and the flanges *C* and the cap or cover, the parts being combined substantially as described. 2nd. The combination, in a bee hive, of the frames *O* having the keepers on their outer sides, the end boards *A* and the screw-rods passed through the end boards, and the keepers for clamping the frames and end boards together, substantially as described. 3rd. The combination, in a bee-hive, of the end boards, the frames *O* clamped between them to form the brood-chamber, the frames *K* above the brood-chamber and communicating therewith to form the surplus-honey chamber, and the slides *L* between the end boards on the ends of the surplus-honey chamber to permit access to the latter, substantially as described. 4th. The bee-trap having the slides *P* and the vertical partition slide *S*, the slides and bottom of the trap being formed of wire gauze or transparent material, substantially as described.

No. 22,965. Measuring Device for Oil Tanks. (*Appareil pour Veller les Réservoirs d'Huile.*)

Jean P. Lauer and Anton Voiders, Buffalo, N.Y., U.S., 9th December, 1885; 5 years.

Claim.—1st. As an improved article of manufacture, a combined oil tank and measuring device consisting essentially of a suitable tank *A* having a stationary part *B* and suitable mechanism for operating the same, the oil-conducting pipe *J*, hollow standard *C* carrying on its upper end the receiving vessel *C*, provided with contracted portion *C*, a series of escape-valves located within a double chamber attached to said receiving-vessel, and a discharge-duct from the said double chamber through the hollow standard, the whole being constructed and organized substantially in the manner as and for the purpose stated. 2nd. The combination, with the reservoir *C* having the contracted portion *C*, of the double valve-chamber *L*, *L*, and a series of valves *M* and a suitable return-pipe, the whole being constructed and combined in a manner substantially as and for the object stated.

No. 22,966. Automatic Apparatus for Watering Live Stock. (*Appareil Automatique pour Abreuver les Bestiaux.*)

Thomas Ruddell, Eramosa, Ont., 9th December, 1885; 5 years.

Claim.—1st. The combination of a reservoir *A*, service box *B*, block *C*, chamber *e*, valve *E*, knob *e*, lever *F*, rod *G*, float *H*, tube *I*, spring pin *h*, service pipe *b* and trough *D*. 2nd. The combination of the service box *B*, block *C*, chamber *e*, valve *E*, knob *e*, lever *F*, rod *G*, float *H*, tube *I*, spring pin *h*, service pipe *b* and trough *D*. 3rd. The service box *B*, containing regulating apparatus, in combination with a reservoir *A*, or other supply source, service pipe *b* and trough

D placed in a suitable recess *R*. 4th. The combination of a delivery *c*, hinged valve *E*, knob *e*, lever *F*, rod *G*, tube *H*, spring pin *h* and float *H*, all substantially as shown and described and for the purpose set forth.

No. 22,967. Hair Crimper. (*Fer à Friser.*)

Sereno E. Norton, Chicago, Ill., U.S., 9th December, 1885; 5 years.

Claim.—1st. The combination, in hair crimpers, of the thin, flat non-elastic sheet metal strip *A*, with a cloth or fibrous covering *B*, provided with a projecting flap *b* adapted to fold lengthwise of the crimper, to secure the end of the hair, substantially as described. 2nd. The combination, in hair crimpers, of the thin, flat non-elastic metal strip *A*, with the cloth or fibrous covering *B*, provided with the flap *b* containing an enclosed strip of thin, flat non-elastic sheet metal *A*, adapted to fold lengthwise of the crimper to secure the end of the hair, substantially as described. 3rd. The combination of the thin, flat non-elastic, with the cloth covering *B*, folded over the metal strip, and having one edge secured by a screw *d* and the other projecting to form a flap *b* adapted to fold lengthwise of the crimper, substantially as described. 4th. The combination of the thin, flat non-elastic sheet metal strip *A*, with fibrous covering *B* surrounding the same, and provided with the projecting flaps *b* adapted to fold lengthwise of the crimper on both sides, substantially as described.

No. 22,968. Feed Rack. (*Ratelier d'Ecurie.*)

Hamilton S. Crabtree, Anna, Ill., U.S., 9th December, 1885; 5 years.

Claim.—1st. The combination of a support provided with T-shaped grooves oppositely, inclined relatively to each other, with slat frames correspondingly inclined, and having at their lower converging ends bars provided with F-shaped tenons fitted into the grooves of the support, and end frames uniting the divergent ends of said slat-frames, as and for the purposes set forth. 2nd. The combination of the support provided with oppositely-inclined F-shaped grooves, the slat frames correspondingly inclined having bars on their lower converging ends, provided with F-shaped tenons fitted into said grooves, and the end frame uniting the upper ends of the slat frames and provided with a depending pin to engage the support, substantially as and for the purposes specified. 3rd. A feed-rack consisting of the following elements, in combination, a support having oppositely inclined T-shaped grooves, slat frames correspondingly inclined, T-shaped tenons attached to the lower ends of the cross-bar of the slat frames and fitted into the grooves of the support, an end frame uniting the ends of the upper cross-bar of the slat frames and provided with a depending pin to engage the support, and bows joining the divergent sides of the slat frames and adapted to form a support for a cover, substantially as shown and described.

No. 22,969. Machine for Manufacturing Button Fasteners. (*Machine à Fabriquer les Queues des Boutons.*)

Henry N. Hemingway, Auburn, N.Y., U.S., 9th December, 1885; 5 years.

Claim.—1st. The die provided with the hub *a* and the longitudinal reciprocating punch, in combination with a wire coiling device, having a rotary movement to bond the wire into a coil to form a base of the fastener, as shown and described. 2nd. The die *g* provided with the hub or projection *g*, slotted as shown, in combination with the punch and concentric wire-coiler and means to operate the same, substantially as described. 3rd. The die and the punch and its connected sleeve and collar, in combination with the wire-coiler having a head at one end, and placed between the said sleeve and collar, substantially as described. 4th. The cutter member *e* provided with a central opening and a cross groove *2*, combined with a reciprocating cutter member *e* provided with an annular groove *e* and with means, substantially as described, to operate the said parts to sever the wire placed in position between them. 5th. The die having the hub provided with the groove *5* and recess *2* combined with the punch grooved at *9*, to operate substantially as described.

No. 22,970. Clay Disintegrator.

(*Moulin à Argile.*)

Clayton Potts and Albert Potts, Indianapolis, Ind., U.S., 9th December, 1885; 5 years.

Claim.—1st. In a clay disintegrator, a supporting frame, a cylinder arranged to revolve and a swinging plate, both mounted in said frame and forming opposite sides of a trough for the reception of clay, and means for swinging said plate alternately towards and from said cylinder, all combined, substantially as specified. 2nd. In a clay disintegrator, a supporting frame, a cylinder arranged to revolve and having scraping bars attached to its periphery, and a swinging plate both mounted in said frame and forming opposite sides of a trough for the reception of clay, and means for swinging said plate alternately towards and from said cylinder, all combined substantially as specified. 3rd. In a clay disintegrator, a supporting frame, a cylinder arranged to revolve and having scraping bars attached to its periphery, and an inclined plane both mounted in said frame and forming opposite sides of a trough for the reception of clay, all combined substantially as specified. 4th. In a clay disintegrator, the combination, with the revolving cylinder, of the swinging plate consisting of a central cylindrical portion, an upper straight portion, and a lower curved portion, all substantially as specified. 5th. The combination, with the supporting frame, the revolving cylinder and the swinging plate of the shaft *f*, eccentric *e*, yoke *k*, arm *l* and wheels *n*, *o* and *p*, substantially as and for the purpose specified. 6th. In a clay disintegrator, the combination, with cylinder *A* having a series of longitudinal grooves, of the scraping bars *c* adjustably secured in said grooves, for the purpose specified.

No. 22,971. Automatic Equalizer for Carding Engines. (*Régulateur Automatique pour Machines à Carder.*)

Joseph Ladley, Andover, Mass., U.S., 16th December, 1885; 5 years.

Claim.—1st. In a carding engine, the mechanism, substantially as described, by which the speed of the traverse of the roll is caused to vary proportionately to the rotary speed of said roll, substantially as stated. 2nd. In a carding engine, a small stripper adapted to revolve and co-operate with the cylinder and traverser thereon in right line movement, in such a manner that fibre received upon one extreme traverse shall be delivered at the opposite extreme traverse, substantially as herein described. 3rd. In mechanism of the class herein premised, the combination, with the revolving cylinder, of a series of rotary strippers oppositely but simultaneously moving upon the face thereof in right line movement, as herein set forth. 4th. In equalizing apparatus, the combination, with cylinder C, the revolving strippers F₁, F₂ pivotally connected with the rods h, h', of the oscillating or semi-rotary shaft i actuated by a prime motor, whereby traverses of the strippers are accomplished for purposes herein described. 5th. In combination with the cylinder C, pulley H, face plate I, connecting rod J pivotally united with the rocker shaft m, the oscillating shaft i carrying the adjustable rods h, h', attached thereto, whereby the strippers are caused to traverse proportionately with their rotation, as described.

No. 22,972. Capstan for Stump Extractor.

(*Treuil pour Arrache-Souches.*)

James Milne, Joseph J Milne and Hector A. Milne, Monticello, Iowa, U.S., 10th December, 1885; 5 years.

Claim.—1st. In a windlass or capstan, the frame A A' having a vertical shaft journaled thereto, said shaft having rigidly secured at its upper end a plate to which is attached the end of a sweep, and at its lower portion a casting H, in combination with a drum having a grooved base adapted to engage with the casting, and a reduced upper portion with collar, and a lever having a fulcrum independent of the drive-shaft for raising and lowering the drum, so as to throw the same in and out of engagement with the casting, substantially as shown and for the purpose set forth. 2nd. In a stump-puller of the class described, the rotary shaft B having rigidly attached thereto, a casting H, in combination with a drum D adapted to be slid upon the shaft, and provided with a grooved base which with a casting H, and a lever having a fulcrum independent of said shaft B for operating said drum, substantially as shown and for the purpose set forth. 3rd. In a stump-extractor, constructed substantially as described, in rotary shaft having at its base a casting rigidly attached thereto, in combination with the drum D with a grooved base which engage with said casting, and a reduced upper portion provided with a collar and a lever for raising and lowering the drum having at its inner end a wheel c, the parts being organized substantially as shown for the purpose set forth.

No. 22,973. Time Piece and Dial.

(*Horloge et Cadran.*)

Christoph F. Deitz, New Orleans, La., U.S., 10th December, 1885; 5 years.

Claim.—1st. In a universal time-piece, the combination of the dial A marked with the longitude circle a, the degrees of which run from 0 to 180 on each side the circle b having twenty-four equal divisions, and the circle c having twelve equal divisions marked with the Roman numerals, the zero points of which circles all correspond with the hands f making one revolution in one day, the hand h making two revolutions in one day and the hand g making one revolution in each hour, substantially as specified. 2nd. In a universal time-piece, the combination of the dial A, dial-plate D secured to hand F, substantially as described and for the purpose set forth.

No. 22,974. Rotary Engine. (*Machine Rotatoire.*)

George E. Toliver, Newport, Mo., U.S., 10th December, 1885; 5 years.

Claim.—1st. In a rotary engine, the combination, with a fixed cylinder, the heads of which are provided with cam grooves, as shown, of a revolving steam wheel provided with valves automatically opened and closed by said cam grooves, substantially as described. 2nd. In a rotary engine, a stationary cylinder, cam grooves formed in the heads thereof and steam inlet, as described, of a solid steam wheel provided with sliding valves adapted to be automatically opened and closed by means of said cam grooves, as set forth. 3rd. In a rotary engine, substantially as described, a revolving steam wheel provided with a peripheral channel, combined with sliding valves constructed to control the flow of steam through said channel, substantially as described. 4th. The combination, with the cylinder heads provided with cam grooves, as shown, of a solid steam wheel secured to the power shaft, and having a peripheral channel and valves sliding in slots in said steam wheel, and provided with pins adapted to engage said cam slots, as and for the purpose specified. 5th. In a rotary engine, substantially as described, a case ring provided with shoulder d, a case inlet through said case ring adjacent to said shoulder, and a packing block of arrange l and operating as and for the purpose specified. 6th. In a rotary engine, substantially as described, a revolving steam wheel having formed thereon a peripheral channel, combined with the case ring having inwardly projecting flange d fitting in and partially closing said channel, substantially as and for the purpose specified. 7th. In a rotary engine, substantially as described, the combination, with a revolving steam wheel having formed thereon a peripheral channel, of a case ring provided with an inwardly projecting flange d, constructed to close a portion of said channel and provided with a recess to receive a packing block, and the packing block a inserted in said recess, and projecting beyond the edges of said flange, as and for the purpose specified. 8th. In a rotary engine, substantially as described, a revolving steam wheel provided with a peripheral channel and slots, as described, combined with valves, as c, adapted to slide in said slots, and pro-

vided with shoulders c' constructed to limit the outward throw of said valves, as set forth.

No. 22,975. Machine for Sweeping and Conveying Away Refuse from Streets, etc. (*Appareil pour Balayer les Rues, etc. et Enlever les Ordures.*)

William March, London, Eng., 10th December, 1885; 5 years.

Claim.—1st. The application and use, for the purposes aforesaid, of revolving brushes a, attached to endless chains at carried on drums mounted on revolving axles b and b', driven by the spur ring y and operating on the road, in combination with the adjustable brush pan h, all mounted on a suitable carriage, substantially as hereinbefore described and shown on the drawings. 2nd. The application and use, in combination with machines for the purposes aforesaid, of the case m fitted with bucker, mounted on endless chains driven by spur gearing, the chains being regulated and adjusted by the screw d and rollers g, substantially as hereinbefore described and shown on the drawings. 3rd. The method of adjusting the tension of the endless chain a by means of the right and left-hand screws and nuts f, substantially as hereinbefore described and shown on the drawings. 4th. The method of adjusting the brush pan h, and the height of the shaft b' by means of the link i, chain h', lever k, crank l and quadrant k', substantially as described and shown on the drawings. 5th. The method of sustaining the axle b at the lower end of the lever b', operated by the link l' attached to the crank l, whereby the spur wheel C can be placed in gear or removed out of gear with the spur ring y, substantially as hereinbefore described and shown on the drawings. 6th. The method of adjusting the shoot g by means of the levers t and u and guide frames v, substantially as hereinbefore described and shown on the drawings. 7th. The method of mounting road sweeping machines upon two parallel free wheels, and one trailing castor wheel n, substantially as hereinbefore described and shown on the drawings. 8th. The method of combining road sweeping machines, with wagons for receiving the refuse and connecting them together, so as to be simultaneously caused to travel, sweep and collect the refuse, substantially as hereinbefore described and shown on the drawings. 9th. The method of combining the road-sweeping machine with a tipping wagon, all mounted on one set of wheels, substantially as hereinbefore described and shown in Fig. 3 of the drawings. 10th. The method of forming the frame of the machine, substantially as hereinbefore described and shown on the drawings. 11th. The general arrangement of parts together forming my improvements in machinery for sweeping and conveying away refuse from streets, roadways and other places, substantially as hereinbefore described and shown on the drawings.

No. 22,976. Carriage Top. (*Couverture de Voiture.*)

George A. Rudd, Brockville, Ont., 10th December, 1885; 5 years.

Claim.—1st. The combination, with the seat A, of bracket side rail supports, consisting of the parts B, C, having a sliding dovetail connection, and the part D extensible connected to part C by a nutted bolt D' and having a sleeve D₂, as set forth. 2nd. The combination, with the part B, of the basket, of the parts C and D, the latter having a sleeve D₂, provided with a knob D₂ to button with the side curtains of the carriage top. 3rd. The T-shaped supports E, F, secured to the back rails E and to the back curtain quarters G, for the purpose set forth. 4th. The back and front joints H, H', of the carriage top having the members connected by a screw and socket to elongate one member of one joint, as set forth. 5th. The combination, with the bracket J and E₁, of the screw eye J' and nut O to hold the rail, as set forth. 6th. The lever T, provided with a loop T' bent inwardly at the extremity, as set forth. 7th. The top prop having a circular base H₂, and provided with countersunk holes, as set forth.

No. 22,977. Saw Vice. (*Etau à Scie.*)

Henry Flater, Findlay, Ohio, U.S., 10th December, 1885; 5 years.

Claim.—1st. The combination, with the fixed jaw provided with the vertical gauges near its ends, and set-screws for holding them to their adjustments, and the steel face upper inner edge, of the movable jaw hinged to the vertically bored standard, the ball head screw and the bed plate having the vertical standard and locking pin, substantially as specified. 2nd. The combination, with the bed plate having the vertical stand thereon, and the vertically bored standard having the fixed jaw at the ends of the vertically slotted gauge arms, the movable jaw and operating screw and the vertically adjustable saw rests provided with thumb nuts and working in the slotted gauge arms, as set forth.

No. 22,978. Circuit Closer. (*Commuteur.*)

James W. McArthur, Walton, Ks., U.S., 10th December, 1885; 5 years.

Claim.—1st. The key, having the contact strip secured to the lever and insulated therefrom, the flexible connection between the strip and the anvil, and the movable button having the contact disk or point in contact with the strip when the key is not in use, and adapted to automatically break connection with the strip when the button is depressed, substantially as described. 2nd. The combination, in a telegraph key, of the strip C secured to the lever and insulated therefrom, the spring connecting said strip with the lever and insulated therefrom, the movable button having the contact disk or point for connecting the strip C and the lever when the key is not in use, and breaking the said connection when the button is depressed and the spring H bearing under the button, substantially as described.

No. 22,979. Device for Adjusting Buggy Tops. (*Appareil pour Poser les Coiffures des Voitures.*)

John Metcalfe, Brantford, Ont., 11th December, 1885; 5 years.

Claim.—The front joint A connected to the sleeve C, and the back joint B connected to the spindle E, in combination with the handles D and F arranged to operate the joints, substantially as and for the purpose specified.

No. 22,980. Steam Boiler Furnace.

(*Foyer de Chaudière à Vapeur*)

John Ham, New York, N.Y., U.S., 11th December, 1885; 5 years.

Claim.—1st. The combination of a boiler A and furnace H, of air distributors G consisting of perforated boxes or cases located at the sides of the furnace in front of the bridge wall, air pipes E extended through the boiler and connections between the air pipes and air distributors, substantially as described. 2nd. The combination with a boiler A and furnace H, of air pipes E extended through a front boiler, air distributors G located at the sides of the furnace in front of the bridge wall, and pipes F, having elbows b, c, for connecting said air pipes and distributors, substantially as described.

No. 22,981. Steam Boiler Furnace.

(*Foyer de Chaudière à Vapeur.*)

John Ham, New York, N.Y., U.S., 11th December, 1885; 5 years.

Claim.—1st. The combination of the fire chamber B, the combustion chamber F and the bridge wall E, with the boiler A, the transverse foraminous air distributor I arranged in rear of the bridge wall, the air flue G passing longitudinally through the boiler, and pipes b, c, and d connecting the end of the air flue, which is at the front end of the boiler with the air distributor, said pipes being subject to heat from the fire chamber to constitute a supplementary heater to the air flue in the boiler, substantially as described. 2nd. The combination of the fire chamber B, the combustion chamber F and the bridge wall E arranged in relation to the bottom wall H, of the combustion chamber to form the air space K, with the boiler A, the air flue G extending longitudinally through the boiler, the foraminous air distributor I arranged in said clear space with its upper side approximately on a line with the tops of the bottom H and bridge E, and a pipe connection subject to direct heat from the fire chamber, and connecting the end of the air flue in the boiler with the air distributor, substantially as described.

No. 22,982. Car Coupling.

(*Accouplage de Chars.*)

Robert H. Dowling, Charles Follett and Charles H. Follett, Newark, Ohio, U.S., 11th December, 1885; 5 years.

Claim.—1st. A draw-head having an arc-shaped socket, and a coupling hook having an arc-shaped stem engaging said socket, and provided with a slot to receive a slide key, substantially as specified. 2nd. A draw-head, having a hook head on one side of its front, and an arc-shaped socket to receive the hook stem, and on the other side of the front a forwardly projecting curved guide flange, substantially as specified. 3rd. The combination, with a draw-head having an arc-shaped socket, and a perturbation in its bottom extending therefrom, of the slotted stem of the hook and the slide key having a wing adapted to engage the slots of the draw-head and hook stem, substantially as specified. 4th. The combination, with the slotted draw-head and the slotted arc-shaped stem, of the hook working in a socket of said draw-head, of the winged slide key having a cranked upper end and a vertical transverse operating rods, substantially as specified.

No. 22,983. Brush. (*Brosse.*)

Louis Strickel, Minneapolis, Minn., U.S., and George A. Fitchett, Napanee, Ont., 11th December, 1885; 5 years.

Claim.—1st. The combination, with the block A, having the sockets a, of the looped tufts B and the stiff wire staples C having barbs c, with their legs embedded in the wood between the bottom of the sockets and the back of the block, substantially as described. 2nd. The combination, with the block a, having the sockets a, of the looped tufts B and the staples C having their legs embedded in the wood between the bottom of the sockets and the back of the block, and with their ends clinched against the back of the block, substantially as and for the purpose set forth.

No. 22,984. Lamp. (*Lampe.*)

Charles Gratton (Co-Inventor with Vital Bronner), Montreal, Que., 11th December, 1885; 5 years.

Claim.—In an oil burning lamp, the burner C made circular, or approximately so, in transverse section at its lower extremity and flattened out to a long, narrow opening at its upper extremity, and secured in a float, or supporting vessel B, which floats in the oil in the oil cistern A, as herein shown and specified.

No. 22,985. Spring Clasp. (*Agrafe Elastique.*)

Judson L. Thomson, Syracuse, N.Y., U.S., and Everett B. Preston, Chicago, Ill., (assignees of Jacob J. Unbehend, Syracuse, N.Y.), U.S., 11th December, 1885; 5 years.

Claim.—1st. As an improved article of manufacture, a clasp or buckle plate formed of struck up of thin metal, curved lengthwise to conform to the contour of the article to which it is to be applied, and rounded up transversely on its longitudinal edges, substantially as and for the purpose set forth. 2nd. The within-described clasp or buckle plate consisting of a plate, curved longitudinally from a horizontal plane provided with transverse slots and longitudinally side-flanges, bent up from the under side of the plate and extending uninterruptedly from end to end thereof, substantially as herein specified and shown. 3rd. The within-described transversely slotted plate, curved longitudinally from a horizontal plane, and having transverse bars corrugated lengthwise said bars, and side flanges rounded up from the underside of the plate, substantially as and for the purpose specified. 4th. In a clasp, the combination of the attaching

plate, provided with a transverse slot, and a clip consisting of a strip of sheet metal passed through, said slot and folded back upon itself, to loosely embrace the end portion of the attaching plate and provided in its free ends wire eyes r, r for the reception of the rivet by which said clip is pivoted on the shoe or other article, all constructed and combined to allow said attaching plate to swing in planes parallel to, as well as at right angles to that of the plate, substantially as set forth and shown. 5th. In a clasp, the tongue connected to its supporting plate by a pintle reinforced by increased thickness, as set forth. 6th. In a clasp, the tongue composed of a metal blank having two lateral projections on each of its side edges, and folded back upon itself transversely between said projections to bring the latter to lie closely one upon the other, substantially as described. 7th. In combination, with the tongue and its annular or flattened pivot two plates connected together at one end and provided with forward extensions a, a at the opposite end, and having in adjacent sides of said extensions recesses, of depressions b, b for the reception of the pivot extending only part way across the extensions to bring the side portions of the two plates to lie normally contiguous to each other, substantially as described and shown. 8th. In combination with the tongue and its pintle, two plates connected together at one end and having forward extensions provided in their adjacent sides, with depressions b, b for the reception of the pintle extending only part way across the extensions, substantially as described and shown. 9th. The combination of the tongue provided with the two-fold pivot c, c and the plates B, B connected together at one end and provided with the forward extensions a, a at the opposite end and each having in the adjacent sides of said extensions recesses of a depth equal to the thickness, of one-half of the two-fold pivot and extending only way across the extensions, substantially as described and shown. 10th. In combination, with the tongue and pintle connected therewith, and flattened or angular in cross section, the plates B, B, provided with extensions a, a, and with recesses b, b in said extensions, and one of said plates provided with the lip n across the end of the other plate, substantially as described and shown for the purpose set forth. 11th. In combination with the tongue and pintle, the plates B, B, connected together by the metallic band d embracing the rear end portions of said plates, substantially as described and shown.

No. 22,986. Harness Rig. (*Mode d'Attelage.*)

Samuel A. Prescott, Sutton, Mass., U.S., 11th December, 1885; 5 years.

Claim.—1st. The combination, with the shafts, of a carriage or sleigh, of a holdback rod A, substantially as and for the purposes set forth. 2nd. The combination, with holdback rod A and leather covering I, I, of the hub pieces J, J provided with shoulders as stated, and set screws h, h, substantially as and for the purposes set forth. 3rd. The combination, with holdback rod A and shafts F, of bearing rods or journals C, springs G, caps or bearing pieces D and set screws D1, substantially as and for the purposes set forth. 4th. The combination, with the curved end or ends B, of holdback rod A provided with hub pieces J, J of an adjusting strap or straps H, substantially as and for the purposes set forth. 5th. The combination, with the shafts, of a carriage or sleigh, of the plates E provided with screw holes f, substantially as and for the purposes set forth. 6th. The combination, with the spring holdback rod A and rigid plates E bolted to the shafts F, of grooved cap or bearing pieces D and holding screws D1, substantially as and for the purposes set forth. 7th. The combination, with the ends of the breast plate J, of rings J1 and straps or loops J11 for attachment to the ends of the shafts F, substantially as set forth. 8th. The combination, with the side pieces d, of the cap or bearing pieces D and grooved journals C of locking plates e1 and screws e11, substantially as and for the purposes set forth.

No. 22,987. Waggon Jack. (*Chèvre à Voiture.*)

William G. Boughton, Frostburgh, Md., U.S., 11th December, 1885; 5 years.

Claim.—In combination, with the standard A, with the guides a, a and the sliding post B, the board-headed lever C bearing the link D, substantially as set forth.

No. 22,988. Machine for Planting Potatoes.

(*Machine à Semer les Patates.*)

Duncan Ross, Kinross, Ont., 11th December, 1885; 5 years.

Claim.—The combination of rollers E, E, with wheel A, a connected by carrier C, C, together with the boxes N, N and spring G, substantially as and for the purpose hereinbefore set forth.

No. 22,989. Machine for Attaching Buttons to Boots, Shoes, etc. (*Machins à Poser les Boutons des Chaussures, etc.*)

Henry N. Hemmingway, Auburn, N.Y., U.S., 11th December, 1885; 5 years.

Claim.—1st. In a machine for setting buttons, the rotating fastener-receptacle C10 having the vertically-disposed dividing wall or head provided with the opening d1 for the discharge of the fastener and having agitating pins, to operate substantially as described. 2nd. The rotating fastener-receptacle, and the case D in which the fasteners are discharged from the receptacles, combined with the brush having flexible arms, the brush moving the fasteners about in the case, substantially as described. 3rd. The rotating fastener-receptacle and case D provided with a projection combined with the brush having flexible blades, the said projection operating to tip the blades and throw the fasteners toward the wall or head of the receiver with the shank of the fastener directed downward, substantially as described. 4th. The case D provided with the discharge-slot b7 and rests or guides b8, b9, the rest b8 having a flange 3 to operate substantially as described. 5th. The slotted case D, its rest or guide b9 and rest or guide b8 provided with the flange 3 combined

with the rotating flange *b* and its attached inclined vanes, the vanes acting upon the shanks of the fasteners and forcing them outward through the slot of the case D, substantially as described. 6th. The slotted case D, combined with the rotating flange *b*, provided with a pin to strike the shank of the fastener suspended in the slot of the case, and turn the same about, substantially as described. 7th. The slotted case D provided with the extended rests or guides *b*, *b*, and having a gauge *c* to keep the fasteners down in the slot of the said case, substantially as described. 8th. The slotted case provided with the rest or guide *b* having a flange *g*, combined with the pivoted wing or switch having a race for the guidance of a fastener, substantially as described. 9th. The case, its rests and guide *b* provided with the flange *g* and the wing or switch, combined with the fastener-directing bar to receive the fastener from the switch, substantially as described. 10th. The fastener-directing bar D provided at its under side with the race I, substantially as described, which is embraced by and serves to sustain the fasteners to operate, as and for the purposes set forth. 11th. The fastener-directing bar provided at its under side with the race I on which the fasteners are suspended combined with a let-off device to release the fasteners, substantially as described. 12th. The fastener-directing bar provided at its under side with the race I on which the fasteners are suspended and the let-off device combined with the detent-spring to hold the fastener next back of the one permitted to escape by lifting the let-off device, substantially as described. 13th. The fastener-directing bar provided with a race for the fastener and a let-off device combined with the fastener-carrier, the carriage E and means substantially as described, to lift the carriage and open the jaws to receive the fastener as it is dropped from the fastener-directing bar, substantially as described. 14th. The hopper to receive the buttons, and the throat, combined with the button-guide G⁵ and with the button-receiver G⁴, located below the throat, the said button-receiver having a slot 50 and a button passage 51, substantially as described. 15th. The slotted button-receptacle, combined with the button-guide and with the lever 60 to detain the endmost button and release it at the proper time, substantially as described. 16th. The button-receptacle and button-guide, combined with the button-holding lever 10 and detaining spring 61 to operate the said lever, and to hold the button next to the endmost button as the lever is moved to permit the escape of the endmost button, substantially as described. 17th. The rock-shaft G⁶ and attached button-guide, and the lever 60, combined with the arm A, to operate the said lever, substantially as described. 18th. The rock-shaft G⁶ and button-guide, combined with the presser-foot pivoted thereon and provided with the button-support *g*, substantially as described. 19th. The rock-shaft G⁶, the button-guide and the presser-foot provided with the button-rest, combined with the button presser-foot provided with a chamber to receive the button, and with projections to rest upon the shank of and hold the button in place, substantially as described. 20th. The bed-plate, the rock-shaft G⁶ and the pivoted presser-foot and button-support, combined with the shank-closer to co-operate with the button-support, to close the shank of the fastener below the shank of the button, substantially as described. 21st. The rock-shaft G⁶ and the presser-foot and shank-closer pivoted thereon, combined with the springs to keep the same operated, substantially as described. 22nd. The rock-shaft G⁶ and the shank-closer, combined with cams to operate the same, substantially as described. 23rd. The button-support, combined with the button presser-foot provided with an opening at one side of the passage into it, of the button and slotted to provide prongs to act upon and hold the shank of the button in place, substantially as described. 24th. The presser-foot and its attached button-support provided at top with a recess for the head of the button, and notched at its side in line with the eye of the button-shank and the button-holding foot all combined to operate, substantially as described. 25th. The carriage E combined with the jaws and cam to operate the same, substantially as described. 26th. The carriage, the jaws, the cam *d*, shafts and its attached sector *d*₆, combined with the sector *d*₇, and means, substantially as described, to actuate it. 27th. The fastener-carrier, the carriage E, provided with the foot and the spring *e*, combined with cams, substantially as described, to lift and partially turn the carriage. 28th. The fastener-directing bar and the button-guide and support and the movable carriage containing a fastener-carrier, substantially as described, combined with means substantially as described, to operate the said carriages for the purposes set forth. 29th. The fastener-directing bar and the button-guide and support, and a movable carriage containing a fastener-carrier and an awl, combined with means substantially as described, to operate the said carriage and the awl and fastener-carrier, for the purpose set forth. 30th. The carriage, its pin *W* and the jaws composed of the slotted shouldered plates *d*, *d*₁, *d*₂ and spring *d*₄, combined with the cam *d*₃, and means, substantially as described, to operate it as set forth. 31st. The carriage, the fastener-carrier and the jaw-opener *b*, combined with means, substantially as described, to lift the carriage and place the projections I⁶ of the fastener-carrier in contact with the said jaw-opener, substantially as described. 32nd. The carriage, the awl-bar *aw* and the lever *e*, combined with the pivoted dog *a*, to operate substantially as described. 33rd. The fastener-receptacle, the case D into which the fasteners are dropped from the said receptacle, and the guide *g* combined with a movable or yielding switch interposed between the guide or rest and the upper end of the fastener-direction bar, whereby the accumulation of fasteners on the said bar overcomes the normal position of the said switch and temporarily suspends the feeding of other fastener, upon the upper end of the said bar, substantially as described.

No. 22,990. Spring for Railway Cars, etc. (*ressort pour Voitures de Chemins de Fer, etc.*)

Bernard J. Coghlin, Montreal, Que., 11th December, 1885, 5 years.

Claim.—A single coil bearing or carrying spring coiled from a bar, the outer end of which is rounded, the inner edge straight and the sides slightly bulged, as herein shown and described.

No. 22,991. Compound Faucet.

(*Robinet Composé.*)

Charles H. Waters and Chaney Spearin, Chicago, Ill., U.S., 14th December, 1885, 5 years.

Claim.—A faucet chamber E having discharge openings X and sets of adjacent inlet-openings D. D, the center of each discharge opening being directly opposite the center of a set of adjacent inlet-openings, in combination with a plug A provided on one side with an opening *v* equal in area to that of each discharge-opening *t*, and an opening *v* on the opposite side equal in area to the adjacent openings D, D and their separating walls combined, the contents of the said openings *v* and *v* being in line, substantially as described.

No. 22,992. Seeder and Cultivator.

(*Semoir-Cultivateur.*)

Lorenza M. Brown, Mapleton, Ont., 15th December, 1885; 5 years.

Claim.—1st. The combination, in a seeder or cultivator having a bar G connecting the frame A and tooth D, of a movable bar F attached to the front of the frame and a rod E, connecting said bar and tooth, whereby the teeth can be simultaneously inclined more or less, as set forth. 2nd. The combination, with tooth D having drag bar G, of the rod E, bar F and lever H for adjusting and locking the tooth, as set forth.

No. 22,993. Torpedo Railway Signal.

(*Torpille Signal de Chemin de Fer.*)

Henry F. Clark, Poughkeepsie, N. Y., U. S., 15th December, 1885; 5 years.

Claim.—1st. The combination, with the levers *o*, slide *m*, cross pin *t* and exploder *r* in a torpedo railway signal, of the spring *ri* within the exploder and acting against the cross pin *t* to sustain the weight of the exploder end to allow the yielding movement, substantially as set forth. 2nd. The combination, with the torpedo railway signal, of a frame to which the rear end of the base of the torpedo signal is hinged, a spring between the said frame and the anvil of the torpedo signal, and clip pieces and bolts for connecting the parts to the rail, substantially as set forth. 3rd. The frame B, having a U-shaped bearing piece L at one end thereof, in combination with the base A of the torpedo signal, the spring E between the frame and the under side of the anvil, the bolt H passing through the frame and into the anvil, and the nuts upon the said bolt for adjusting the part, substantially as set forth. 4th. The combination, with the torpedo signal and the frame to which it is hinged, of a spring between the frame and the anvil of the torpedo signal, the clip pieces O, P and the bolts M, substantially as set forth. 5th. In combination with the magazine, the cover *l* having the projections *l* and flange *H* and the lugs *l*₂ and *l*₃ upon the cap *c*, substantially as set forth.

No. 22,994. Fire Escape Ladder and Wagon Truck Combined. (*Echelle de Sauvetage et Truck de Wagon Combinés.*)

H. La Force Langovin and Onézime Thibault, Quebec, Que., 15th December, 1885; 5 years.

Claim.—1st. The combination, in a fire-escape, of a truck, provided with a swivel platform of adjustable supports, and a fire escape ladder, as shown and described for the purpose set forth. 2nd. In a fire escape, such as described, the double wheel plate, combined with the wagon truck and ladder platform, as shown for the purpose set forth. 3rd. A ladder platform swivelling on a wagon truck and having adjustable supports, and provided with a hoisting apparatus and extension ladder. 4th. The combination and arrangement, as shown and described, of a wagon truck having a swivelling platform, a double wheel plate B, which E and adjustable supports C, for the purpose set forth.

No. 22,995. Packing for Piston Rods, etc.

(*Garniture pour Tiges de Pistons, etc.*)

John Partington, Winnipeg, Man., 15th December, 1885; 5 years.

Claim.—1st. The combination, in a packing for rods, of a gland and neck jointed together, provided with a bush having spring, as described, follower or plate (acted upon by the spring of said bush) packing rings having external springs, and a surface for the said rings to be pressed upon by the said follower, the whole substantially as described. 2nd. The combination of the neck C, bush E having recesses H and springs I, plate or follower K, rings S, springs V, gland M having recess O and surface R, the whole constructed and arranged substantially as described.

No. 22,996. Dovetail Sawing Machine.

(*Machine à Scier les Queues d'Aronde.*)

William Dixon and Anson G. Ronan, Quebec, Que., 15th December, 1885; 5 years.

Claim.—1st. In a dovetail sawing machine, a wabble saw reciprocating axially from a point at or near the circumference, as set forth for the purpose described. 2nd. In a dovetail machine, the combination, with a wabble saw of fingers E, E' held against opposite sides of the saw to reciprocate the axis of the saw, for the purpose described. 3rd. In a dovetailed sawing machine, the combination, with a wabble saw having a lateral movement, of fingers E, E' having adjustability to suit the thickness of the saw, and an axial and vortical adjustment to regulate the cut, as set forth.

No. 22,997. Device for Sharpening Band Saws. (*Appareil pour Aiguiser les Sces sans fn.*)

Henry F. Campbell and George H. Mills, Concord, N.H., U. S., 15th December, 1885; 5 years.

Claim.—1st. In a device for supporting saws while being ground upon an amory wheel, the combination of a saw-rest E and back-rest J provided respectively with slots *e, j*, with a suitable carriage for supporting the same, an oblong tongue *e* projecting from the top thereof and entering the slots *e, j*, of the rests E, J, a screw stud K projecting vertically from said tongue *e* provided with a thumb-nut L, and a suitable bed upon which said carriage may be mounted, for the purpose set forth. 2nd. The combination of a saw rest E and back rest J, provided respectively with slots *e, j*, with a sliding carriage C, an oblong tongue *e* projecting from the friction rolls J secured thereto, an adjustable back rest E, J, a screw stud K and thumb nut L by which the rests E, J are secured to the carriage C, all constructed and operating substantially as and for the purpose specified. 4th. In a machine, constructed substantially in the manner described, the combination of an adjustable saw rest of suitable friction rolls adapted to a saw being ground, and mounted upon spring levers adjustably secured upon suitable arms attached to said saw rest, all constructed and operating as and for the purpose specified.

No. 22,998. Wooden Flooring.
(*Parquetage en Bois.*)

Dudley J. Marston and Albert W. Todd, Salisbury, Mass., U.S., 16th December, 1855; 5 years.

Claim.—1st. The herein described improvements in wood flooring, the same consisting in squares or sheets of wood, so cut that the fibre thereof is at an oblique angle relatively to the plane of the floor, substantially as specified. 2nd. Wood flooring, constructed in squares or sections, each one of which is upon one side, partly underlaid and supported by the adjacent square or section, while upon the opposite side it is overlaid and interlocked by the square or section adjacent upon that side, substantially as specified. 3rd. The herein described method of forming flooring, the same consisting in gluing together at the wider faces thereof strips of wood, then cutting the same into strips upon lines oblique to the lines of such glue joints, whereby when the latter strips are laid as a floor the direction of the line of fibre and of the glue joints are oblique to the plane of the floor, substantially as specified. 4th. The herein described method of forming flooring in alternating squares of wood of different colours, the same consisting in gluing together at the wider faces thereof strips of wood of different colours, then cutting the same into strips upon lines oblique to the line of such glue joints, and then arranging such strips in the floor with contrasting coloured squares opposite to each other, substantially as specified.

No. 22,999. Lubricating Cup. (*Godet Graisseur.*)

Edward A. Wadhams and E. Eldred Magie (Assignees of Barrett W. Folthousen), Milwaukee, Wis., U.S., 16th December, 1855; 5 years.

Claim.—1st. The combination, in a lubricating cup, of the receptacle A provided with a feeding aperture or passage a, piston C actuating spring S, cover E and a perforated tension nut M for adjusting the tension of said spring, and for the reception and guidance of stem N, substantially as and for the purposes set forth. 2nd. The combination, in a lubricating cup, of the receptacle A having feeding passage a, piston C provided with a stem N, cover E, having an extension F, perforated adjusting nut N, by which said stem is guided, and the tension of the spring S regulated, and the actuating spring S interposed between said piston C and the nut M, substantially as and for the purposes set forth. 3rd. In a lubricating cup, the combination of a receptacle A having a feeding passage a, piston C provided with stem N, actuating spring S, cover E provided with an adjusting nut M, perforated to receive and guide said stem N, and recessed to receive the end of said spring S, substantially as and for the purposes set forth.

No. 23,000. Hay Carrier. (*Monte-Foin.*)

James W. Provan (Co-Inventor with John W. Provan) Toronto, Ont., 16th December, 1855; 5 years.

Claim.—1st. A hay carrier, in which the supporting wheel is connected to an arm attached to or forming part of the latch, which latch is pivoted to the body plate, substantially as and for the purpose specified. 2nd. In a hay carrier, in which the wheel arm and latch are pivoted to the body plate, the combination of a head arranged to support the eye and sheaf pulley of the bail or draught rope, and so connected to the body-plate that it will revolve thereon independent of the latch, substantially as and for the purpose specified. 3rd. In a hay carrier, a body plate G on which the latches F are pivoted, in combination with the hand H arranged to support the bail-rope eye I and sheaf pulley K, the said head being pivoted upon the body-plate G, substantially as and for the purpose specified. 4th. In a hay carrier, a body plate G on which the latches F are pivoted, and the trip-bar M adjustably supported, in combination with a head H arranged to support the bail rope eye I and sheaf pulley K, the said head being pivoted upon the body plate G, substantially as and for the purpose specified. 5th. In a hay carrier, a trip bar M adjustably supported upon the body plate G, and having a projection formed upon or attached to it, to project through a hole in the said body plate and supporting the hook L, in combination with the head H supported by an annular flange b formed on the body plate G, and a spring O arranged to act in the hook L, substantially as and for the purpose specified. 6th. The supporting hook L pivoted to the trip-bar M, and provided with a tail p arranged to engage with the guides g formed on a head H, substantially as and for the purpose specified. 7th. A latch F, connected to or forming part of the arm D, which carries the wheels B, and is pivoted on the body plate G, in combination with an arm R designed to extend through a hole in the body plate G immediately over the bell-mouth opening f formed in the head H, substantially as and for the purpose specified. 8th. A head H supported on an annular flange b formed on the body plate G, and having a bell mouth opening f formed in it on one side of the centre of the annular flange p. 9th. A latch F connected to or forming part of the arm D, which carries the wheels B and is pivoted on the body

plate G, in combination with an arm R designed to extend through a slot in the trip bar M, and provided with a lug A to strike the top surface of the body plate G, substantially as and for the purpose specified. 10th. In a hay carrier, a body plate G having a flange i formed on each end of it to support the trip bar M, and an annular X, flange p to support the head H, substantially as and for the purpose specified. 11th. In a stop block formed by a stop lever J supported by the latch i, the combination of a projection formed either on the lever or latch, so that the upward movement of the lever above the hook r, the latch will push the said hook clear of the lever, substantially as and for the purpose specified. 12th. In a hay carrier, the bail P having a head formed by a concave curved bar m, in combination with a head H having a bell mouth opening f formed in the arc of the circle to correspond with the outer size and shape of the head of the bail P.

No. 23,001. Shingle Sawing Machine.

(*Machine à Scier le Bardeau.*)

Isaac M. Hougo, Gravenhurst, and Alfred R. Williams, Toronto, Ont., 16th December, 1855; 5 years.

Claim.—1st. The draw-bar O connected at one end to the carriage P, and arranged to pass between the paper friction rollers J and K, in combination with mechanism by which the rollers J and K are caused to grip and operate the draw-bar O, as herein specified. 2nd. The bell cranks m and p, connected as described, to the spindles T and U, in combination with the arms j and k fixed to the spindle i and arranged to actuate the bell cranks, as herein specified. 3rd. The spindle i, having arms j and k and fingers n fixed to it, as specified, in combination with the pivoted dog v, arranged substantially as specified. 4th. The spindle i, having arms j and k, and fingers n fixed to it, as specified, in combination with the pivoted dog v and spring x, substantially as and for the purpose specified. 5th. The spindle i having drums y and k and fingers n fixed to it, as specified, in combination with the pivoted dog v, spring x and bridge y, substantially as and for the purpose specified.

No. 23,002. Mode of Balancing Window Sashes. (*Manière de Balancer les Croustes des Fenêtres.*)

Reuben Clarko, Toronto, Ont., 16th December, 1855; 5 years.

Claim.—The window sashes B and C, in combination with the corbels E and F carried round the pulleys D, and so connected to the sashes B and C that the movement of one sash shall impart a corresponding positive motion to the other, substantially as and for the purpose specified.

No. 23,003. Method of Rendering Cloth, Wood, Paper, etc., Waterproof, but not Air-Tight. (*Manière de Rendre le Drap, le Bois, le Papier, etc., imperméable à l'Eau et non à l'Air.*)

Nils A. Alexanderson, Stockholm, Sweden, 16th December, 1855; 5 years.

Claim.—The described method of waterproofing cloths and other textile materials, consisting in impregnating the same with a solution of some basic salt, salt of aluminium prepared by putting an equivalent quantity of the hydrates or carbonates of the alkalies, or of the alkaline earths, to a neutral salt of aluminium, next, if needed, mixing the same with tartaric or citric acid, and then carefully rinsing the cloth and finally subjecting it to a quick drying, all substantially as above set forth.

No. 23,004. Loom for Weaving Wire.

(*Métier à Tisser le Fil de Fer.*)

Edward J. Major, Montreal, Que., 16th December, 1855; 5 years.

Claim.—1st. In a wire-weaving loom, the combination, with the traverses of discs mounted eccentrically on shafts above and below same receiving motion at will from main shaft, and actuating said traverses by means of levers and links, or other suitable means, substantially as herein set forth. 2nd. In a wire weaving loom, the tension roller having its spindle carried in boxes moved by means of screws backwards and forwards in a frame, as and for the purposes set forth. 3rd. In a wire weaving loom, the combination, with the tension roller, of a woun wheel mounted loosely out, its spindle thrown into action by a clutch and a woun gear formed on the end of a longitudinal rod running the length of the machine and provided with suitable means for turning same, all as herein set forth. 4th. In a wire weaving loom, the combination, with the spindle of the tension roller, of the following elements: a ratchet wheel keyed thereon, a weighted lever secured loosely thereto at one end, and a pawl, all as and for the purposes set forth. 5th. In a wire weaving loom, the combination, with the beater of levers M pivoted on shaft M₁, held in position by weights M₂ and actuated by treadle, all as and for the purposes set forth.

No. 23,005. Telephonic Circuit and Apparatus. (*Circuit et Appareil Téléphoniques.*)

John B. Wood, Montreal, Que., 16th December, 1855; 5 years.

Claim.—A system of telephonic inter-communication consisting of a number of stations, each connected to each one of the others by separate wires without the intervention of a central office, and at each station a call bell and telephonic apparatus normally out of circuit, and a number of magnets, armature, drop levers, and push buttons to correspond with number of stations, each of said push buttons operating to cause one of said drop levers to fall and thereby connect the others at the will of the operator, substantially in the manner specified.

No. 23,006. Process of Preserving Brewers' and other Grains. (Procédé de Conservation des Grains de Brasseries et autres.)

William Ihno, Medford, Wis., U.S., 16th December, 1885; 5 years.

Claim.—The within-described process of preserving brewers' grains, the residue of malt and grains, the residue of distilleries which consists in first filtering said grains to deprive them of surplus water, and then treating them successively with a solution of common salt, a solution of doyleine, and a solution of permanganate of potasse, and afterwards placing the masses in filtering receptacles and subjecting it to pressure to form cakes or compact mass of convenient size and shape, essentially as herein set forth.

No. 23,007. Irrigating Attachment to Prescription Bottles. (Siphon de Bou-telle à Médecine.)

Aloximander B. Tutton, Sioux Falls, Dak., U.S., 16th December, 1885; 5 years.

Claim.—1st. An irrigating attachment for prescription bottles, consisting of a soft rubber cap A adapted to be distended over the neck of the bottle, the long tube B having a nozzle at its outer end, with an enclosing cap and the short tube C having a stopper in its end, both of said tubes being arranged in the cap A and adapted to be forced into the bottle or pulled out from the same, as described. 2nd. An irrigating attachment for prescription bottles, consisting of a stopper for the bottle, and a long and short tube B and C passing through the same, the short tube being provided with a closing plug and the long tube with a nozzle and an enclosing cap, as and for the purpose described.

No. 23,008. Machine for Making Plumbers' Lead Traps. (Machine à faire les Trappes en Plomb des Plombiers.)

Frederick N. DuBois, New York, N.Y., U.S., 16th December, 1885; 5 years.

Claim.—1st. In a machine for making lead traps, in combination with independent hydraulic presses and valve gear for regulating the feed water to each cylinder independently and oppositely, so as to give the same different speeds, adjustable constant overflow springs on the feed-water pipes, substantially as set forth. 2nd. In a machine for making lead traps, in combination with independent hydraulic presses and valve gear for operating them independently and oppositely, the chamber in stem E, plug F and adjustable valve G and waste-water escape H, substantially as set forth.

No. 23,009. Wood-Steaming Apparatus. (Étude à Vapeur pour les Bois.)

Van Buren Wheel, Orleans, N. Y., U.S., 16th December, 1885; 5 years.

Claim.—1st. In a wood-steaming apparatus, the rotating reel consisting of a shaft and the inner spoked wheels, and the outside registering-wheel D operating in connection with the spring dog or catch z, all in combination with the box A, substantially as described. 2nd. The concave guide strips or ways E, E', E' operating with the water to retain support and convey the material in the pocket of the reel, in combination with the incline ways f and box A, substantially as described. 3rd. In a wood-steaming apparatus, the hopper F with its hinged trap or door G, in and through which the material to be steamed is respectively placed and deposited upon the reel c, in combination with the steam box A and the operating mechanism consisting of the handle K, rope L, pulley J, and weight H, substantially as described. 4th. In a wood-steaming-apparatus, the door L (through which the raw material is deposited upon the reel,) and door G (through which the steamed and boiled material is discharged for use) in combination with their operating and connecting mechanism consisting of the handle and catch W, pitman M, lever N, handle K, pulleys R and J, ropes P, I and weight H by which the said doors L and G are simultaneously opened and closed, for the purpose herein set forth and described. 5th. In a wood-steaming apparatus, the auxiliary trough V with its bridges d, d into an upon which the prepared material is discharged and transiently held until required for use, in combination with the steam box A and overflow pipe T, substantially as set forth. 6th. In a wood-steaming apparatus, the combination of the rotating reel c, concave guide strips or way E, E', E', incline ways f, all operating to convey and guide the material through the apparatus hopper F and doors L and G, with their connecting and operating mechanism by which they are simultaneously opened and closed to respectively deposit and discharge the material, substantially as described, and all in combination with the auxiliary trough V and steam box A, substantially as and for the purposes herein set forth.

No. 23,010. Stamp Cancellor.

(Étampe à Maculer les Timbres-Poste.)

Irwin W. Walter and Louis Bender, Allentown, Penn., U.L., 16th December, 1885; 5 years.

Claim.—1st. The combination of the hollow head c and its shank b, the transverse bolt g, the block f guided thereon having a toothed lower face and a bevelled top, the spring h and k, the knob a having a stem a' and a bevelled block e secured to the lower end of said stem and acting upon the bevelled top of the block f, as set forth. 2nd. The combination, with the hollow head c and its shank b, of the spring-actuated abrading block f, the cam e, the stem a' at the knob a and the screw a' formed with the flange b', as set forth. 3rd. In a stamp cancellor, the knob a provided with a sleeve a', formed with a flange b', for the purpose set forth.

No. 23,011. Oil Lamp. (Lampe à Huile.)

Fernando H. W. Livesey, Westminster, Eng., 16th December, 1885; 5 years.

Claim.—The construction of oil lamp wherein the wick tube communicates with the oil reservoir by an oil passage, and an air passage and the reservoir is provided with a filling tube or passage, arranged and operating, substantially as herein described.

No. 23,012. Liniment for Corns, Chaps and Ingrowing Nails. (Onguent pour les Cors, Crevasses et Ongles incarnés.)

Joseph P. Sawyer, St. Maurice, Que., 16th December, 1885; 5 years.

Réclame.—Un onguent composé d'arcanson, d'huile de morue, et de térébenthine, dans les proportions données et pour les fins décrites.

No. 23,013. Journal Bearing.

(Coussinet de Tourillon.)

John N. Williams, Stapleton, N. Y., U.S., 17th December, 1885; 5 years.

Claim.—1st. In combination with a shaft, a fixed hanger or box having a bearing of greater diameter than said shaft, and a movable collar or bushing having an axial bearing for said shaft and tapered externally, substantially as and for the purpose set forth. 2nd. In combination with a shaft and fixed bearings therefor of greater diameter than said shaft, a tapering collar or bushing on said shaft and a spring adapted to press it to its bearing, substantially as set forth. 3rd. In combination with a shaft, a wheel thereon fixed, bearings for said shaft of greater diameter than the same, a tapering collar or bushing on said shaft, and a spring bearing between said wheel and bushing, substantially as and for the purposes set forth. 4th. The combination of the shaft suitably supported at one end, and at the other end provided with a collar attached thereto, with the standard, the cone-shaped bushing and the interposed spring which bears against the collar and bushing, as and for the purposes set forth.

No. 23,014. Heel Stiffener Machine.

(Machine à Contreforts de Chaussures.)

Samuel Prior, Trenton, N.J., U.S., 17th December, 1885; 5 years.

Claim.—1st. In a machine for forming boot and shoe stiffeners, the stationary form E, in combination with the rolls G, G', provided with the collars G', G', substantially as shown and described. 2nd. In a machine for forming boot and shoe stiffeners, the stationary form E, in combination with the stay H and the rolls G, G', such rolls provided with the collars G', G', substantially as shown and described. 3rd. In a machine for forming boot and shoe stiffeners, the form E, in combination with the rolls G, G' and blocks I, I, substantially as shown and described. 4th. In a machine for forming boot and shoe stiffeners, the slide F with its hollow block F' and plate F' provided with slots F', in combination with rolls G, G', substantially as shown and described. 5th. In a machine for forming boot and shoe stiffeners, the slide F with its hollow block F', plate F' provided with slots F' and rolls G, G', in combination with form E, substantially as shown and described. 6th. In a machine for forming boot and shoe stiffeners, the slide F with its hollow block F', plate F' provided with slots F' and rolls G, G', in combination with the form E and stay H, substantially as shown and described. 5th. In a machine for forming boot and shoe stiffeners, the slide F with its hollow block F', plate F' provided with slots F' and rolls G, G', in combination with the blocks I, I, form E stay H, substantially as shown and described.

No. 23,015. Car-Coupling. (Accouplage de Chars.)

Miles Pettet and Samuel Noxon, Wellington, Ont., 17th December, 1885; 5 years.

Claim.—The combination, with a drawhead A, of the arm E having inclined head F, and anglewise bent end G hinged to block or bar I secured below or the underside of the drawhead, and spring J endwise supporting arm I, horizontally to upwardly guide link C of an annexing car into the drawhead for coupling, and whereby arm E, will drop pendantly when the incline head is struck by the drawhead of the annexing car to allow the drawhead to come together in coupling, as set forth.

No. 23,016. Axle Lubricator.

(Boîte à Graisse.)

John C. Nichol, Montreal, Que., 17th December, 1885; 5 years.

Claim.—An axle lubricator consisting of a disc mounted on a spindle carried on a plate set in the bottom of the axle box, and rotated by the axle proper through a flexible connection, all substantially as herein set forth.

No. 23,017. Disk Harrow. (Herse Circulaire.)

Charles La Dow, Albany, N.Y., U.S., 17th December, 1885; 5 years.

Claim.—1st. The combination of a disk, a scraper held normally out of contact with the disk and adapted to be forced against the disk by the soil adhering thereto, and a support or supports for the disk and scraper. 2nd. The combination of a disk with a scraper hinged to its support, and adapted to automatically approach the disk to clean the same, and to move in a lateral direction from the disk when cleaned, and a frame for the disk and scraper. 3rd. The combination of a disk, a scraper adapted to approach the disk and to gravitate therefrom independently of other scrapers in the same

gang, and a frame for supporting the disk and scraper. 4th. The combination of a disk, a scraper held normally out of contact with the disk and adapted to automatically approach the disk and follow the inequalities thereof, and a support or supports for the disk and scraper. 5th. A corrugated disk, in combination with a scraper adapted to conform to the corrugations, and a support or supports for disk and scraper. 6th. The combination of a disk and a hinged scraper adapted to automatically approach the disk laterally, the hinge being located outside of the circumference of the disk. 7th. A gang of disks and a frame in which they are mounted, in combination with a gang of scrapers adapted to independently and automatically approach and recede in a lateral direction from the sides of the disks. 8th. The combination of the disk L, a draft frame or support therefor, the bar K and the hinged scraper U arranged to an angle relatively to the side of the disk, and adapted to be forced against it by the action of the earth adhering on the disk. 9th. The disk L, in combination with the hinged scraper U arranged at an angle to the face of the disk, and adapted to automatically approach and recede therefrom. 10th. The combination of a seat standard, the casting I having the seat-standard socket and the swinging or pivoted locking-button for uniting the standard to the casting. 11th. The combination of a disk and a scraper held normally out of contact with the disk, and adapted to have both lateral and torsional movement in cleaning the disk. 12th. The combination of a disk, a scraper adapted to have both lateral and torsional movement on a single hinge and a support or supports for the disk and scraper. 13th. The combination of the pole A, the adjustable disk-gangs B B, the lock joint lever G and the bars C, C adapted to push and pull in line with the side of the pole. 14th. The concavo-convex cutting-disk for a plough or harrow made of a single plate of metal and formed with radial corrugations adapted to strengthen the disks against lateral pressure. 15th. The herein-described corrugated cutting-disk for a plough or harrow made of a single plate of metal, in combination with mechanism for varying the angle of the disk. 16th. A harrow-frame, in combination with a disk having corrugations which diminish in depth as they approach the edge of the disk. 17th. A gang of corrugated disks and spools having corrugated ends in combination with an axle and nuts for clamping the corrugated parts together. 18th. A disk harrow having a pole forked at its rear end, and adapted to be thereby hinged to the disk-gangs draft-bars for adjusting the angle of the gangs, and mechanism for shifting the draft-bars.

No. 23,018. Printing Press.

(*Presse d'Imprimerie.*)

The Duplex Press Co., (assignee of Joseph L. Cox.) Battle Creek, Mich., U.S., 17th December, 1885; 5 years.

Claim.—1st. In a printing press, the combination, with a reciprocating bed-plate and an impression cylinder, of vertically moving and alternately reciprocating rollers adapted to form a loop of paper in connection with the impression cylinder, substantially as specified. 2nd. In a printing press, the combination, with a bed-plate adapted to have the form secured thereto and reciprocating on the main frame of the press, and an impression cylinder rotated alternately in opposite directions by the motion of the bed-plate or two rollers situated at equal distances on each side of the impression on cylinder reciprocating vertically in opposite directions to each other, actuated by the reciprocations of the bed-plate and adapted to form a loop of paper from the feed mechanism around themselves, and the impression cylinder and pass the said loop between the impression cylinder and the bed-plate, substantially as specified. 3rd. In a printing press, the combination, with the reciprocating bed-plate adapted to have the form secured thereto, and provided with a horizontal rack and the impression on cylinder having a gear wheel secured upon it, which gear wheel meshes with and is actuated by the rack on the bed-plate of the four vertically reciprocating rack-bars actuated by pinions on the ends of the impression cylinder, and the two rollers which have bearings in and reciprocate with the rack bars on each side of the impression cylinder, and are adapted to form a loop paper with the latter which loop passes between the form on the bed-plate and the cylinder when the same are rotated, substantially as described. 4th. The combination, with the main frame and impression cylinder I, of the rollers E, F, G, H, M, Mt, adjustable guide bar or roller N, the shaft O provided with the collars *o*, the reciprocating rollers L, Lt and the rack bars K reciprocated by the pinions *p*, *p* on the ends of the impression cylinder, substantially as specified. 5th. In a printing press, the combination of the reciprocating bed-plate provided with a horizontal rack, the impression cylinder provided with the pinion *i* meshing with said rack, the vertically reciprocating rack bars and the rollers L, Lt, with the rollers E, F, G, H, M, Mt, the adjustable guide bar or roller N and the shaft O provided with the collars *o*, substantially as specified. 6th. In a printing press, the combination of the reciprocating bed-plate provided with a horizontal rack, the impression cylinder having a gear wheel upon it actuated by said rack and provided at its ends with pinions of equal size, the four reciprocating rack bars actuated by said pinions, the reciprocating rollers having bearings in the rack bars, and mechanism, substantially as described, whereby the web of paper may be intermittently fed to the impression cylinder, and adapted to feed equal quantities of the web at or near the ends of the reciprocations of the bed-plate, as set forth. 7th. In a printing press, the combination, with the reciprocating bed-plate, the impression cylinder actuated thereby, the reciprocating rollers actuated by the motion of the bed-plate, and the feed mechanism acting intermittently and only when the bed-plate and cylinder are not printing, of the automatically reciprocating bar carrying a transverse cutter at its upper end which cutter acts with a stationary cutter secured to the main frame, substantially as specified. 8th. The combination, with the reciprocating bed-plate, the impression cylinder actuated thereby, the vertically reciprocating loop rollers and feed actuating mechanism, constructed substantially as described, of the feed rollers F and G and disks or collars O, the feed rollers G and disks or collars O being equal in diameter and both co-acting with the roller F, the former to draw the web from the roll, the latter to draw the same on of the machine, the disks and rollers thus forming an automatically compensating tension mechanism for the web, substantially as specified.

No. 23,019. Lock Nut. (*Arrête-Ecrou.*)

Charles P. Townsend and William M. Rico, Kaukaoo, Ill., U.S., 17th December, 1885; 5 years.

Claim.—1st. A bolt having threads A and C cut on it, as described, and provided with nuts D and E, substantially as and for the purpose specified. 2nd. A bolt having threads A and C cut on it, as described, and provided with nuts D and E, in combination with the concavo steel spring F, substantially as and for the purpose specified.

No. 23,020. Ventilating Heater

(*Calorifère Ventilateur.*)

James Sinclair, Ingersoll, Ont., 17th December, 1885; 5 years.

Claim.—A stove or furnace provided with one or more ventilating flues E supplying air from distant apartments to its combustion chamber, and having dampers or gates F to regulate such supply of air, in combination with a flue G communicating with the chimney, into which flue the said exterior air may be diverted either wholly or in part by the action of the said gates or dampers F, substantially as shown and for the purpose specified.

No. 22,021. Sheet Metal Roofing Plate.

(*Plaque Métallique pour Couvrir les Toitures.*)

The National Sheet Metal Roofing Company, (assignee of John Walter.) Nashville, Tenn., U.S., 17th December, 1885; 5 years.

Claim.—1st. A sheet-metal roofing-plate provided with end corrugations, which are substantially alike on both ends of the plates, whereby the plates made reversible, as and for the purpose set forth. 2nd. A sheet-metal roofing-plate provided with end corrugations A, B, C and D, arranged substantially as shown and for the purpose set forth. 3rd. A sheet-metal roofing-plate provided at both ends with corrugations A, B, C, D and H, and having the spaces I smaller than the spaces J, substantially as and for the purpose set forth. 4th. A sheet-metal roofing-plate provided at one side with a tubular catch K formed parallel to the plate, as described, and with the lip E and at its other side with an outer or overlapping catch constructed to engage with the tubular catch of a similar adjacent plate, substantially as set forth. 5th. A sheet-metal roofing-plate provided with a tubular catch K, a flange E and a catch M, substantially as set forth. 6th. In combination with a reversible metal roofing-plate having an inner catch and a nailing-flange at one side, and an outer catch at the other side, a supplemental plate provided at both of its sides with an inner catch, as and for the purpose set forth. 7th. In combination with a reversible metal roofing-plate having an inner catch and an outer catch at the other side, a supplemental plate provided at both of its sides with an inner catch and a nailing-flange, as and for the purpose set forth.

No. 23,022. Fastening Railroad Rails to Ties. (*Mode d'Assujétir les Rails des Chemins de Fer.*)

Thomas A. Davies, New York, N.Y., U.S., 17th December, 1885; 5 years.

Claim.—1st. The combination, with the railroad rail A having recesses C in the centers of the edges of its opposite flanges and the central tie B, of the inclined fastening spikes D driven into the ties at opposite inclinations, substantially as herein shown and described, whereby the center of the rail will be held securely in place, while the ends will be allowed a certain longitudinal movement as the said rail expands and contracts and the rail will be held securely against creeping, as set forth. 2nd. A railroad rail spike made, substantially as herein shown and described, with the lower part of its head in the form of the frustum of a cone, having its axis at right angles with the axis of the spike body, whereby the said spike head will have a firm bearing on the rail flange whether driven vertically or at an inclination toward either side, as set forth. 3rd. A reinforce for railroad ties consisting of a metal slat adapted to be driven into the tie transversely to the grain of the wood, the said plate being in the rear of the spike and of greater width than the said spike, substantially as described. 4th. The combination, with the rail A, the ties B and the spikes D, of the wedge-shaped plates D driven into ties at the outer sides of the spikes and transversely to the grain of the wood, the said plates being of a greater width than the spikes, substantially as shown and described, whereby provision is made for metal lining or reinforcing the fibres of the wood to prevent lateral crushing of the said fibres, as set forth.

No. 23,023. Carriage Body.

(*Caisse de Voiture.*)

James Delahanty, Merrimac, Mass., U.S., 17th December, 1885; 5 years.

Claim.—1st. As a new article of manufacture, the improved corner piece E, the same consisting of the body *f* provided with the mortises *i*, *d* and flanges H, J substantially as described. 2nd. In a carriage body, the combination of the corner-piece E, side C, end D, sills B and bottom A, constructed and arranged substantially as set forth.

No. 23,024. Washing Machine.

(*Machine à Laver.*)

Francis D. Barkley, Williamsburg, Ont., 17th December, 1885; 5 years.

Claim.—In a washing-machine the cylindrical case B having the hinged lid D, openings A and hand crank *g* supported by the transverse *f* in the water-box A, substantially as shown and for the purpose set forth.

No. 23,025. Neck Yoke and Tongue Coupling. (*Ferrure de Volée et de Timon de Voiture.*)

Samuel Manoor, Craigvale, Ont., 17th December, 1885; 5 years.

Claim.—1st. In neck yoke and tongue coupling, the combination, with the neck yoke A, of the chain G held at one end to the yoke and a hook I secured to the yoke, and provided with a snatch ring H, substantially as herein set forth. 2nd. A neck yoke and tongue coupling comprising a chain G held at one end to the neck yoke, a hook, as at i, fixed to the yoke, and provided with a snatch ring H through which the chain is adapted to be passed prior to hooking it to the hook i, and collar C held to the tongue, and provided with an eye D to receive the bright of the chain G, substantially as herein set forth. 3rd. A neck yoke and tongue coupling comprising a chain G held at one end to the neck yoke, and a hook as at I held to the yoke and provided with a snatch ring H, and a collar C held to the tongue so as to be adjusted along it, and provided with an D to receive the bright of the chain G, substantially as set forth. 4th. In a neck yoke and tongue coupling, the combination, with the yoke A, of the eye bolt F, the chain G connected therewith, the bolt T having a hook head I and a snatch ring H, and the collar C fitted adjustable on the tongue B and provided with an eye D through which the bright of chain G is passed, and said chain then being passed through the ring H and hooked into hook I, substantially as herein set forth. 5th. In neck yoke and tongue coupling, the collar C fitted adjustable to the tongue and provided with the eye D and the lug E, substantially as herein set forth.

No. 23,026. Clothes Washer. (*Machine à Laver.*)

Cicero D. Van Allen, London, Ont., 17th December, 1885; 5 years.

Claim.—1st. A clothes washer consisting of the cylinder G, partition II and partition II, in which are formed perforations E, K, tube F, closed air-tight at the upper end, arm E, handle D, brace J, plungers L, L, springs O, O, washers N, N and guide tubes M, M, constructed substantially as shown and described and for the purpose specified. 2nd. A clothes washer consisting of the cylinder G, partition III and partition II in which are formed perforations K, E, tube F closed air-tight at the upper end, arm E, handle D, brace J, plungers L, L, springs O, O, washers N, N and guide tubes M, M, in combination with the spring C, constructed substantially as shown and described and for the purpose specified.

No. 23,027. Railroad Rail Joint. (*Joint de Rail de Chemin de Fer.*)

John C. Larkin, Whitefield, N.H., U.S., 17th December, 1885; 5 years.

Claim.—1st. In a railroad rail joint, the combination, with the chairs D, of the rails A, B, having the adjacent sides of their ends bevelled and overlapped, and the edges of their base-flanges parallel with the said bevelled surfaces, substantially as herein shown and described, whereby the said bevelled sides will be kept in contact, however the said rails may slide upon each other, as set forth. 2nd. In a railroad rail joint, the combination, with the overlapped bevelled ends of the rails A, B, and the chairs D having upwardly projecting arms, of the set screws G, substantially as herein shown and described, whereby the wear of the rails can be readily taken up, as set forth.

No. 23,028. Securing the Handles of Table Cutlery. (*Emmanchement de Coutellerie.*)

Joseph Rogers & Sons (Assignees of Charles Wingfield, Eng., 17th December, 1885; 5 years.

Claim.—1st. The method of securing the handles and blades of table cutlery, which consists in casting the bolster upon the blade, and filling one or more grooves in the handle (connected with the bolster) with the molten metal at the one operation, substantially as described. 2nd. In a knife, the combination of the blade having neck A, shoulder B and tang C, with the handle having annular groove E, slot D and socket for the tang, so arranged as to be permanently connected by the molten metal used for casting the bolster on the blade, substantially as described.

No. 23,029. Cut-off Valve for Steam Engines. (*Soupape de Détente pour Machines à Vapeur.*)

John P. Simmons, San Francisco, Cal., U. S., 21st December, 1885; 5 years.

Claim.—1st. In a rotary main valve C and a cut-off valve D fitting concentrically within each other, and within the steam chest or casing A, having inlet and outlet ports, as shown, in combination with a packing O let into the neck of the steam inlet N, so that its upper end i, exposed to steam pressure, while its lower end is fitted to the slope of the main valve, as set forth. 2nd. The rotary tapering main valve C, cut-off valve D concentrically within each other and in an exterior casing A, or steam chest, having inlet and outlet ports, and stems extending from their smaller ends to attach rocker arms, in combination with trunnions extending into chambers at the large ends and a passage V to admit steam into the chamber T behind the trunnion, as shown. 3rd. The rotary main valve C and the cut-off valve D fitting concentrically one within the other, and within an exterior casing A, or steam chest, in combination with the openings a and V around the end and top of the main valve, communicating with the exhaust passage A, U, as described.

No. 23,030. Planting Machine. (*Semoir.*)

Alendo McKenney, Middleborough, Mass., U. S., 21st December, 1885; 5 years.

Claim.—1st. In a planting machine, the combination, with a revoluble block having one or more plane faces, of one or more scoops

secured to such face or faces, and side guides also secured to such face or faces for directing the course of the seeds after they leave the scoop or scoops, substantially as described. 2nd. The combination, with a hopper provided with an agitator, whose lower end is rearwardly bent to form a scraper, and with an adjustable spring plate opposite to and inclining towards the agitator, of a feed roll having lines of teeth upon it, said teeth being so arranged that one tooth of one line shall be in front of the space between two teeth, of the next line, a series of spring plates of a width corresponding to the width of the teeth secured to a hinged plate of the hopper, and suitable means for adjusting the hinged plate and spring plates to the roll, substantially as described. 3rd. The combination, with driving wheels A³, A⁴, of the machine, of a clutch mechanism mounted on the shaft of said wheels, consisting of a collar M, having a groove m for the reception of the actuating mechanism, and an inclined shoulder m², said mechanism so arranged that the inclined shoulder will engage with a spoke of the wheel when the machine moves in a forward direction, and will be moved back out of operative position by the spoke when the machine moves in a backward direction. 4th. The combination, with the fertilizer dropper, of the vertically adjustable spreading-blade N, hinged, levelling and compacting plate N', and springing spring n², substantially as described and as and for the purposes hereinbefore set forth.

No. 20,031. Car Axle Lubricator. (*Boîte à Graisse.*)

Thomas R. Gordon, Brooklyn, N. Y., U. S., 21st December, 1885; 5 years.

Claim.—1st. A lubricator having a frame; spring cushions and a wiper, the fabric of the cushions being doubled and beat over the transverses of the frame, and looped and stitched through above said transverses, substantially as and for the purpose set forth. 2nd. The frame and connected spring, in combination with the cushions E, the end flaps G, separated side strips or skirts P and the depending apron K having loose sides, substantially as and for the purpose set forth. 3rd. In a lubricator, a frame A provided with a lug C, in combination with a roller B journaled in said frame, a spring D attached to said lug and supporting said frame, and a base plate H provided with raised lips H¹ for retaining the spring in place, substantially as set forth. 4th. In combination with a spring-supported frame and cushions formed thereon, an apron K which is exterior to said frame and cushions and rises above the same, said apron being sewed to said cushions, substantially as set forth.

No. 23,032. Steam Generator. (*Générateur à Vapeur.*)

Selden T. Porter, Norwich, Ct., U.S., 21st December, 1885; 5 years.

Claim.—1st. In combination with a fire-pot composed of a series of vertical staves or sections, a crown sheet supported on and secured fixedly to said fire-pot, a boiler H secured detachably to the upper shell of said crown sheet, and an urn-shaped section C secured detachably to the lower shell of the crown sheet, said section C being provided with a series of radial water chambers h located below the crown sheet and within the fire space, substantially as and for the purpose specified. 2nd. In combination with a cylindrical, sectional fire-pot, a crown sheet F supported on said fire-pot, a boiler H secured to the upper shell of the crown sheet, an urn-shaped section (having the radial water chambers h attached to the lower shell of the crown sheet, and the funnel-shaped section D secured to the inner neck i, of section C, tubes or flues a, a, leading outward through the boiler H being provided to form a draft connection between said section D and the draft proper, as and for the purpose specified. 3rd. In combination with a cylindrical sectional fire-pot, a crown sheet F supported on said fire-pot, the boiler H secured to the upper shell of the crown sheet, the urn-shaped section C (having radial water chambers h secured to the lower shell of the crown sheet, the funnel-shaped section D secured to the inner neck of section C and water vessel E, said water vessel being secured in the upper plate of section D and provided with apertures k opening into the boiler proper, substantially as and for the purpose specified. 4th. The fire-pot, composed of a series of hollow vertical sections, in combination with a base rim grooved to receive said sections, and provided at a considerable distance below the level of the flange e, with strengthening ledges e, e, and cross ties d, d, on which the sectional fire-pot rests when in place, as and for the purpose specified.

No. 23,033. Steam Plough. (*Charrue à Vapeur.*)

William Paterson and James Paterson, Stockton, Cal., U. S., 21st December, 1885; 5 years.

Claim.—1st. The combination of the plough frame, the two arms which project beyond opposite ends thereof, an endless belt having ploughs attached thereto and a driving wheel for each arm, the arms being adapted to be folded against the sides of the frame, and the two sets of ploughs, used either singly or together, substantially as described. 2nd. The combination of the plough frame, the arms A loosely connected thereto and provided with the braces f, the wheels b, belts c, and ploughs connected to the belts, and a motive power for operating the belts and ploughs at an angle to the plough frame, substantially as described. 3rd. The combination of the plough frame provided with wheels, with the rails k connected to a swinging slotted beam, and means for adjusting the tracks laterally, substantially as shown.

No. 23,034. Wooden Jug. (*Pot de Bois.*)

Orlando L. Potter, McIntosh Mills, Ont., 22nd December, 1885; 5 years.

Claim.—A wooden jug or measure, consisting of the integrally body A having an inserted bottom C, reinforcing wooden hoop D and affixed wooden handle E, as set forth.

No. 23,035. Car Wheel. (Roue de Char.)

James Munton, Maywood, Ill., U.S., 22nd December, 1885; 5 years.

Claim.—1st. The car wheel, consisting of a centro having two projecting edges, one of which is irregular or recessed, and a steel tire having webs fitting over the edges of said centro portions of one of said webs being bent down into said recessed edge, substantially as specified. 2nd. The combination of centro A, having edges *a* and *a*1, said edge *a* being provided with recesses *a*2, with tire B, having tips *b*4 turned down into said recesses, and web *b* provided with groove *b*2, substantially as specified. 3rd. The centro A, having edges *a* and *a*1, said edge *a* provided with recesses *a*2, in combination with tire B having grooved web *b*1 and web *b*, furnished with groove *b*2, portions of said web *b* being turned down into said recesses, substantially as specified. 4th. The combination, with a centro having a recessed edge, of a tire fitting on the same and having lips or projecting portions turned down into said recessed edge, substantially as specified.

No. 23,036. Device for Transferring Loads down Mountains. (Appareil pour Descendre les Fardeaux dans les Pentees des Montagnes.)

Augustine Ronczglin, Denver, Col., U. S., 22nd December, 1885; 5 years.

Claim.—1st. In a device for transferring loads down mountain or other slopes, the combination of cable *h*, cylinder or windlass *g*, with holes *b* and levers *b*3, anchors *d*, supports *e*, spring *k* and hook *f*, substantially as described and shown and for the purpose set forth. 2nd. In a device for transferring loads down mountain and other slopes, means for transferring the load from one cable to another intersecting cable, consisting of perpendicular standard A, with holes R, pin S, circular platform B, with guide track *c* and the hoisting device attached to said standard, as shown, and consisting of base D, with trucks or pulleys M, part E fashioned for the reception of lever J and arm F, said part E being attached to base D, as shown, cam lever J, arm F, arm revolving lever G, substantially as described and shown and for the purpose set forth. 3rd. In a device for transferring loads down mountain or other slopes, the combination of cable *a* anchored and supported, as described and shown, cylinder *b*, levers *b*3, hook *f*, with pulley *k*, spiral spring *k* attached to cable, as shown, and suitable means for transferring the load from one cable to another intersecting cable, substantially as described and for the purpose set forth.

No. 23,037. Flexible Frame for Spring Tooth Harrows, etc. (Bâti Articulé pour Herbes à Dents Elastiques, etc.)

George A. Gale, Detroit, Mich., U.S., 22nd December, 1885; 5 years.

Claim.—1st. A device for connecting the adjacent ends of two separate wheeled agricultural implements, consisting of parallel bars or pieces connected together by a flexible joint, and provided with a support for a wheel, said device being attached and detachable to and from the implements, substantially as described. 2nd. The frames of two separate agricultural implements, in combination with two parallel bars or pieces connected together by a flexible joint, and provided with a support for a wheel, said flexibly connected parallel pieces being interposed between said frames and connecting the same together, and adapted to be attached and detached to and from the same, substantially as described. 3rd. The frames of two separate agricultural implements, in combination with parallel bars or pieces connected together by a flexible joint, and interposed between the adjacent ends of said frames and attachable and detachable to and from the ends of said frames, substantially as described.

No. 23,038. Laced Shoe, or Upper Thereof.

(Soulier ou Housse de Soulier Lact.)

Thomas J. Lynch, Milford, Mass., U.S., 22nd December, 1885; 5 years.

Claim.—1st. In a shoe upper, the combination of its instep opening covering fly having on its inner side a strip, attached at or near its opposite edges to the said fly, and finished with a series of lacing holes extending only through it, the said strip, with another such strip provided with a like series of lacing holes, and attached at or near its two opposite longer edges to the part of the upper that is overlapped by the first-named strip when the fly is closed, all being substantially as described, and such two strips having a lacing applied to their holes, as set forth. 2nd. In a shoe upper, the combination of its instep opening covering fly having fixed on its inner side a strip of leather or other suitable material, provided with a series of lacing holes arranged in it, and secured at or near each of its two longer edges to the fly, another such strip having a like set of lacing holes and secured in like manner to the part of the upper that is overlapped by the first-named strip when the fly is closed, a lacing run through the holes of the two strips, and the auxiliary lacing or cord fixed or applied to the fly and for use with the primary lacing, substantially as represented. 3rd. A shoe upper, not only having a fly, as described, to its instep opening and fixed to such fly, and the part overlapped by it, two strips having lacing holes and a lacing arranged in them, as specified, but also having an auxiliary lacing fixed or applied to the fly and for use with the previous lacing, as set forth.

No. 23,039. Toboggan. (Toboganne.)

John R. McLaren, Jr., Montreal, Que., 22nd December, 1885; 5 years.

Claim.—1st. A means for securing together the parts of a toboggan, consisting of a bolt passing up through the longitudinal and cross-bar, and having a threaded end on which is screwed the neck of an eye carrying the side rod, all substantially as herein set forth. 2nd. The combination, with the wire or cord F, of the casting D, with slot D1 and side rod C, all as herein described.

No. 23,040. Railway Rail Seat.

(Cousinnet de Rail de Chemin de Fer.)

Peter De Guerre, Toronto, Ont., 22nd December, 1885; 5 years.

Claim.—1st. The key E, having rib G, substantially as and for the purpose hereinbefore set forth. 2nd. The combination of the post D, with the seat *a*, and the solid piece *c*, for the purpose set forth. 3rd. The combination of the bolt I, connected head spikes II, II, and seat *a*, substantially as and for the purpose hereinbefore set forth.

No. 23,041. Railroad Crossing.

(Croisement de Voie de Chemin de Fer.)

Alexander C. Rumble, Charles E. Phoney and Samuel A. Baxter, Lima, Ohio, U.S., 24th December, 1885; 5 years.

Claim.—1st. The combination, with the main plate A, having bearing apertures, of the rail sections having an interval between their ends at the crossing points, the bridge pivots at said crossing points having arms under said plate, the central turning post having arms under said plate, and the adjustable rods connecting the arms of the bridge pivots to the arms of the turn posts, substantially as specified. 2nd. A bridge pivot for a railroad crossing, cast entire and consisting of the upper bridge portion, the bearing flange and the descending pivot stem, adapted to engage a bearing in the supporting plate of the crossing, substantially as specified.

No. 23,042. Split Link. (Joint de Chaine.)

Frank P. Clay, Jr., (assignee of William H. Clay.) Paris, Ky., U.S., 24th December, 1885; 5 years.

Claim.—A link consisting of the parts *a*, *b*, hinged together at the end, to open away from each other, and each provided on its inner surface with an enlargement or protuberance, and an opening to receive the enlargement or protuberance, substantially as herein shown and described.

No. 23,043. Lifting Jack. (Cric.)

Adolphe Mathieu and Joseph E. Germain, Ottawa, Ont., 24th December, 1885; 5 years.

Claim.—1st. In a lifting jack, the notched lever C, having one of its ends pivoted to the standard B, and its swinging end operated by a toggle joint formed by the hand lever D, fulcrumed in the base A, and the links E connecting the notched lever C with the hand lever D. 2nd. In a lifting jack, a toggle joint for raising the notched lever C, formed by the union of the hand lever D, and links E, said hand lever being so shaped as to lock up when loaded by its pivot joint *y*, being thrown past a direct line between the fulcrum point of the hand lever D, in the base A, and the pivotal connection of the links E with the notched lever C. 3rd. In a lifting jack, the rollers F journaled in the base A, substantially as shown and for the purpose set forth.

No. 23,044. Electric Signal Apparatus.

(Appareil de Signal Electrique.)

Myron W. Parish, Detroit, Marcus E. Parish, Niles, and Horace B. Peck, Allegan, Mich., U.S., 24th December, 1885; 5 years.

Claim.—1st. An electric signal apparatus consisting of two circuits one of a higher resistance than the other, the circuit of higher resistance being located at the place where the signal is to be sounded, a generator or battery in the circuits, a signal or alarm in the higher resistance circuit, and a signalling circuit-breaker in the lower resistance circuit, at a point from whence the signal is to be sent, substantially as set forth. 2nd. The combination, with a train of cars, of a higher resistance circuit located in the engine, a lower resistance circuit running through the train, a generator or battery in the circuits, an alarm or signal in the higher resistance circuit, and one or more signalling circuit-breaker in the lower resistance circuit in the cars, substantially as set forth. 3rd. The combination, with a train of cars, of a higher resistance circuit located in the engine, a lower resistance circuit running through the train, a generator or battery in the circuits, and a signal or alarm in the higher resistance circuit, whereby an alarm would be sounded in the engine by an accidental breaking or separation of the lower resistance circuit, substantially as set forth.

No. 23,045. Telephony. (Téléphonie.)

Alfred M. A. Beale, Lemuel B. Clarke New York, N.Y., and Edwin R. Wiggin, Boston, Mass., U.S., 24th December, 1885; 10 years.

Claim.—1st. The method of conveying vocal or other sounds including articulate speech between separated points, as herein described, by causing variations in the electro static condition or state of a body extending between said points, corresponding to the vibrations of the air accompanying said vocal or other sounds. 2nd. The combination of a main line insulated at both ends, a telephone transmitter, a source of electricity in circuit therewith, a means such as a condenser, for causing the dynamic current traversing and modified by said transmitter statically to charge the main line, and at a distant station, a local line communicating with ground, a means such as an interposed condenser of causing the charged main line to induce a charge on the said local line and a telephone receiver in said local line, substantially as described. 3rd. The combination of a main line connected at each end to an induction plate, induction plates in inductive proximity to, but separated by a dielectric from, said first-mentioned plates, conductors connecting said last-mentioned plates to ground, the secondary coil of an inductorium in each of said conductors, a local circuit containing a telephone transmitter, a source of electricity and the primary coil of one of said inductoriums and a local circuit containing the primary of the other of said inductoriums and a receiving telephone, substantially as described. 4th. The combination of a main line connected at each to an induction plate, induction plates in inductive proximity to,

but separated by a dielectric, from said first-mentioned plates, conductor connecting said last-mentioned plates to ground, the secondary coil of an inductorium interposed in each of said conductors and two local circuits, each respectively containing the primary coil of one of the said inductoriums, a source of electricity, a transmitting telephone and in shunt circuit a receiving telephone, substantially as described.

No. 23,046. Gang Plough. (*Charrue-Bulairo.*)

James M. Walker & Co., (assignees of Orlando C. Greenleaf,) Belleville, Ont., 26th December, 1885; 5 years.

Claim.—1st. In a gang plough, the plate *b* bolted to the tongue *i* and having arms *j*, *k*, which clasp the axle *h*, whereby a rigid connection is made, as and for the purpose hereinbefore set forth. 2nd. The set *o*, tongue *i*, plate and arms *j*, *k*, in combination with the axle *h* and frame *a*, and for the purpose hereinbefore set forth. 3rd. In a gang plough, the lever *g* and connecting rod *h*, as and for the purpose hereinbefore set forth. 4th. The lever *g* and connecting rod *h*, in combination with the tongue *i* and frame *a*, as and for the purpose hereinbefore set forth. 5th. The foot-rest *l*, in combination with the frame *a*, as and for the purpose hereinbefore set forth. 6th. In a gang plough, the movable block *n*, in combination with the standard *m* and frame *a*, as and for the purpose hereinbefore set forth.

No. 23,047. Paint Remover.

(*Détacheur de Peinture.*)

L. Myers & Son, (assignees of Frank P. Foster,) Milwaukee, Wis., U. S., 26th December, 1885; 5 years.

Claim.—A paint remover consisting of a mixture of potash, alum, burnt amber, wheat-flour, carbolic acid, water mixed cold, substantially as set forth.

No. 23,048. Steam Engine. (*Machine à Vapeur.*)

Dexter D. Hardy, Lake View, Ill., U.S., 29th December, 1885; 5 years.

Claim.—1st. In a steam engine, the combination, with a crank shaft, of two steam cylinders placed on opposite sides of the shaft and having their axes on opposite sides of parallel with a plane containing the axes of the crank shaft, trunk pistons fitted to said cylinders, a rod connecting each of said pistons, with a crank on the crank shaft and slide valves and suitable connections thereof with the crank shaft for controlling the supply of steam to the steam cylinders, said cylinders having supply ports communicating with the valve chambers and having terminal exhaust ports which are opened and closed by the steam pistons, substantially as described. 2nd. In a steam engine, the combination, with a crank shaft, of two steam cylinders placed on opposite sides of the crank shaft, and with their axes on opposite sides of a plane containing the axis of said shaft, and also placed in the same plane at right angles to said shaft, trunk pistons fitted to said cylinders, rods connecting these pistons with a single crank on the shaft, and slide valves and suitable connections of said valves with the crank shaft for controlling the supply of steam to the steam cylinders, said cylinder being provided with supply ports and with terminal exhaust ports which are opened and closed by the pistons themselves, substantially as described. 3rd. In a steam engine, the combination, with a crank shaft, of two steam cylinders placed on opposite sides of the crank shaft, and offset, as described, on opposite sides of a plane containing the axis of said crank shafts, pistons fitted to said cylinders and connected by suitable rods to the crank of said shaft, connected pistons valves arranged in axial line with each other, and also connected by suitable operating devices with the crank shaft for the control of steam supply to the steam cylinders, and means for maintaining live steam pressure behind each piston valve, the steam cylinders being provided with suitable supply and exhaust ports, substantially as described. 4th. The combination of a crank shaft having a single crank thereon, oppositely placed and oppositely offset steam cylinders located in the same plane, at right angles to the crank shaft trunk pistons connected by rods with the single crank of the crank shaft, connected piston valves arranged in axial line with each other and having working connections with the crank shaft inlet steam passages arranged to maintain live steam pressure at the ends of the piston valves, supply steam ports leading from the piston chambers to the steam cylinders, and terminal exhaust ports leading from the steam cylinders, which are opened and closed by the pistons, substantially as described. 5th. The combination, with the oppositely arranged single-acting steam pistons, and an intermediate shaft having a single crank, of connecting rods abutting on the same crank wrist and connected by a yoke or yokes which confine the rods to the wrist, substantially as described. 6th. The combination, with the oppositely arranged steam cylinders and their pistons connected with an intermediate crank shaft, and cylinders being provided with suitable steam supply ports and with terminal exhaust ports, which are opened and closed by the pistons, of piston valves provided with passages in their side walls, giving communication between the supply and exhaust ports of the steam cylinders, for the relief of steam compression in the steam cylinders, substantially as described.

No. 23,049. Cradle for Harvesting Machine.

(*Râteau de Moissonneuse.*)

James Hornsby, Frederick C. Southwell and John Innocent, Grant-ham, Eng., 29th December, 1885; 15 years.

Claim.—1st. A cradle made in two halves, so hung that their own weight and the weight of the cut crops tend to open the cradle when released, substantially as described. 2nd. A cradle made so as to discharge the cut crop by being drawn forwards, substantially as described.

No. 23,050. Railroad Signal.

(*Signal de Chemin de Fer.*)

Albert B. Blackburn and John E. Ehboubart, Springfield, Ohio, U. S., 29th December, 1885; 10 years.

Claim.—1st. The herein-described signal apparatus consisting of rock-shaft *B*, provided with arms *C*, *D*, lever *E*, connecting wire, or rod *G*, extending from arm *D* to lever *E*, spring arms *a* provided with hammer head *b* and wholly disconnected from lever *E* and bell *I*, all constructed and arranged to operate substantially as set forth. 2nd. In combination with a bell and an arm carrying a hammer head to strike said bell, a lever *E* provided with a yoke to straddle the arm and adapted to strike said arm when put in motion through the action of a passing train, and a spring *f* connected with lever *E* and serving to hold it normally out of contact with the bell striking arm, whereby said arm is permitted to vibrate freely while the lever *E* is at rest. 3rd. In combination with bell *I* and spring arm *a*, provided with hammer head *b*, lever *E* provided with yoke *c* and roller *f* within said yoke, as and for the purpose set forth. 4th. In combination with bell *I* and spring arm *a*, provided with hammer head *b*, lever *E* provided with yoke *c*, substantially as shown for the purpose described.

No. 23,051. Snow Shovel. (*Pelle à Neige.*)

David Flack, Jr., Toronto, Ont., 29th December, 1885; 15 years.

Claim.—1st. The combination, with the shovel body *A*, having a V-shaped edge, as described, of an edge covering *B* enclosing the V-shaped edge, and having a rearwardly bent rounded edge *p*, as herein specified. 2nd. The combination, with the body *A* of the shovel, of the slotted handle *C*, the hinge *e* and the fastener for holding the shovel body and handle in a closed position, substantially as herein described and described. 3rd. As an improved article of manufacture, a snow shovel formed to the body *A*, provided with the cleat *a*, and the metal edge covering *B*, the slotted handle *C*, the hinge *e* connecting the handle and the shovel body, and the stud *f* projecting from the shovel body and provided with the button *g*, substantially as herein specified.

No. 23,052. Window Fastener. (*Arrête-Croisée.*)

Henderson Dixon, Brantford, Ont., 29th December, 1885; 5 years.

Claim.—The combination of lever *G*, bolt *H* and spiral spring *I*, with mortice rack *B*, substantially as and for the purposes hereinbefore set forth.

No. 23,053. Stove-Pipe Damper and Ventilator. (*Cle-Ventilateur de Tuyau de Poêle.*)

John W. McDonald, Paisley, Ont., 29th December, 1885; 5 years.

Claim.—1st. The within-described stove-pipe damper and ventilator *B*, adapted to be diagonally in the stove-pipe *A*, when so desired, as to close said stove-pipe and cut off all the draft from the stove, the same operation uncovering and opening in the side of the stove-pipe *A*, which will then become a ventilator and be assisted as such by the draft in the chimney and the heat in the stove-pipe. 2nd. The hinge *E*, by which damper *B* is pivoted to the pipe *A*, and adapted to be operated as a damper and ventilator, substantially as and for the purposes hereinbefore set forth. 3rd. The notched handle *D*, adapted to be pivoted to the damper *B* and to operate it, substantially as described. 4th. The catch *C*, attached to the damper *B*, substantially as and for the purpose hereinbefore set forth. 5th. The combination, with the damper *B*, of the hinge *E* adapted to allow the damper to swing into the stove-pipe *A*, substantially as and for the purposes set forth. 6th. The combination, with the damper *B*, of the notched handle *D* and the catch *C* on said damper, substantially as and for the purposes hereinbefore set forth. 7th. In a stove-pipe damper or ventilator *B*, the combination of an orifice in the side of the stove-pipe *A* with the said damper and ventilator, said orifice adapted to be closed by said damper and ventilator when in normal position, when not in use, and to be opened by said damper and regulator and ventilator, substantially as and for the purposes hereinbefore set forth.

No. 23,054. Steam or Air Slide Valve, Cylinder and Piston. (*Tiroir, Cylindre et Piston de Vapeur ou d'Air.*)

George T. Parnell, London, Eng., 29th December, 1885; 5 years.

Claim.—1st. The construction of the valve and valve case, with ports and passages, as and for the purposes described and as shown in the drawings. 2nd. The combination of the main cylinder, with ports, pipes and passages, as and for the purposes described and as shown in the drawings. 3rd. The combination of the piston for the main cylinder, with recess in centre, as and for the purposes described and as shown in the drawings. 4th. The arrangement for controlling and actuating the slide valve without gear, consisting of the ports *K*, *R*, the passages *E*, *E'*, the grooves *O*, *O'* and the recess *K* in the piston, as described and as shown in the drawings. 5th. The movement of the valve by the exhaust power, combined with the vacuum caused by the recess in the piston covering and uncovering the various ports in the cylinder during the stroke of the piston, substantially as herein described. 6th. The arrangement and combination of the valve, valve case, cylinder and piston, as herein described and shown in the drawings, whereby the reversing of the engine is effected without link motion or other gear.

No. 23,055. Grave Vault. (*Caveau Funéraire.*)

William Corbett, Smith's Falls, Ont., 29th December, 1885; 5 years.

Claim.—1st. In a grave vault, iron plate *D*, secured to hood lid *D* and strengthened with iron cross-piece *E*, substantially as and for the purpose hereinbefore set forth. 2nd. End and side lugs *B*, *B*, in combination with spring angle fastenings *G*, substantially as and for the purpose hereinbefore set forth. 3rd. Lid or cover *D*, iron plate *D*, cross-piece *E*, side lugs *B* and angle fastenings *G*, the whole substantially as and for the purpose hereinbefore set forth.

No. 22,056. Running Gear for Railway Cars.
(*Train de Char de Chemin de Fer.*)

Charles E. Candee, New York, N. Y., U. S., 29th December, 1835; 5 years.

Claim.—1st. The combination of recessed wheels A, hollow axle or sleeve B fast to the wheels, and turning upon the fixed axle C and friction rollers d, substantially as shown and described. 2nd. The combination with fixed axle C and recessed wheels A, of the rollers d, cap e and packing-glands b, said plate being bodily let into a recess of the hub, and the gland secured upon the plate, substantially as described. 3rd. The car wheel, having an elongated pocketed hub, whereby said hub serves as a brake-drum and to receive a roller bearing, as specified. 4th. The combination, with wheels A having the elongated pocketed hubs, of the frame composed of rings e and bars g and friction rollers journalled in the rings, substantially as described.

No. 23,057. Car Coupling. (*Accouplage de Chars.*)

George C. Thompson, James L. Foster and William S. Mallard, Darien, Ga., U.S., 26th December, 1855; 5 years.

Claim.—1st. A car coupling hook, pivotally supported at its forward end, bevelled or inclined rearwardly at such end from its upper to its lower side, and having a securing shoulder d₃, a recess d₄ in its under side in rear of such shoulder, and a depending projection d₅ at its rear end, substantially as and for the purpose specified. 2nd. The combination, in a car-coupling, of the draw-head having a mouth A, mortise A₂ and top slot A₁, and having the under side of its top wall curved at a and extended forward in a straight line or stop a₁, and the coupling hook pivoted below the said curved and stop portions of the stop wall, and having its upper forward end curved and flattened at b, c corresponding to said curved and stop portions a and a₁, substantially as set forth. 3rd. The combination, with the coupling and the car, of a shaft journalled at the end of the car and having a central ball-crank connected with the coupling and end cranks by which it may be rotated, and a connection extended from the central crank to the top of the car, substantially as set forth.

No. 23,058. Hoist. (*Monte-Charge.*)

Howard White, Mount Holly, N. J., and George F. White, Philadelphia, Penn., U.S., 26th December, 1855; 5 years.

Claim.—1st. A fixed gear G, firmly secured to a stationary shaft B between the lifting gear E and the gyrating gear H, substantially as and for the purpose set forth. 2nd. In a hoisting machine, a fixed gear G keyed to a stationary shaft passing through its centre, in combination with a double gear H driven by an eccentric, as and for the purpose set forth. 3rd. In a hoisting machine, a stationary gear G, in combination with a gyrating gear H and a lifting gear E, arranged with the tendency to revolve in opposite directions, substantially as and for the purpose set forth.

No. 23,059. Puzzle. (*Jeu de Patience.*)

Pryso Protheroe, New York, N. Y., U. S., 30th December, 1855; 5 years.

Claim.—1st. The combination, in a puzzle, of a base piece, a train of characterized blocks held upon, and capable of moving in a definite path on said base, and a rotating device intersecting the said train and provided with means to receive at one side two or more of the blocks comprising the aforesaid train, and to deliver at the other side one or more of said blocks, substantially as described. 2nd. The combination, in a puzzle, of a base provided with a track, a train of characterized blocks fitted to, and movable along said track, and a turntable having a track, and intersecting the track of the base, substantially as described. 3rd. The combination, with the base A and the track thereof, of the blocks on the track, the followers and rods for holding the blocks together in line, and the turntable located in the length of the track for receiving two or more of the blocks from one side of the track, to reverse the same and deliver the same from its opposite side, substantially as shown and described. 4th. The combination of a base having a track, a train of characterized blocks movable along said track, a rotating disk having a diametrical track and intersecting the track of the base, and followers for moving the train of blocks, substantially as described. 5th. The base provided with two or more intersecting tracks, blocks arranged in trains in the tracks, a turntable situated at the intersection of the tracks and provided with a diametrical track, and means or holding the block in trains, substantially as shown and described. 6th. The combination of a base having a track, and a circular recess intersecting the track, a train of characterized blocks movable along the track, and a turntable having a track and located in said recess, substantially as described.

No. 23,060. Manufacture of Boots and Shoes.
(*Fabrication des Chaussures.*)

Guillaume Boivin, Montreal, Que., 30th December, 1855; 5 years.

Claim.—1st. A laced boot, the upper of which consists of a single piece of material, provided with the transverse diamond-shaped opening e and having the front opening cut into it, substantially as shown in Figs. 1 and 2. 2nd. A laced boot upper, formed of the same piece of material throughout, provided with the diamond-shaped opening e, placed at a distance from the front opening, substantially as shown in Figs. 3 and 4. 3rd. A laced boot, having its upper formed of a single piece, and provided with the transverse slit a on the central slit f, as shown in Figs. 5 and 6. 4th. A buttoned boot upper, formed of a single piece, and whose front opening consists of a single slit, forming the button-hole straps g, alternately on the opposite edges of the opening, as shown in Figs. 7 and 8. 5th. A buttoned boot upper, formed entirely of one piece, and having its front opening cut so as to form the button-hole straps h, all on the same edge of the upper, as shown in Figs. 9 and 10. 6th. A buttoned boot upper, formed of a single piece, and having the waved projections i formed in its front opening, substantially as shown in Figs. 11 and 12. 7th. In a boot or shoe, as shown and described, the lapping of contiguous portions of the upper, at or near the lower end of the front opening, so as to make that particular part of the upper smaller and to allow for the necessary curve for the proper shape of the boot, while being cramped.

No. 23,061. Machine for Stitching Baskets with Wire. (*Machine à Coudre les Paniers avec du Fil de Fer.*)

Thomas P. Haigues and Frank L. Wanzar, Hamilton, Ont., 30th December, 1855; 5 years.

Claim.—1st. In a machine for wire stitching baskets, etc., of the combination with the frame A, of the inner and outer slides G, H, the inner one H having side projections e, and the outer one G having grooves b for the former to slide in, and each provided with a friction roller a, d, respectively, the former operated by a, the inner portion D₁ of the double cam, and the latter by the single cam E, all constructed substantially as specified. 2nd. In combination with the slides G, H, and cams, of the grooved bracket J containing grooves c, v, to clinch the ends of the wire stitch, as specified. 3rd. In combination with the slides G, H, of the horizontal slide I, the same running in grooves in the standard A, and provided with a bevel projection o, operated by a corresponding bevel f on the outer vertical slide G, to push the said slide J back out of the way, while the inner slide H is driving the wire stitch into the material, and a spring e to push it out again, all arranged and constructed substantially as and for the purpose specified. 4th. The block V, provided with a recess w on each side, guide plates l at each corner, small catches m, the block pivoted to a movable standard N, attached to a bracket Y, substantially as specified. 5th. In combination with the block V and standard W, of the stop Y and its spring K, substantially as and for the purpose specified. 6th. The feed lever U, operated by the outer portion D of the double cam, and provided with spring Q, pawl n, spring o, eyelet t, stop pin R, eyelet s and bushing k, all arranged and constructed substantially as and for the purpose specified.

No. 23,062. Folding Seat. (*Siège Pliant.*)

Ronald Gillis, Sydney, N.S., 30th December, 1855; 5 years.

Claim.—The combination, with the hinged seat A, of the bracket b and the bar C and piece d, substantially as and for the purpose here, before set forth.

No. 23,063. Medical Compound.
(*Composition Medicinale.*)

Thomas M. Armstrong, Grand Ledge, Mich., U. S., 30th December, 1855; 5 years.

Claim.—A medicinal composition, consisting of oil of cedar, oil of thyme, oil of hemlock, oil of cloves, S. ether, alcohol, compound spirits of lavender and tannic acid, in about the proportions stated and compounded as set forth.

No. 23,064. Attachment to Cigars.
(*Disposition aux Cigares.*)

Thomas J. Winship, Montreal, Que., 30th December, 1855; 5 years.

Claim.—The combination, with a cigar, of a strip of paper secured across the tack or lighting end.

No. 23,065. Gasalier. (*Lampe à Gaz.*)

George Hies, Montreal, Que., 30th December, 1855; 5 years.

Claim.—1st. In combination with the supply pipe of a gas burner, a ventilating tube encased in a frame for the whole or a portion of its length widened out over the burner and led to an air duct or outlet, as and for the purposes set forth. 2nd. The combination, with the ventilating tube C led to air duct D and perforated at c, e, of hood E, as and for the purposes described. 3rd. In a gasalier, the combination, with the central supply pipe, of a ventilating tube into which are led branches with widened ends over burners, said tube being connected with an outlet to the air.

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

508. A. G. COOK, 2nd 5 years of No. 12,033, from the 6th day of December, 1885. Improvements on Tree Protectors, 1st December, 1885.
509. U. BAUPRE, 2nd 5 years of No. 22,062, from the 1st day of December, 1885. Improvements in Boilers for Heating Water, 1st December, 1885.
510. THE DIXON CAR AXLE CO., (Assignee), 3rd 5 years of No. 5,524, from the 18th day of December, 1885. Improvements on Railway Car Axles, 7th December, 1885.
511. C. FAWCETT, 3rd 5 years of No. 5,747, from the 2nd day of March, 1886. Improvements on Cook Stoves, 10th December, 1885.
512. C. BUISE, 2nd 5 years of No. 12,105, from the 11th day of December, 1885. Improvements in Ash Sifters, 11th December, 1885.
513. P. W. GATES, 2nd and 3rd 5 years of No. 13,178, from the 26th day of July. Improvements on Machinery for Breaking and Crushing Stone, Metal Ore, and like Substances, 14th December, 1885.
514. THE MALETTE AND RAYMOND MANUFACTURING CO., (Assignee), 2nd 5 years of No. 12,143, from the 18th day of December, 1885. Improvements on Bed Bottoms, 15th December, 1885.
515. A. W. BLYE, 2nd 5 years of No. 5,525, from the 18th day of December, 1885. Improvements on Tank Cans for Oils and other Liquids, 15th December, 1885.
516. J. C. and W. S. WISNER, 2nd 5 years of No. 12,211, from the 10th day of January, 1886. Improvements on Grain Drill Distributors, 15th December, 1885.
517. P. K. DEDERICK, 2nd 5 years of No. 11,058, from the 3rd day of April, 1890. Improvements in Railway or Thread Powers, 17th December, 1885.
518. P. K. DEDERICK, 2nd 5 years of No. 12,242, from the 19th day of January, 1891. Improvements in Baling Presses, 17th December, 1885.
519. W. C. CROSS, 2nd 5 years of No. 12,149, from the 23rd day of December, 1885. Improvements in Paper Bag Machines, 22nd December, 1885.
520. A. FORTIN, 2nd 5 years of No. 12,147 from the 23rd day of December, 1885. Machine for Measuring leather and for giving the result in Square Feet, 23rd December, 1885.
521. J. W. LABAREE, 3rd 5 years of No. 5,532, from the 10th day of January, 1886. Improvements in Lock Nuts, 23rd December, 1885.
522. W. C. CROSS, 2nd 5 years of No. 12,172, from the 31st day of December, 1885. Improvements in Machines for Making Paper Bags, 23th December, 1885.
523. W. C. CROSS, 2nd 5 years of No. 12,176, from the 31st day of December, 1885. Improvements in Machines for Making Paper Bags, 23th December, 1885.
524. W. C. CROSS, 2nd 5 years of No. 12,187, from the 8th day of January, 1886. Improvements in Machines for Making Paper Bags, 23th December, 1885.
525. B. J. C. HOWE and S. B. BABCOCK, 2nd 5 years of No. 13,912, from the 23th day of December, 1886. Improvements on Horse Power Fire Engines, 23th December, 1885.
526. THE DOUBLE WEAVING AND CUTTING CO., (Assignee), 2nd 5 years of No. 12,165, from the 31st day of December, 1885. Improvements on Machinery for Cutting Pile Fabrics, 31st December, 1885.
527. E. JOUBERT and J. H. WHITE, 2nd 5 years of No. 12,244, from the 19th day of January, 1885. Improvements on Buck Boards, 31st December, 1885.

THE

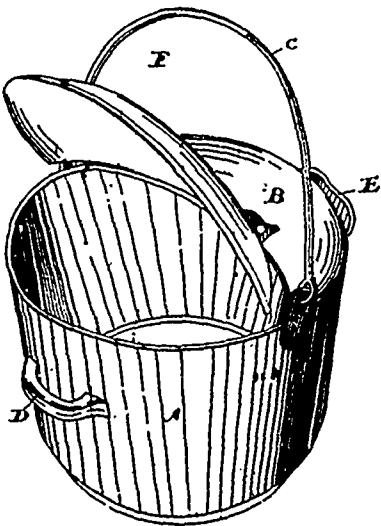
CANADIAN PATENT OFFICE RECORD.

ILLUSTRATIONS.

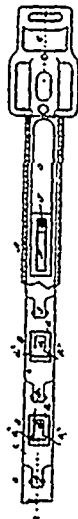
Vol. XIV.

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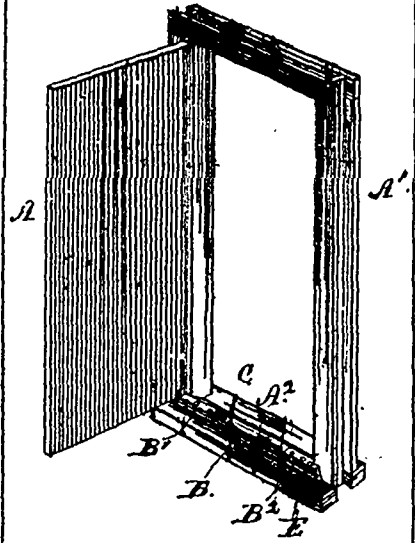
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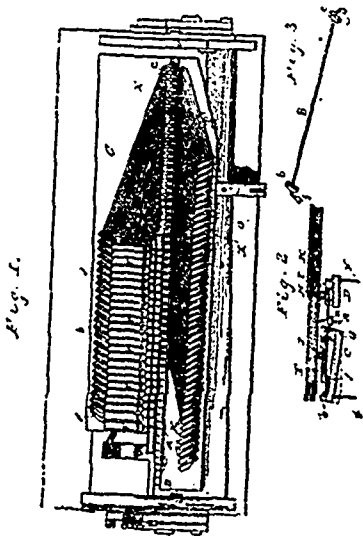
22920 Grass' Potato Kettle.



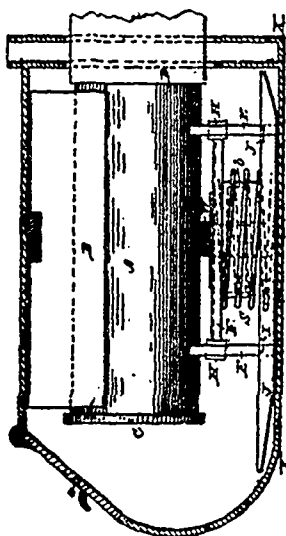
22921 Rivers' Hame Tug.



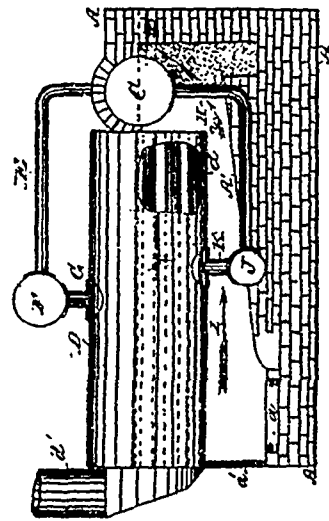
22922 Roscoe's Door Sill.



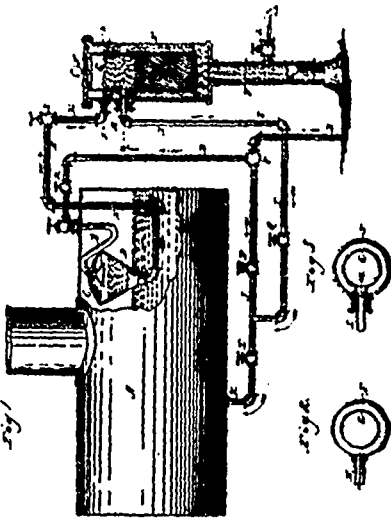
22923 Whitney's Organ Coupler



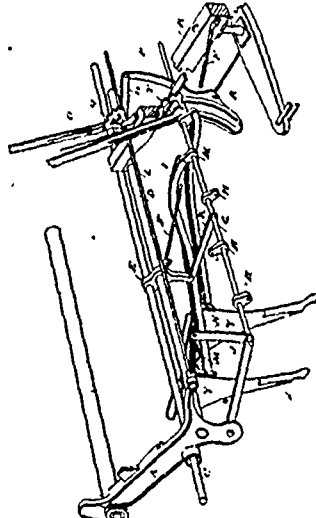
22924 Wright's Car Axle Lubricator.



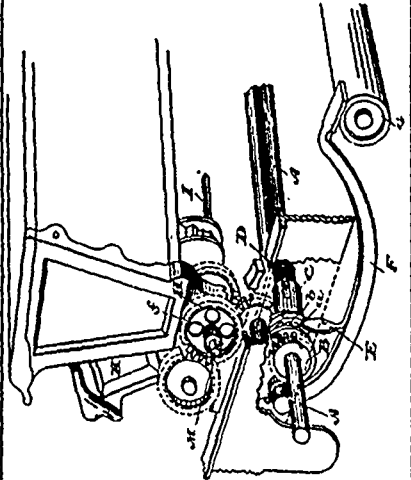
22925 Foster's Spark Arrestor.



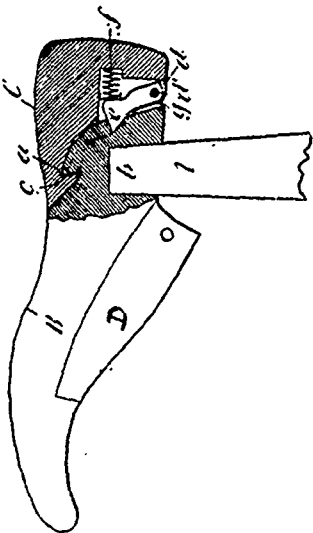
22926 Potesch's Heating Feed Water Boiler.



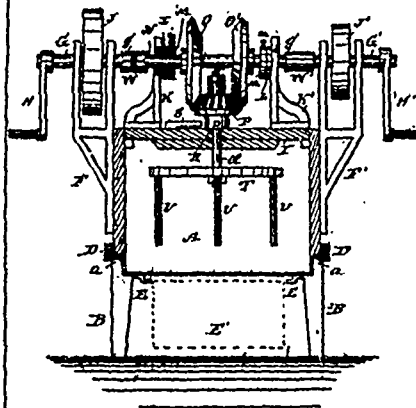
22927 Noxon's Feed Operating Gear of Seeding Machines.



22928 Noxon's Seeding Machine.



22929 Mobb's Lasts for Boots.



22930 Venable's Washing Machine.

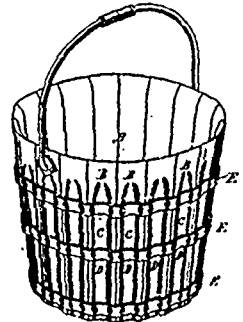


Fig. 2.

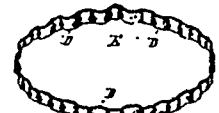
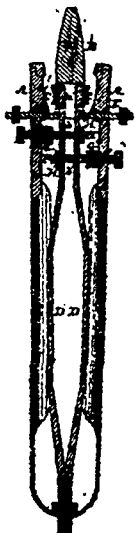


Fig. 4.

22931 Rice's Stave and Method of Fastening the Same.



22932 Boorbach's Bottle Forming Tool.

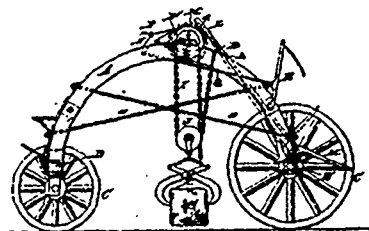


Fig. 1.

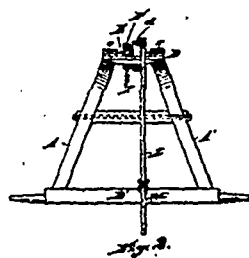
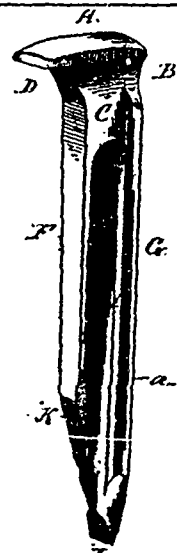
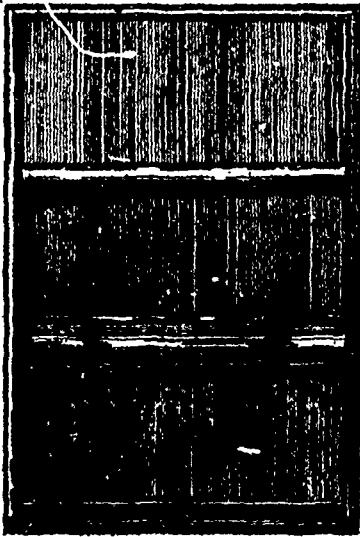


Fig. 2.

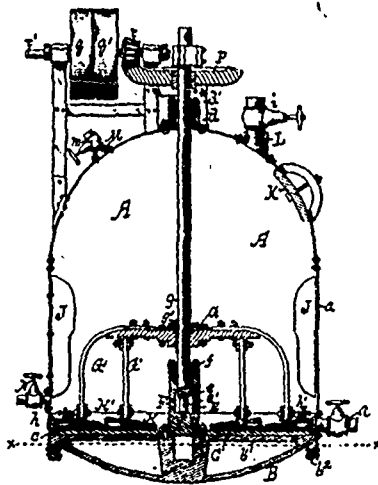
22933 Hosner's Stone Lifter and Carrier.



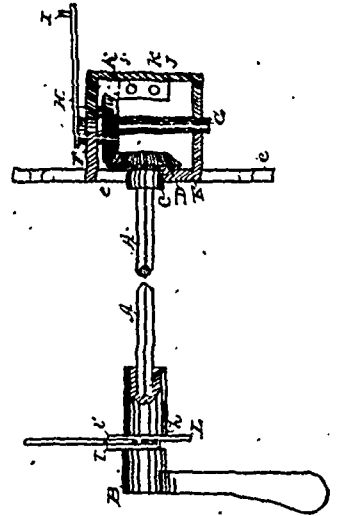
22934 Boyd's Railway Spike.



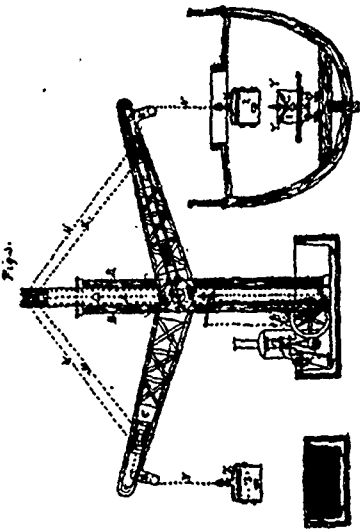
22935 Flowman's Chalk Rack for Blackboards.



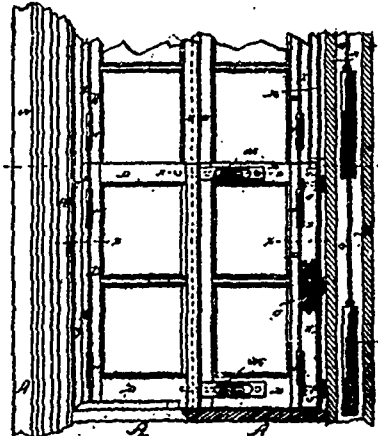
22936 Meech's Ore Disintegrator.



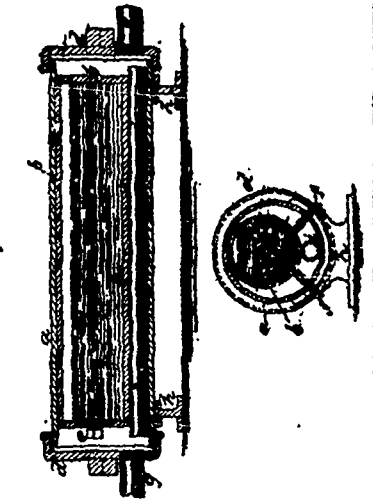
22937 Dudley's Shutter Worker.



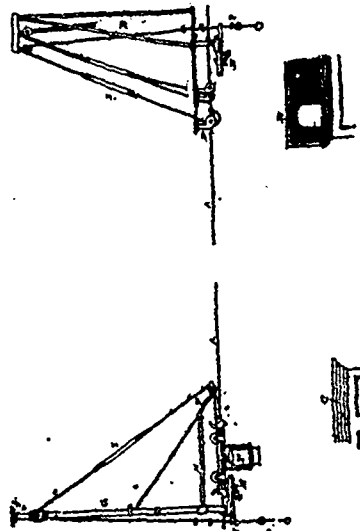
22938 Service's Apparatus for Hoisting, Loading and Unloading Grain.



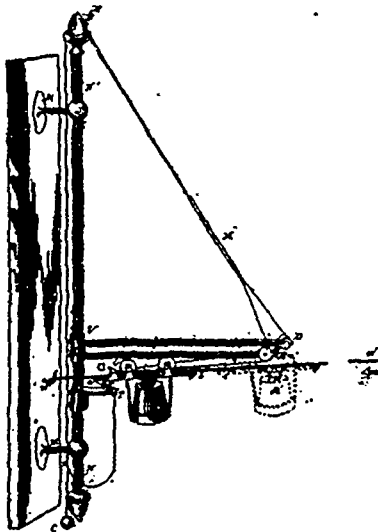
22939 Buckner's Window.



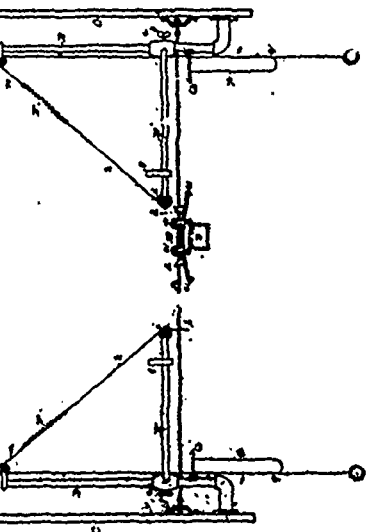
22940 Gold's Heating Apparatus.



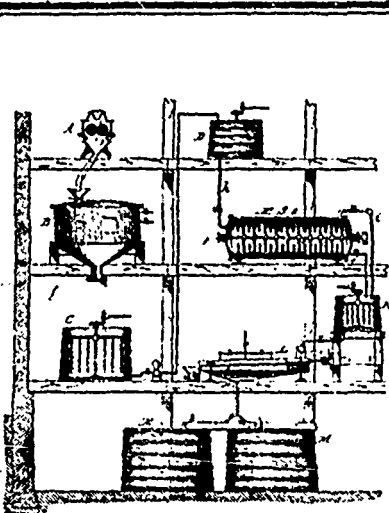
22941 McCarty's Store Service Apparatus.



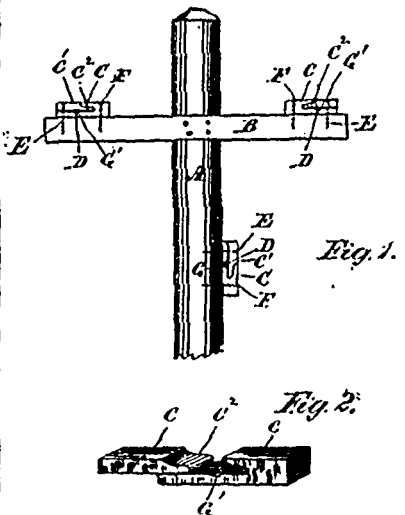
22942 McCarty's Cash and Parcel Carrier.



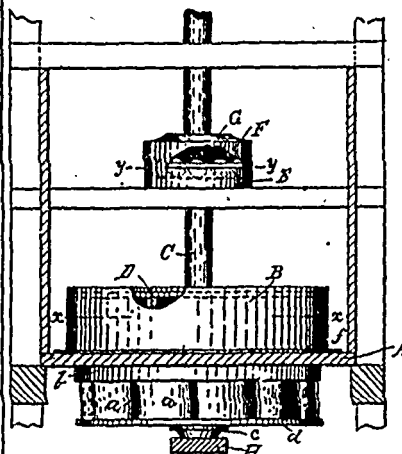
22943 McCarty's Cash and Parcel Carrier.



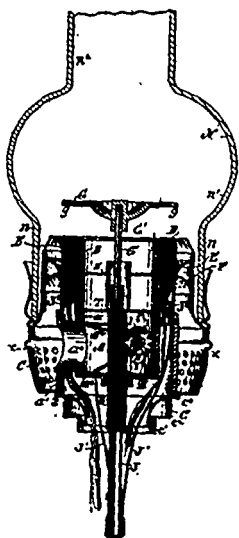
22944 Birge's Manufacture of Starch.



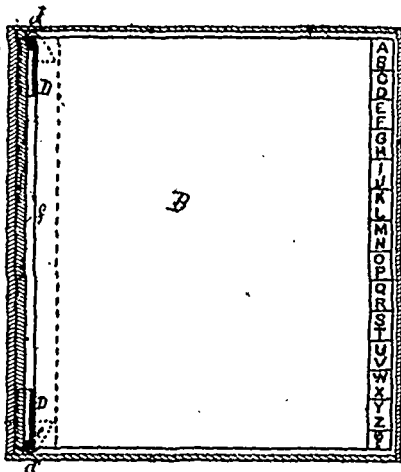
22945 Angus' Support for Telegraph and Telephone Line Wires.



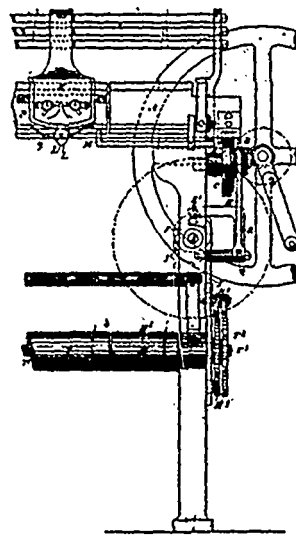
22946 Etter's Water Wheel and Support.



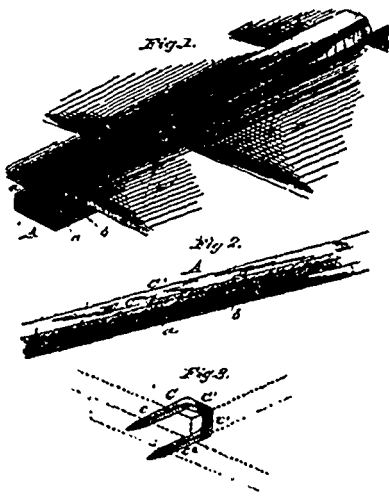
22947 Hickok's Lamp Burner.



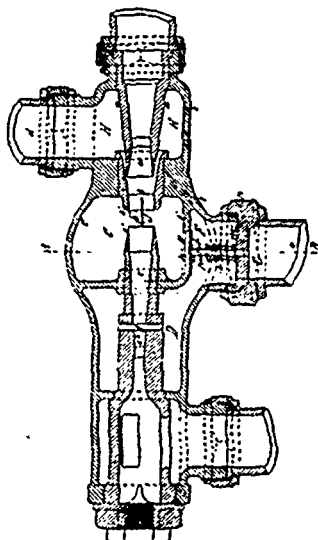
22948 Cooke's Paper File.



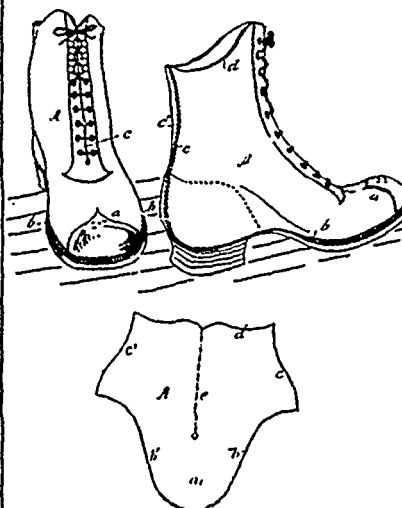
22949 Russell & Huxley's Apparatus for Manufacturing Cardigan Jackets, etc.



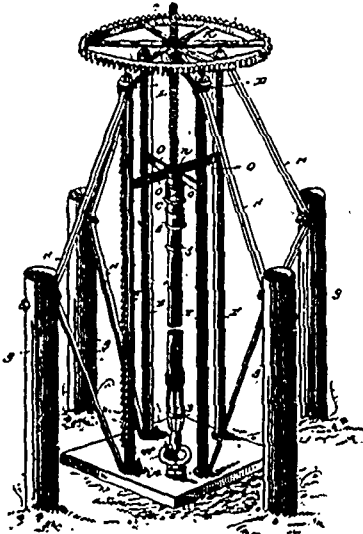
22950 Van Ruyper's Glazier's Point.



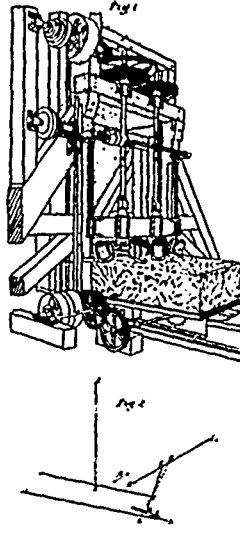
22951 Holden, Brooke & White's Injector.



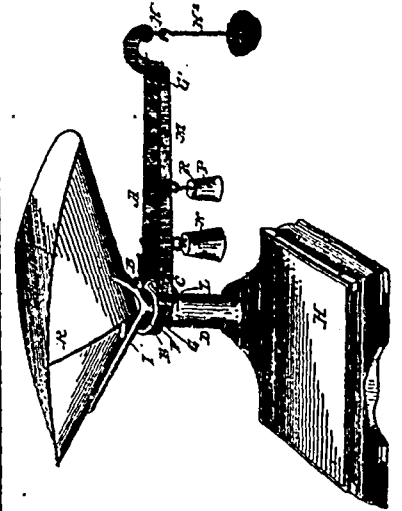
22952 Linton's Lace Boot.



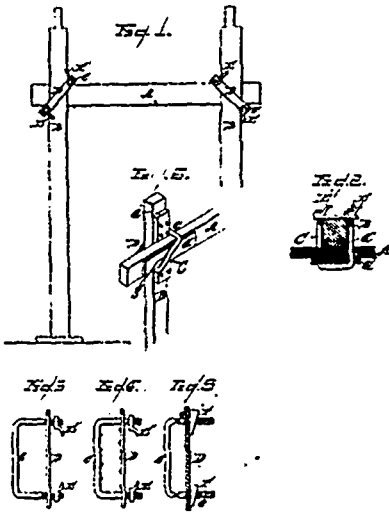
22953 Crucial's Well Sinking Machine.



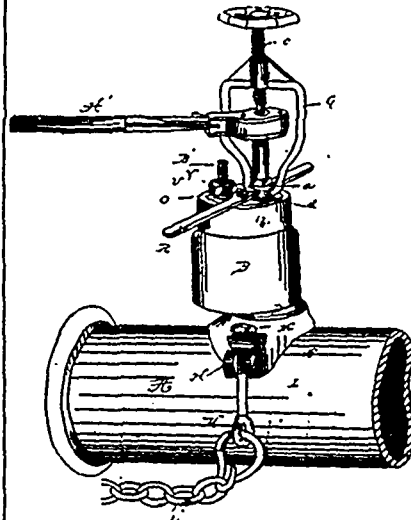
22954 McDonald's Machinery for Cutting or Dressing Stone.



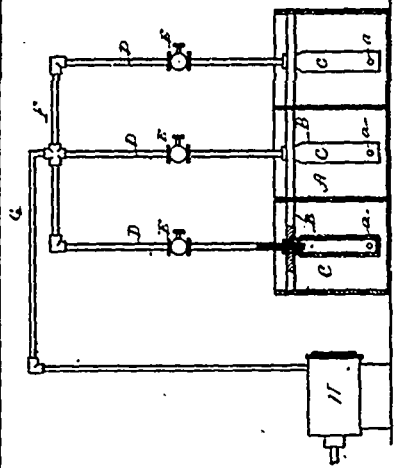
22955 Robert's Proportional Scale.



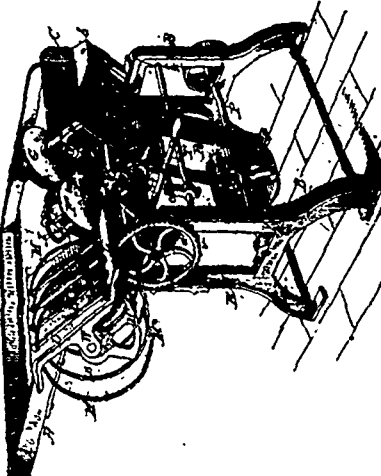
22956 Moross' Scaffold Binder.



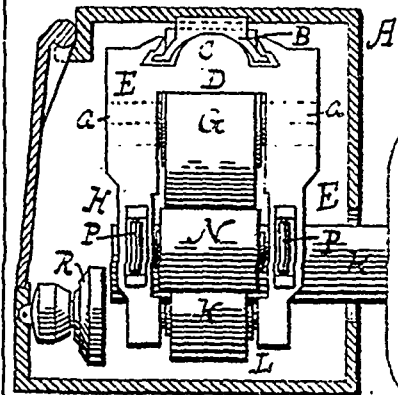
22957 Payne's Device for Tapping Mains.



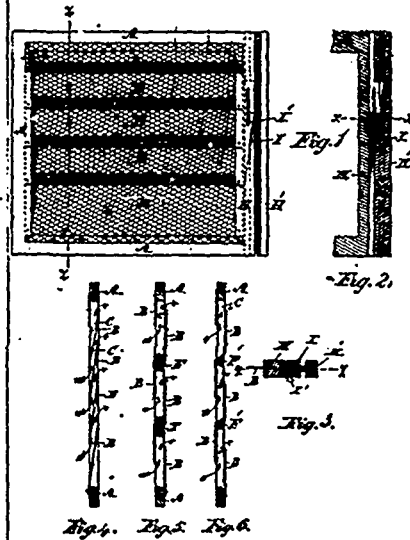
22958 Bull & Hill's Agitator for Tan Vats.



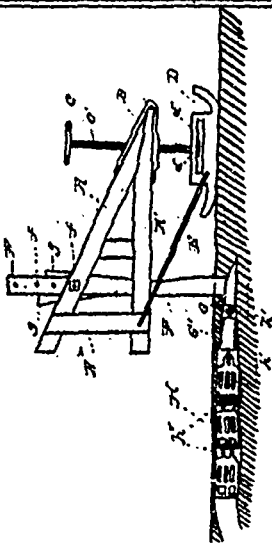
22959 Ethridge's Stamp Cancellor.



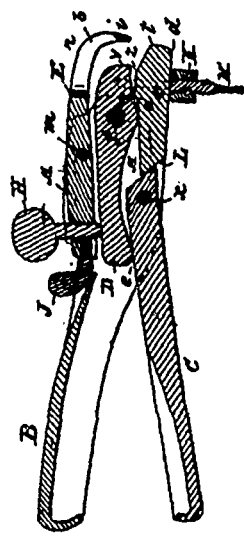
22960 Brewer's Car Axle Box.



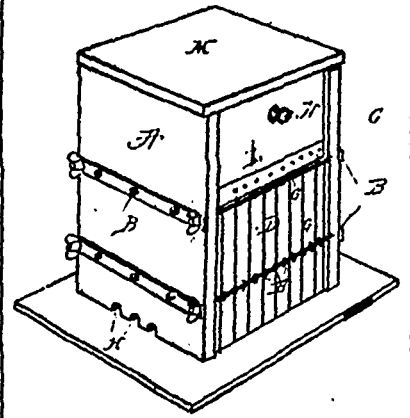
22961 Shirreff's Window Screen.



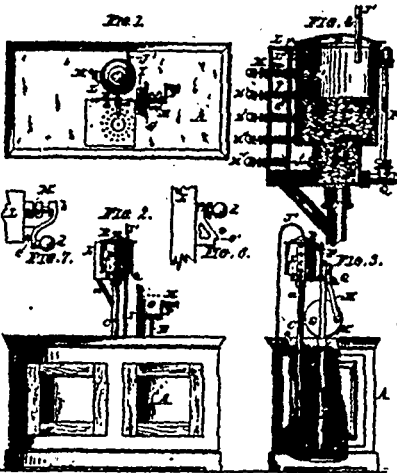
22962 Walls & Engle's Tile Laying Machine.



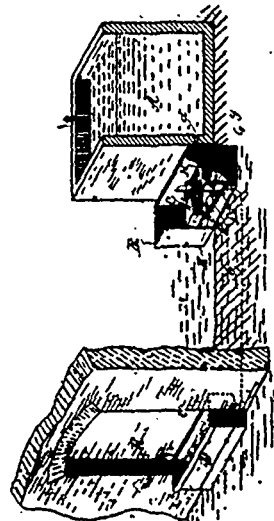
22963 Laybolt's Saw Set.



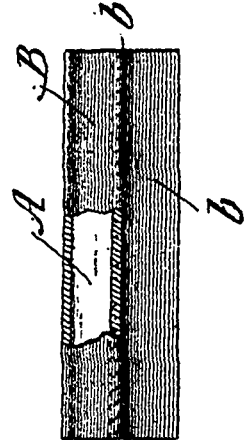
22964 Hamlin's Bee Hive.



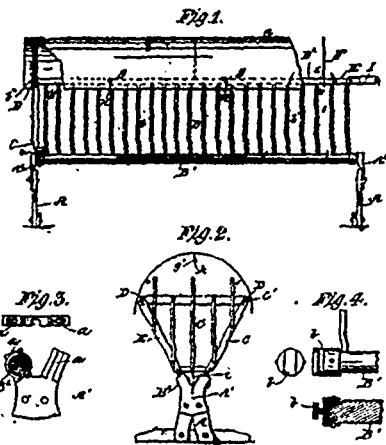
22965 Lauer & Veldor's Measuring Device for Oil Tanks.



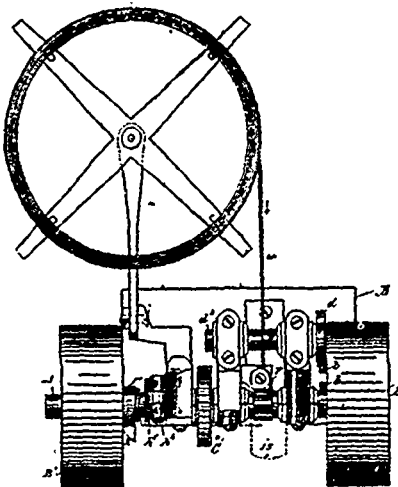
22966 Ruddell's Automatic Apparatus for Watering Live Stock.



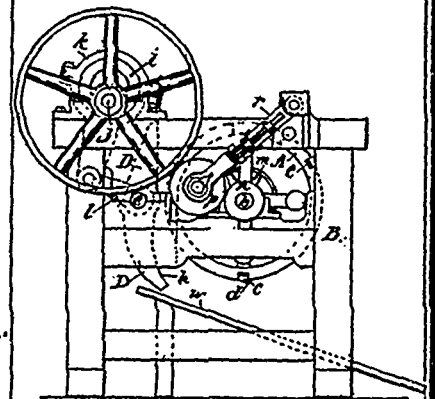
22967 Norton's Hair Crimper.



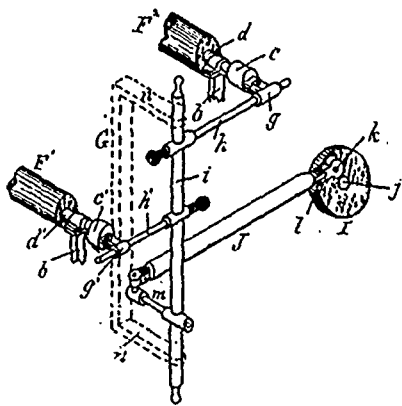
22968 Crabtree's Feed Rack.



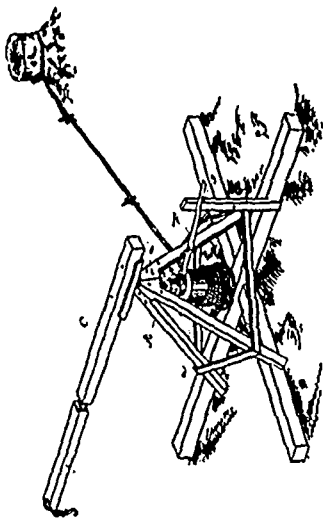
22969 Hemingway's Machine for Manufacturing Button Fasteners.



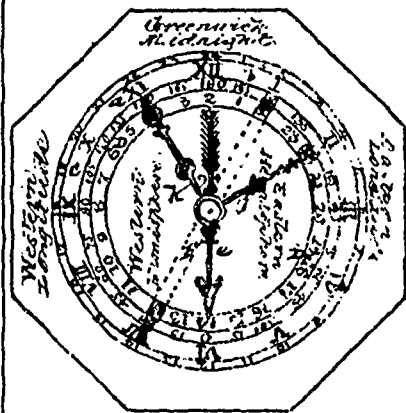
22970 Potts' Clay Disintegrator.



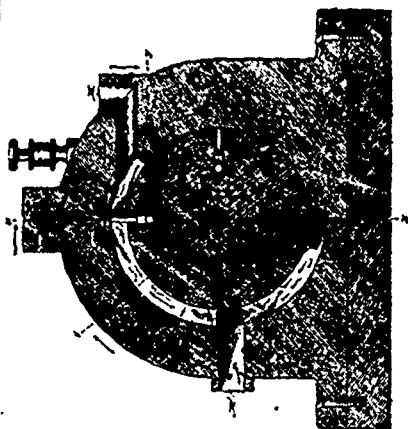
22971 Ladley's Automatic Equalizer for Carding Engines.



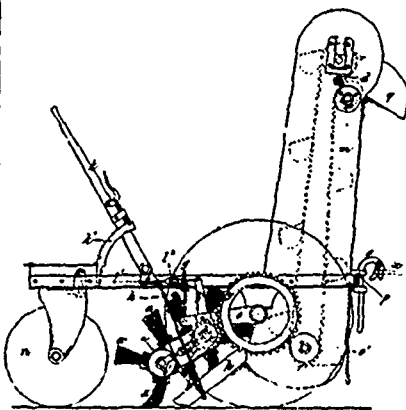
22972 Milno's Capstan for Stump Extractors.



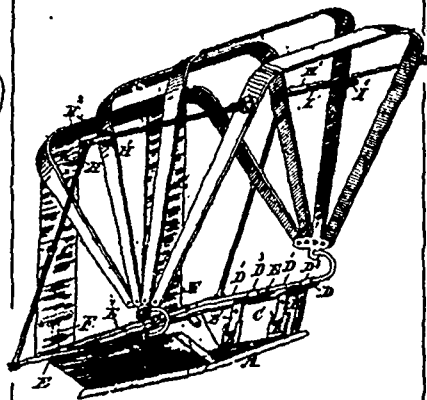
22973 Deltz's True Piece and Dial.



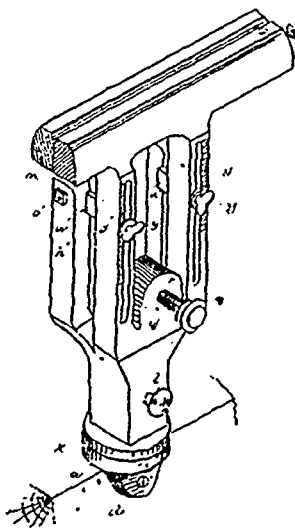
22974 Tollver's Rotary Engine.



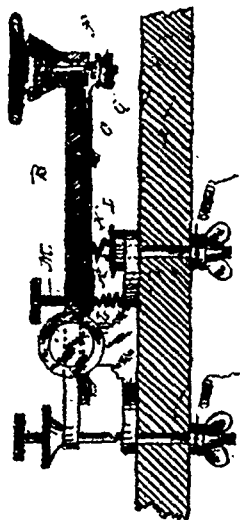
22975 March's Machinery for Sweeping Streets Road-ways, etc.



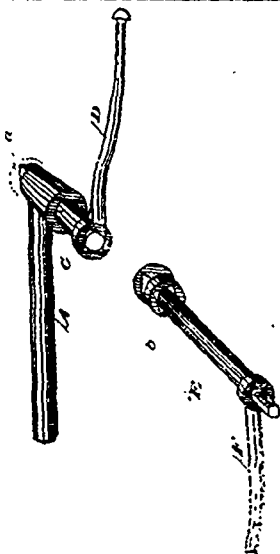
22976 Rudd's Carriage Top.



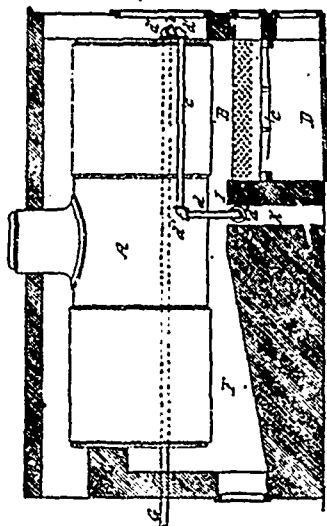
22977 Flator's Saw Vice.



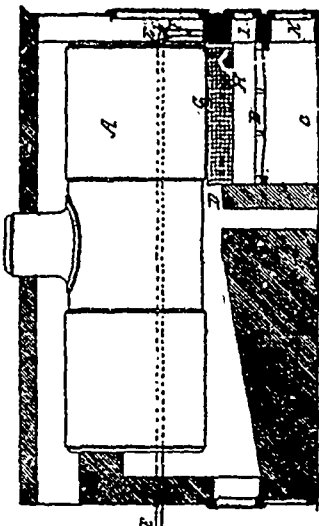
22978 McArthur's Circuit Closer.



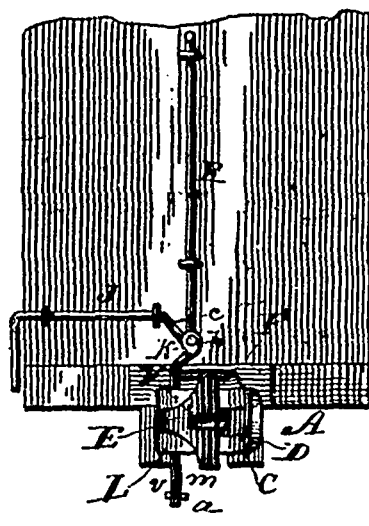
22979 Metcalf's Device for Adjusting Buggy Tops.



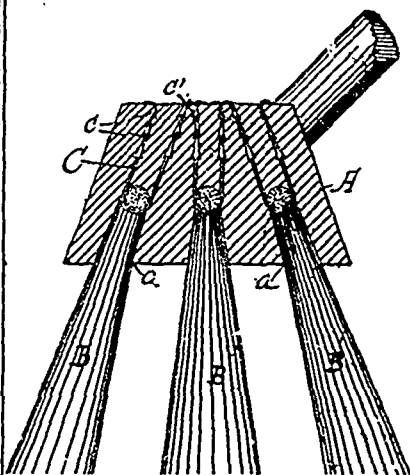
22980 Ham's Steam Boiler Furnace.



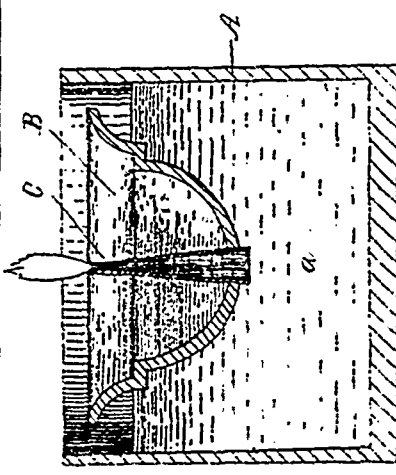
22981 Ham's Steam Boiler Furnace.



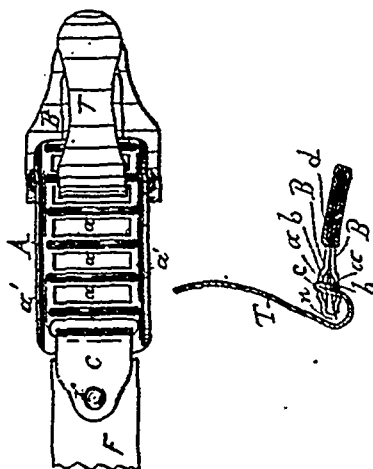
22982 Dowling's Car Coupling.



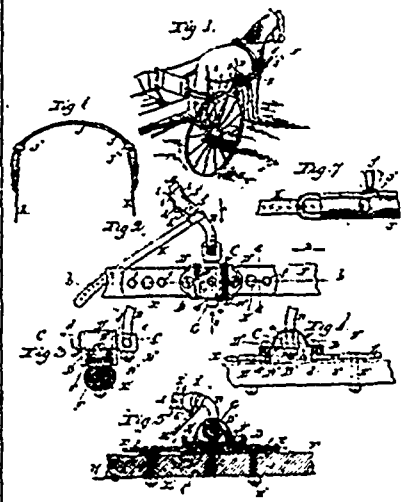
22983 Strickel's Brush.



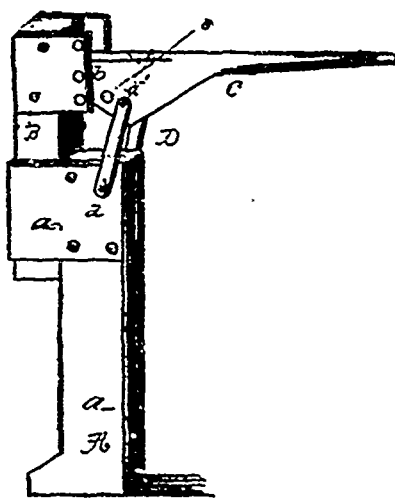
22984 Gratton & Bronner's Lamp.



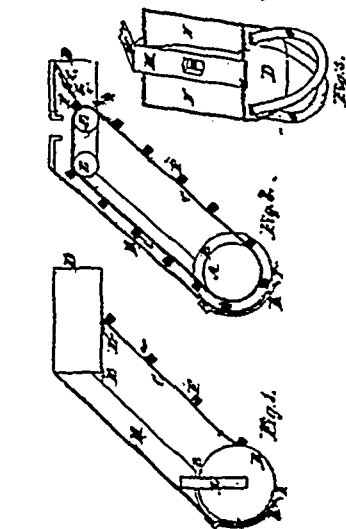
22985 Unbehend's Spring Clasp.



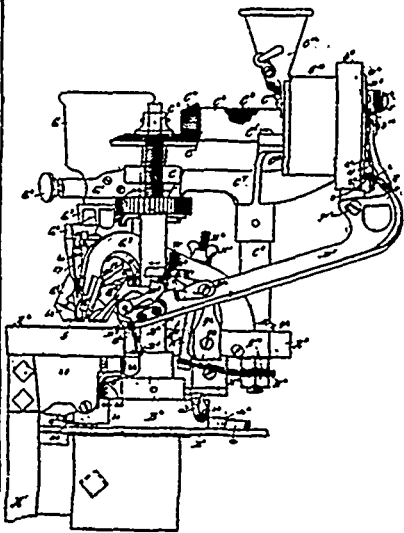
22986 Frostott's Harness Rig.



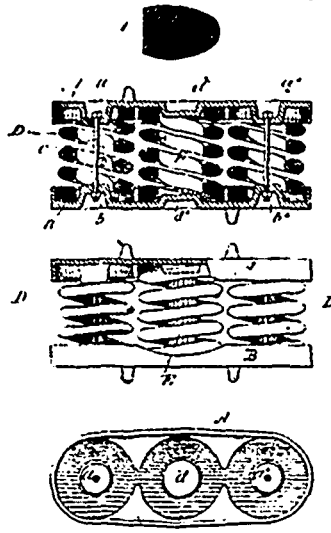
22987 Boughton's Waggon Jack.



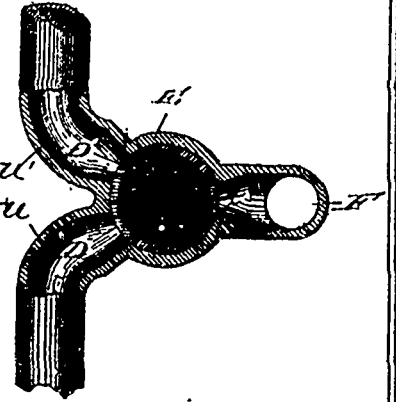
22988 Ross' Machine for Planting Potatoes.



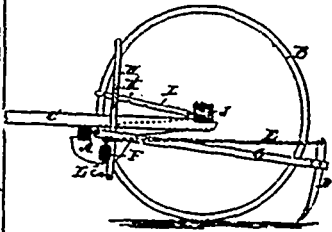
22989 Hemingway' Machine for Attaching Buttons to Boots, Shoes, etc.



22990 Coghlin's Spring for Railway Cars.



22991 Waters' Compound Faucet.



22992 Brown's Sceder and Cultivator.

Fig. 1.

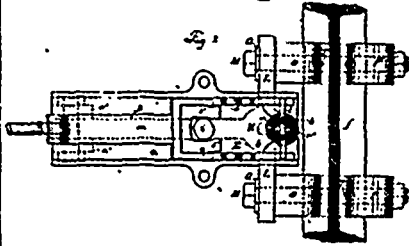
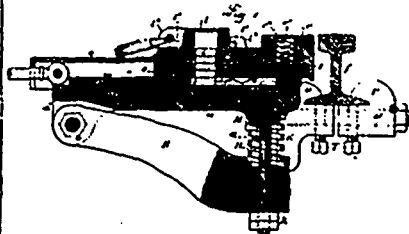
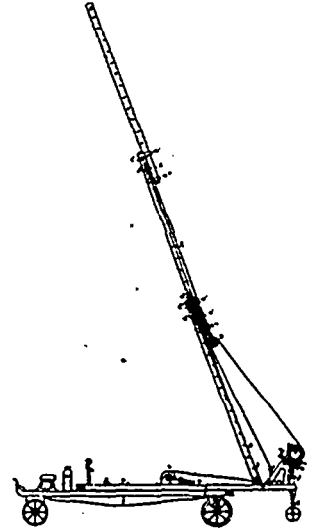
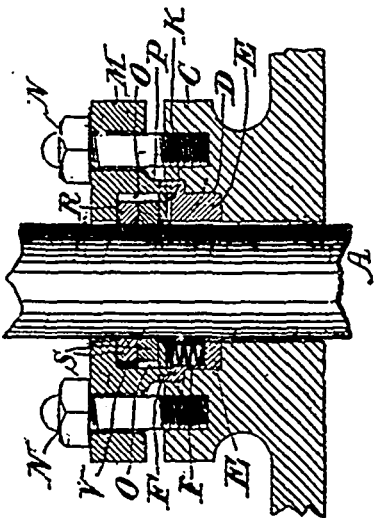


Fig. 2.

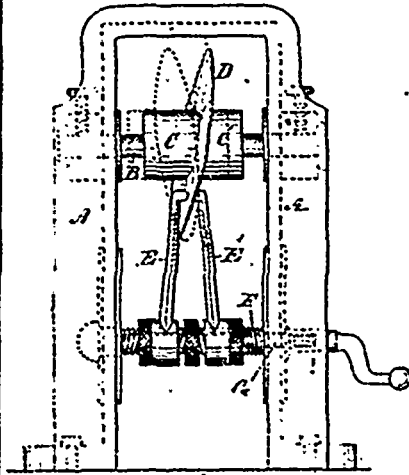
22993 Clark's Torpedo Railway Signal.



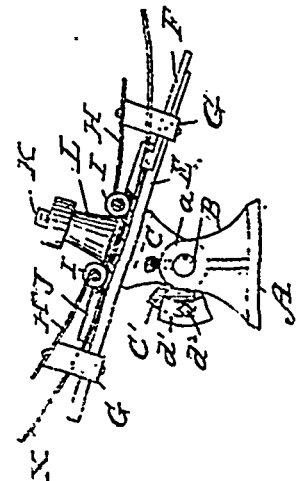
22994 Langerin's Fire Escape Ladder and Wagon Truck.



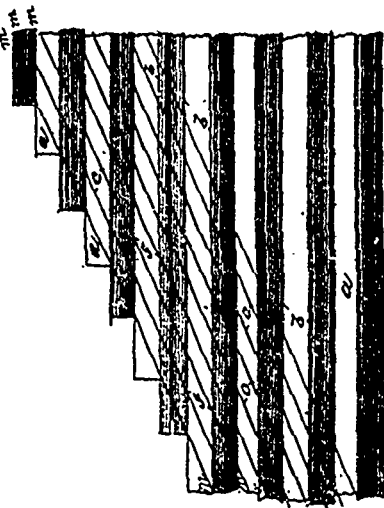
22995 Partington's Packing for Piston Rods.



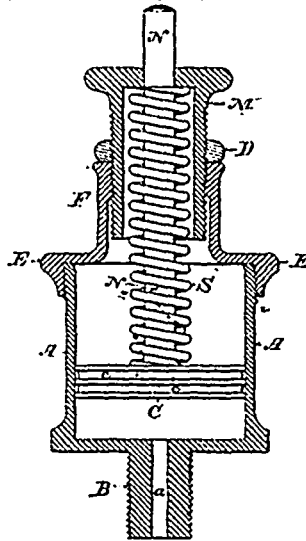
22996 Dixon & Roman's Dovetail Sawing Machine.



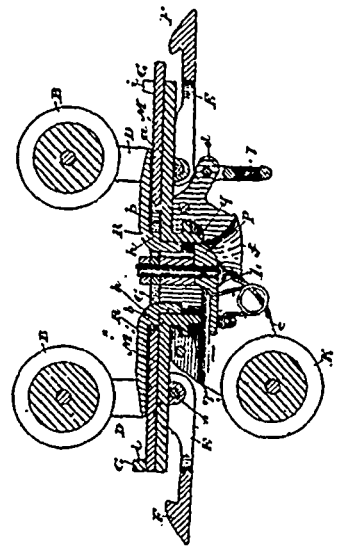
22997 Campbell & Mills' Device for Sharpening Band Saws.



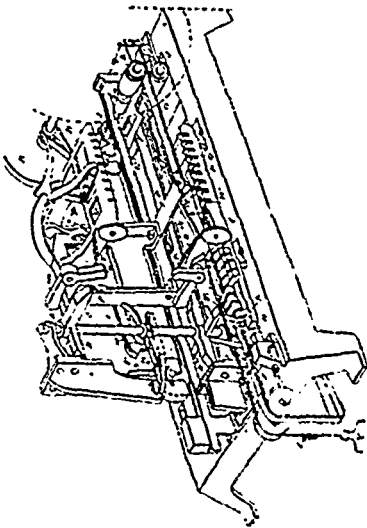
22998 Marston & Todd's Wooden Flooring.



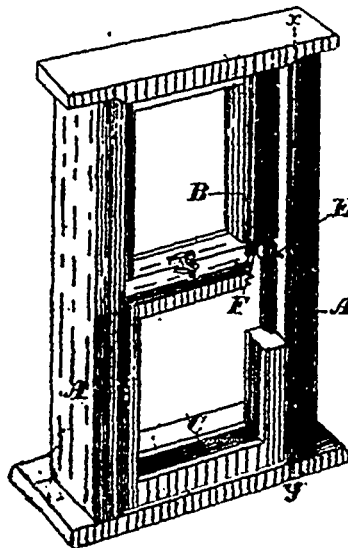
22999 Felthousen's Lubricating Cup.



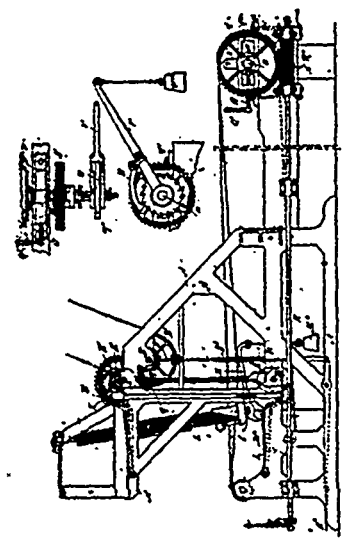
23000 Provan's Hay Carrier.



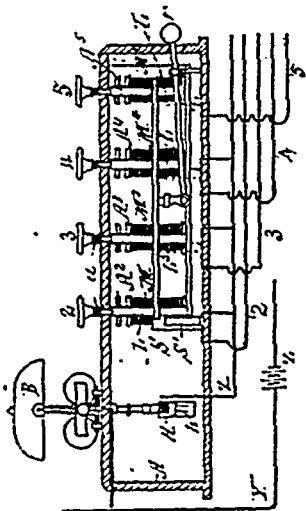
23001 House's Shingle Sawing Machine.



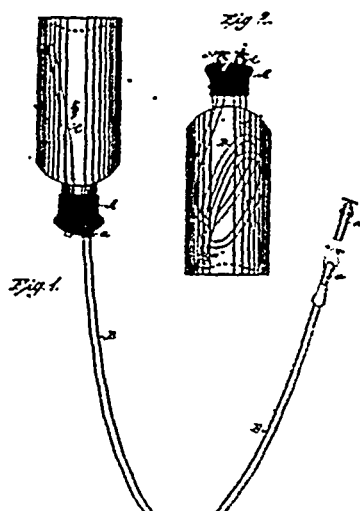
23002 Clarke's Mode of Balancing Window Sashes.



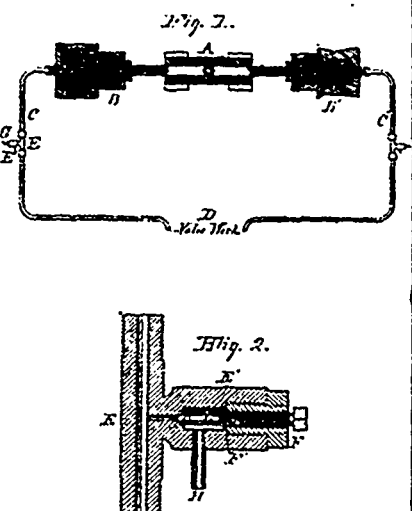
23004 Major's Loom for Weaving Wire.



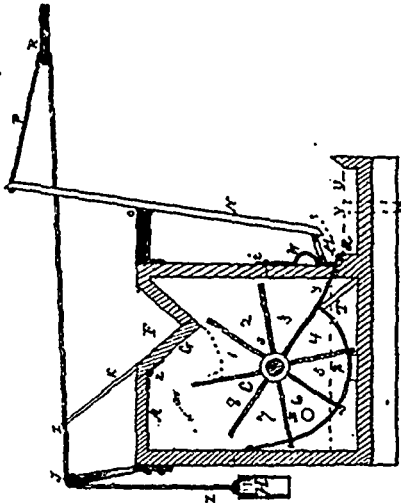
23005 Wood's Telephonic Circuit and Apparatus.



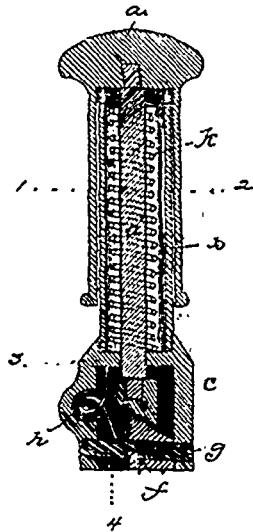
23007 Tutton's Irrigating Attachment to Prescription Bottles.



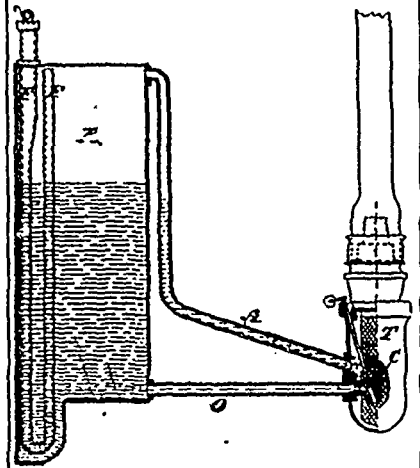
23008 Du Bois' Machine for Making Plumber's Lead Traps.



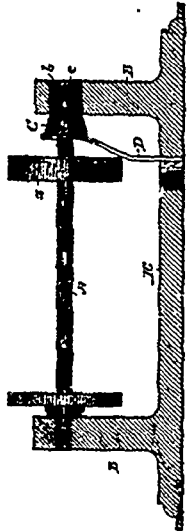
23019 Wheat's Wood Steaming Apparatus.



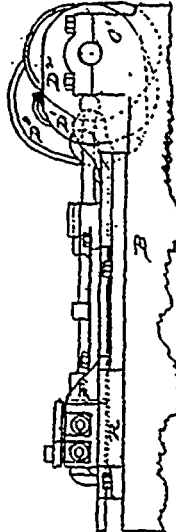
23010 Walter & Bender's Stamp Cancellor.



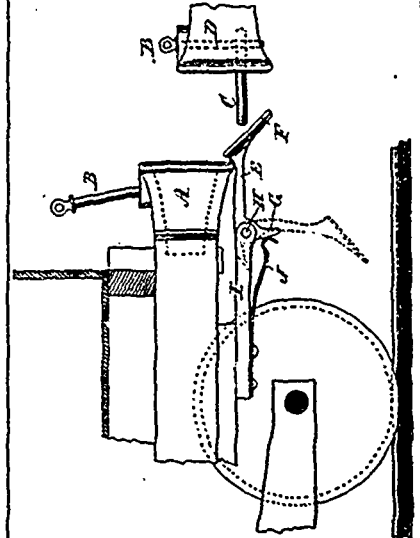
23011 Livesey's Oil Lamp.



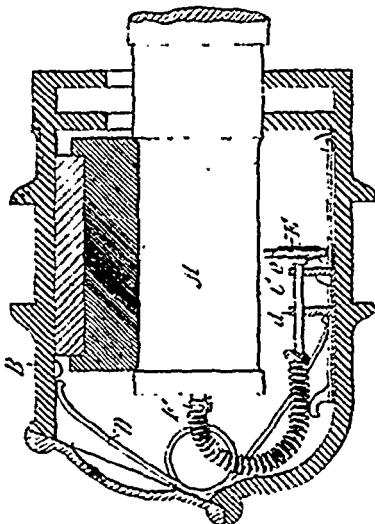
23013 Williams' Journal Bearing.



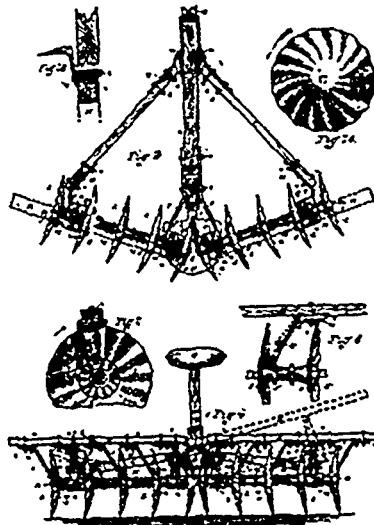
23014 Prior's Reel Stiffener Machine



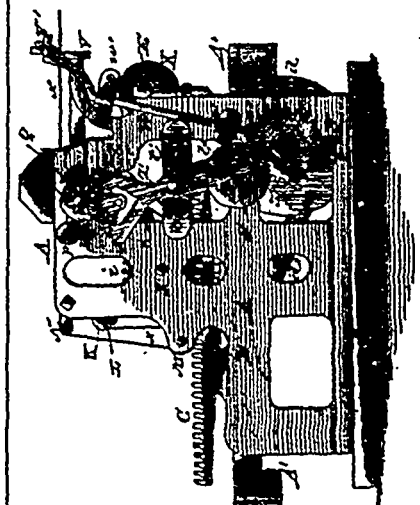
23015 Pettet & Noxon's Car-Coupling.



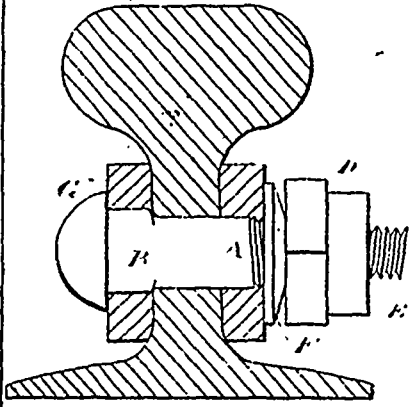
22016 Nichol's Axle Lubricator.



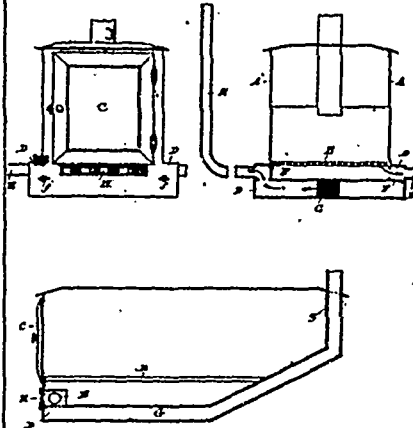
23017 La Dow's Disk Harrow.



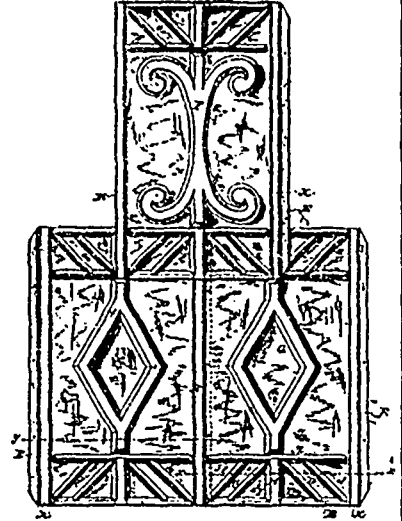
23018 Cox's Printing Press.



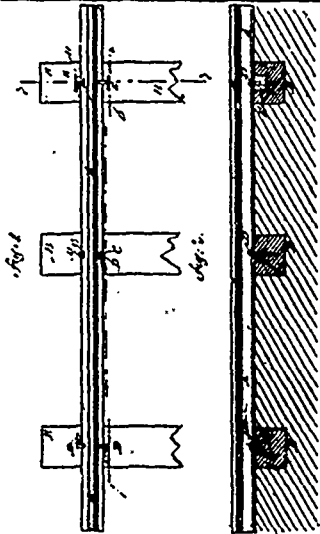
23019 Townsend's Lock Nut.



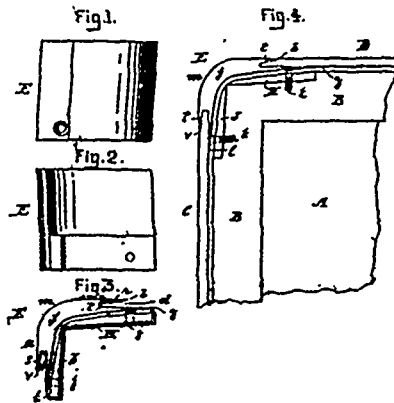
23020 Sinclair's Ventilating Heater.



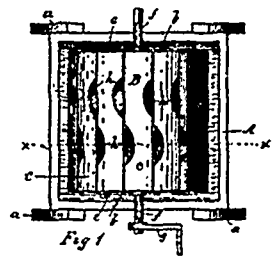
23021 Walter's Sheet Metal Roofing Plate.



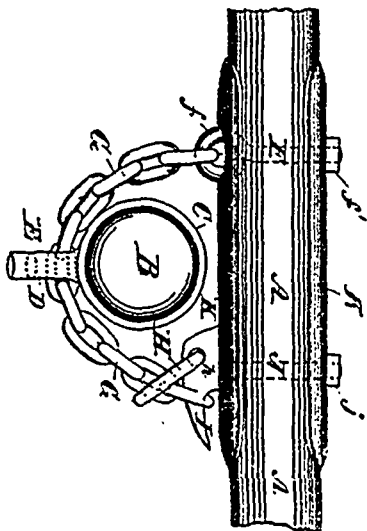
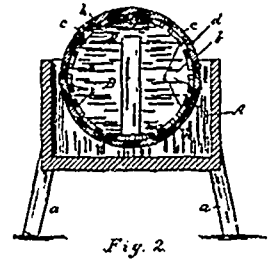
23022 Davies' Fastening Railway Rails to Ties.



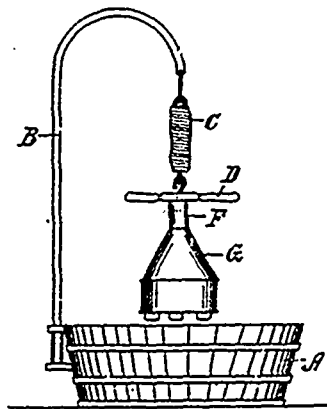
23023 Delahunty's Carriage Body.



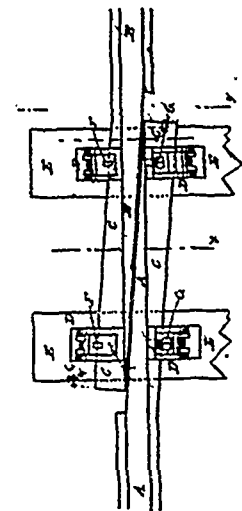
23024 Barkley's Washing Machine.



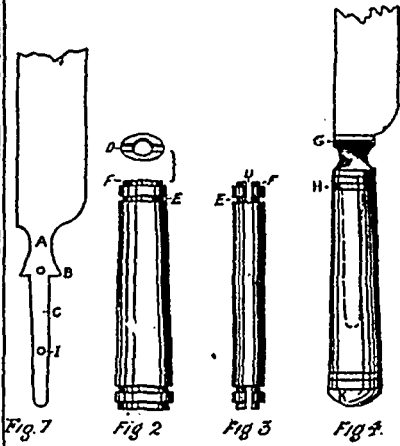
23025 Mencer's Nock, Yoke and Tongue Coupling.



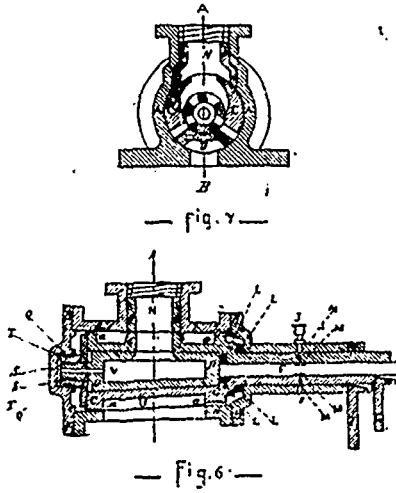
23026 Van Allen's Clothes Washer.



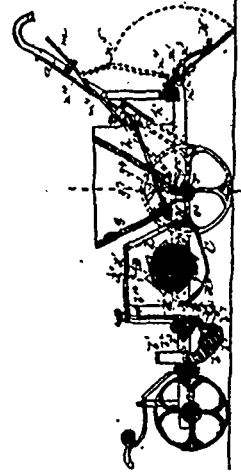
23027 Larkin's Railroad Rail Joint.



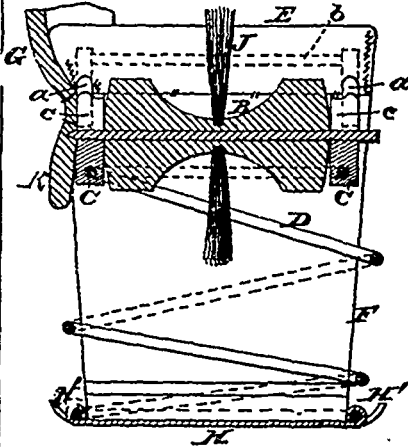
23028 Wingfield's Handle for Table Cutlery.



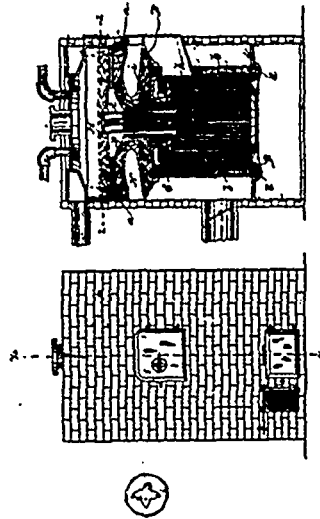
23029 Simmon's Cut-Off Valve.



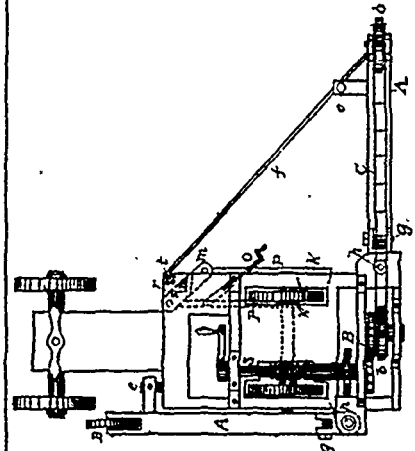
23030 McKenney's Planting Machine.



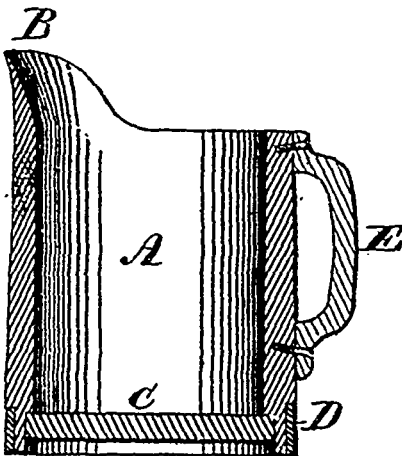
23031 Gordon's Car Axle Lubricator.



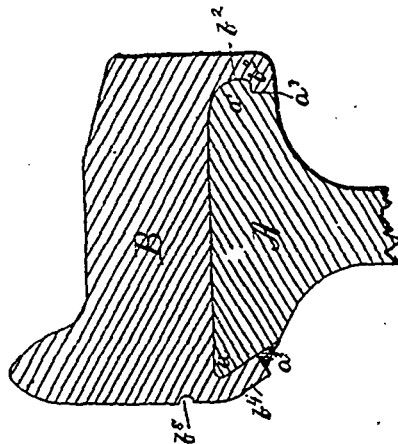
23032 Porter's Steam Generator.



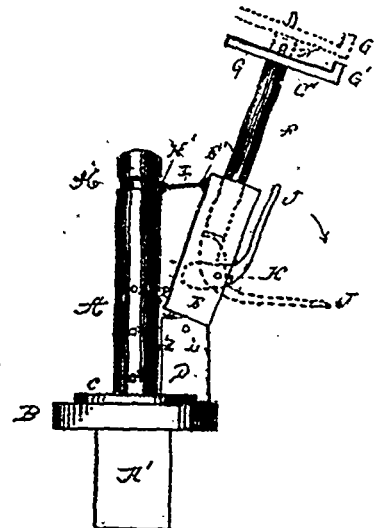
23033 Paterson's Steam Plough.



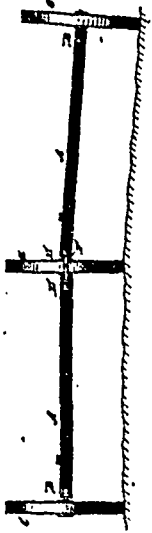
23034 Potter's Wooden Jug.



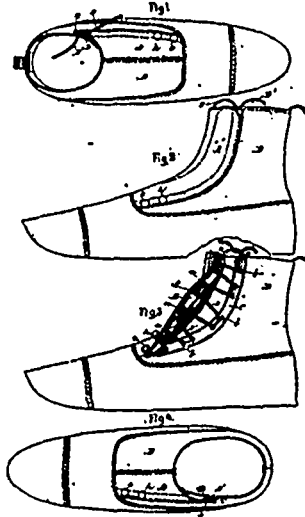
23035 Munton's Car Wheel.



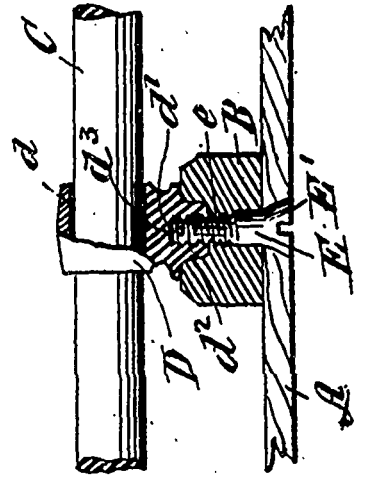
23036 Rancaglia's Device for Transferring Loads down Mountains.



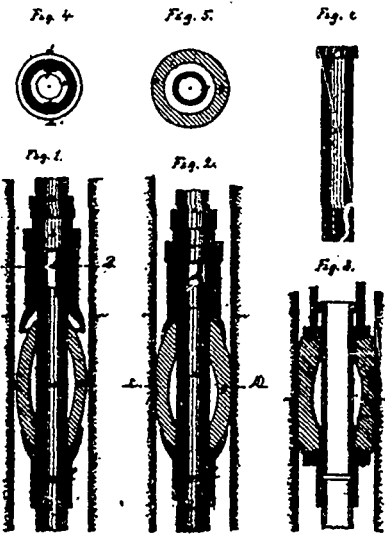
23037 Gale's Flexible Frame for Harrows, etc.



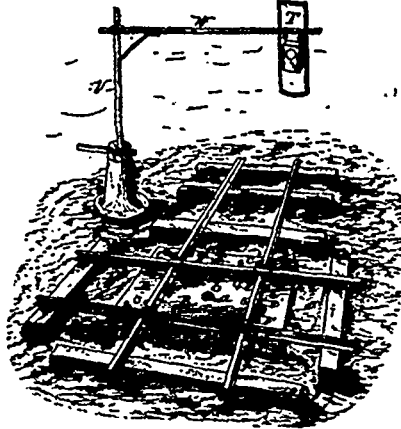
23038 Lynch's Shoe.



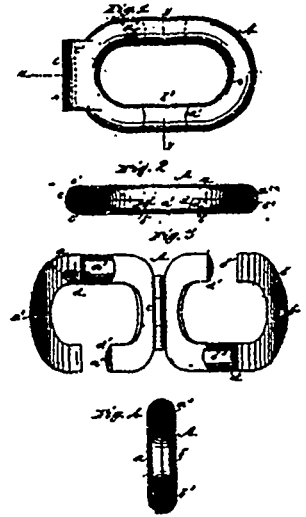
23039 McLaren's Toboggan.



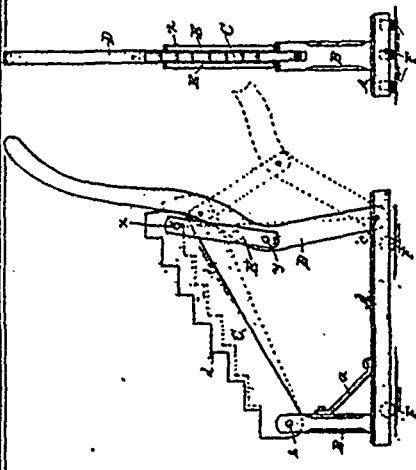
23040 Do Guerre's Railway Rail Seat.



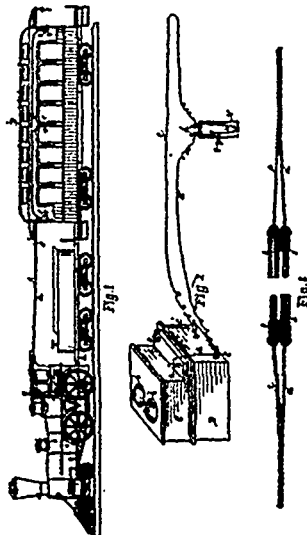
23041 Rumble's Railway Crossing.



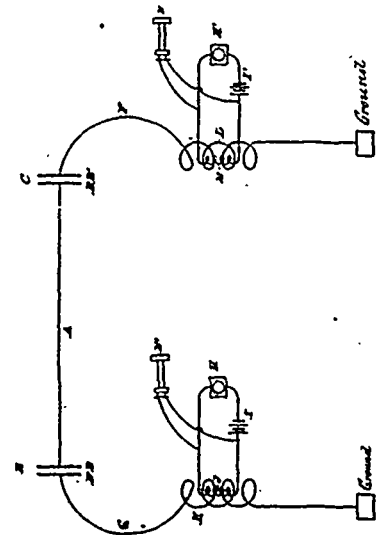
23042 Clay's Split Link.



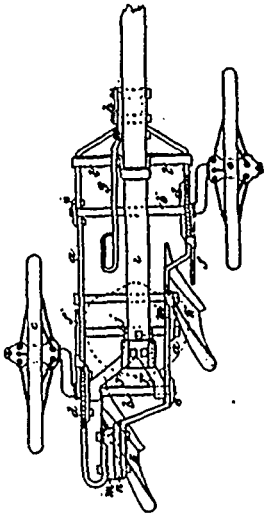
23043 Mattheu's Lifting Jack.



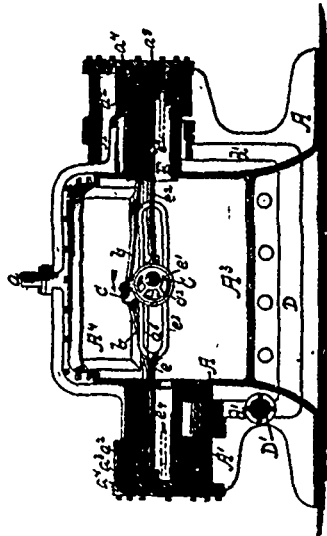
23044 Parish's Electric Signal Apparatus.



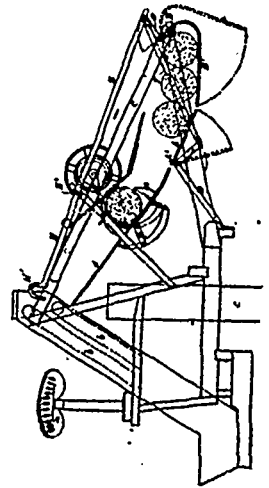
23045 Beale's Telephony.



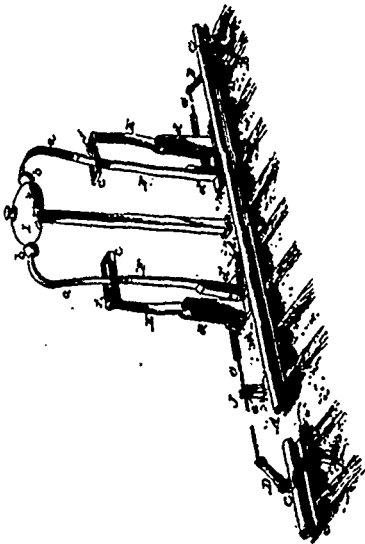
23046 Greenleaf's Plough.



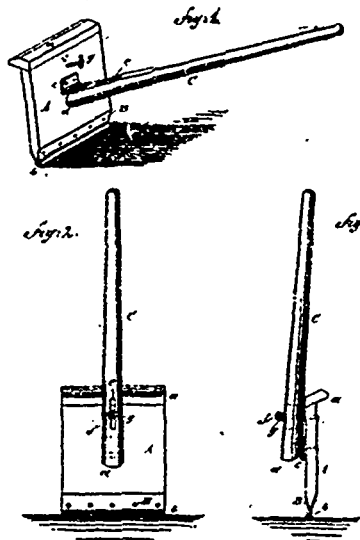
23048 Hardy's Steam Engine.



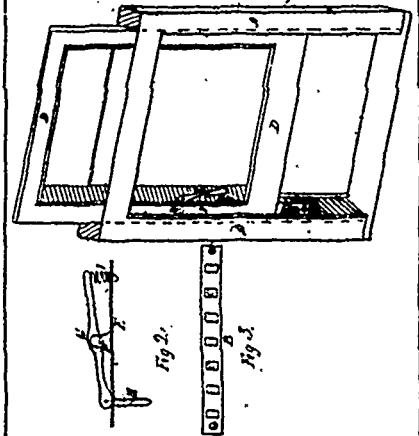
23049 Hornsby, Southwell & Innocent's Cradle for Harvesting Machines.



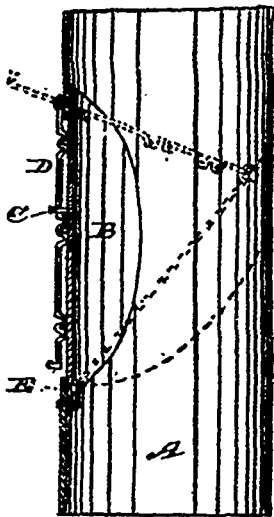
23050 Blackburn's Railway Signal.



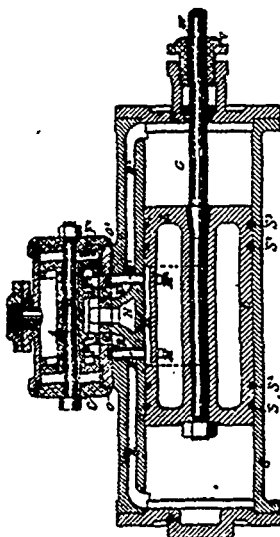
23051 Plack's Snow Shovel.



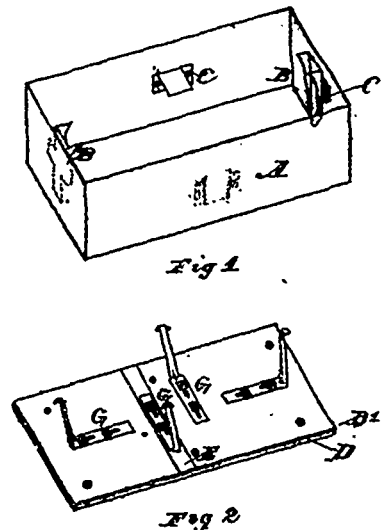
23052 Dixon's Window Fastener.



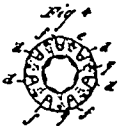
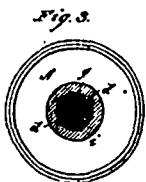
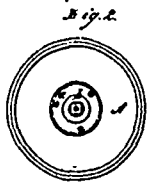
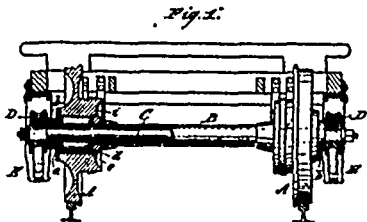
23053 McDonald's Stove Pipe Damper and Ventilator.



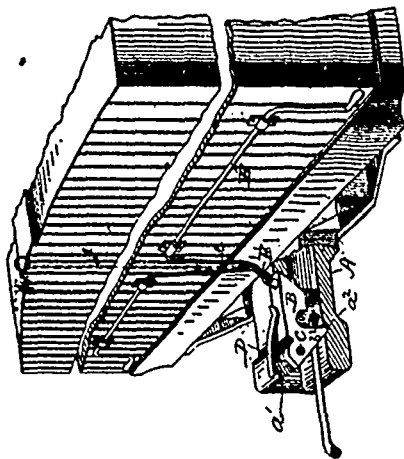
23054 Parnell's Steam or Air Slide Valve.



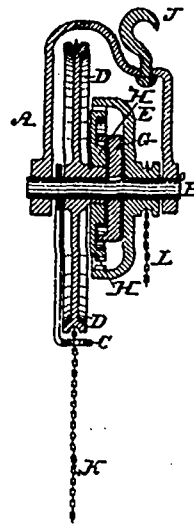
23055 Corbett's Grayo Vaults.



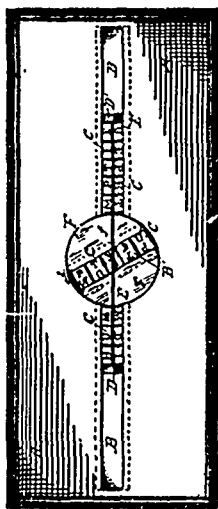
23056 Candee's Running Gear for Railway Cars.



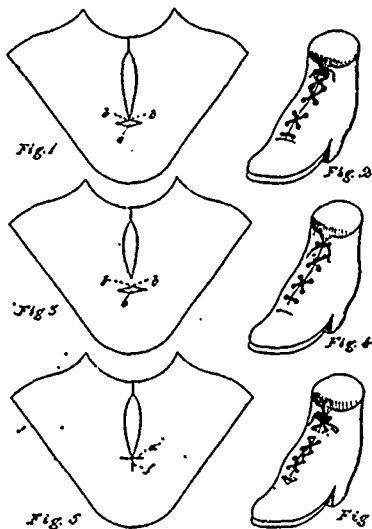
23057 Thompson's Car-Coupling.



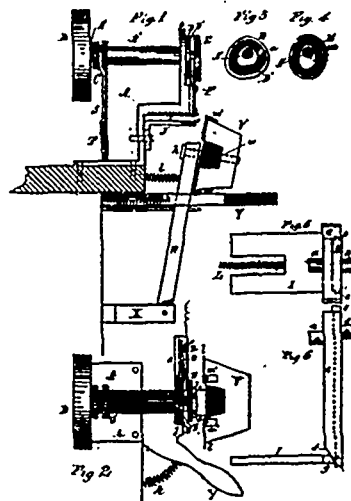
23058 White's Holst.



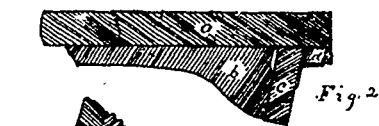
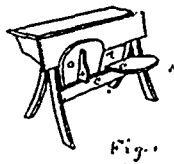
23059 Protheroe's Puzzle.



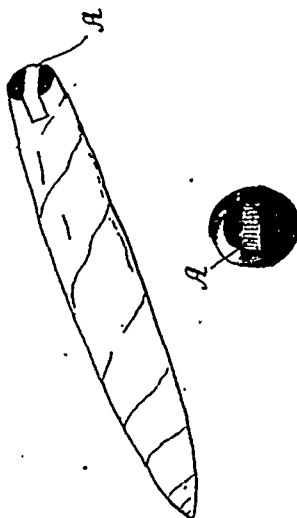
23060 Bolvin's Boot and Shoe.



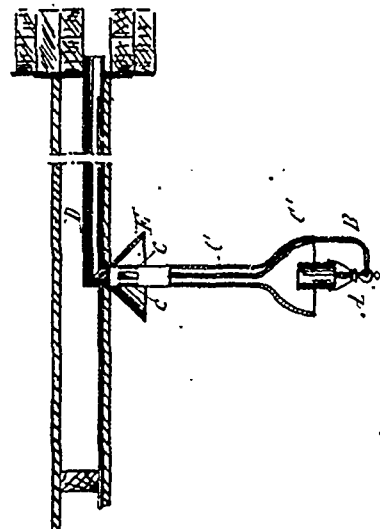
23061 Haines & Wanzler's Machine for Stitching Baskets with Wire.



23062 Gillie's Folding Seat.



23064 Winship's Attachment to Cigars.



23065 Hies' Gasaller.