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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. 22,551. Cutting Apparatus for Mowers and Reapers. (*Couteaux Faucheuses Moissonneuses.*)

Lunan Rundell, New Baltimore, N.Y., U.S., 1st October, 1885; 5 years.

Claim.—1st. In a mower or reaper cutting mechanism, the combination, with a reciprocating serrated cutter, of the central or intermediate fingers or guards arranged in closer relation with each other than the remaining fingers or guards, substantially as specified. 2nd. In a mower or reaper cutting mechanism, the combination, with the fingers or guards, of a reciprocated serrated cutter having its central or intermediate tooth or teeth of greater width than the remaining teeth, essentially as described. 3rd. In a mower or reaper cutting mechanism, the combination of the serrated cutter having its central or intermediate tooth or teeth of greater width than the remaining teeth, to either side thereof, and the finger bar having its central or intermediate fingers arranged in closer proximity to each other than the remaining fingers to either side thereof, substantially as and for the purposes specified.

No. 22,552. Re-Shipping Butter Pail.

(*Tinette de Retour.*)

David H. Eaton and Ambrose C. Eaton, East Waverly, N.Y., U.S., 1st October, 1885; 5 years.

Claim.—1st. A re-shipping pail consisting of an interior receptacle and an exterior jacket perforated at the top and bottom, and provided with an interior perforated non-conducting lining, substantially as and for the purpose set forth. 2nd. In a re-shipping pail, the combination, with a receptacle C of the exterior jacket lined on the inside with non-conducting material, the jacket and lining having perforations at top and bottom for the circulation of air, said jacket being of greater length than the interior receptacle, substantially as and for the purpose set forth. 3rd. In a re-shipping pail, a cover provided with a top plate D and a bail made in three pieces, the pieces E1 being confined in grooves on the underside of the plate, the inner hooked ends of said pieces engaging with the hand piece of the bail, the outer ends engaging with ears on the jacket, substantially as and for the purpose set forth.

No. 22,553. Fire Kindler. (*Allumoir.*)

Alfred W. Hall, Presque Isle, Me., U.S., 1st October, 1885; 5 years.

Claim.—1st. As an improved article of manufacture, a fire-kindler consisting of a wire handle having the securing arms at opposite ends of its branches, the asbestos having opposite flattened sides and the bands for securing the asbestos to the handle, substantially as specified. 2nd. A fire-kindler consisting of asbestos held to a rod handle by binding wires or bands, and having its opposite sides flattened and its opposite ends exposed.

No. 22,554. Car Axle Lubricator.

(*Graisseur d'Essieu de Char.*)

Benjamin D. Gallagher, Orange, N.J., U.S., 1st October, 1885; 5 years.

Claim.—1st. The combination, with the revolving journal having a duct therein, of the tubular arm leading the lubricant from the journal box to said duct, substantially as herein set forth and shewn. 2nd. In combination, the car axle having the duct *h* therein, the box and the revolving arms working on the ends of said journal and adapted to force the lubricant through said arms to said duct, substantially as set forth. 3rd. In combination, the car axle or journal having the groove *g* and duct *h* therein, and the revolving arms working on said journal and communicating with said duct, as set forth.

No. 22,555. Nut Lock. (*Arrête-écrou.*)

James W. Morton, Orange, Court House Va., U.S., 1st October, 1885; 5 years.

Claim.—1st. As a means for retaining a nut against moving longitudinally upon the bolt to which it is attached, a freely revolving sleeve mounted upon the bolt, and carrying the nut, as described. 2nd. As a means for retaining a nut against moving longitudinally upon the bolt to which it is attached, a freely revolving sleeve mounted upon the bolt, retained thereon by an enlargement upon the end of the said bolt, the nut being carried by the sleeve, substantially as described. 3rd. As a means for retaining a nut against moving longitudinally independent of the bolt to which it is attached, a bolt provided with a freely revolving screw-threaded sleeve by which the nut is carried, the said bolt and sleeve being provided with registering holes for the reception of a pin, to hold the sleeve while the nut is screwed thereon.

No. 22,556. Combined Milking Pail and Stool. (*Seau à Lait et Tabouret Combinés.*)

Frederick R. Putt, Toronto, Ont., 1st October, 1885; 5 years.

Claim.—1st. A milking pail having a concaved cover (which acts as a seat), secured to a tray having a solid wooden bottom by means of hinged catches, as and for the purpose specified. 2nd. A receiver having its outlet or socket half way down its back, and having below sufficient room for sediment, and to prevent splashing, as described and for the purpose specified. 3rd. A milk pail with concaved cover secured to a tray, in combination with a receiver, having a socket or outlet in the position indicated, as and for the purpose specified.

No. 22,557. Eaves-Trough Hanger.

(*Gâche de Dalle de Toit.*)

Warren H. Gould, Manchester, N.H., U.S., 1st October, 1885; 5 years.

Claim.—1st. An eaves-trough hanger, consisting of the fixed part A, having parallel arms *a a*, an attaching plate *b*, the adjustable part B having a hooked clasp *e* and a slotted shank *d*, said shank being received between the parallel arms of said fixed part, and the bolt *f* and nut *h*, for adjustably connecting said parts, all combined as set forth, whereby the hanger is adjustable to varying positions and angles, substantially as described. 2nd. An eaves-trough hanger, consisting of the fixed part A, with arms *a a*, attaching-plate *b*, and casting G, and the adjustable part B having hooked clasp *e* and slotted shank *d*, and the bolt *f* and nut *h*, adjustably connecting the parts, as set forth.

No. 22,558. Road Grader.

(*Nivelleur de Chemins.*)

Samuel Pennock, Kennett Square, Pa., U.S., 1st Octobor, 1885; 5 years.

Claim—1st. In a road-grader of the described class, the combination, with the scraper, of means, substantially as shown, for imparting independent longitudinal movement thereto, as and for the purpose set forth. 2nd. In combination with the suspended scraper, the pivoted hand-lever connected thereto and arranged to operate the scraper longitudinally, substantially in the manner and for the purpose stated. 3rd. The scraper suspended to the vertically-movable bars, so as to be capable of being reciprocated in the direction of its length, with means for imparting such movement thereto, together

with means, substantially as described, for raising and lowering said bars, and consequently the scraper, all combined, constructed and adapted to operate substantially as and for the purposes set forth. 4th. In a road-grader of the class recited, the scraper provided with mechanism constructed and operating substantially as described, whereby said scraper may be moved independently either in a longitudinal or a vertical direction, or in both directions at the same time, if desired, while the machine is in motion or otherwise, as and for the purpose set forth. 5th. In a road-grader, the combination, with the diagonal scraper suspended from the frame-work of the machine, of the resistance wheel X, when placed in front of the scraper, with means for depressing and elevating the same, substantially as and for the purpose described. 6th. In combination with the diagonal scraper secured to the frame-work upon wheels, the resistance or penetrating wheel X, journalled in a frame that is attached to the short arm of a hand-lever, which lever is pivoted on the side of the axle or equivalent support, said short arm being formed and placed with relation to the axle as shown, whereby it stops against the latter just after it has passed a vertical line through the pivot on which the said lever turns, all constructed and adapted to operate, substantially as and for the purpose specified. 7th. In combination with the diagonally-suspended scraper and the wheels W, W1, the attachable and detachable flange-pieces K, secured to the rim of wheel W, as and for the purpose specified. 8th. The scraper, the vertical bar connected thereto, the toothed rack, the independent toothed segment, with an arm or handle extending therefrom, the lever H, pivoted concentrically with said segment, together with the slots or stops *q* and catch *c c*, all combined, constructed and adapted to operate, substantially as and for the purpose stated. 9th. In combination with the platform P, the brace strips U, provided with the perforations *j*, as and for the purpose specified.

No. 22,559. Electric Signalling Apparatus for Railway Trains. (*Appareil Electrique à Signaux pour Convois de Chemins de Fer.*)

John W. Currier, North Troy, Vt., U.S., 1st October, 1885 ; 5 years.

Claim—1st. The combination, substantially as set forth, of a hollow shell of non-conducting material, a metallic contact ring *b*, provided with a flange and surrounding the same, a resilient spring finger intended to be normally in electric contact with said ring, an auxiliary spring *k* in contact with the flange *c*, a yielding contact plate normally held against the inner surface of the metal contact ring by the elasticity of a spring, and two electric conductors united respectively to the external contact finger and to the internal yielding contact plate. 2nd. The bracket G with its split or divided socket *m* and spring plate *n n1*, in combination with and for receiving the cross-bar H secured to one end of the coupling connection, whereby the latter may be instantly detached, as and for the purpose set forth. 3rd. The auxiliary spring *p*, in combination with the bracket G, spring plate *n n1* and split or bifurcated socket *m*, for admitting of the instantaneous location and removal of the cross-bar H of the coupling connection, substantially as described.

No. 22,560. Amalgamator.

(*Amalgamateur.*)

William Moller, Yonkers, N.Y., U.S., 1st October, 1885 ; 5 years.

Claim—1st. The combination of the pan A, the cone forming the inner portion of the bottom of said pan, the gutter formed outside of said cone, the spider or radial arms having agitators extending down close to the surface of said cone, and the ring carried by said arms having a series of shoes projecting into the gutter, and the deflecting plate or chute for delivering the pulp from said gutter upon the cone-shaped portion of the bottom of the pan, substantially as described. 2nd. The combination of the pan A, the cone forming the inner portion of the bottom of said pan, the circular ledge formed on the outer edge of the cone, the gutter formed outside of said ledge, the ring which carries a series of shoes projecting into the gutter, the channel *m* formed between the ring and the circular ledge, and the spider or radial arms carried by said ring, having agitators extending down close to the surface of the cone, and the deflecting plate or chute, substantially as described. 3rd. The combination of the pan having a cone forming the inner portion of the bottom of said pan, the plate *e* fitted beneath said cone and forming a heating chamber, and pipes for admitting a heating medium into the latter, and the gutter formed outside of said cone with pulp-agitating devices operating upon the gutter and cone, substantially as described.

No. 22,561. Horse Collar. (*Collier de Cheval.*)

Thomas G. Gillespie, Campbellford, and Matthew S. Cassan, Seymour, Ont., 1st October, 1885 ; 5 years.

Claim.—1st. In a horse collar, divided as described, and having the ends of the division protected by the sockets B and C, the pins E connected to the end plate of the socket C and having necks *e* formed on them, in combination with the holes *a* and notches *b* formed in the end plate of the socket B, substantially as and for the purpose specified. 2nd. In a horse collar, divided as described, and having the ends of the division protected by the sockets B and C, the pins E connected to the end plate of the socket C and having necks *e* formed on them, the holes *d* made through the said end plate, in combination with the holes *a* and notches *b* formed in the end plate of the socket B, and the pin D extending from the said end plate, substantially as and for the purpose specified.

No. 22,562. Toboggan. (*Traine Sauvage.*)

Francis W. Hore, Jr., Hamilton, Ont., 1st October, 1885 ; 5 years.

Claim.—1st. In a toboggan, the screw eyes D, in combination with the cleats B for holding the side rails E, as set forth. 2nd. In a toboggan, the hooks and eyes J, T, in combination with the batten H and an eye D for holding the front curve depressed, as set forth. 3rd. In a toboggan, the combination of the screw eye I, jointed hook J, and an eye D for retaining the front curve flexibly, as set forth.

No. 22,563. Weather Protector for Wheat, Barley, Hay, etc. (*Abri pour les Grains, le Foin, etc.*)

John Black, Fergus, Ont., 1st October, 1885 ; 5 years.

Claim.—1st. A weather protector, composed of a series of thin slats arranged to overlap each other, and braced together by the cross-slats *b*, in combination with a correspondingly-formed section, the two being flexibly connected together, substantially as and for the purpose specified. 2nd. A weather protector formed of two sides, composed of a series of slats *a* overlapping each other and braced together by the cross slats *b*, a flexible catch *c* arranged to connect the two sides thus formed together, in combination with the pins *d*, arranged to pass through the loop *f*, and the cords *h*, the whole being arranged and operating substantially as and for the purpose specified.

No. 22,564. Apparatus for Lithographic Printing and other Machines. (*Appareil pour Machines à Impressions Lithographiques et autres.*)

William Powrie, London, Eng., 1st October, 1885 ; 5 years.

Claim.—1st. The combination and use of flannel or textile fabric (or threads) B, with the trough A, substantially as hereinbefore described and shown on the accompanying drawings. 2nd. The combination and use (or not), with the flannel or textile fabric (or threads) B, and with the damping table or slab, of feeding roller C, substantially as hereinbefore described and shown on the accompanying drawing. 3rd. The combination, with the flannel or textile fabric (or threads) B, of adjustable or pinching bar D, substantially as hereinbefore described and shown on the accompanying drawings. 4th. The combination, with the flannel or textile fabric B, of swivel bar or frame F, substantially as hereinbefore described and shown on the accompanying drawings.

No. 22,565. Sleigh. (*Traîneau.*)

Anthon O. Kruger and Charles Trim, both of Houghton, Mich., U.S., 1st October, 1885 ; 5 years.

Claim.—1st. In a sleigh, the combination, with the sleigh-runners and sleigh beams, of the standards provided with the projecting journals, the staple-straps and rockers, substantially as specified. 2nd. The combination, with the sleigh-runners provided with the hook-strap near their forward ends, of the tongue having its rear cross-bar provided with eye-bands and the connecting chains, substantially as specified.

No. 22,566. Method of Straightening Needles, Wire, etc. (*Art de Redresser les Aiguilles, la Broche, etc.*)

George M. Eames, Bridgeport, Conn., U.S., 1st October, 1885 ; 5 years.

Claim.—1st. The method herein described of straightening needles, wire and the like, the same consisting in operating the straightening device by causing the eccentricities of the object to be straightened, to make and break an electrical circuit, substantially as set forth. 2nd. The process of straightening needles, wire, etc., the same consisting in controlling the operation of the straightening devices by the direct action of the eccentricities of the object to be straightened against an electrical circuit breaker, substantially as set forth.

No. 22,567. Hedge Trimmer.

(*Appareil à Tailler les Haies.*)

William Williams, Jr., Sugartown, Pa., U.S., 1st October, 1885 ; 5 years.

Claim.—1st. The centrally pivoted cutter-bar C, in combination with the supporting-frame attached to the body of the operator and mechanism, substantially as described, whereby it is adapted to be elevated or depressed and adjusted to cut horizontally or vertically, as set forth. 2nd. In a hedge-trimmer, a centrally pivoted cutter-bar in combination with the breast plate D, and intermediate cutter-bar supporting mechanism, substantially as shown and described

No. 22,568. Heating Furnace. (*Calorifère.*)

Thomas R. Renwick, Grand Rapids, Mich., U.S., 1st October, 1885 ; 5 years.

Claim.—1st. The combination, with a fire-box, a chimney, a flue, inclining downward from said fire-box to said chimney, and a boiler, of substantially the character shown and described, inclining downward from the fire-box to the chimney, of an inlet pipe or pipes leading to said boiler at its lower end, an outlet pipe or pipes leading from said boiler at its upper end, and a radiating coil or coils connecting said pipes, whereby the water entering the boiler at the lower end passes upward toward the upper end of the boiler, while the flame and heated air pass downward in the opposite direction in contact with the boiler, the current of water being in one direction and the current of heated air in the opposite direction, substantially as described. 2nd. The flat, thin boiler, located above and forming one side of the flue N, and inclining downward from the fire-box F to the chimney E, in combination with the fire box F, pipes B and C and coil D, all constructed as described.

No. 22,569. Stove Pipe Fastener.

(*Accouplement de Tuyaux de Poêle.*)

Louis Paré and Henry Reichenbach, both of Detroit, Mich., U.S., 1st October, 1885 ; 5 years.

Claim.—1st. The combination, with a length of stove-pipe, of a pipe section of larger diameter fitting therein, and a tapering compressible ring fitting over the smaller section of pipe and entering the larger section, substantially as described. 2nd. The combination, with a length of stove-pipe D, tapering smaller, as described, and a section A of larger diameter fitting thereon, and having an enlarged end, of a compressible ring B formed of a tapering piece of pipe loosely bent into a frustrum of a cone, substantially as described. 3rd. The pipe section D, decreasing in diameter from the point *d* to the end *e*, in combination with the section A, increasing in diameter from the point *g* to the end *f*, and the compressible ring B formed of a tapering piece of pipe bent into the frustrum of a cone and left unfastened along the seam *p*, and an inwardly-extending flange F provided on the ring, for the purpose set forth.

No. 22,570. Mortise Lock and Catch.

(*Serrure Encastrée avec Pêne.*)

Frank A. Hollenbeck, Syracuse, N. Y., U. S., 1st October, 1885; 5 years.

Claim.—1st. The combination, with the case A, formed with the cylindrical neck *n*, slot *r* and collars *c*, c_1 at the ends thereof, of the locking ring *g* on said neck, and provided with the slot *o*, the bolt having stud-pin *h* projecting therefrom and through the slots *r*, *o*, and a key for turning the ring *g*, substantially as set forth. 2nd. The combination, with the case A, formed with the cylindrical neck *n*, slot *r* and collar *c*, having notches *v*, v_1, and the key seat *u* in one of said notches, and the collar c_1 on the outer end of said neck *n*, of the locking-ring provided with the extension *m*, notch *w* and slot *o*, the spring *i* interposed between the ring and collar *c*, the bolt having stud-pin *h* projecting therefrom and through the slots *r*, *o*, and a key for turning the ring *g*, substantially as specified. 3rd. In combination with the case A inserted in a mortise in the edge of the door, and the spring bolt B B_1 in said case, the annular plate *f* secured in a mortise in the side of the door, the spindle S extending through said plate, the lever *a* pivoted on the plate *f* and interlocked with the bolt shank B_1, and the cam *b* on the spindle for operating the lever, all combined substantially in the manner specified and shown.

No. 22,571. Journal and Bushing for Clothes Wringers. (*Tourillon et Boîte pour Essoreuses.*)

The Empire Wringer Co. (Assignees of Henry J. White), all of Auburn, N.Y., U.S., 2nd October, 1885; 5 years.

Claim.—The combination of field stud or journal *b*, loose sleeve F encircling said journal, and crank or winch D, having its hub encircling the sleeve, the sleeve being free to rotate upon the journal, and the crank hub being free to rotate upon the sleeve, whereby the wearing faces of the journal, sleeve and crank are constantly changed, and the wear made uniform at all points, substantially as and for the purpose hereinbefore set forth.

No. 22,572. Method of Separating Sugar from Syrup. (*Art de Séparer le Sucre du Sirop.*)

Carl Scheibler, Berlin, Prussia, 2nd October, 1885; 15 years.

Claim.—The method of employing the mother-lies, resulting from the separation of monobasic saccharate of strontia from molasses or other sacchariferous liquids, by mixing with the lies a fresh portion of molasses or sacchariferous liquids and caustic strontia, for the purpose of again producing from such mixture monobasic saccharite of strontia, substantially as described.

No. 22,573. Machine for Cleaning Castings.

(*Machine à Nettoyer la Fonte.*)

Frederick W. King, Hamilton, Ont., and John Maw, Dundas, Ont., 2nd October, 1885; 5 years.

Claim.—1st. In a machine for cleaning or lightening castings, the combination of a box A, fan B, with tube C, provided with flexible joint C_1, oscillating tube C_4, hopper D, provided with flexible tube C_2, and the movable apron E, substantially as and for the purpose hereinbefore set forth. 2nd. In a machine for cleaning and lightening castings, the combination, with a box A, fan B, tubes C, flexible joint C_1, tube C_2, oscillating tube C_4, hopper D, apron E, with the conveying shaft F, elevator box I and elevator G, substantially as and for the purpose hereinbefore set forth.

No. 22,574. Car Wheel. (*Roue de Char.*)

John K. Sax, Pittston, Pa., U.S., 2nd October, 1885; 5 years.

Claim.—1st. A car wheel consisting of a flanged recessed rim or tire, an inner rim of cast metal, fused or welded to the outer rim, and a body peripherally connected to the inner rim and formed of a separate piece or pieces, substantially as set forth. 2nd. The combination, in a car wheel, of an outer and inner rim, of different metals fused together, and a detachable body portion consisting of a separate piece or pieces, fitted and clamped to the inner rim, substantially as set forth. 3rd. The combination of the outer and inner rims, consisting of different metals fused together, a body peripherally fitted to the inner rim and intervening packings, substantially as specified. 4th. The combination, in a car wheel, of an outer forged recessed rim, an inner rim or section provided with recesses or sockets, and a body portion provided with arms or spokes, fitted to said sockets and secured by clamping plates, substantially as specified. 5th. The combination of the outer and inner rims fused together, and the detachable body having spokes with expanded ends, adapted to sockets or recesses in the inner rim, and a removable cap piece or pieces clamping the body and inner rim together, substantially as specified. 6th. The combination, with the rim having sockets expanding towards the periphery, and body having arms terminating in fingers adapted to said sockets, of side packings and wedges fitting between the fingers, to compress the packings, substantially as set forth. 7th. The combination, with the outer forged rim, and a detachable body, provided with spokes having expanded ends, of an inner cast metal rim fused to the outer rim, and provided with recesses and attachments for the ends of the spokes, substantially as set forth.

No. 22,575. Stove and Furnace Grate.

(*Grille de Poêle et de Fourneau.*)

Alexander McKay, Quebec, Que., 2nd October, 1885; 10 years.

Claim.—1st. In a stove or furnace, the combination, with the base A, having a central opening B_1 in the top B, and provided with flanges D and door C, of the sliding plate F, having a flanged circular opening and annular flat ring G seated therein, and grate H, having trunnions seated in the ring, whereby the grate will have shaking and dumping movements, and the plate and ring and grate be combinedly removable slidingly, as set forth. 2nd. The combination, with the base A, plate F, ring G and grate H, the flanged rails D, D_1, secured to the top B by bolts and nuts E, for the purpose set forth. 3rd. The combination, with the base A, of plate F, having a flanged opening, ring G, having notches G_1 on the under side, and grate H, whereby sticking of the ring is prevented, as set forth.

No. 22,576. Siphon Recording Instrument for Electric Cables. (*Régistre à Siphon pour Câbles Electriques.*)

William Dickinson, Heart's Content, Newfoundland, 2nd October, 1885; 5 years.

Claim.—1st. The combination, substantially as hereinbefore set forth, with the marking point of a recording instrument, of a vibrating arm and a mechanical connection between said vibrating arm and said recording instrument. 2nd. The combination, substantially as hereinbefore set forth, with a siphon recorder, of a rheotome, and a mechanical connection between said rheotome and recorder, substantially as and for the purposes specified. 3rd. The combination, substantially as hereinbefore set forth, with the marking point of a siphon recorder, of an electro-magnet, its armature, a circuit for said electro-magnet, the connections of which are automatically made and interrupted by the to-and-fro movement of said armature, and a mechanical connection, substantially as described, between said armature and siphon, whereby the latter is vibrated. 4th. The combination, substantially as hereinbefore set forth, with a marking point, and means for moving the same laterally, of a rapidly vibrating arm and a connection between said arm and marking point, substantially such as described, whereby the vibrations of said marking point are in a plane at right angles to its lateral movement.

No. 22,577. Food. (*Aliment.*)

Samuel Marrotte, Montreal, Que., 2nd October, 1885; 5 years.

Claim.—The dry food compound, herein described, consisting of coffee, sugar, and condensed milk, substantially in the proportions given and prepared in the manner set forth.

No. 22,578. Lubricant. (*Graissage.*)

Edward Loveley, Sarnia, Ont., 2nd October, 1885; 5 years.

Claim.—The herein described composition of matter for lubricating cylinders and journals, consisting of concentrated lye, lard oil, beeswax, water, and Pennsylvania crude petroleum oil, in the proportions specified.

No. 22,579. Earth Closet. (*Siége à la Terre Sèche.*)

William Heap, Owen Sound, Ont., 2nd October, 1885; 5 years.

Claim.—A urine-separating receptacle B, provided with a sloping shelf C, constructed substantially as and for the purpose specified.

No. 22,580. Tintograph. (*Teintographe.*)

Edward H. Brown, New York, N.Y., U.S., 2nd October, 1885; 5 years.

Claim.—1st. In a tintograph, a tint plate mounted on a turn-table so that it may be rotated at will under the work, which is placed in a fixed position over it, and also provided with a radial movement by means of a laterally sliding plate interposed between it and the bed of the turn-table plate, substantially as shown and described. 2nd. In a tintograph, a turn-table plate provided with a fixed vertical axis, in combination with the stationary bed plate which secures it in place and allows it to rotate thereon, said turn-table provided on its upper face with a tint plate, the upper surface of which is ribbed with intervening grooves between the said ribs, the whole operating so that by turning the said turn-table and its attached tint plate, the ridges or lines on said tint plate may be turned at any angle, or parallel with any given radial line, substantially as shown and described. 3rd. In a tintograph, a tint plate carrier formed of the turn-table plates B, C, the latter being laterally adjustable on the former by means of an adjusting screw, so as to slide the top plate C, on the bottom plate B, suitable guides between the two plates keeping them in position in the other direction, and thereby laterally adjust on the turn-table proper the tint plate K, which is secured to, and moves with the sliding plate C, substantially as shown and described. 4th. The turn-table C, clamps *m*, and tint plate K, combined substantially as described. 5th. In a tintograph, the combination of the base or bed-plate A, provided with the central boss or sleeve a_1 and the plate B, provided with the feet *b* and central pivot b_1, substantially as and for the purpose herein described. 6th. In a tintograph, the combination of the plate B, provided with the legs *b* and slots b_2, the plate C, provided with the lug *c* and ribs or fins c_2 and the screw D and spring *d*, arranged and operating substantially as and for the purposes herein described. 7th. The stationary bed-plate A, having socket holes a_2 on its top face and near its edges, in combination with the frame or plate E, provided with feet *f*, the said feet being

made vertically adjustable by means of screw threads on the shanks of the said feet, substantially as described. 8th. The combination of the plate or frame E, ring G, clamping bars H and thumb-screws J, substantially as and for the purpose herein described. 9th. The vertical post S, interchangeably fitted to holes *t* in the top annular frame G, the said holes acting as centres in which the said vertical post may rotate, and in combination with said post, a longitudinally adjustable rod carrying at its inner end a pencil head with pencil, the whole acting so as to mark or centre the picture which is secured to the stretcher P, and rests on the frame G, the whole combined and arranged substantially as described.

No. 22,581. Fireproof Non-Conducting Covering. (*Couverture Réfractaire Non-Conducteur.*)

John F. Torrence, Montreal, Que., 2nd October, 1885; 15 years.

Claim.—A compound, composed of infusorial earth, with wood or other vegetable pulp, and asbestos fibre, substantially as in the proportions and for the purposes set forth.

No. 22,582. Snow Shovel. (*Pelle à Neige.*)

Hamilton D, Waite, Watertown, N. Y., U. S., 3rd October, 1885; 5 years.

Claim—1st. A snow-shovel, comprising a broad, flat blade, and a double curved handle having its ends extending under and across the blade, and fastened thereto close to its sides, whereby an unequally-distributed load may be readily lifted, substantially as shown and described. 2nd. A snow-shovel, comprising a flat blade, a bent handle having divergent ends which extend under and across the blade, so as to support the same, and a cross-bar or rod close to the blade and extending from one branch to the other of the bent handle, substantially as described.

No. 22,583. Cut-Off Valve.

(*Soupape de Détente.*)

Bernard Topmiller, Simon Obermayer and Jacob H. Heinsheimer, Cincinnati, Ohio, U.S., 3rd October, 1885; 5 years.

Claim.—1st. The combination of a steam chest, a valve to open the steam ports, operated directly by the eccentric rod, and independent cut-off valves at each end of said main valve, and yoked together with suitable mechanism, to alternately close said cut-off valves against the opposite ends of the center valve, substantially as specified. 2nd. The combination of the steam chest, valves A, B, B, and yoke D with spring actuated lever C, to suddenly close the cut-off valves B against the following end of valve A, when the lever is thrown from its centre by the yoke D. 3rd. The combination, substantially as specified, of the steam chest, valves A and B, yoke D, and screw-threaded rods *b*, the said rods passing through the ends of the yoke and having nuts upon each side to expand or contract the valves B, to regulate the cut-off. 4th. The steam chest, the valve A, actuated by rod *a*, the valves B, B, connected by yoke D and rods *b*, in combination with frame F, lever C, links *c*, and springs G, to operate the said valves B, during part of their stroke independent of valve A. 5th. The combination of a steam chest, a slide valve, intermediate two cut-off valves which are yoked together outside of the steam chest and actuated by mechanism, such as shown, actuated by the regulator, to automatically expand or contract said cut-off valves for the purpose of controlling the admission port and cut-off according to the pressure of steam or duty required of the engine. 6th. The steam chest, the valves A, B, yoke D, and its actuating mechanism, in combination with yoke I, II, L, connected to and controlled by the governor, to automatically control the admission of steam to the cylinder, substantially as described. 7th. A steam chest having a slide valve within it actuated by the eccentric rod, and two expansible cut-off valves operated during part of their stroke independent of the main valve, in combination with the yoke connecting said valves, and a vertically-sliding yoke having diagonally-slotted slides *l*, to engage pins upon the rods of the cut-off valves, said yoke being controlled by the governor or engineer, as shown and described. 8th. In a cut-off for engines, the combination of the main valve, the independent laps at the opposite ends of said valve, yoked together as shown, and arranged to be moved during part of the stroke independent of the main valve, with a rod attached to the lap and spring cushions acting upon the rod to resist the steam pressure and prevent the laps closing too rapidly. 9th. The combination, substantially as specified, of valve A, laps B, B, upon each end of said valve, and yoked together, as shown, with crank-rod *a* and lap rod *b*, the frame or yoke D *d*, *d*, and springs S to cushion the laps.

No. 22,584. Attachment to Car Axle Boxes.

(*Appareil pour Boite à Graisse.*)

William H. Cooper, Wayne, Mich., U. S., 6th October, 1885; 5 years.

Claim.—1st. In combination with a car axle box, a removable oil receptacle having a roller journalled in proper bearings in the same, and adapted by contact with the under face of the car axle journal and rotating therewith by such frictional contact, to lubricate such journals, substantially as described. 2nd. In combination, a car axle box, a removable oil receptacle provided with a roller journalled in proper bearings and arranged to lubricate the journal by frictional contact therewith, with suitable bearing and end springs arranged to compel such frictional contact between the journal and the roller, substantially as set forth. 3rd. In combination with a car axle box A, a removable oil receptacle B, carrying a lubricating roller C1, when constructed, arranged and operating substantially as described. 4th. In combination, a car-axle box A, a removable oil receptacle B, lubricating roller C and springs G, H, when constructed, arranged and operating substantially as described.

No. 22,585. Printer's Quoins.

(*Coin d'Imprimerie.*)

John McConnell and Julius R. Drodzewski, Erie, Pa., U.S., 6th October, 1885; 5 years.

Claim.—1st. The combination in a printer's quoin, of a central wedge-shaped section, having a longitudinal slot therein, with two side sections, the inner faces whereof are inclined to fit the wedge-shaped section, and having countersunk rivet holes therein, substantially as shown, and a loose rivet passing through said countersunk rivet holes and said slot, substantially as and for the purpose set forth. 2nd. The combination in a printer's quoin, of the central wedge-shaped section C, provided with the longitudinal slot E, and notches *c*, and the side section A and B, provided with countersunk rivet holes I, I, and notches *b*, with the loose rivet H, substantially as and for the purpose set forth. 3rd. The combination in a printer's quoin, of the three sections, substantially as shown, connected together by a loose rivet, the central of which sections rests and moves longitudinally upon slides or guides on the outside sections, so that in its longitudinal movement it is supported thereby, so that it does not touch the composing stone, substantially as and for the purpose set forth. 4th. The combination in a printer's quoin, of two outside sections, provided with countersunk rivet holes, and having their inner faces longitudinally inclined and provided with longitudinal grooves or guides, substantially as shown, with a central wedge-shaped section having a longitudinally slot therein, and longitudinal fins on either side thereof, above said slot, and having the lower edge thereof cut away, substantially as shown, and a loose rivet passing through the countersunk rivet holes in the outside sections, and through the slot in the central section, substantially as and for the purpose set forth.

No. 22,586. Stone and Stump Lifter.

(*Arrache-Souche.*)

Samuel Burbank, Knowlton Landing, Que., 6th October, 1885; 5 years.

Claim.—1st. The combination of the tripod A having pulley C, hoisting chain D, dog chain E and lever F having hooks *c*, *s*, to operate as described, whereby the load is lifted by depression of the lever and held at successive steps by the dog-chain. 2nd. The lever F, provided with a claw hook *c*, hinged to one end and having an adjustable claw fulcrum hook *s*, as set forth for the purpose described.

No. 22,587. Tubular Axle. (*Essieu Tubulaire.*)

The Lake Shore Tubular Axle Co., Cleveland, Ohio, (assignee of Edgar Peckham, Syracuse, N.Y.,) U.S., 6th October, 1885; 5 years.

Claim.—1st. The within-described tubular axle consisting of a plain wrought metal tube of uniform dimensions internally from end to end thereof, and having the exterior of its end portions turned off or cut down gradually to a uniform taper and smooth surface, substantially as specified. 2nd. A tubular axle composed of a plain wrought metal tube of uniform dimensons internally from end to end thereof and having the exterior of its end portions cut down gradually to a uniform taper and reinforced by bushings inserted in the end of the tube, substantially as described and shown. 3rd. An axle composed of a metal tube having its exterior of uniform dimensions from end to end thereof, and its spindles tapered externally, lubricating ports in the spindles, a dam at the inner end of the interior of the spindles, a dam at the outer end of the spindles, and provided with lubricant induction ports or channels, and a wheel-retaining nut attached to said dam and closing the channel thereof, all constructed and combined substantially in the manner specified and shown.

No. 22,588. Indicating Poise for Lever Scales. (*Poids Indicateur pour Romaines.*)

Louis C. Irving, Oregon, Mi., U.S., 6th October, 1885; 5 years.

Claim.—As an improvement in scales, in which the beam is provided with a longitudinal rack, to engage a gear wheel upon a shaft, to operate a pointer over a graduated dial, the combination of the beam A, having the rack B, let into the said beam longitudinally thereof, the slide-weight D, having the recess *e*, open at opposite ends, the vertical shaft *g*, carrying the gear *h*, to engage the said rack, and the pinion to engage the gear wheels at the upper portion of the shaft *k*, which shaft has a pointer *m*, whereby the said pointer may be moved over the indicating dial F, on the upper face of the said slide weight, substantially as shown and described.

No. 22,589. Target Dart. (*Trait à Cible.*)

Thomas J. Shears, Detroit, Mich., U.S., 6th October, 1885; 5 years.

Claim.—1st. As a means of discharging an arrow, a catapult, consisting of the staff A, having the rubber spring secured by means of a screw in a kerf cut, or formed in one end of the staff, substantially as described. 2nd. The arrow B, having the spike *c* and staple *f* secured to the head *d*, in combination with the herein-described catapult, as set forth.

No. 22,590. Dust Guard for Railway Car Axles. (*Garde-poussière pour Essieux de Chars.*)

Jackson R. Baker, Jersey, N.J., U.S., 6th October, 1885; 5 years.

Claim.—A dust guard for railroad car axles, consisting of a single solid piece of wood having a circular opening provided with the annular groove C, in the circumference of said opening, combined with an annulus of packing material D in said groove, having its inner edge projecting beyond the walls of the groove, substantially as described.

No. 22,591. Conductor Pipe Hook.

(*Gâche pour Tuyau de Gouttière.*)

John Leadly, Detroit, Mich., U.S., 6th October, 1885 ; 5 years.

Claim.—1st. A hook for securing conductor pipe, consisting of an open hook or rest A, provided with a tang for securing it to a building, and a gate C, for retaining the pipe in position, substantially as and for the purposes described. 2nd. As a article of manufacture, a conductor hook, consisting of the part A, provided with the tang *a*, arms *b*, *c*, and gate B, when constructed, arranged and operating substantially in the manner and for the purposes specified.

No. 22,592. Method of producing from Kerosene Oil light and heat without a wick, and apparatus therefor. (*Art de produire la lumière et la chaleur au Moyen de la Kérosine sans mêche, et appareil pour cet objet.*)

William Barraclough, Balmain, N.S.W., 6th October, 1885 ; 5 years.

Claim—1st. An improved construction of apparatus for burning kerosene oil without a wick, involved in the following particulars :—The application of heaters constructed hollow placed over the flame for the purpose of bringing the air or induced currents of air to a high temperature prior to the same becoming mixed with the kerosene vapor in the mixing tube. The construction of the tap, as shown in the accompanying drawing, the same dispensing, with any packing as required in taps for the ordinary construction for similar apparatus and preventing the leakage which arises therefrom. The filling of the packing tube with pieces of glass, as a non-heat conducting substance. 2nd. A new and improved method of producing from kerosene oil of any density, a smokeless flame giving a brilliant white light and heat (emitted through a burner) without the aid of any wick for use as a lamp or in stoves, by means of the admission into the tube on which the burner is fixed, of air, or currents of air, raised to a high temperature, and so constructing the packing tube of the apparatus and the adjacent parts thereof, as not to apply such a heat to the kerosene whilst in the packing tube, as to decompose the oil, but only so much as is necessary to convert it into vapor, so as to prevent the formation of cinder or tar in the packing tube, and so as to produce from the combination of vapor from kerosene oil, of any density, and heated air, a white powerful flame free from smoke, and of great force and intensity.

No. 22,593. Heating Apparatus. (*Calorifère.*)

Solomon N. Carvalho, New York, N.Y., U.S., 6th October, 1885 ; 5 years.

Claim.—1st. In an apparatus for heating air, steam or like medium, one or more retorts or chambers *c*, provided with ribs, partitions or diaphragms and coils, whereby the internal heating surface is greatly increased, substantially as described. 2nd. In an apparatus for heating air, steam or like medium, one or more retort or return bends, provided with caps or guards constructed of two or more pieces, applied to the exposed portions of such retorts, substantially as and for the purposes specified. 3rd. In an apparatus for heating air, steam or like medium, the combination of one or more retorts provided with ribs, partitions, diaphragms, or wire coils for increasing the heat receiving or distributing surface, a bed plate to which such retorts are attached, one or more receiving pipes or reservoirs, and one or more distributing pipes, ducts or reservoirs, substantially as set forth. 4th. In an apparatus for heating air, steam or like medium, an intercommunicating pipe or duct, provided with a valve or gate, whereby communication is opened between the inlet pipes, ducts or reservoirs, and the outlet pipes, ducts or reservoirs, substantialy as and for the purposes specified. 5th. In an apparatus for heating air, steam or like medium, the combination of a furnace or combustion chamber, one or more retorts provided with ribs, partitions, diaphragms or wire coils, a bed plate to which the retorts are attached, caps or guards for retorts, one or more receiving chambers, pipes or ducts, and one or more distributing chambers, pipes or ducts, substantially as and for the purposes specified. 6th. In an apparatus for heating air, steam or like medium, the combination of a furnace or combustion chamber, one or more retorts C, a bed plate G, one or more receiving chambers, pipes or ducts, one or more delivery chambers, ducts or pipes, and intercommunicating pipes or ducts M, substantially as and for the purposes specified. 7th. In an apparatus for heating air, steam or like medium, the combination of a furnace or combustion chamber A, retorts or return bends C, caps or guards D, bed plate G, receiving chambers or ducts I, distributing chambers or ducts K, intercommunicating pipes or ducts M, and delivery pipes or ducts L, substantially as and for the purposes specified. 8th. In an apparatus for heating air, steam or like medium, the combination of one or more inlet pipes or ducts I, one or more outlet pipes, ducts or chambers K or L, and one or more intercommunicating pipes or ducts M, provided with valves or gates *o*, whereby the temperature of the heated air or steam may be lowered to required temperature, substantially as set forth.

No. 22,594. Casing for Pipes.

(*Envelope pour Tuyaux.*)

James F. Wood and John F. Wood, Wilmington, Del., U.S., 6th October, 1885 ; 5 years,

Claim.—In a casing for pipes, the combination, with disks fitting on the pipes, of tubular casings made in sections and fitted around the disks, substantially as herein shown and described. 2nd. In a casing for pipes, the combination, with the disk A, of the open tubular casing sections E, each having one edge creased to form a pocket F, along the edge, which pocket is to receive the other edge, substantially as herein shown and described. 3rd. In a casing for pipes, the combination, with disks A, of the tubular casing sections E, having pockets F, formed along the open edges, and having pockets H, formed at the end edges, substantially as herein shown and described.

No. 22,595. Chemical Engine.

(*Machine Chimique.*)

George Asher, Balsall, and John Buttress, Sparkbrook, Eng., 6th October, 1885 ; 5 years.

Claim.—1st. In a motor, the application and use of nitric and sulphuric acids with turpentine or ayodiphenyl-diamine or chloride of kakodyle for causing explosions as herein described. 2nd. The combination in a motor, of a vessel H_1, having an outlet or outlets I_1,I_3, and a vessel H_2, having an outlet or outlets I_2, I_4, communicating with each other and with a cylinder containing a piston, as and for the purposes set forth. 3rd. In a motor, operated by the explosive combination of the liquid substances hereinbefore described, a cylindrical plug or valve K_1, having at one side thereof a groove or recess k_5 arranged to operate as and for the purpose specified. 4th. In such a moter, a plug or valve K_1, having a slot k_7, arranged to operate as and for the purpose specified. 5th. In such a motor, a pair of plugs or valves K_5, K_6, connected together and having severally a slot k_7, k_8, arranged to operated as and for the purpose specified. 6th. In such a motor, a cylindrical plug or valve K8 having two grooves or recesses k_5 arranged to operate as and for the purpose specified. 7th. In a motor, the combination of a cylinder and piston with a pair of plugs or valves K_1,K_2, or their equivalent, arranged to continuously rotate or oscillate so as to intermittently bring together portions of certain liquids from general supplies, to cause successive explosions to act upon the said piston, as herein set forth. 8th. In a motor, the combination of a cylinder and piston with two pairs of plugs or valves K_1, K_2, and K_3, K_4, or their equivalent, arranged to continuously rotate or oscillate so as to intermittently bring together portions of certain liquids from general supplies, to cause successive explosions alternately on one side of the said piston, as herein set forth. 9th. In a motor, the combination of a cylinder and piston with a pair of plugs or valves K_1, K_2, or their equivalent, each having a slot K_7, K8, arranged to slide longitudinally so as to intermittently bring together portions of liquids from general supplies, to cause successive explosions alternately on one side of the said piston, as herein set forth. 10th. In a motor, the combination of a cylinder and piston with two pairs of plugs or valves K_1, K_2, and K_3, K_4, or their equivalent, each having a slot k_7, k_8, arranged to slide longitudinally so as to intermittently bring together portions of liquids from general supplies, to cause successive explosions alternately on either side of the said piston, as herein set forth. 11th. In a motor, operated by the explosive combination of suitable substances, a pair or pairs of plugs or valves K_1, K_2, having grooves or recesses k_5, k_6, in combination with a lever P, or its equivalent, and a screw and hand wheel p_1, or their equivalent, so as to be adjustable longitudinally to regulate the quantity of the explosive liquid or liquids used in each explosive, as herein set forth. 12th. In such a motor, a pair or pairs of plugs K_1, K_2, having grooves or recesses k_5, k_6, in combination with a lever P or its equivalent, and a governor S, or its equivalent, so as to be automatically adjustable longitudinally, to regulate the quantity of the explosive liquid or liquids, used in each explosions, as herein set forth. 13th. In such a motor, a pair or pairs of plugs or valves K_1, K_2, having slots k_7, k_8, and receiving vibratory motion by means of levers P, and a slotted lever P_1, or their equivalent, in combination with a governor S, or its equivalent, so as to automatically obtain an increased or diminished length of travel of the plugs of valves, as and for the purposes specified. 14th. In such a motor, the combination of a governor with the plugs or valves, so as to automatically regulate the quantities of the explosive substances used in each explosion, as herein set forth.

No. 22,596. Cash Carrier. (*Coulisse à Monnaie.*)

Fred J. Hazard, Belleville, Ont., 6th October, 1885 ; 5 years.

Claim.—1st. The ways A, A_1, having grooves *a*, a_1, and formed so that the carrier D has its bearing upon the outer edges of the said ways, substantially as and for the purpose hereinbefore set forth. 2nd. The combination of the ways A, A_1, having grooves *a*, a_1, and the cylindrical carrier D, as and for the purpose hereinbefore set forth. 3rd. The cylindrical carrier D, having a flange F, rubber bands G, and pin projections from its ends, all adapted to travel on said ways, substantially as and for the purpose hereinbefore set forth. 4th. The combination of the cylindrical hollow carrier D, detachable end H, springs y, y_1, disks e_1, f_1, pins b_1 and slots c_1, substantially as and for the purpose hereinbefore set forth. 5th. The combination of the metal plate S, adjustable staff t, lever w_1, tongue q, and means for connecting said lever and tongue, all adapted to be operated by the cylindrical carrier D, substantially as and for the purpose hereinbefore set forth. 6th. The metal plate S, adjustable staff t, lever w_1, tongue q, and means for connecting said lever and tongue, in combination with the ways A_1, B_1, and cylindrical carrier D, substantially as and for the purpose hereinbefore set forth. 7th. The check E to be operated by the receiver and means for holding it, in combination with the way B_1, and carrier D, substantially as and for the purpose hereinbefore set forth. 8th. The combination of the check E, receiver *k*, as described, cords *m* and *n*, and weight *o*, as and for the purposes hereinbefore set forth. 9th. The stop *g*, in the elevator, for the purpose hereinbefore set forth. 17th. The combination of the slides *e*, plates d_1, curved pieces *d*, and stop *g*, to be worked on the rods *b*, as and for the purpose hereinbefore set forth.

No. 22,597. Gate. (*Barrière.*)

James N. Buckner, Windsor, Ont., 6th October, 1885; 5 years.

Claim.—1st. A gate, adapted to be opened and closed by mechanism, as described, coming in contact with the wheels of the passing vehicle, such contact causing the track which supports the gate to tilt in one direction to allow the gate to open by gravity, and then tilt in the opposite direction to allow the gate to close by gravity, substantially as specified. 2nd. In combination with a gate and a gate frame, consisting of the posts A, B, C, and girt D, a track pivot

ally and centrally secured to such girt and supporting a gate suspended from such track, with means, substantially as described, for alternately tilting such track in opposite directions, substantially as and for the purposes set forth. 3rd. In combination with a gate supported by means of wheels running upon an over-hung track, which is centrally supported to the gate frame, a bracket F, forming the fulcrum of a lever I, which is connected with one end of the track E, the cable J, bell-crank K, and bale N, carrying a crank M, the parts being constructed and operating substantially as and for the purposes described. 4th. In a gate constructed substantially as described, the spring O which compels the bale N to assume a vertical position from a horizontal, when relieved from pressure, substantially as set forth. 5th. In combination with a gate, substantially as described, the means, as described, of adjusting the inclination or plane of the track E, substantially as set forth.

No. 22,598. Bottle Stopper.

(Bouchon de Bouteille.)

Tracy Coit, New York, (assignee of F. J. Duverall, Jersey City, N.J.,) U.S., 7th October, 1885; 5 years.

Claim.—1st. The bottle stopper composed of the stop or bowl, a post extending from one side of the stop and a tube from the opposite side thereof, a passage being formed through the tube connecting with an outlet adjacent to the said stop or bowl, substantially as set forth. 2nd. The bottle stopper composed of the bowl or stop F, post G, tube H and passage I, in combination with the ring of the material D, substantially as set forth. 3rd. The bottle stopper composed of the bowl or stop F, post G, tube H and passages I, W, substantially as set forth. 4th. The bottle stopper composed of the bow lor stop F, post G, tube H, passage I, and a ring or coating of rubber on the post, substantially as set forth. 5th. The bottle stopper, having the shoulder or shoulders x x, substantially as set forth. 6th. The bottle stopper constructed substantially as described, and containing the loose metal ball, substantially as set forth.

No. 22,599. Lubricator. *(Graisseur.)*

The Peerless Oil Ejector Co., (assignee of Philip Leonard Schmitt), all of Quincy, Ill., U.S., 7th October, 1885; 5 years.

Claim.—1st. A lubricator consisting of a reservoir I, a steam supply pipe connected with a condensing coil communicating with the reservoir, sight feed tubes on each side of the seservoir, equalising branch pipes D_1, extending from the main supply pipe P to the caps of the sight feed tubes and the parts to be lubricated, substantially as described. 2nd. In combination, the oil reservoir of the lubricator cup, the steam supply pipe P, and its lateral branches D_1, the sight feed tubes arranged upon each side of the reservoir condensing coil and the regulating valve m_1, placed in the said pipe A_1, above the junction of the branches D_1, with the pipe P, all substantially as described. 3rd. In combination with the reservoir of a lubricator cup, the pipe P and its branches D_1, the pipe A_1 extending upward from the junction of the pipes P and D_1, and terminating in a coil wound downward around the said pipe A_1, and communicating with the reservoir at the top thereof, substantially as described.

No. 22,600. Boxing Machine.

(Machine à Fabriquer les Boîtes.)

Ezra B. Eddy (Assignee of G. H. Millen and A. Derouin) all of Hull, Que., 7th October, 1885; 5 years.

Claim,—1st. The art of forming bevelled angular junctions of the sides and ends of boxes, having dovetailed tongue and groove fastenings, by means of saws and cutters arranged substantially as herein shown and described. 2nd. In a boxing machine, the saws H_1 and cutters J and J_1, arranged to form the dovetailed tongue m_1 on one end of the stock, and the saw H and cutters I and I_1 arranged to form the dove-tailed groove m on the opposite end of the stock, substantially as shown and described. 3rd. In the above described boxing machine, the chain-way E_1, chain C_1, saw H_1, and cutters J and J_1, arranged so as to be movable toward, or from, the chainway E, by the means of the screws L, which are worked by the crank p through the shaft p_1, bevel-gears q and q_1, and the spindle r, substantially as shown and for the purpose set forth. 4th. The saws H and H_1 and cutters I and I_1, and J, J_1, having their respective arbor pulleys belted indirectly from the driving power, so as to act on both ends of the stock in the manner described. 5th. In a boxing machine, the cone pulleys a and a_1, spur wheels b, b_1, shaft c, screw pinion d, spindle e, screw wheel g and bevel gear wheels h and i, as shown and described. 6th. The combination, in a boxing machine, of the above-mentioned saws and cutters, with the endless pitch-chains C and C_1, running through the chain-ways E and E_1, the case F, and the adjustable binders G having the flexible rollers G_1, substantially as herein shown and for the purpose set forth.

No. 22,601. Boot. *(Botte.)*

Joseph Seguin et Jean B. Lalime (Assignees of C. H. Kirkland), all of St. Hyacinthe, Que., 7th October, 1885; 5 years.

Claim.—1st. A boot having the upper formed of three pieces, so shaped and attached together as to prevent the necessity of a seam across the instep, substantially as herein set forth. 2nd. A boot with upper formed of a blank, comprising the vamp, foxings, centre-piece and back piece, a separate quarter and an insertion piece, all substantially as described. 3rd. The blank A herein described, comprising vamp b, foxing c, centre-piece d, high foxing e and back piece f, all as herein set forth and for the purposes described.

No. 22,602. Auger Bit. *(Mèche de Tarière.)*

Charles H. Irwin (Assignee of W. McI. Dimitt), all of Martinsville, O., U.S., 7th October, 1885; 5 years.

Claim.—1st. The solid auger-bit, comprising the central stem having the single convoluted blade formed with a single chisel or knife edge cutter, said cutter being disposed at one side of the stem and at the lower end of the blade, substantially as shown and described and for the purpose set forth.

No. 22,603. Sleigh Knee. *(Courbe de Traineau.)*

Frank J. Bartlett, Easton, (Assignee of G. W. Taylor, Sugar Hill,) N.H., U.S., 7th October, 1885; 5 years.

Claim.—1st. In combination with the runner A and spindle m, the bracket D, as described, having recesses d_2, d_4, and projection d, the pin n, and securing bolts, as set forth. 2nd. In combination with the bolts c, brace-cap G, G_1, and bracket D, having recesses d_1, d_4, projection d, and conical bearing, the spindle m, and pin n, as set forth. 3rd. The bracket described, having base D_1, body D_2, diverging arms D_3, recesses d_1, d_4, cap-plate D_4, and slot d_2, combined and adapted to serve the bolts C, perforated plate or step b, and spindle m, as set forth. 4th. The slip or perforated step and bracket D, having recesses d_1, d_4, and projection d, in combination with a runner A, and bolts c, the said clip having flanges d_2, substantially as shown and described.

No. 22,604. Automatic Device for Storing Power. *(Appareil Automatique pour Emmagasiner la Force.)*

Appleton J. Pattison, Toronto, Ont., James Houlehan, Toledo, O., 7th October, 1885; 5 years.

Claim.—1st. The hereinbefore described apparatus for automatically accumulating and utilizing power, which apparatus consists of a lever or series of levers, having thereon a projection or projections actuated by the wheels of a passing train for operating automatically mechanism, substantially as described, for accumulating and releasing the power for the purpose of pumping water into a tank or elevated cistern. 2nd. As an improvement in apparatus for automatically accumulating and utilizing power, the combination of a lever or series of levers with a projection or projections thereon, of springs abutting against the underside of said lever or levers, of a pawl or dog secured to said lever for actuating a ratchet wheel, the whole operating substantially as described. 3rd. In an apparatus for automatically accumulating and utilizing power, the combination of the ratchet wheel E secured to the shaft F, held in bearings f, f_1, of the locking pawl or dog G secured to the bed-plate H and operating to lock the ratchet wheel E, of the grooved or recessed wheel d for the reception of the chain I, of the pulleys J, J_1, for guiding the chain operating the weight K sliding in guides i, i, upon the outside of the tank L, the whole operating substantially as described.

No. 22,605. Car Ventilator. *(Ventilateur de Char.)*

Alonzo Bell, Washington, D.C., U.S., 7th October, 1885; 5 years.

Claim.—1st. The car ventilator herein described, consisting of the double cowl A, A, open at the bottom and having central passage B arranged beneath the car and communicating with the interior thereof, an l a register placed over the passage B, whereby air and dirt may be discharged from the bottom of the car, as and for the purpose set forth and described. 2nd. The car ventilator, herein described, consisting of a double cowl A, A, having an open bottom and arranged horizontally beneath a car floor, exhaust casing B forming at its lower end a vertical central passage through said double cowl, and communicating with the interior of the car, a floor register and a side register or registers opening into said casing, as shown and described, whereby air and dirt may be discharged from the lower portion and the hot air removed from the upper portion of the car, substantially as set forth.

No. 22,606. Light Metal Wheel.

(Roue en Métal Léger.)

Paul Flock, Waterford, Ont., 7th October, 1885; 5 years.

Claim.—A wheel, in which the rim A is connected to the hub B by a spoke D having enlarged ends, the end p designed to screw into the hub B having a coarser thread cut upon it than the end a, which screws into the rim A, the whole being aaranged substantially as and for the purpose specified.

No. 22,607. Lathe for Turning Concentric Forms. *(Tour à Tourner les Formes Concentriques.)*

Harry C. Albee, Detroit, Mich., U.S., 7th October, 1885; 5 years.

Claim.—1st. In a lathe for turning concentric forms, in which the spindles are mounted in revolving disks and rotated around revolving cutter-heads, the fixed guide-rails P, which guide the radial movement of the spindles by their inner track, in combination with the coil springs e, substantially as and for the purposes described. 2nd. The revolving disks E, E_1, provided with radial recesses or slots, the sliding blocks G radially-movable in said slots, the spindle boxes H carried by the sliding blocks, spindles I, J, carried by the spindle boxes and coil springs placed around the spindles by means of which they are retractably held in place, all in combination. 3rd. In combination with a series of revolving cutter-heads, rotary disks carrying independent radially movable spindles around said cutter-heads, stationary guideways upon the main frame for guiding the radial movement of said spindles, and devices such as the friction disks L, K, for revolving the live spindles independently of the other moveable parts of the lathe, substantially as described. 4th. The devices for revolving the live spindles, consisting of the disks K placed upon the spindle boxes or upon the spindles, as described, and of the disk L sleeved upon the main shaft and adapted to transmit the motion gived to it to the disks K by means of frictional contact therewith. 5th. In a lathe for turning concentric forms, the combination of a series of cutter-heads which simultaneously work upon the stick of the corresponding disks E, E_1, one carrying a series of live spindles and the other a corresponding series of dead spindles, of the sliding blocks G mounted in radial slots in the disks and radially guided

therein, of the guide rails P and coil springs *e*, which control the radial movement of the spindles, the former controlling their inward and the latter their outward movement, of the spindle boxes H which secure the spindles retractibly in position, and of the friction disks K and L for revolving the live spindles, all substantially as and for the purposes described.

No. 22,608. Band for Snow Shoes.

(*Courroie de Raquettes.*)

Edward J. Harkin, Three Rivers, Que., 7th October, 1885; 5 years.

Claim.—1st. The band B attached to the netting or web of a snow shoe, substantially as shown and for the purpose set forth. 2nd. The combination of the band B and stirrup C with the netting or web of a snow shoe, substantially as herein shown and described.

No. 22,609. Machine for Making Wire Fences. (*Machine à Fabriquer les Clôtures en Fil de Fer.*)

Sam. Watson, Straughn, Ia., U.S., 7th October, 1885; 5 years.

Claim.—1st. In a wire fence machine, the combination of the part or link A_3, the part A^4 held in place by ways on the part A_3, and connected to the latter by mechanism for shifting its position, a twisting frame pivoted upon part A^4 and the part A_2 having the reel and tension devices. 2nd. In a wire fence machine, the combination of the stationary part A_3, the sliding part A^4, the twisting frame having the tubular twisters and pivoted upon part A^4, and reels and tension devices for regulating the tension of the wire, substantially as described. 3rd. In a wire fence machine, the combination of the parts A_3, and A^4, the part A_2 having the overlapping strip and rack bar a_3, and the part A_2 having the cog wheel journalled thereon and meshing with rack bar a_3, and having the spring pawl, substantially as described, whereby the twisting frame is forced against the picket and gradually withdrawn as the wire is twisted, substantially as described. 4th. In a wire fence machine, the combination of the part A_3, the part A^4 having the twisting frame pivoted thereto, and the arm B_5 pivoted to the base and provided with the slot for the set screws by which it is attached to the twisting frame, substantially as described. 5th. In a wire fence machine, a tubular twisting head having the elongated eyes and the bars for regulating the size of the eyes, substantially as described. 6th. In a wire fence machine, the combination of the twisting frame and its supports, and the part A_2 having the reel frame and reels, and the posts E interposed between the reels and the twisting frame, substantially as described.

No. 22,610. Water Alarm Indicator.

(*Indicateur d'eau à Sonnerie.*)

Frank J. Bort and Jackson Allen, both of Cleveland, O., U. S., 7th October, 1885; 5 years.

Claim.—1st. The combination, with a water column, an indicator-tube connected thereto, a pipe connected at two points with said water column, and a whistle or other alarm connected to said pipe, of valves for closing communication between the water column and pipe, and floats for operating the valves. 2nd. The combination, with a water-column and indicator-tube connected thereto, the plugs E, the pipe connected to said plugs and the whistle connected to the upper end of the pipe, of the valves H, the levers G and floats I, substantially as set forth. 3rd The combination, with a water column, sediment chamber located below said water column, and having a restricted neck and a discharge valve, and an indicator tube in communication with said water column, of an alarm pipe connected to the water column, an alarm secured to said pipe, and a valve and float for opening communication between the water column and alarm pipe, substantially as set forth.

No. 22,611. Self-Binding Reaper.

(*Moissonneuse-Lieuse.*)

Richard Bradley, Lindsay, Ont., 7th October, 1885; 5 years.

Claim—1st. The castor driving wheel A_2 adapted to trail in any direction, and while doing so always in gear and giving power to the binding apparatus, in combination with and supporting the binding platform or table A_2, substantially as and for the purpose hereinbefore set forth. 2nd. The bevel gear, arranged as described, adapted to always remain in gear and operate while the table is moving, in combination with the castor driving wheel and the binding table, substantially as and for the purpose hereinbefore set forth. 3rd. The castor wheel knuckle or hinge and the boxings thereon, whereby three shafts, M, N, O, work to the same centre, and universal gearing and motion thereof secured. 4th. The knotter, having a barrel C with its six cogs spirally placed upon part of its circumference, and cam L2, substantially as shown and described. 5th. The binder wheel L, with three rows of cogs adapted to hold the cord, cut, release and bind it, as shown and described. 6th. The crow's-beak J, with its cam J^6 adapted to open and close the beak, and to control the shaft J in its revolution. 7th. The fork K, with its bolt Q_1 having a hook Q, and the fork K having the cam K^2 and having the recess K^4 to receive the annular projection on the shaft J, substantially as and for the purpose hereinbefore set forth. 8th. The binder wheel L, having three rows of cogs, in combination with the knife X, press Y and stop Z, substantially as and for the purposes hereinbefore set forth.

No. 22,612. Straightway Swinging Check Valve. (*Soupape de Détente à Oscillation Directe.*)

Thomas McAvity, James H. McAvity and Thomas McAvity, Jr., (Assignees of William McShane,) St. John, N.B., 8th October, 1885; 5 years.

Claim.—1st. The making of the seat V, of a straight way swinging check valve, with valve or clack C (hinged at one side) on the entering end of a bushing nipple or section of pipe, as and for the purpose hereinbefore described. 2nd. The combination of a bushing, nipple or section of pipe having a swinging check valve on its entering end, with a reducing T or other suitable pipe fitting or with a section of pipe, as hereinbefore set forth. 3rd. The combination of a straight way swinging check valve with a plug on the side of the casing thereof with an inwardly projecting point P for the valve or clack to strike against, as and for the purpose hereinbefore set forth.

No. 22,613. Measure Spout. (*Bec de Mesure.*)

Freeman Etheridge, Bradford, Pa., U.S., 9th October, 1885; 5 years.

Claim.—1st. A measure-spout provided with an elastic shank a a^1 a^1, adapted to be held automatically in or to the top of a measure, as and for the purpose described. 2nd. A measure-spout having guide-lip a^2, and one or more inwardly turned lips a_3, arranged substantially as and for the purpose set forth. 3rd. A new article of manufacture consisting of a measure spout constructed with a spring shank a a^1 a^1, and lips a_2 a_3, substantially as shown and described.

No. 22,614. Clevis. (*Volée.*)

John R. Davis, Bristol, Wis., U.S., 9th October, 1885; 5 years.

Claim.—A clevis consisting of the limb A, with the adjusting holes *n* hinged to the limb B, each of said limbs A and B being provided with corresponding semi-circular notches *n*, and locked in position by means of the wooden pin *p*, in combination with the double staple S and staple ring R, substantially as shown and described.

No. 22,615. Traction Engine.

(*Machine Locomotive.*)

James Leigh, Orono, Ont., 9th Octobre, 1885; 5 years.

Claim.—1st. In a traction-engine, an axle E, having formed upon or attached to it a ball D, in combination with a wheel having a cup formed within it to fit on to and constitute a journal for the ball D, and means substantially as described, for connecting the wheel to the ball, substantially as and for the purpose specified. 2nd. In a traction-engine, a ball D, formed upon, or attached to the axle E, in combination with a wheel having a cup D, formed in it, slots *e*, *f*, and pin *g*, substantially as and for the purpose specified.

No. 22,616. Buckle. (*Boucle.*)

Charles R. Mann, Buffalo, N.Y., U.S., 9th October, 1885; 5 years.

Claim.—1st. The combination, with the buckle frame composed of the loops A, A^1, and connecting bar A_2, of a silding tongue portion B attached to the connecting bar A^2, and provided with a tongue b^1 and a thumb piece *c*, whereby the tongue can be moved toward and from the loop A_1, substantially as set forth. 2nd. The combination, with a buckle frame composed of the end loops A, A^1, and connecting bar A^2, of a sliding frame provided with a tongue and a clasp or band D, whereby the sliding frame is attached to the buckle frame, substantially as set forth. 3rd. The combination, with a buckle frame composed of the end loops A, A^1, and connecting bar A^2, of a sliding frame B, provided with a tongue *b*, having a shoulder *f* adapted to engage with one of the end loops of the buckle frame, substantially as set forth.

No. 22,617. Egg Food for Poultry.

(*Nourriture pour les Volailles.*)

Simon S. Myers, Philadelphia, Pa., U.S., 9th October 1885; 5 years.

Claim.—The process of preparing an egg food for poultry consisting in oyster shells, the same being then saturated with tincture of capsicum, and finally roasted, substantially as described.

No. 22,618. Fifth-Wheel. (*Rond d'Avant-Train.*)

Harvey B. Taryan, Crawfordsville, Ind., U.S., 9th October, 1885; 5 years.

Claim.—The fifth wheel, herein described, consisting of the base-plate *a*, having the two segmental under-bevelled arcs *f*, *f* and the central boss *b*, rising to the same horizontal plane, and provided with the central hole *i*, the bolster plate *g*, having the central hole *h*, and the central piece *k*, provided on its underside with vertical sides *l* and arc-shaped ends, which project beyond the sides, as shown, and are bevelled parallel from below inward and upward, to correspond to the under bevels of the arcs in the ring, and the outer wall of the boss *b*, and an interspace formed between its depending beveled arcs and the base-plate *a*, for the reception of the washer *d*, substantially as specified.

No. 22,619. Pulley. (*Poulie.*)

William Stephenson, Morris, Man., 10th October 1885; 5 years.

Claim.—1st. A pulley, constructed with grooves D across its face, as and for the purpose specified. 2nd. A pulley, constructed with diagonal grooves, slanting from the sides to the centre, as and for the purpose specified. 3rd. A pulley, constructed with projections on its face, formed of wood, iron, rubber, leather, or equivalent material, dove-tailed on or otherwise secured, as and for the purpose specified. 4th. In combination with grooved pulleys, of an oiled belting, as and for the purpose specified.

No. 22,620. Whippletree Hook.

(*Crochet de Palonnier.*)

John R. Davis, Bristol, Wis., U.S., 10th October, 1885; 5 years.

Claim.—The ferrule F, with the lug *l* and slotted shoulder S, in combination with the trace-hook R, *h*, and applied to the whippletree W, or its equivalent, substantially as described and for the uses and purposes mentioned.

No. 22,621. Running Gear of Baby Carriage.

(Train de Voiture d'Enfant.)

John W. Griffin, Toronto, Ont., 10th October, 1885; 5 years.

Claim.—A brake-shoe A, connected to the crank-rod C, journalled on the frame of the carriage, as indicated, in combination with the rod D, connected to the crank-rod C, and provided with a cross T F, arranged substantially as and for the purpose specified.

No. 22,622. Boring Machine.

(Machine à Percer.)

Henry W. Simms, (Assignee of John Ernst,) Bay City, Mich., U.S., 10th October, 1885; 5 years.

Claim.—1st. In a boring tool, the central part K, having on its upper portion the latteral extending arms *l*, and at its lower end the leading screw *x*, and cutting edges *z*, and levers *m* attached to the said part K, by the pivot *r*, and provided at their upper ends with the rollers P, in combination with the plate *g*, provided with the cam groove a^{II}, adapted to engage with the said rollers P, and cause the said levers *m* to oscillate, substantially as and for the purpose set forth. 2nd. In a boring tool, the central part K, provided with a leading screw and cutting edge at its lower end, and with its upper end attached to the socket *j*, and mechanism for revolving the same, in combination with the levers *m*, pivoted to the said part K, and provided at their lower ends with the cutters *n*, and at their upper ends with the rollers P, substantially as described, and for the purpose set forth. 3rd. In the within described boring tool, the combination, with the central part K, having the arms *l* near its upper end, and the levers *m* pivoted to the said part K, and provided at their lower ends with the cutters *n*, and at their upper ends with the rollers P, with the springs *t* secured to the said part K, and adapted to push outward the upper ends of the said levers *m*, substantially as and for the purpose set forth. 4th. In a boring machine, the gate *c*, having the plate g^{I}, rigidly-attached to the bottom part thereof, and the cam-plate *g*, located just beneath the said plate g^{I} and provided on its underside with the cam-groove a^{II}, in combination with the bolts *u* secured by one end to the cross-bar d^{II}, and with their opposite ends passing through the said plates *g* and g^{I}, an upward extending guide rod *f*, secured to the said bar d^{II}, and passing through the c^{II}, the spring f^{I} and prop e^{II}, substantially as shown, and for the purpose set forth. 5th. In a boring machine, in combination with the bed pieces *a*, with a guide bar a^{I} passed through the said bed pieces, a clamping piece b^{I} attached to the outer end of the guide bar, and provided with an inward extending end c^{I}, a clamping screw c^{I} passed through the said piece b^{I}, and provided with means of revolving the same, as described, a nut g^{I}, upon the screw and secured to the bed piece *a*, all operating substantially as described and for the purpose set forth. 6th. In a boring machine, the combination, with the upward extending feeding screw K, of an open nut consisting of the levers S^{II}, placed on opposite sides of the feeding screw, and pivoted at one end to the cross-piece *y*, and provided with the threaded recess t^{II}, the lever v^{II}, pivoted to the outer end of one of the said levers S^{II} and the straps u^{II}, connecting the other lever S^{II} with the said lever v^{II}, substantially as shown and for the purpose set forth. 7th. In a boring tool, the combination, with the oscillating lever *m*, having at its lower end and underside, the chamber m^{I}, and recesses l^{I}, on the sides of the chamber, of the cutter *u*, having the upward extending shank n^{I}, adapted to fit into the said chamber, the pins i^{I} projecting from the side of the shank and resting in the recesses t^{I}, a slot o^{I}, in the upper end of the shank, and a screw P^{I}, provided with the groove r^{I}, resting in the slot c^{I}, and passing into the lever *m*, substantially as and for the purpose set forth. 8th. In a boring machine, a vertical auger-shaft, having an upward extending portion provided with a screw thread, and passing the horizontal crank shaft, and suitable gear, as described, for imparting motion from the said crank shaft to the anger shaft, in combination with an open nut secured to the upper cross-bar of the vertical standards, and adapted to engage with the screw thread on the said upward extending shaft, substantially as described, and for the purpose set forth. 9th. In a boring machine, the standard *b*, having the openings W^{I}, and the gate C, having the projecting lugs *d*, in combination with a stop v^{I}, having the shank *x*, passed through the said opening u^{I}, and the adjusting screw w^{I}, passed through the said stop v^{I}, and adapted to stop the downward movement of the gate, substantially as and for the purpose set forth. 10th. In a boring machine, the combination, with the feeding screw K^{II}, of an oil chamber formed in the upward extending end of the said feeding screw, and provided with outlets adapted to feed the oil to the screw, substantially and for the purpose specified. 11th. In a boring tool, the combination, with the lever *m*, of the upward extending part m^{II} secured to the upper end of the said lever by the bolts t^{II}, and an adjusting wedge n^{II} placed between the said parts *m* and m^{II}, substantially as and for the purpose set forth.

No. 22,623. Folding Bed. *(Lit Pliant.)*

The Union Wire Mattress Company (Assignee of David J. Powers), Chicago, Ill., U.S., 12th October, 1885; 5 years.

Claim.—1st. In a folding bed, independent upright head and foot sections, which are horizontally movable and constructed to form an inclosing case when brought together, in combination with side rails hinged at their respective ends to the head and foot sections, and jointed about midway of their length by a hinge which permits them to fold upward, and an elastic bed-bottom or fabric attached at its respective ends to, and suspended between, supports connected to the head and foot sections respectively, all constructed and arranged relatively to produce a strain upon the fabric, when the sections are separated and the side rails brought into horizontal position, but to release said strain when the side rails are folded up and the sections moved toward each other, substantially as and for the purposes set forth. 2nd. In a folding bed, independent upright head and foot sections, which are horizontally movable and constructed to form an inclosing case when brought together, in combination with side rails hinged at their respective ends to the head and foot sections, and jointed about midway of their length by a hinge, which permits them to fold upward, and an elastic bed-bottom or fabric attached at its respective ends to, and suspended between, supports connected to the head and foot sections respectively, and a cross-rail arranged underneath the bed-bottom and connected to the respective side-rails near their middle joint, substantially as and for the purposes set forth. 3rd. In a folding bed, the jointed side-rails constructed to fold upward about midway of their length, in combination with a cross rail arranged underneath the bed-bottom and connected to the side rails, near their middle joints, by clips pivoted to the respective sections of the side rails, substantially as and for the purposes set forth. 4th. In a folding bed, independent upright head and foot sections which are movable, in combination with jointed side rails and caster-supports attached to the respective sections and projecting inward some distance beyond the bases of said sections, substantially as and for the purposes set forth. 5th. In a folding bed, independent upright head and foot sections which are movable, and which, when closed together, form the main body of the case for the other parts of the bed, in combination with jointed side rails hinged to the respective sections, and of a width to fully close the openings between the head and foot sections, when the bed is folded up and said sections are brought together, substantially as and for the purposes set forth. 6th. In a folding bed, the independent upright movable head and foot sections A and B, which, when closed together, form the main body of the case for the other parts of the bed, in combination with the jointed side rails C, C, hinged to the respective sections, and the hinged clasp-rails C^{I}, C^{I}, all constructed and arranged substantially as and for the purposes set forth. 7th. In a folding bed, independent upright head and foot sections, which are movable, and which, when closed together, form the body of a case for the other parts of the bed, in combination with folding side rails hinged at their ends to the respective sections, and an elastic bed-bottom or fabric fastened at its respective ends to supports connected to the said respective sections, substantially as and for the purposes set forth. 8th. In a bed-bottom, a supporting frame in combination with a continuous elastic fabric attached at its respective ends to the supporting frame, but with its side edges free their whole length, or nearly so, and supports connected to said free edges to hold them out when moving down under pressure, substantially as and for the purposes set forth. 9th. In a bed-bottom, a supporting frame in combination with a continuous elastic fabric attached at its ends to said frame, but with its side edges free, and yielding spreading supports connected to said free edges, substantially as and for the purposes set forth. 10th. In a bed-bottom, suitable end supports for the bottom fabric, in combination with a continuous elastic fabric attached at its respective ends to said supports, but having its side edges free the whole length, or nearly so, of the bed, and cross-braces or levers pivoted at one end to a support below the fabric and at their opposite ends connected to the opposite side edges of said fabric, but otherwise free to vibrate on their pivots, substantially as and for the purposes set forth. 11th. In a folding bed, suitable supports for the bottom fabric, in combination with a continuous elastic fabric attached at its respective ends to said supports, folding side rails, a cross-bar attached to said rails and arranged underneath the elastic fabric, and cross-braces or levers pivoted at one end to the cross-bar and connected at their other ends to the opposite side edges of the fabric, but otherwise free to vibrate on their pivots, substantially as and for the purposes set forth. 12th. In a bed-bottom, suitable end supports for the bottom fabric, in combination with a continuous elastic fabric attached at its respective ends to said supports and side rails, to which the fabric is connected at each edge for a short distance from each end support, substantially as and for the purposes set forth. 13th. The combination, with the head and foot sections and jointed side rails connecting the same, of the pendants pivoted to the side rails and the elastic fabric having its side edges connected to the pendants, substantially as and for the purposes specified. 14th. The combination, with the head and foot sections and the jointed side rails connecting the same, of the pendants G pivoted to the side rails and provided with nuts *k* on their threaded lower ends, and the elastic fabric K provided with loops *j* through which the pendants pass, substantially as and for the purposes specified. 15th. The combination, with the head and foot sections and the jointed side rails connecting the same, of a lever attached to one of the side rails to aid in forcing them down into position, substantially as and for the purposes specified. 16th. The combination, with the head and foot sections and the jointed side rails connecting the same, of the lever H pivoted to one of the side rails, and the stop or projection h^{I} on said side rails, substantially as and for the purposes specified.

No. 22,624. Trunk, Chest, etc.

(Coffre, Caisse, etc.)

George H. Wells, Boston, Mass., U. S., 13th October, 1885; 5 years.

Claim.—1st. In a trunk, chest, or similar article, the combination of the following instrumentalities, to wit: a body, a cover, two rigid arms and a separable hinge, said arms being pivoted at one end to said body, and at the other end to said cover, and adapted to move or draw the back of the cover forward as the cover is opened, and said hinge adapted to assist in keeping the back of said cover in proper position when the cover is closed, substantially as described. 2nd. In a trunk or similar article, the combination of the following instrumentalities, to wit: a body, a cover, two rigid arms, a separable hinge and a lock, or means for securing the cover closed, said arms being pivoted at one end to said body, and at the other to said cover, and adapted to move or draw the back of the cover forward as the cover is opened, and said hinge adapted to assist in keeping the back of said cover in proper position when the cover is closed, substantially as set forth. 3rd. In a trunk, chest, or other similar article, the rolls *b*, journalled at the lower rear corners of the cover B, in combination with the pivoted arms C and body A, substantially as described. 4th. In a trunk, chest, or other similar article, the tray M provided with the compartment Q, in combination with the body A, having the cover B connected thereto by the pivoted arms C, substantially as and for the purpose specified. 5th. In a trunk, chest, or other similar article, the body A, cover B, pivoted arms C, plates D, E, and lock N, combined and arranged to operate substantially as

described. 6th. In a trunk, chest, or other similar article, the body A, connected with the cover B by the pivoted arms C, said body being provided at its rear with a bevelled or inclined stud adapted to enter a socket in said cover (or vice versa), and force the back of the cover down onto the body as the cover is closed, substantially as set forth. 7th. In a trunk, chest, or other similar article, the guard J in combination with the body A, cover B, pivoted arms C and a separable hinge adapted to assist in keeping the back of the cover in proper position when the cover is closed, substantially as described.

No. 22,625. Toy Card. (*Carte-Jouet.*)

Thomas Robertson, Toronto, Ont., 13th October, 1885; 5 years.

Claim.—A card, having fixed on its surface a series of sugar toys or figures, and divided by lines of perforations or indentations, substantially as and for the purpose specified.

No. 22,626. Check Rein Holder.

(*Accroche Fausses-Rênes.*)

William D. Taber, Rockville, R.I., U.S., 13th October, 1885; 5 years.

Claim.—1st. A check rein-holder, consisting of a frame in which there is, loosely pivoted, a cam-faced tongue controlled by a spring, substantially as described and for the purpose specified. 2nd. The combination, with a strap, of a frame A, clamping tongue B and a spring *f*, substantially as described. 3rd. The combination, with a strap C, of a frame A provided with a tongue B, formed with a cam face *e* and controlled by a spring, substantially as described. 4th. The combination, with a strap C, of a frame A carrying a tongue B formed with a cam face *e*, a spring *f* and a limit pin *o*, substantially as described. 5th. The combination, with a frame A formed with a bevelled surface *d*, of a cam-faced tongue B borne upon by a spring, substantially as described. 6th. The combination, with a holder, substantially as described, of a strap carrying a hook that is connected to the main body of the strap by a thin strip *g*, substantially as described. 7th. The combination, with a holder, substantially as described, of a strap consisting of the portions *g*, *k* and *h*, and carrying a hook D, substantially as described.

No. 22,627, Furniture. (*Meuble.*)

Henry L. Goodwin, New York, N. Y., U. S., 13th October, 1885; 5 years.

Claim.—1st. The combination, with the frame of a piece of furniture, of plugs or blocks attached thereto and adapted to receive pins for securing pillow-shams, tidies, etc., in their usual positions to said frame, substantially as herein set forth. 2nd. The combination, with the back frame of a piece of furniture, such as a bedstead, sofa or chair, of plugs or blocks made of softer material than the back frame and attached to the frame and adapted to receive pins for securing pillow-shams or tidies to the furniture, substantially as herein set forth. 3rd. The combination, with the back and arm frames of a piece of furniture, such as a sofa or chair, of plugs or blocks made of softer material than the back and arm frames and attached thereto, and adapted to receive pins for securing tidies to said back and arm frames, substantially as herein set forth.

No. 22,628. Ferry Boat. (*Bac.*)

Thomas R. Puckett and Newton O. Pyles, Coronaco, S. C., U. S., 14th October, 1885; 5 years.

Claim.—1st. The combination, with the boat and cable, of a rope connecting the cable and bolt to raise and lower the latter, and an additional rope connecting the cable and bolt to swing the boat obliquely to the cable, substantially as described. 2nd. The combination of a cable, the boat, the runners suspended from the cable at or near opposite ends of the boat, a guiding rope connected with said runners and the boat, the brake around which said rope passes, to swing the boat obliquely to the cable in either of two directions, and the windlass having the said rope connected thereto, to adjust the rope to the rise or fall of the boat, substantially as described. 3rd. The combination of the cable, the boat, the runner suspended from the cable, and the windlass attached to the boat and connected to said runner by a rope to raise and lower the boat, the runners suspended from the cable at or near opposite ends of the boat, the guiding rope connected to said runners and the boat, the brake around which said rope passes for swinging either end of the boat obliquely to the cable, and the windlass having said rope connected thereto for adjusting its length as the boat rises or falls, substantially as described. 4th. The combination of a boat, a windlass, a brake, a cable and a rope to directly connect the cable brake and windlass, substantially as described.

No. 22,629. Magneto Electric Telegraphy.

(*Télégraphie Magneto Electrique.*)

Fred. H. Brown, New York, N.Y., U.S., 14th October, 1885; 5 years.

Claim.—1st. The combination of the permanent magnet having the coil or coils, an armature or disc connected to one pole thereof, and free to vibrate over the opposite pole, and a key for vibrating the armature or disc, substantially as described. 2nd. The combination of a permanent magnet having a coil or coils, an armature or disc connected to one pole thereof and free to vibrate over the opposite pole, a key for vibrating the armature or disc, and stops for limiting the play of the key, substantially as described. 3rd. The combination of a permanent magnet having a coil or coils, an armature or disc connected to one pole thereof and free to vibrate over the opposite pole, a key for vibrating the armature or disc, and a spring for keeping the key normally out of contact with the disconnected pole, substantially as described. 4th. The combination of a permanent magnet having a coil or coils, an armature or disc connected to one pole thereof and free to vibrate over the opposite pole, a key for vibrating the armature or disc, a spring for keeping the key normally out of contact with the disconnected pole, and stops for limiting the play of the key, substantially as described. 5th. The combination, with a permanent magnet having the coils connected in circuit, at armature or disc connected to one pole of each magnet and free to vibrate over the opposite pole thereof, whereby the vibrations of one of the armatures or discs are transmitted by induced currents to the other armatures or discs in circuit, and reproduced by said other armatures or discs, and an enclosing case forming an air-chamber around the disc or armature of one or each of the connected magnets, said enclosing case having a mouth piece, substantially as described. 6th. The combination of the permanent magnet, having the coils connected in circuit, an armature or disc to one pole of each magnet, and free to vibrate over the opposite pole thereof, whereby the vibrations of one of the armatures or discs are transmitted by induced currents to the other armatures or discs in circuit, and reproduced by said other armatures or discs, an inclosing case forming an air-chamber around the disk or armature of one of each of the connected magnets, said case or cases having a mouth-piece and a key or keys for vibrating the armature or disc of one or each of the magnets in circuit, substantially as described.

No. 22,630. Method and Means for Manufacturing Cigar Bunches. (*Méthode et Moyens de Fabrication des Paquets de Cigares.*)

Nicolaus Doetsch, Detroit, Mich., U.S., 14th October, 1885; 5 years.

Claim.—1st. The herein described process of moulding cigar bunches, consisting in lining the mould with a binder of prepared size in such a manner that the projecting ends will cover over the filler which is put within the fold of the binder, while one of the two ends of the binder is long enough to admit of its being tucked in on the side of the mould, so that in the subsequent pressing and drying a lock is formed in the binder, substantially as described. 2nd. The herein described process of making cigar bunches, consisting in moulding the bunch in the mould, as described, in combination with means, such as a filler tool, having a receptacle F, of the general form of the cigar mould and provided with a plunger for expelling the filler material, and the bunching tool K, for tucking in the outer end of the binder, all arranged and operating substantially as described. 3rd. The herein described process of making cigar bunches, in combination with means such as the extensible mould, the filler tool having a receptacle of the general form of the mould, and a plunger for expelling the filler and the bunching tool K, having the edge *f* for tucking in the end of the binder between the side of the mould and the side of the bunch, all arranged substantially as described.

No. 22,631. Socket Clamp for Trestling, Scaffolding, etc. (*Emboîture pour Tréteaux, Echaffaudages, etc.*)

George W. Zeigler, Washington, D. C., U. S., 14th October, 1885; 5 years.

Claim.—1st. In a trestle or scaffold, a clamp consisting of two sockets, each formed by two sides which are right-angled in cross-section, and having lateral supports extending therefrom, substantially as described. 2nd. In a trestle or scaffold, a socket clamp formed in one piece, and consisting of two tapering and convergent right angular sides having lateral supports extending therefrom, substantially as described. 3rd. In a trestle or scaffold, a socket clamp formed of two pairs of tapering and convergent sides having lateral supports, each side being right-angled in cross-section, and terminating in a point where they intersect at the bottom, and thence extending outward to the end of said supports, substantially as described. 4th. In a trestle or scaffold, a socket-clamp formed of two right-angled sides having lateral supports, as described, and having the perforated lugs and transverse strengthening ribs, substantially as shown and for the purpose described. 5th. The combination, with the socket-clamp, constructed substantially as described, of the logs or risers conforming to the contour of the clamp, and the ledger or tie-beam formed with grooves in its sides adjacent to such legs or risers, substantially as shown and set forth. 6th. The combination, with the socket clamp, constructed substantially as described, of the ledger or beam, and the legs or risers formed of a single piece mortised a suitable distance from its ends, and having the two portions thus formed bevelled or chamfered, substantially as and for the purpose specified. 7th. The combination, with the socket clamp, constructed substantially as described, of the legs or supports having bevelled sides or edges, and the ledges grooved at points adjacent to such legs, and having its underside bevelled or chamfered, substantially as shown and specified.

No. 22,632. Machine for Arranging Crackers for Packing. (*Machine pour Disposer les Biscuits à Empaqueter.*)

James McClurg, Alleghany, Pa., U.S., 14th October, 1885; 5 years.

Claim.—1st. In a machine for arranging crackers and like articles for packing, the combination, with a casing provided with one or more channel-ways, of one or more channel-ways, of one or more spirally-coiled conveyors, located in said way or ways, suitable mechanism for actuating said conveyor or conveyors, and one or more receptacles in communication with the way or ways, substantially as described. 2nd. The combination, with a casing provided with one or more channel ways, of one or more spirally-coiled conveyors, located in said way or ways, suitable mechanism for actuating said conveyor or conveyors, one or more hoppers located above the upper end of the way or ways, and one or more receptacles in communication with the way or ways, substantially as described. 3rd. The combination, with a casing provided with one or more channel-ways, a covering strip secured over the top of the outer end of the casing for steadying the outer end of the conveyor or conveyors, a lid for covering the channel-way or ways from the covering strip to the base of the hopper or hoppers, and a bearing plate attached to the front of the casing, of one or more spiral conveyors located in the channel-way or ways, one or more shafts, as E, provided with bevel gear or gears, as

G, for operating the conveyor or conveyors, a shaft H1, provided with a bevel gear or gears, as H, for giving motion to the shaft or shafts E, a hopper, or hoppers, as I, for containing the articles to be fed to the conveyor or conveyors, and a graduated receptacle or receptacles to receive the articles as they are carried forward by the conveyor or conveyors, all substantially as described.

No. 22,633. Combined Bill Distributing and Advertising Machine. (*Machine à Distribuer les Affiches et Armoncer.*)

James Castle, Toronto, Ont., 14th October, 1885; 5 years.

Claim.—1st. A combined bill-distributing and advertising machine, composed of a series of rollers and elastic bands, located within a suitable case, having a glass panel in the front, and displaying a travelling advertising sheet, and a notice placed above a protruding handbill inviting visitors or passers by to take one, substantially as shown and described and for the purposes set forth. 2nd. In a combined bill-distributing and advertising machine, constructed as described, the rollers E, F, G, H, I, J and K, in combination with the elastic bands L, L, and a protruding hand-bill C, in front of others wound upon a roller, as specified and described, and operating as set forth. 3rd. In a combined bill-distributing and advertising machine, constructed as described, the rollers N, O, P, in combination with the travelling sheet D and the bands L, L, arranged and operating substantially as set forth.

No. 22,634. Gearing and Relief Mechanism for Driving Rolls, etc. (*Mécanisme d'Engrenage et de Secours pour Mettre en Mouvement les Cylindres, etc.*)

William F. Cochrane, Cambridge, Ind., U. S., 14th October, 1885; 15 years.

Claim.—1st. In combination with a hollow roll mounted in adjustable bearings, and a driving shaft passing longitudinally through said roll, and supported in fixed bearings, the improved universal gear or coupling, consisting essentially of the two adjacent sleeves or hubs provided with toothed flanges at their opposite ends, and attached, the one to the journal of the roll, and the other to the driving shaft, and the sleeve or coupling surrounding the first-mentioned sleeves or hubs, and provided with teeth at each end engaging the teeth on the flanges of said sleeves or hubs, substantially as described. 2nd. The improved universal coupling, constructed substantially as described and arranged for connection, two rotating shafts lying in parallel planes, and adjustable laterally, the one with respect to the other, consisting of the two hubs or sleeves with toothed flanges upon their opposite ends, and the hollow coupling or sleeve having spherical bearings at each end upon one of said hubs, and provided with teeth engaging the flanges, substantially as described. 3rd. As a means for connecting and driving both of a pair or set of rolls, of which one roll is adjustable towards and from the other, the combination of the rolls supported in independent bearings, the driving shaft passing through the enlarged longitudinal opening in the movable roll, and supported in fixed bearings, the gears applied to the said shaft and the rolls supported in fixed bearing, and the universal coupling applied intermediate the shaft and movable roll for driving the latter, substantially as described. 4th. In combination with a pair of rolls, one of which is adjustable towards and from the other, a driving shaft mounted in bearings having a fixed relation to the journal of the non-adjustable roll, and connected thereto by gears applied directly to the shaft and roll, and a universal coupling, such as described, connecting the adjustable roll and shaft, substantially as and for the purpose set forth. 5th. The herein described improved system of gearing for driving, from a single line of shafting, two or more pairs of rolls arranged in series, which consists in arranging in line two or more sets or pairs of rolls, each provided with a back roll mounted in fixed bearings, a hollow front roll mounted in adjustable bearings, a shaft mounted in fixed bearings and passing through the adjustable roll, said shaft being connected to the back roll, by gears to the adjustable roll by a universal coupling, uniting the proximate ends of the shafts of adjoining pairs of rolls by detachable couplings, and applying the power to drive the rolls to one of the said shafts, substantially as described, whereby all the rolls are driven from a single line shaft, and any pair or set of rolls can be removed without disturbing the remaining pairs or sets in the series. 6th. The combination, to form a series of two or more sets or pairs of rolls, substantially as described, each set provided with a separate frame or bed plate, upon which are mounted the back roll in fixed bearings, the hollow front roll in movable bearings, and the shaft passing through the hollow roll and connected to the latter, said shaft being also supported in fixed bearings and connected to the shaft of the succeeding pair of rolls by a detachable coupling, substantially as and for the purpose set forth. 7th. The combination of two or more sets or pairs of rolls, each arranged to be driven by a shaft mounted in bearings on the frame and passing through the centre of the adjustable roll to which latter it is connected by a universal coupling, such as described, with detachable couplings applied to the proximate ends of the said shaft, thereby forming a sectional driving shaft and permitting the removal of any set of rolls from the series, as and for the purpose set forth. 8th. In combination with the bed plate or frame provided with bearings for the back roll, and movable bearings for the hollow adjustable roll, the driving shaft passing through the adjustable roll, and connected to the latter at one end by a universal coupling, and at the other end to the back roll by gearing said shaft being supported in bearing attached to the bed plate or frame, substantially as described. 9th. In combination with the rolls mounted in bearings upon the bed plate or frame, the driving shaft connected directly to one roll by a universal coupling, and to the other roll by gearing, as described, of the enclosing casings for the gears and couplings secured to the bed plate or frame and provided with bearings for the driving shaft, substantially as and for the purpose set forth. 10th. The combination with a roll and its driving gear, of a relief mechanism, substantially as indicated, connected to the bearings of a roll, and actuating the clutching devices, to effect the disengagement of the roll and its driving mechanism when the former is forced back, substantially as described. 11th. In combination with a roll mounted in movable bearings, and held to its work by an elastic or yielding pressure device, a driving shaft with intermediate gearing connecting it to said roll, a clutch for connecting and disconnecting said gearing, and a relief mechanism, substantially such as indicated, connected to, and actuated by, the movable bearings of the roll, to ship the clutch and stop or start the roll, substantially as and for the purpose set forth. 12th. In combination with the main driving shaft, the rolls and the gearing intermediate the shaft and rolls, a relief mechanism of the character described, connected to, and actuated by the bearings of the movable roll, said relief mechanism being provided with shippers for disengaging the gearing from the driving shaft, and stopping the rolls, substantially as described. 13th. In combination with the driving gearing of a pair of rolls, one of which rolls is mounted in movable bearings, a relief mechanism connected to said movable bearings and provided with devices for unclutching or disengaging the driving gearing, substantially as and for the purpose set forth. 14th. In combination with the adjustable roll mounted in laterally movable bearings, a shaft connected to and actuated by the said bearings when the latter are moved outward, and a clutch operating or disengaging mechanism connected to, and operated by said shaft to uncouple the driving shaft from the roll, and stop the latter, substantially as described. 15th. In combination with a roll supported at each end in laterally movable and pivoted bearings, a relief mechanism, such as described, for actuating the clutch or disengaging devices, said relief mechanism being provided with independent attachments to each of the movable bearings, whereby the movement of either or both bearings will serve to set in motion the relief mechanism and stop the roll, substantially as described. 16th. The combination, with a roll supported in movable bearings and elastic or yielding pressure devices applied to each of said bearings, a main driving shaft, gearing connecting the main shaft and the roll, a shipping or unclutching device intermediate the said shaft and the roll, and a relief mechanism, such as indicated, for actuating said shipping or unclutching devices, said mechanism having an independent connection with each bearing, substantially as and for the purpose specified. 17th. The combination, with a pair of rolls supported respectively in fixed and movable bearings, the driving shaft passing through the adjustable roll, gearing intermediate said shaft and the rolls, and clutches for controlling the application of the gearing to the shaft, of a pair of shippers connected with the clutches, and a rock shaft actuating said shippers to simultaneously disengage both rolls from the driving shaft, substantially as described. 18th. In combination with a rock shaft, which actuates the disengaging mechanism, the toothed sleeve secured thereto, the sleeve connected to the bearing of the roll, and provided with the movable extension having teeth engaging the said toothed sleeve, substantially as described. 19th. In combination with the shaft for actuating the clutch shipping devices, the toothed sleeve applied thereto, the two sleeves, each connected to one of the movable bearings, and the extensions connected to said sleeves by a movable coupling, and provided with inclined teeth engaging the toothed sleeve fastened to the shaft. 20th. In combination with the shaft connected to, and actuated by, the movable bearings of the roll, substantially as described, the reciprocating sleeve carrying the shippers for engaging the movable sections of the clutch, and provided with the inclined teeth or cam surfaces, and the hub fixed to the shaft, and provided with a corresponding series of teeth or inclined cams, substantially as described. 21st. In combination with the movable bearings of the roll, the links or latches, the sleeves mounted upon the clutch operating shaft, the toothed extensions rotating with, but capable of longitudinal movement with respect to said sleeve, and the toothed collar fastened to the said shaft and in position to engage the said toothed extensions, substantially as described. 22nd. In combination with the clutch operating shaft, and devices connected to the movable bearings for actuating said shaft, the ratchet secured to the shaft and engaging a pawl on the frame, to prevent the accidental starting of the roller after its disengagement from the driving mechanism, substantially as described. 23rd. In combination with the roll, the driving shaft and the shipping mechanism, the compound interlocking and friction clutch, consisting essentially of the two sections provided with a series of interlocking projections with their ends bevelled, substantially as described. 24th. In combination with a hollow roll, mounted in movable bearings, a driving shaft passing through said roll and supported in fixed bearings, a universal coupling intermediate the shaft and roll, a clutch for connecting the said coupling to the shaft, a shipper engaging the movable section of the clutch, a sleeve carrying the shipper, and provided with inclined teeth or cams, a shaft carrying a hub provided with a corresponding series of teeth or cams and a spring for holding the said sleeve in engagement with the hub, substantially as described. 25th. The combination, with a pair of rolls, one of which is supported in movable bearings and held in operating position by an elastic pressure device, a driving shaft detachably connected to said rolls through intermediate gearing or driving mechanism, shippers for uncoupling or detaching the gearing from the driving shaft, a shaft connected to, and actuated by the bearings of the rolls, when the latter is forced back from the opposite roll, said shaft in turn being connected to, and actuating the shippers, in the manner and for the purpose set forth.

No. 22,635. Dental Engine. (*Engin Dentaire.*)

Arthur W. Browne, Westfield, N.Y., U.S., 14th October, 1885; 15 years.

Claim—1st. The combination of the driving shaft with the chuck or tool-holder by means of a slip-joint, or telescoping driving connection, consisting of rigid tapered or bevelled end driving ribs or fingers, substantially as described. 2nd. The combination of the driving shaft with the chuck or tool-holder by means of a slip-joint, or telescoping driving connection, consisting of rigid driving ribs or fingers projecting from the chuck or tool holder and the driving shaft, respectively, and the central socket and pin guiding and steadying connection, substantially as described. 3rd. The combination of a hand-piece casing, with a supporting sleeve, by means of a telescoping or slip-joint connection, and a sectional screw-rib locking con-

nection, substantially as described. 4th. The combination, with the enveloping sleeve and the driving shaft thereof, of a hand-piece casing and its chuck or tool-holder carried thereby by means of detachable telescoping or slip-joint connections, substantially as described. 5th. A flexible shaft or coupling, consisting of a series of substantially parallel spring plates, rigidly connected together, substantially as described. 6th. A flexible shaft consisting of stiff sections connected together by a coupling consisting of substantially parallel spring plates, rigidly connected together at opposite points, and these points alternating so as to be at rights angles, or substantially at right angles, to each other throughout the series of plates, substantially asdescribed. 7th. In combination with a flexible shaft, a flexible sheath or cover consisting of a tube of spirally wound wire, the spiralsor members of which are separated so that the tube may be bent without affecting its length, and of a covering of elastic material crimped between the coils of the wire, substantially as described.

No. 22,636. Journal Bearing.

(Coussinet de Tourillon.)

George T. Smith, Jackson, Mich., U.S., 15th October, 1885; 5 years.

Claim.—1st. In a journal bearing, the combination, with the shaft and the sleeve provided with an expanded bearing, of a boxing having an abjustable two-part bearing divided upon a vertical plane, substantially as set forth. 2nd. In a journal bearing, the combination, with the shaft and the sleeve having an expanded external bearing, of a boxing or casing provided with a shoulder bearing, and the follower adapted to support the sleeve, substantially as set forth. 3rd. In a journal bearing, the combination of the shaft, the sleeve provided with an expanded bearing, the trunnion and the casing having a shell adapted to support the trunnion and also the divided bearing for the sleeve, substantially as set forth. 4th. In a journal bearing, the combination of the shaft, the sleeve, the boxing or casing adapted to receive the trunnion and support the end of the trunnion against thrust, and a two-part bearing for the sleeve divided upon a vertical plane, substantially as set forth. 5th. In a journal bearing, the combination of the shaft, the sleeve, the boxing or casing adapted to receive the trunnion and support the end of the trunnion against thrust, and provided also with the externally-threaded shell and the follower adapted to engage with the threaded shell, and also with the bearing of the sleeve, substantially as set forth. 6th. The combination, with the shaft, of the sleeves, the two boxings, the trunnions supported in the boxings and connected with each other, whereby the boxings are adapted to prevent longitudinal movement of the trunnions relative to the shaft, substantially as set forth. 7th. The combination of the shaft, the sleeves, the boxings, the trunnions and means, substantially as described, for adjusting the trunnions longitudinally upon the shaft, substantially as set forth.

No. 22,637. Lever Power. *(Levier Puissance.)*

David W. Seeley and Willlam W. Seeley, Albany, N.Y., U.S., 15th October, 1885; 5 years.

Claim.—1st. A sweep for a lever power consisting of two sections fastened together by a pin, and around which the two sections may be turned, one of which sections shall have a semi-circular recessed head, and the other a semi-circular head to fit into the semi-circular recess in the other, and one of which sections shall be slotted as described. 2nd. A sweep for a lever power consisting of two sections fastened together by a pin, and around which the two sections may be turned, one of which sections shall have a semi-circular recessed head and the other a semi-circular head to fit into the semi-circular recess in the other, and one of which sections shall be slotted, and in one of which sections there shall be a slide or rod to be inserted in a hole or recess in the other section, for the purpose set forth and described. 3rd. The combination, in a lever power, of one or more springs placed on the sides of one section of a double section slotted sweep, and a sweep consisting of two sections joined together, one of which sections shall be slotted, as described. 4th. The combination, in a lever power, of a sweep made in two sections joined together, in one of which sections there shall be a slot, the two arms of a knuckle jointed lever and a pin, which is inserted in one of the arms forming said knuckle joint and passes through and is operated upon by the slotted portion of said sweep, as described. 5th. The process of increasing thepurchase power of a sweep of a lever power as the resistance of the material pressed is increased.

No. 22,638. Manufacture of Metal Covered Electrical Conductors and Apparatus therefor. *(Fabrication des Conducteurs d'Electricité couverts en Métal et appareil pour cet objet.)*

James Tatham, Philadelphia, Pa., U.S., 15th October, 1885; 5 years.

Claim.—1st. The within-described mode of preventing the destruction or impairment of the insulating covering of an electrical conductor, while the latter is being coated or sheathed by forcing hot lead or other ductile metal around the same, said mode consisting in enveloping the insulated wire in oil or other liquid insulating material, as it passes through the core round which the metal flows, as set forth. 2nd. The combination of the lead reservoir, hollow ram and hollow column of a lead pipe press, with the hollow core core-holder and die, said core-holder resting upon the top of the hollow column and being contained within the lead chamber of the reservoir but unconfined vertically by said reservoir, as set forth. 3rd. The combination of the lead reservoir, hollow ram and hollow column of a lead pipe press, with a structure comprising the hollow core, core-holder and die, said core-holder being contained in the lower portion of the lead reservoir and being of tapered or conical form, as set forth. 4th. The combination of the lead reservoir, hollow ram and hollow column of a lead press, with the die, a core-holder resting upon the hollow column and supporting the core close to the delivery end of the same, and a hollow core N projecting above the lead reservoir adjustable in the core-holder, and having a tapering end projecting into the die, as set forth. 5th. The combination of the die, the threaded core N having a tapering end P, and the core-holder J having a threaded opening for the core N, and a tubular projection bearing on said core above the thread, as set forth. 6th. The mode herein-described of manufacturing compound electrical conductor, said mode consisting in, first, applying a covering of lead or other ductile metal to each of a series of insulated conductors, and then applying lead or other ductile metal to the series of covered conductors so as to fill the interstices and produce a solid rod of metal in which the insulated conductors are embedded, as set forth. 7th. There mode herein described, of making a compound electrical conductor, said mode consisting in applying a metallic covering simultaneously to each of a series of electrical conductors and then applying a general covering to a series of independently covered conductors, as specified. 8th. The combination of the two presses with a yielding support for the wires between the presses, as set forth.

No. 22,639. Vehicle Spring.

(Ressort de Voiture.)

Theodore Greather, Detroit, Mich., U.S., 15th October, 1885; 5 years.

Claim—1st. A spring-coupling consisting of a case adapted to be secured to the body or side bars having, in combination therewith, a spindle journalled therein, said spindle slotted to receive the end of the spring, and said case constructed with an orifice to permit the engagement of the spring with said spindle, substantially as described. 2nd. The combination, with a vehicle spring constructed with a straight end, of a coupling consisting of a case adapted to be secured to the body or side bars having, in combination therewith, a spindle journal therein, said spindle slotted to receive the end of the spring, and said case constructed with an orifice to permit the engagement of the spring with said spindle, substantially as described. 3rd. A spring-coupling consisting of a case adapted to be secured to the body or side bars having, in combination therewith, a spindle journalled therein, said spindle slotted to receive the end of the spring, and said case constructed with an orifice to permit the engagement of the spring with the said spindle and provided with an oil-pocket, substantially as described. 4th. A spring-coupling consisting of a case adapted to be secured to the body or side bars having, in combination therewith, a spindle journalled therein, said spindle slotted to receive the end of the spring and said case constructed with an orifice to permit the engagement of the spring with said spindle, the construction being such that the spring may have room to lengthen in the socket of the spindle when compressed, substantially as described. 5th. The combination, with a vehicle spring constructed of two semi-elliptical springs, bound together in reverse position with a thin piece of rubber between them, and having a long bearing intermediate of their extremities and constructed straight at their ends, of a coupling consisting of a case adapted to be secured to the body or side bars having, in combination therewith, a spindle journalled therein, said spindle slotted to receive the end of the spring and said case constructed with an orifice to permit the engagement of the spring with said spindle, substantially as described. 5th. The combination, with a spring provided with a spindle at its end of a case sleeved upon said spindle, said case constructed to be secured in place, substantially as described.

No. 22,640. Automatic Gas Regulator.

(Régulateur à Gaz Automatique.)

James M. Palmer and Charles A. Shaw, Boston, Mass.. U.S., 15th October, 1885; 5 years.

Claim.—1st. In a gas regulator of the character described, and having an induction pipe, an eduction pipe, a suitable valve casing and a valve seat, the combination of the following instrumentalities, to wit: a body, a float, and a valve connected with said float, and adapted to be operated by the pressure of the gas, to regulate or equalize the supply of the gas to the burners, said regulators being provided with an opening for the introduction of alcohol, naphtha or other solvent of coal tar to cleanse the valve, and with a stop-cock or means for closing said opening, substantially as described. 2nd. A gas regulator of the character described having an induction, an eduction pipe, a valve casing, a valve seat, a body, a float, a valve connected with said float and adapted to be operated automatically by the pressure of the gas, an opening or pipe for the introduction of a solvent of coal tar to the valve, and a stop-cock or means for closing said opening or pipe, in combination with a tank or reservoir for containing alcohol, naphtha, or other solvent of coal tar, and with a pipe for conducting the solvent from said tank into the regulator, subtantially as set forth. 3rd. In a gas regulator of the character described, a valve-float provided with a closed air-chamber and an open gas chamber, substantially as and for the purpose set forth. 4th. In a gas regulator of the character described, the tank P and stop-cock Q, in combination with the pipe G, valve D and a pipe connecting said tank with the pipe G, substantially as and for the purpose specified. 5th. In a gas regulator of the character described, the pipe G provided with the opening 5 and eduction pipe *n*, in combination with the valve D and means for closing said opening, substantially as described. 6th. In a gas regulator, the pipe M provided with the guard 30 and enlarged portion 32, substantially as and for the purpose set forth. 7th. A gas regulator having a valve adapted to be operated automatically by the pressure of the gas, and provided with means for introducing a solvent for coal tar into the valve casing to cleanse the valve, substantially as described. 8th. In a gas regulator of the character described, the float B provided with the air-chamber 40, gas chamber H and tube J, substantially as set forth. 9th. In a gas regulator of the character described, the thimble L, in combination with the float B, stem *h* and valve D, substantially as described. 10th. In a gas regulator of the character described, the body A provided with the cover C and tube E, and the valve D provided with the stem *h*, in combination with the pipe G provided with the tube K, and float B provided with the tube J, an air-chamber, a gas chamber and the thimble L, or means for adjusting said valve, substantially as set forth. 11th. In a gas regulator of the character described, the receiver N, in combination with the pipe M, substan-

tially as and for the purpose specified. 12th. In a gas regulator of the character described, the receiver W disposed between the main eduction pipe R and pipe G, for receiving the coal tar from the pipe R and preventing it from entering the pipe G, substantially as described. 13th. In a gas regulator of the character described, the pipe G provided with the pipe *n* and opening 5, in combination with the valve D and pipe M provided with the opening 7 and pipe *j*, substantially as set forth. 14th. In a gas regulator of the character described, the valve D provided with a groove or grooves *v*, substantially as and for the purpose set forth. 15th. The improved gas regulator herein described, the same consisting of the pipes *g*, *m*, tank P, pipe 25, stop-cock Q, valve D, stem *h*, body A, float B, tubes K, E and receiver N, constructed, combined and arranged to operate substantially as described.

No. 22,641. Grinder and Amalgamator.

(*Broyeur et Amalgamateur.*)

Augustus C. Bowen, Michigan Bluff, Cal., U.S., 19th October, 1885; 5 years.

Claim.—1st. An amalgamator consisting of a pan having a channel around its periphery, within which balls travel, a universal joint or equivalent step below, upon which it rests, and a shaft extending upward through its center, in combination with a vertical shaft in line above the step, means for driving the same, and an arc secured to its lower end and slotted so that the end of the pan-shaft may be adjusted in it to or from the central vertical shaft, substantially as herein described. 2nd. An amalgamator having a peripheral groove or channel within which balls may travel, a vertical shaft and a slotted arc, to which the upper end of the pan-shaft is adjustably connected, in combination with a turn-buckle and rods connecting the center of the pan-shaft with the outer end of the arc, substantially as herein described. 3rd. In an amalgamator having raised sides and center and a curved peripheral groove, within which balls are caused to travel by a rolling motion of the pan about its central step, sectional curved dies B fitted into said groove or channel so as to be removed or replaced, substantially as herein described.

No. 22,642. Machine for Sanding, Cementing and Cutting Fibrous Sheets for Tarring and Roofing. (*Machine à Sabler, Coller et Tailler les Feuilles Textiles pour Goudronner et Couvrir les Toits.*)

David G. Conger, Ottawa, Ont., 19th October, 1885; 5 years.

Claim.—1st. In a machine for cementing together webs of fibrous material, the combination of the frame A provided with knife edges longitudinally and transversely, a carriage G travelling thereon, carrying a series of rollers K, successively diminishing in diameter and provided with feed hoppers L, as set forth for the purpose described. 2nd. The combination, with fra e A, of the clamp frame N, rod P and spring Q, as set forth, for holding the material, as set forth.

No. 22,643. Machine for the Reduction of Wood to Paper Pulp. (*Machine pour la Réduction de Bois en Pâte à Papier.*)

Edward P. Ely, South Dallingford, Ct, U.S., 19th October, 1885; 5 years.

Claim.—1st. In combination with the hoppers of a wood-pulp machine, the adjustable feeding mechanism, substantially as hereinbefore described. 2nd. The combination of the vertical power-shaft or spindle having cams formed on diametrically-opposite sides, the encircling-rings provided with arms having dogs, and the ratchet-wheel for automatically feeding the wood within the hoppers, as described. 3rd. In a wood-pulp machine, an automatic feeding device having a vertical screw provided with a follower, in combination with the radiating arms, the ratchet-nut or bushing for raising and lowering the screw, as set forth. 4th. In a wood-pulp machine, a feed consisting of a follower attached to a screw which is moved by a ratchet nut bushing, the said nut being rotated by dogs attached to the feed-levers, in combination with the flanged collar for supporting said levers, as set forth. 5th. In combination with the ratchet nut or bushing for raising and lowering the feed screw, the collar attached to said bushing and adapted to rest upon the yoke and to retain said bushing in position. 6th. In combination with the ratchet-nut or bushing and the feed-levers of the machine, the collar or flanged ring attached to the bushing and adapted to support the levers, as set forth. 7th. In a wood-pulp machine, the combination of the automatic feeding device and the supporting-yoke, as described. 8th. The combination of the case or table, the supporting-yoke and the automatic feeding device, as described. 9th. In a wood-pulp machine, the combination of the automatic feeding device with the feed-levers providing means for regulating the amount of feed, as described. 10th. In a wood-pulp machine, of the automatic feeding device with the feed-levers provided with gages, for the adjustment of the radiating arms and the regulation of the feed, as set forth. 11th. In a wood-pulp machine, the vertical shaft or spindle provided with a cam or eccentric, in combination with the strap having radial arms for operating the feeding mechanism. 12th. In a wood-pulp machine, the vertical shaft or spindle provided with a cam or eccentric, in combination with the strap and radial arms, said strap and arms being doubly connected, as and for the purpose set forth. 13th. In combination with the radial arms and means for operating the same, the slotted feed-levers for regulating the amount of feed, substantially as set forth. 14th. In a wood-pulp machine, the combination of the main shaft or spindle and the compound cams or eccentries for operating and regulating the feed, as set forth. 15th. In a wood-pulp machine, the combination of the compound cams or eccentrics, the surrounding strap and the radial arms, all adapted to operate substantially as and for purpose set forth. 16th. In a wood-pulp machine, the combination of the main shaft or spindle, the compound cams or eccentrics, the surrounding strap, the radiating arms and the feed-levers, all arranged substantially as set forth and for the purpose of operating and regulating the feed. 17th. In a wood-pulp machine, the combination of the compound cams or eccentrics, the surroundimg straps, the radiating arms, the feed-levers and the feeding mechanism. 18th. The combination of the inside cam, provided with a ratchet portion on its outer periphery, with the outside cam having a pinion wheel pivoted to it, for adjusting and setting the cams in relation to each other. 19th. In a wood-pulp machine, the annular cover or table formed in sections having means of attachment to each other and adapted to be separated and removed, as and for the purpose set forth. 20th. In a wood-pulp machine, the annular cover or table provided with the strengthening-ribs, as described. 21st. In a wood-pulp machine, the hoppers or feed-boxes formed with parallel or concentric ends and convering sides, as and for the purpose set forth. 22nd. In a wood-pulp machine, the water-pipe entering at the side of the machine and provided with an annular extension and radiating perforated subpipes suspended from the cover and extending over the ring for supplying water to the latter, as set forth. 23rd. In a wood-pulp machine, the combination of the table provided with a hub and metallic bushing, with the spindle having a collar and set screws, the said collar being adapted to turn with the spindle and prevent the table from rising, as set forth. 24th. In a wood-pulp machine, a metallic ring covered on one or more of its surface with emery, for the purpose described. 25th. In a wood pulp machine, the combinaten of the emery and the metallic rings having dovetail portions, as described, and intermediate ribs or binding-wires, as set forth. 26th. In a wood pulp machine, the combination of the annular trough for holding the pulp, as described, with the emery ring extending into said trough and having means of rotation, substantially as set forth. 27th. The combination of the annular trough, the cover or table and the emery-ring, substantially as set forth. 28th. The combination of the annular trough, the cover or table formed in section, for the purpose described, and the emery-ring adapted to be withdrawn when the cover is removed, as set forth. 29th. In a wood-pulp machine, the combination of the annular trough, the table or cover the emery-ring extending into said trough with the main shaft or spindle provided with radiating arms for supporting said ring, all arranged substantially as and for the purposes set forth. 30th. In a wood-pulp machine, the combination of the emery-ring, whose outer edge is adapted to rotate in the annular trough provided with a cover, as described, with the hoppers extending through said cover nearly to the emery-ring, as set forth. 31st. In a wood-pulp machine, the combination of the supporting yoke, the automatic feeding device and the hopper for holding the wood, as set forth. 32nd. In a wood-pulp machine, the combination of the table or cover, the supporting yoke, the automatic device and the hopper, as described. 33rd. In combination with the automatic feeding device and means for supporting and operating the same, the hopper for holding the wood and the rotating emery-ring for reducing it. 34th. In a wood-pulp machine, the combination of the main shaft or spindle with the lower bearing provided with two or more legs or supports for steadying the aforesaid main shaft, as described. 35th. In a wood-pulp machine, the combination of the lower bearing and its supporting-legs with the bridgetree or seat for holding a water-box, as set forth. 36th. In a wood-pulp machine, the combination of the bridge-tree or seat provided with set-screws on its lower surface and on its sides for regulating the position of the water-tank both horizontally and vertically with the said tank, substantially as described. 37th. In a wood-pulp machine, the combination of the main shaft or spindle, the step and the water-tank, provided with means of vertical and horizontal adjustment, substantially as described. 38th. In a wood-pulp machine, the combination of the main shaft or spindle, the metallic cap, the step having a convex upper surface, and the adjustable water-tank, all arranged substantially as described and for the purposes set forth.

No. 22,644. Pin Sleigh. (*Traîneau à Scellette.*)

The Chatham Manufacturing Company, (Assignee of William Milner,) Chatham, Ont., 19th October, 1885; 5 years.

Claim.—1st. In combination with a pin sleigh, the tie straps F, provided with holes in their ends for the reception of the pins E, substantially as and for the purposes hereinbefore set forth. 2nd. The combination, in a pin sleigh, of the tie strap F, and the bench B, provided with transverse notched grooves on the underside of the ends, for the reception of the tie strap F, substantially as set forth, for the purposes specified. 3rd. The combination, in a pin sleigh, of the tie strap F, the pins E, the bench B, provided with notches for the reception of the tie straps F, and the knees D, provided with vertical side grooves for the reception of the pins E, E, substantially as and for the purposes hereinbefore set forth.

No. 22,645. Axle Truss Rod.

(*Tige d'Armature d'Essieu.*)

The Chatham Manufacturing Company, (assignee of William Milner,) Chatham, Ont., 19th October, 1885; 5 years.

Claim.—1st. In combination with the axle-tree A of a waggon, the truss-rod C provided with the bevelled or inclined surface D and extreme offset or shouldered end D1, substantially as and for the purposes hereinbefore set forth. 2nd. In combination with the axle-tree A of a waggon, the thimble-skein B provided with a recess or cavity on the underside, for the purpose of receiving the end of the truss-rod C, and the projecting bevelled collar B1, substantially as shown for the purposes specified. 3rd. In combination with the axle-tree A of a waggon, the truss-rod C, the clip F and the tie E, used for the purpose of securing the end of the truss-rod C to the thimble-skein B, substantially as described. 4th. The combination, with the axle-tree A of a waggon or other vehicle, of the truss-rod C, the rests G, thimble-skein B provided with the bevelled collar B1, the clip F and tie E secured to the tie by the nests H, all substantially as described and for the purposes hereinbefore set forth.

No. 22,646. Combined Punching, Cutting and Stamping Machine. (*Machine à Percer, Couper et Etamper.*)

Nelson C. Ruberg, James T. Stevens and George D. Willis, South Braintree, Mass., U.S., 19th October, 1885; 5 years.

Claim.—1st. The combination of a punch, or punches adapted to form a hole or holes in a strip or sheet of metal, or other material, as it is fed into the machine, a stationary knife and a movable knife adapted to act in conjunction, to cut or shear a piece from the said strip or sheet, a bed-die and a movable die adapted to act in conjunction, to stamp or form the piece cut from said strip or sheet, and operative mechanism, said movable knife constituting also the movable die, or being integral therewith, substantially as described. 2nd. The combination of a punch or punches adapted to form a hole or holes in a strip or sheet of metal or other material, as it is fed into the machine, a stationary knife and a movable knife adapted to act in conjunction, to cut or shear a piece from the said strip or sheet, a bed die and a movable die adapted to act in conjunction to stamp or form the piece cut from said strip or sheet, a stop for regulating the feed of said strip or sheet, and operating mechanism, said movable knife constituting also the movable die or being integral therewith, substantially as set forth. 3rd. The combination of a bed-die, a movable die, a bed knife, a movable knife, a punch or punches, a stop for the strip or sheet, and operative mechanism, the bed-knife constituting also the bed-die for the punch or punches, or being integral therewith, substantially as described. 4th. The knives *d*, *g*, punch *f*, die *j*, stop *t*, cross-head *c*, pitman *n*, shaft *m*, bed *a*, and standards *b*, combined and arranged to operate substantially as set forth. 5th. The cross-head *c*, carrying a movable punch, knife and die, in combination with a corresponding bed-knife and dies, a stop for the strip or sheet, and operating mechanism, substantially as and for the purpose specified.

No. 22,647. Blind or Shutter Fastening.

(*Arrête Persienne ou Contrevent.*)

George J. Thomas, Newton, Mass., U.S., 19th October, 1885; 5 years.

Claim.—1st. The blind-fastening, substantially as described, consisting of the plate A, and its bolt guides, the two gravitating studded bevelled bolts arranged in such guides, the spindle and its handle, and the lever and its friction-spring adapted to such spindle and the two bolts, such friction-spring being out of contact with either of the bolts, and all being essentially as set forth. 2nd. The blind-fastening as represented, consisting of the plate A, and its lever-stops, and slotted bolt-guides, the two gravitating studded bevelled bolts arranged in such guides, the spindle pivoted to the plate and provided with a handle, and the lever and the friction spring adapted to such spindle, and the two bolts, such friction-spring being out of contact with either of the bolts, and all being substantially as set forth.

No. 22,648. Hydro - Incubator.

(*Hydro - Incubateur.*)

Henri Patient, Quebec, Que., 19th October, 1885; 5 years.

Claim.—1st. A hydro-incubator, substantially as shown and described. 2nd. In a hydro-incubator, the combination of a reservoir R, having a tube *r* at top, and tubes r_1, r_2, r_3, at the side, a drying chamber D, with glazed trap door above, and an egg drawer E below, the reservoir surrounded with a non-conductor N. 3rd. The use of chaff as a non-conducting packing for those parts of the reservoir, in a hydro-incubator, that are not desired to give out any heat.

No. 22,649. Key Board for Musical Instrument. (*Clavier d'Instrument de Musique*)

Worthington T. Weir, Chicago, Ill., U.S., 19th October, 1885; 5 years.

Claim.—1st. The adjustable key-board A, the vertical shaft keys *a*, *a*, the bolts A_4 and the bar C, in combination, substantially as shown and set forth. 2nd. The adjustable supporting bar C, the key-board A and the bolt A_4, in combination, substantially as shown and described. 3rd. The combination of the bar C, bolts *c* and block *d*, substantially as shown and for the purposes described.

No. 22,650. Spinning Machine.

(*Machine à Filer.*)

John Cuthbertson, Lowell, Mass., U.S., 19th October, 1885; 5 years.

Claim.—1st. The spindle provided with the box and the latches and their operative spring, as described, in combination with the yarn-clamping cup (to slide on the spindle and co-operate, as described, with the box in clamping the yarn to the spindle prior to doffing the bobbin,) and with mechanism, substantially as described, for operating the said cup, such mechanism consisting of the spring H, the fork F and its pivoted shaft G, and the arm K thereof, all being arranged as represented. 2nd. The combination of the spindle, provided with the latches and their operative spring, with the bobbin chambered in its lower part, and having opening out of the chamber notches or recesses to receive the heads of the latches, in order to engage the bobbin with the spindle, all being substantially as set forth.

No. 22,651. Conveyor for Flour, etc,

(*Conduit pour la Farine, etc.*)

Robert Bing, May's Landing, N.J., U.S., 20th October, 1885; 5 years.

Claim.—In conveyors for flour and other mill products, a shaft consisting of a metallic tube filled with wood or other like elastic material, and provided with sockets, in combination with the adjustable flights, substantially as set forth.

No. 22,652. Contrivance for Fastening Milk Cans to the Waggons. (*Moyens d'Assujétir les Bidons à Lait dans les Voitures.*)

James M. Butchart, Burgessville, Ont., 20th October, 1885; 5 years.

Claim.—1st. Separately, the slide A, the bolt D and the retainer K 2nd. The combination of the slide A and the bolt D. 3rd. The combination of the slide A and the retainer K. 4th. The combination of the bolt D and the retainer K. 5th. The combination of the slide A, the bolt D and retainer K, substantially as and for the purpose herein set forth.

No. 22,653. Paving Block. (*Bloc de Pavage.*)

David G. Conger, Ottawa, Que., 20th October, 1885; 5 years.

Claim.—As an article of manufacture, a paving-block formed and subjected to pressure while still hot, and allowed to set while under pressure, the said block composed of a compound of ingredients, consisting of pitch or asphaltum, resin, cement, sand, field plaster, or gypsum and gravel, in the proportions, and united and compounded substantially as described, that is, plastic while hot, but hardens when cool.

No. 22,654. Key-board for Musical Instrument. (*Clavier d'Instrument de Musique.*)

Washington T. Weir, Chicago, Ill., U. S., 20th October, 1885; 5 years.

Claim.—1st. A key-board for musical instruments having the first, second, fourth, fifth and seventh keys of the different octaves on one support, and the third and sixth on another, one or both of said support being movable a half step with reference to each other, substantially as shown, and for the purposes specified. 2nd. A key-board for musical instruments, having the third and sixth keys of the several octaves supported separately from the other keys on a movable bearing, whereby said keys may be shifted a half step to the right or left with reference to the other keys, substantially as shown and for the purposes set forth. 3rd. In a key-board for musical instruments, the combination of a frame D having the bars D_1, D_2, and supporting the first, second, fourth, fifth and seventh keys with the sliding bar D_3 interposed between said bars D_1, D_2, and supporting the third and sixth keys, substantially as shown, and for the purposes specified. 4th. The combination of the bar D_2, and the sliding bar D_3, each surporting the keys herein enumerated, substantially as shown, and for the purposes specified. 5th. In a key-board for musical instruments, the combination of a bar D_3 and frame D, supporting the keys, as herein described, with the frame C, said bar D_3 and frame D being movable with reference to each other and to the frame C, as shown, and all together movable upon a way, or ways B_2, B_3, substantially as shown and for the purposes specified. 6th. The combination of the bar D_3, frame D and keys E, hinged to said bar and frame, substantially as described, said bar D_3 being arranged to tilt upward at its front edge and raise the front ends of the keys E, substantially as shown, and for the purposes specified. 7th. The combination, with a frame D, seated upon sliding ways B_2, B_3, and having the keys E hinged to its rear portion, of an open frame C, surrounding said frame D, in about the same plane, and hinged thereto at the rear, while its front is free to be raised to lift the front ends of the keys E, substantially as shown and described. 8th. The combination, with a frame D, seated upon sliding ways B_2, B_3, and supporting the keys E, of an open frame C, surrounding said frame D, in about the same plane, held (temporarily at least) against lateral movement on said frame D, and hinged thereto at its rear, while its front is free to be raised and drawn longitudinally, to lift the outer ends of the keys E and shift the entire key-board to the right or left, substantially as shown and described. 9th. A peg-board B_1, or similar board extending upward from the key-board A, and a face-board F, projecting downward a short distance in front of said board B_1, and almost touching the key-board A, thus excluding the interior of the instrument from view and at the same time leaving a space for the bent arms of the keys E, substantially as shown and described. 10th. A horizontal board B_4, lying over the key-board A, a peg-board B_1, extending upwards at the rear of the board B_4, and a face-board F projecting downward a short distance in front of said board B_1, and almost touching the board B_4, thus excluding the interior of the instrument from view and at the same time leaving a space for the bent arms of the keys E, substantially as shown and described. 11th. In a key-board for musical instruments, a series of keys E, passing over a board B, then downward in front of the same, and then forward horizontally beneath the face-board F, substantially as shown and for the purpose set forth. 12th. The keys E having their outer portions bent downward, then forward, and then upward, substantially as shown and described. 13th. In a key-board for musical instruments, a key or keys, having a forked arm or end E_2, substantially as and for the purpose hereins set forth.

No. 22,655. Combined Washer and Wringer. (*Laveuse-Essoreuse.*)

Colbert Ducharme, Ottawa, Ont., 20th October, 1885; 5 year.

Claim—1st. In a combined washing and wringing machine, the stem C, uniting the washer head B and the crank D, substantially as herein shown and described. 2nd. In a combined washing and wringing machine, the wringer-rollers E, E, journalled in the coiled ends of the springs F, F, attached centrally to the upper part of the machine.

No. 22,656. Sleigh Runner. (*Patin de Traineau.*)

John L. Mason, Davenport, Iowa, U.S., 20th October, 1885; 5 years.

Claim.—1st. In a sleigh runner for use on an ordinary carriage axle, a hub provided with circumferential grooves at its two ends, in combination with the runner, the rave underlying the hub, the standard D, the brace H, and the two clip-bolts E and I, seated in the grooves, and connecting the upper parts therewith in the manner described and shown. 2nd. The combination of the runner, the standard D, the rave B, the hub A, the clip-bolt E encircling the hub and extending through the rave and standard, and the clip bolt encircling the hub and passing through both the brace H and the brace K. 3rd. In a runner for use on an ordinary carriage axle, a hub A, the runner, standard, and rave located beneath the inner end of the hub, and united thereto by a clip E, in combination with the forked

brace H extending from the standard to the outer end of the hub, and connected thereto by the clip I, whereby the runner is suitably braced from the outer side. 4th. The combination of the axle and axle clip with the runner journalled on the axle, and the stop-arm L, secured rigidly to the runner and adapted to encounter the clip to prevent the overturning of the runner.

No. 22,657. Machine for Producing Type Bars and Matrices for Type Surfaces for Letter-Press Printing.

(Machine à Produire les Barres de Caractères et les Matrices pour Surfaces en Caractères d'Imprimerie.)

Ottmar Mergenthaler, Baltimore, Md., U. S., 20th October, 1885; 5 years.

Claim.—1st. In a machine for producing printing-bars, the combination, substantially as hereinbefore described, of a series of independent matrices, each representing a single character, or two or more characters, to appear together, a series of finger-keys representing the respective characters, intermediate mechanism to assemble the designated matrices in line, and the casting mechanism to co-operate with the assembled matrices. 2nd. In a machine for producing printing-bars, the combination, substantially as described, of independent disconnected matrices, each having a single character, or two characters, to appear together, magazines or holders to contain the assorted matrices, the finger-keys, the intermediate designating mechanism, the assembling or composing mechanism, the casting mechanism to co-operate with the line of assembled matrices and the distributing mechanism. 3rd. The combination, substantially as described and shown, of the series of free disconnected matrices, each bearing a single character or two characters to appear in unison, a series of finger-keys representing the respective characters, the intermediate mechanism to assemble matrices bearing the designated characters in line, the movable anvil to receive and sustain the aligned matrices, the clamps to confine laterally the matrices in the anvil, the mould opposite the anvil, and the pot and forcing mechanism, to deliver the metal to the mould. 4th. In combination with the feed tubes, their escapements and the finger-keys connected therewith to effect the delivery of the matrices, the carrier travelling past the tubes to receive the matrices and assemble them side by side in the order of their delivery. 5th. The matrices provided with sustaining shoulders, in combination with the endless carrying or assembling chains. 6th. In combination with the series of free independent matrices, the carrying chains provided with shoulders or teeth to engage opposite sides of the matrices. 7th. The feed tubes and their escapements connected with finger-keys, in combination with the matrices, the carrying chains and the receiving rails whereon the matrices are assembled. 8th. The combination, substantially as hereinbefore described and shown, of the feed tubes or magazines, their escapements and the finger-keys, with the disconnected matrices, the matrix conveying or assembling mechanism, the rails whereon the matrices are delivered, the anvil to receive the matrices from the rails, the transferring device M, the mould, the melting pot and its delivery pump, and the mechanism to face the anvil toward the mould. 9th. In combination with the anvil to sustain the matrices, the casting devices to co-operate with the matrices in the anvil, the distributing mechanism and mechanism, substantially as described, to move the anvil and matrices from the casting to the distributing mechanism. 10th. In a machine for producing printing bars, and in combination with the series of free disconnected matrices, a casting mechanism, and an anvil or matrix support which advances alternately to the casting and to the distributing mechanism. 11th. In combination with the pivoted anvil or matrix carrier, the vertically swinging sustaining arms. 12th. In combination with the melting pot, and its delivery pump, the removable mould, the anvil, the matrices therein, the frame to sustain the anvil, and the excentric to raise the frame. 13th. In combination with the feed-tube, the series of independent matrices, an escapement or detent, substantially such as shown, and the finger-key connected therewith. 14th. In combination with the independent matrices, those of the same character of equal width, but those of different characters of different widths, the distributing rails or plates arranged to present a passage of increasing width toward the delivery end; and mechanism, substantially as described, to advance the matrices through said passage, whereby an automatic distribution or assortment of the matrices is secured. 15th. In combination with the series of independent matrices, each provided with two pairs of shoulders graduated in width, as described and shown, two distributing supports with expanding passages to operate in connection with the respective shoulders, whereby the matrices are first divided into groups, each containing several characters, and these groups finally divided to assort the characters. 16th. The series of independent matrices provided with sustaining shoulders, as described, those which represent like characters being of equal width, and those of different characters of different widths. 17th. The matrices, each having two pairs of sustaining shoulders, as described. 18th. In a composing mechanism, the combination of a series of tubes or holders, each containing matrices of a given letter, escapement mechanism to discharge the type, one at a time, and a carrier travelling in one direction beneath the entire series of tubes, whereby the discharged characters are assembled in the order of delivery and without reference to the relative order or position of the tubes. 19th. In combination with the distributing rails or plates, the endless belt provided with an arm T, the notched pulley to carry said belt, the driving-pulley loosely connected therewith, and the spring arm acting on the notched pulley, whereby the arm is caused to advance the matrices with a jarring action. 20th. A machine, substantially such as herein described, wherein a series of disconnected dies of matrices have a circulating course from the magazine or holder to an aligning point, and casting or impression point, and finally to the magazine again. 21st. A machine, substantially as herein described, wherein a line of independent dies or type, each bearing a single character, are automatically clamped and presented to the action of mechanism for taking a cast or impression therefrom.

No. 22,658. Type Writer. *(Graphotype.)*

James A. Ambler, Natick, Mass., U.S., 20th October, 1885; 5 years.

Claim.—1st. The thin, flexible electrotype printing plate and a support *d* for the paper, combined with an impression plunger to act upon, bend, and depress that part of the thin metal plate which is provided with characters to be imprinted upon the paper, substantially as described. 2nd. The thin, flexible electrotype printing-plate, combined with an ink-ribbon and with a support *d*, for the paper to be printed upon, substantially as described. 3rd. The thin, flexible printing-plate, its attached rotating spindle, means, substantially as described, for rotating the latter, the arm p^6 and its pawl, the key and ink ribbon, combined with a movable impression plunger adapted to be depressed upon the upper side of the said printing-plate, when the latter is to be sprung downward to print, substantially as set forth. 4th. The thin, flexible electrotype printing-plate and perforated plate below it, combined with an impression plunger to strike against the upper side of the said plate, substantially as described. 5th. The thin, flexible electrotype plate and its rollers 3, to support the same at its under side, combined with an impression plunger to act upon and depress the said plate between the said rollers, substantially as described. 6th. The rotating shaft, its gears b^1, b^2, the sleeve actuated by them, the ratchet thereon, the printing plate, the shaft to move it, and the arm b^6 attached to the said shaft, combined with a friction device to prevent rebound of the shaft, carrying the printing plate when the arm b^6 is arrested, substantially as described. 7th. The printing plate, the shaft b^5, the arm b^6 and pawl pivoted thereon, combined with a key having an adjustable end, substantially as described. 8th. The support *d*, for the paper, the flexible metallic electrotype printing plate, and the impression plunger, combined with the impression lever to operate the said plunger, substantially as described. 9th. The support *d* for the paper, the flexible printing-plate and the impression-plunger combined with the lever to operate the plunger, and with the treadle mechanism to operate the said lever, substantially as described. 10th. The support *d* for the paper, the carriage, the flexible printing-plate, the ink-ribbon, the impression plunger and the lever *a* to move it, combined with the arm m^2 and with means, substantially as described, between the said arm and carriage to operate the latter intermittingly, as and for the purpose set forth. 11th. The spool, having the tubular slotted axle and the ink-ribbon, combined with the spindle extended through the said axle and adapted to clamp the end of the ink-ribbon, substantially as described.

No. 22,659. Hot Water or Steam Boiler.

(Chaudière de Calorifère à Eau ou Vapeur.)

James McEwan, Detroit, Mich., U.S., 20th October, 1885; 5 years.

Claim.—1st. The combination of the combustion chamber A, the water-jacket B surrounding the same, the separate chamber B^1 over the combustion chamber, the tubes b^3 connecting the separate chamber B^1 with said water jacket, the drum G, enclosing chamber B^1, and communicating with the combustion chamber and the water tubes connecting the lower portion of the water-jacket with chamber B^1, substantially as and for the purposes described. 2nd. The combination of the combustion chamber A, water-jacket B surrounding the same, the separate chamber B^1 over the combustion chamber, the tubes b^3 connecting the separate chamber B^1 with said water-jacket, the outside casing D, the drum G made separate from said casing D and enclosing chamber D^1, and communicating with the combustion chamber and the water tubes connecting the lower portion of the water-jacket with chamber B^1, substantially as and for the purposes described. 3rd. The combination of the combustion chamber A, water-jacket B surrounding the same, the inner wall of said jacket being corrugated, the chamber B^1 over the combustion chamber and the tubes C lying in the corrugations of the jacket and connecting the lower portion of the jacket with chamber B^1, substantially as and for the purposes described. 4th. The combination of combustion chamber A, water-jacket B surrounding the same, chamber B^1 over the combustion chamber, connecting the water-jacket and chamber B^1, drum G, enclosing chamber B^1, and communicating with the combustion chamber and screw I in said drum, above chamber B^7, substantially as and for the purposes described.

No. 22,660. Postal Cabinet. *(Semainier.)*

Lyman C. Gray, Fort Dodge, Iowa, U.S., 20th October, 1885; 15 years.

Claim.—1st. In a device for holding letters or other articles, the pocket sheet bent over the ends of the inner edges of the side supporting strips, and in combination therewith, whereby said sheet is supported and the side strips securely bound and held together, as and for the purpose herein described. 2nd. The leaf composed of the inner central sheet provided with pockets, the side connecting strip or strips, in combination with one or more of the independent adjustable divisional strips, whereby the said pockets may be divided into separate receptacles, substantially as described.

No. 22,661. Telephone Switch Board.

(Table de Commutateur de Téléphone.)

Carl C. Sonne, Wladiwostock, Siberia, 20th October, 1885; 5 years.

Claim.—1st. In a telephone switch board, the combination of a circuit containing a magnet adapted to operate an annunciator signal, a contact plug C, an annunciator drop E, a contact spring F and an earth connection, and a branch circuit containing telephonic instruments, a switch S in connection with an electric generator, and a terminal spring G, beneath the annunciator drop E, substantially as and for the purposes described. 2nd. In a telephone switch board, the connecting or contact plug C, in circuit with the magnet, for operating the annunciator, with the metallic annunciator drop E, with the spring F pressing upon sail annunciator drop and with the earth, substantially as and for the purpose set forth. 3rd. In a telephone switch board, the switch S in circuit with the telephonic instruments, with the earth, with the annunciator drop, with the removable connecting plug C, and with the subscriber's line, in-

cluding the annunciator magnet A, substantially as and for the purposes set forth. 4th. In a telephone switch board, a switch S in circuit with an electric generator, with an annunciator drop E, with a removable connecting plug C, and with the subscriber's line including the annunciator magnet A, substantially as described. 5th. In a telephone switch board, the combination of the groups of springs G, each located under an annunciator drop E, as shown, switches *f* located between said group for the purposes specified, and a second switch provided with contact point *e*, connected each by wires to each of said groups, and arranged side by side, as and for the purposes described.

No. 22,662. Method for Moulding Car Brake Shoes. (*Mode de Moulage des Sabots de Freins des Chars.*)

William F. Collins and Thomas Milburn, Toronto, Ont., (assignees of Charles F. Wohlfarth, Norwich, Ct., U.S.,) 21st October, 1885; 5 years.

Claim.—The method, herein described, for producing brake shoes with one or more chilled portions consisting essentially, of first, preparing the mould or matrix in the customary manner, second, of placing, at desired points in said mould, one or more cores of zinc or other easily-fusible metal and, third, of so pouring in the molten iron that it acts to fuse said core or cores to produce "chill," as specified.

No. 22,663. Paper Waxing Machine.

(*Machine à Encirer le Papier.*)

James H. McNairn, Toronto, Ont., (assignee of Herman Frasch, Cleveland, Ohio, U.S.,) 21st October, 1885; 5 years.

Claim.—1st. The improvement in waxing paper by rubbing the paper against the side of a wick, or capillary conductor, whose end dips into the melted wax, the rubbing area being greater than the cross-section of the wick, substantially as described. 2nd. An apparatus for waxing paper having one or more wicks or capillary conductors, for absorbing the wax and applying it to the paper, the wick surface exposed to the rubbing against the paper being many times greater than the cross section of the said wick or wicks, substantially as described. 3rd. In a paper coating apparatus, the combination, with the pan or receptacle for the material to be applied, of one or more wick supports and one or more guide for the paper, said parts being arranged so that the paper rubs over the side of the wick or wicks, which rest upon said supports and dip into the liquid in said pan, substantially as described. 4th. In a paper coating apparatus, the combination, with wick supports inclined toward each other, of the guide rod between the same, substantially as described. 5th. The combination of the pan, wick-supports and reservoir, substantially as described. 6th. The combination, with the pan of a paper waxing apparatus, of a heating chamber under said pan, substantially as described. 7th. A paper waxing apparatus comprising in combination a close box, one or more heating chambers, a pan, one or more wick supports, one or more wicks, paper guide and a reservoir or fountain, substantially as described.

No. 22,664. Wrench. (*Clé à écrou.*)

Benton Elmore and Frederick Gratefend, Redding, Cal., U.S., 21st October, 1885; 5 years.

Claim.—1st. In a wrench, the outer jaw A having the slot F in the shank H, and the tenon E, with holes for the pins O and E^1, and the inner jaw B having the tenon D and the slot G in its shank H_1, with holes for the pins D_1 and K, and the forked handle C with holes for the pins O and K, and the slot M, and the pins D_1, E_1, O and K, adapted to be attached together, to form a wrench adapted to operate as described, substantially as and for the purpose hereinbefore set forth. 2nd. The forked handle C, formed and attached as described, in combination with the slotted and tenoned jaws A and B, formed and attached together as shown, substantially as and for the purposes hereinbefore set forth.

No. 22,665. Device for Holding Horses, etc.

(*Appareil pour Attacher les Chevaux, etc.*)

William C. Dougherty, Clyde, Minn., U.S., 21st October, 1885; 5 years.

Claim.—1st. In a device for holding animals to be shod or other wise treated, the combination of the beam E, provided with suitable devices for holding the animal in position, supporting rods or cords and a counterpoise, the beam being adapted to be lowered directly over the horses back, so that the holding device attached thereto can be at once rigidly adjusted to the horse so as to hold him in position, substantially as described. 2nd. In a device for holding animals, the beam in combination with a breeching, and means for longitudinally and laterally adjusting the same, substantially as described. 3rd. In a device for securing animals, the combination of the yoke J, adjustable upon the beam E and provided with pads J_{11}, with a sectional breeching, the ends of which pass through slots in the yoke J, substantially as set forth. 4th. In a device for securing animals, the yoke J carrying the rigid breeching L and sliding on the beam E, in combination with the levers M and the ratchet bar N, and a suitable plate or device for engaging with the bar, substantially as specified. 5th. In a device for holding animals, the beam E and a yoke H, in combination with the shaft H_1 carrying the ratchet, and a means for turning the ratchet, suitable cords, chains or wires and the band or belt for passing under the horse's body, substantially as shown. 6th. In a device for holding animals, the combination of the beam E with the bars E_1, and the pads F attached thereto, one of the pads being adapted to be raised upward and outward, substantially as described. 7th. The combination of the beam E, the vertically adjustable rods B, fastening rods C_1, an operating shaft and a lever connected thereto, substantially as set forth. 8th. In combination with a suitable mechanism for holding animals, a platform or support *O* provided with slots, with a foot support which can be adjusted back and forth, substantially as specified. 9th. In a device for securing animals, the combination of the sliding carriage R provided with a socket and latch *d*, with the removable foot-rest T carrying an anklet for the support of the animals' foot, substantially as described. 10th. In a device for holding animals, the combination of the movable carriage, the standard T, the anklet U V and the spring-actuated latch or locking device W_1, substantially as specified. 11th. The combination, in an animal-holding device, of the standard T, the anklet U V and a foot rest or brace, substantially as shown and described.

No. 22,666. Steam Boiler. (*Chaudière à Vapeur.*)

George S. Strong, Philadelphia, Pa., U.S., 21st October, 1885; 5 years.

Claim.—1st. The combination, in a steam-boiler of the locomotive type, of a fire-box or fire-boxes and tube-sheet, with the circumferentially-corrugated shell of a combustion-chamber, interposed between the said box or boxes and tube-sheet, substantially as set forth. 2nd. The combination, in a steam-boiler, of the two shells of two fire-boxes and that of a combustion chamber, with two inclined necks *p*, *p*, one forming a communication between one fire-box and the combustion chamber, and the other a communication between the other fire-box and the same combustion chamber, substantially as described. 3rd. The combination, in a steam boiler, of two cylindrical shells placed side by side, and one cylindrical shell with die-pressed gusset plate H_1 and die-pressed side plates I, I_1, shaped and rivetted or otherwise secured together and to the three shells, substantially as set forth. 4th. The combination of the two outer shells A, A_1, and the shell of the barrel B, with the two die-pressed plates W and W_1, secured together and to the said shells, substantially as specified. 5th. The within-described outer shells of the two fire-boxes, the same consisting of bent plates having flanges X, for the shell of one box, bent plates without flanges for the shell of the other fire-box, the flanged plates T and strips W, all combined and rivetted or otherwise secured together, substantially as specified. 6th. The combination of the two outer shells of the fire-box with a flanged plate T, made in one piece and forming the head of the said outer shells of the fire-box, substantially as set forth.

No. 22,667. Valve Motion for Steam Engines. (*Tiroir Régulateur pour Machines à Vapeur.*)

George S. Strong, Philadelphia, Pa., U.S., 21st October, 1885; 5 years.

Claim.—1st. A duplex valve-gear in which the following elements are combined, namely: first, two levers H, H^1, and mechanism for imparting a compound motion to the same, second, two valve-spindles, one for the steam-valve and the other for the exhaust-valve, one spindle being connected to one lever and the other to the other lever, third, two pins *a*, a_1 and mechanism for adjusting each in the arc of a circle independently of the other, and fourth, a rod for connecting one pin *a* to one lever, and another rod for connecting the other pin a_1 to the other lever, all substantially as set forth. 2nd. The combination of the levers H, H_1, one connected to the steam-valve spindle and the other to the exhaust-valve spindle, the tubular shaft V carrying a lever T, the bent arm *t* of which is connected by a rod to the lever H, and the shaft Q carrying a lever T_1, one arm of which is connected by a rod to the lever H_1, all substantially as set forth.

No. 22,668. Fire Escape. (*Sauveteur d'Incendie.*)

William C. Barkeley, Litchfield, Ill., U.S., 21st October, 1885; 5 years.

Claim.—1st. In a fire-escape, the combination of a main frame, a guide frame pivoted thereto, means for holding the guide frame in an adjusted position, a ladder made in detachable sections, one end of the sections being tenoned, the other provided with a socket to receive the tenoned end of the next succeeding section, and means, substantially as described, for raising and lowering said sections, substantially as specified. 2nd. The combination, with the main frame and the windlass journalled thereon, of the ladder made in detachable sections, the pivoted guide frame pulleys fastened to the upper end of the guide frame, a hooked hoisting bar and the hoisting ropes having one of their ends made fast to the hooked hoisting-bar, and their other ends passed over the said pulleys and made fast to the windlass, substantially as set forth.

No. 22,669. Vehicle Spring. (*Ressort de Voiture.*)

Elmer J. Hess, Cincinnati, Ohio, U.S., 21st October, 1885; 5 years.

Claim.—1st. The elastic plate B secured at each end to the vehicle body or body support, having above its middle portion the space or recess A and the two springs C, C, each wholly attached to the plate B, at a point within the extent of the space A^1, and passing over for attachment to the side-bar of the opposite side, substantially as and for the purpose specified. 2nd. The cross-bar A provided with recess A^1, spanned by a plate of elastic metal B, to which are attached two springs C, each spring being attached to the plate B, at a point within the extent of the recess A^1, and independently of the attachment of the plate to the cross-bar, and passing over for attachment to the side-bar of the opposite side, substantially as and for the purposes specified. 3rd. The rubber plate N as an elastic bearing, placed between the ends of an elastic plate and a recessed cross-bar of the vehicle, substantially as and for the purposes specified. 4th. The combination of the cross-bar A provided with recess A^1, rubber plates N, elastic plate B and springs attached to the plate B, within the space of the recess A^1, and extending in opposite directions across the median line of the vehicle, for attachment to the side-bars, substantially as and for the purposes specified. 5th. A vehicle spring composed of the springs C, C, attached to the spring bar B, at or near its center, the spring bar or plate B supported at each end by the cushions or rubber plates N, N, and bar A, substantially as and for the purposes specified. 6th. In a vehicle spring, the cushions

or rubber plates N, N attached to the spring plate or bar B at its ends, and forming a support for the same, in combination with said spring plate or bar B, substantially as and for the purposes specified.

No. 22,670. Animal Trap. (*Ratière.*)

Jean A. H. Marty, Villefranche, France, 21st October, 1885; 5 years.

Claim.—The combination of two cells consisting of an introductor, Fig. 2, and an adjunct cell Fig. 3, provided with entrance *a* and counterpoised door *e*, forming an animal self-setting trap, substantially as described and illustrated.

No. 22,671. Mopping and Scrubbing Device.

(Machine à Laver et Frotter les Parquets.)

Thomas Williams, Toronto, Ont., 21st October, 1885; 5 years

Claim.—1st. A scrubbing brush or rubber having passage-ways made through it, as specified, in combination with a hollow handle A connected to hose supplied with water under pressure, substantially as and for the purposes specified. 2nd. A scrubbing brush or rubber having passage-ways made through it, as specified, in combination with a hollow handle provided with a cock and connected to hose supplied with water under pressure, substantially as and for the purposes specified. 3rd. The combination, with a scrubbing-brush or rubber, of a device arranged to direct a stream of water on to the surface being cleaned.

No. 22,672. Boiler Feed and Alarm. (*Alimentateur et Indicateur pour Chaudière à Vapeur.*)

Thomas Barber, Flatbush, N.Y., U.S., 21st October, 1885; 5 years.

Claim.—1st. The combination, substantially as herein described, of the float situated in the interior of a steam boiler, the pipe or opening through which steam from the steam-space of the boiler has access to the interior of the float, the tubular stem of the float, the valve acted upon by said tubular stem, and the pipe intended to convey steam to the steam pump. 2nd. The combination, substantially as herein described, of the float situated in the interior of a steam-boiler, the pipe or opening through which steam from the steam-space of the boiler has access to the interior of the float, the tubular stem of the float, the valve acted upon by said pipe, the alarm valve *c* and the alarm pipe. 3rd. The combination, substantially as herein described, of the float, the pipe or opening admitting steam into the float, the tubular stem I, the pivoted head H, the valve G, the chamber B and the steam-pipe D. 4th. The combination, substantially as herein described, of the float, the pipe or opening admitting steam into the float, the tubular stem I, the pivoted head H, the valve G, the lever *d*, the alarm valve *c* and the alarm pipe E.

No. 22,673. Looping and Stitching Attachment for Knitting Machines.

(Appareil à Maille pour Machines à Tricoter.)

Edward Murby, Ypsilanti, Mich., U.S., 23rd October, 1885; 5 years.

Claim.—1st. The combination, with the needle cylinder, needles and cam cylinder, and means for operating the same, of two yarn guides a series of points arranged laterally to the needles, means for supporting the points and mechanism for projecting said points between said guides, to engage with the yarn between said guides to hold the same while the needles draw down the yarn, to form the stitch whereby a loop is formed and knitted in the fabric, substantially as described. 2nd. The combination, with the needle cylinder, needles cam cylinder, means for operating the cam cylinder, and means for feeding the ends of yarn to the needles, of a series of points arranged laterally to the needles, means for supporting said points, and mechanism for projecting the points between said yarn feeding, means to engage with one of the yarn and hold the same to form a loop while the needle carries the other yarn to form the stitch, whereby a loop is formed and knitted in the fabric, substantially as described. 3rd. The combination, wit the needle cylinder, needles, cam-cylinder, means for operating said cam-cylinder, and means for feeding two yarns to the needles, of a series of points arranged laterally to the needles, and a cam actuating said points to cause them to engage with the yarn and hold the same to form a loop, while the needle will carry the free yarn to form the stitch, the said cam also serving to withdraw the point from the loop on the completion of the stitch, substantially as described. 4th. The combination, with the needle cylinder, needles, cam-cylinder and means for operating said cam-cylinder, of a series of points arranged laterally to the needles, means for projecting said points to engage with the yarn, to hold the same while the needles carry the free yarn to form the stitch, and after the formation of each stitch, to withdraw the projected point to leave a loop, and means for adjusting said points to or from the needles, to regulate the length of the loop, substantially as described. 5th. The combination of the needle cylinder, the needles, the cam-cylinder, the plate F, the series of points supported in grooves in said plate, the cam plate G, the supporting shaft and means for adjusting said cam-plate about its supporting shaft, substantially as described. 6th. The combination of the rotary disk F, the points F_1 supported thereby, the cam-plate G and mechanism whereby it is adapted to be secured to a knitting machine, substantially as described.

No. 22,674. Middlings Purifier.

(Epurateur des Gruaux.)

Ralph Wilcox and Randolph Wilcox, Utica, Mich., U.S., 23rd October, 1885; 5 years.

Claim.—1st. A middlings-purifier consisting of a bolting-cloth or screen, through whish middlings of a certain grade and impurities of a corresponding grade pass, a hopper or spout, whereby the same are led to a purifying-chamber, a revolving drum located within said chamber for receiving the mass and throwing the same into space, a deflector arranged above said drum and a suction fan located above the drum, whereby a draft is produced in a direction contrary to that of the falling middlings, thereby separating the impurities, substantially as described, 2nd. In a middlings-purifier, a series of graded bolting-cloths adapted to receive and separate into corresponding grades middling and their corresponding impurities, separate chutes or hoppers for receiving the different grades, separate purifying-chambers for each grade, a revolving drum in each purifying-chamber, and a fan located above each drum, substantially as described. 3rd. In a middlings-purifier, the chamber F provided with a revolving disk, for receiving the materials to be operated upon, a drum G projecting for some distance beneath the revolving disk, whereby the space through which the draft is caused to operate upon the mass is rendered substantially uniform in dimensions, a deflector J arranged above the drum, and a suction fan located above the disk, substantially as described. 4th, The combination, with the feeding hopper having openings B_1, of valves B_2, pivoted upon the hopper and connected with a handle B_3, a shaft B_4, in the hopper, provided with agitators B_5, and the screen having a solid portion *a* and transverse seat a_1, substantially as described.

No. 22,675. Wire Drawing Die. (*Tréfilière.*)

Francis M. Blake, Worcester, Mass., U.S., 23rd October, 1885; 5 years.

Claim.—1st. An adjustable die for drawing wire, consisting of a spiral coil having connected means for applying radial pressure to its outer surface, whereby it may be contracted and its internal diameter or bore reduced, to compensate for wear or to vary the size of the wire, as set forth and described. 2nd. An adjustable die for drawing wire, consisting of a conical spiral coil with an internal bore, through which the wire rod is drawn, said spiral coil being held in a tapering chamber and having connected means for sliding the spiral coil endwise in said chamber, whereby the diameter of the coil may be reduced, all combined and operating as described and set forth. 3rd. In an adjustable die for drawing wire, the combination of block A having a screw-threaded chamber B, hollow conical follower C, screw D with hole F, having a tapered section G, and a spiral coil H held in said tapered section, as set forth and described.

No. 22,676. Manufacture of Axes.

(Fabrication des Haches.)

Henry Hammond, New Haven, Ct., U.S., 23rd October, 1885; 5 years.

Claim.—The process of making an eye of an axe, which consists in heating an axe blank and in displacing from each of its sides an amount of metal about equal in bulk to half of the eye, and in forcing the sides of the blank apart at the eye portion, till that portion is expanded to the ultimate thickness and form desired, all substantially as described.

No. 22,677. Buck Saw. (*Scie de Travers.*)

Albert H. Loebs, Rochester, N.Y., U.S., 23rd October, 1885; 5 years.

Claim.—1st. In a buck-saw, the combination, with the head and foot section, the former being provided at a point between its ends with a supplemental handle F, of a saw secured to the lower end of the foot section and the head section, at a point opposite the handle F, and braces connecting the head and foot sections, substantially as set forth. 2nd. In a buck-saw, the combination, with the head and foot section, the former being provided at a point between its ends with a supplemental handle F, of the saw blade increasing in width from its foot to its head secured to the lower end of the foot section and to the head section, at a point opposite the supplemental handle F, and braces connecting said head and foot sections.

No. 22,678. Ore Roasting Furnace.

(Fourneau à Calciner le Minerai.)

Charles A. Bartsch, Bridgeport, Ct., U.S., 23rd October, 1885; 5 years.

Claim.—1st. In a roasting furnace, the combination, with the reciprocating rakes, of independent scrapers pivoted between sliding blocks, and scraper rods adapted to push said scrapers forward, whereby the accumulated ore is placed within the field of operation of the rakes, substantially as set forth. 2nd. In an ore-roasting furnace, independent scrapers pivoted between sliding blocks arranged on the floors of the furnace, at the so called dead points, thereof, beyond the field of the rakes, in combination with means for operating said scrapers, substantially as shown and described. 3rd. In combination with the rakes of an ore-roasting furnace, the sliding blocks having scrapers pivoted thereto, trips secured to the rakes and adapted to upset the scrapers, the scraper rods provided with tappets, as described, and means for imparting motion thereto, substantially as set forth. 4th. The combination of the rakes G, trips J, scrapers I, Q, pivoted between sliding block H, trucks C, carrying rake rods D and scraper rods E, tappets F, F_1, secured on the scraper rods, truck M carrying rods P, rods A extending inward from the sides of truck C, rods K extending inward from the truck M and passing through collars A_1, on the rods A, and tappets N, N_1, secured on rods K, substantially as and for the purpose set forth.

No. 22,679. Harvester Binder.

(Moissonneuse Lieuse.)

David Maxwell, Paris, Ont., 23rd October, 1885; 15 years.

Claim.—1st. In combination with the timbers A, A_1, of the main frame or truck, the bent or curved brackets supporting the platform, substantially as described. 2nd. In combination with the timbers A, A_1, of the main frame or truck, the cross-pieces A_2, A_3, attached at their inner ends to the boards of the elevator frame and to the outer rail of the platform, and the bent or curved brackets secured

to the said timbers A, A1, and to the platform, substantially as described. 3rd. In a harvester such as described, the combination, with the main frame and the platform connected thereto on a lower plane, the arched bracket interposed between the end of the outer timber A1 and the front cross piece A2, and the crank shaft supported on the side of the timber A1, with its pitman projected across the end of said timber, substantially as described. 4th. In a harvester such as described, the combination, with the main frame composed of the longitudinal rails and cross pieces, the curved brackets applied to the said longitudinal rails and supporting the platform, and the truss rod or brace secured to the said rails and platform above the brackets, substantially as and for the purpose set forth. 5th. In a harvester such as described, the combination, with the main frame, composed essentially of the longitudinal rails and cross-pieces applied thereto, the curved brackets supporting the platform, the elevator frame applied to the extended cross-pieces and the binder frame supported upon the outward extension of the curved brackets, substantially as described. 6th. In combination with the tongue pivotally secured to the inner timber A of the main frame, the crank shaft located in bearings on the outer side of the main frame, the arched piece or bracket interposed between the timber A1 and cross-piece A2 of the main frame, and the pitman projected and working between the rear of the tongue and the front end of said outer timber A1, substantially as described. 7th. In a harvester such as described, wherein the platform and cutting apparatus are attached to, but located in a different plane from the main frame, the combination of the crank shaft secured to the outer timber of the main frame and with its crank-pin and crank-head or balance-wheel projected beyond the end of said outer timber, the tongue pivoted to the inner timber A in advance of the crank, and the pitman projected and vibrating across the end of the outer timber and in rear of the tongue, substantially as described. 8th. The combination, in a harvester binder such as described, and with the main frame or truck thereof, of the tongue pivotally secured to the forward extension of the inner timber or rail A, a tilting device also supported upon said timber, and the hand lever mounted in rear of the elevator frame and connected to the tilting device by a rod passing beneath the elevator, substantially as described. 9th. In a harvester binder such as described, the combination, with the inner timber or rail A of the main frame, of the tongue pivotally secured to said rail, the bell-crank mounted upon the said timber in advance of the pivot of the tongue, and connected respectively to the tongue and to a hand-lever pivoted upon the rear extension of the timber A, substantially as described. 10th. In a harvester binder, the combination, with the main frame mounted upon a single drive-wheel and carrying the platform, the elevator and binding mechanism, relatively arranged as described, the tongue pivoted to the forward extension of the inner timber or rail and the driver's seat, and tongue tilting lever mounted behind elevator upon the rear extension of said timber, the said lever being connected to the tongue actuating device in front of the elevator, substantially as described. 11th. The combination, in a one-wheel harvester binder such as described, of the main frame or truck composed of the side timbers or rails A, A1, and cross-pieces A2, A3, the platform and elevator mounted upon the cross-pieces, the curved brackets attached to the longitudinal rails A, A1, and the platform, the arched bracket between the end of the timber A1 and cross-piece A2, and the crank shaft supported upon the outside of the frame, with its pitman projected across the end of the outer timber A1, substantially as described. 12th. In a harvester such as described, the combination, with the main frame supporting the platform elevator and binding mechanism, of the driver's seat located behind the elevator and mounted directly upon the main frame, substantially as described. 13th. In harvester binder, the combination, with the main frame supported upon a single drive-wheel and carrying the platform elevator and binding mechanism, of the driver's seat supported upon the rear extension of the inner timber or rail, and the tongue pivoted to the forward extension of said timber or rail, and devices, such as described, for actucting the tongue by a lever convenient to the driver, substantially as described. 14th. In a harvester binder, the combination, with the main frame composed of the longitudinal rails or timbers A, A1, and the cross-pieces A 2, A 3, of the elevator frame fastened at the bottom to the inner ends of the cross-pieces A 2, A 3, and at the top by diagonal braces to the outer ends of said cross-pieces, of the curved brackets supporting the platform, and the binder frame supported upon the diagonal braces, at the upper end, and at the lower forward corner to a brace forming an extension of the front curved bracket, substantially as and for the purpose set forth. 15th. In combination with the reel, its driving gear and the pinion meshing therewith, mounted upon a pivoted support or standard, the driving shaft supported at one end in bearings upon the frame, and at the other in a swivel bearing attached to, and moving with the reel support, said shaft passing loosely through and engaging the pinion in mesh with the driving gear or the reel, substantially as described. 16th. In combination with the reel and its driving gear, mounted upon the pivoted standard in front of the elevator, the driving shaft located above the elevator and sustained at one end in a bearing on the frame, and at the other in a movable or swivelled bearing on the reel standard, and a pinion adapted to engage but free to move longitudinally upon the driving shaft, said pinion serving to communicate motion from the drive shaft to the reel, substantially as described. 17th. The combination, with the reel, its drawing gear and pinion mounted upon the pivoted standard, a driving shaft lying in a plane tangential to the arc in which the standard is adjustable, said shaft passing through the pinion on the reel standard, being pivotally supported at one end on the reel standard, and at the other on the frame, substantially as and for the purpose set forth. 18th. In a harvester such as described, the combination, with the main frame, the platform and the elevator, of the reel standard pivoted upon the the cross-piece A 2 of the main frame, and carrying the reel, its driving wheel and pinion, the driving shaft extending across the elevator and mounted to vibrate in bearings attached, the one to the frame and the other to the reel standard, said shaft passing through the pinion for engaging the wheel on the reel, substantially as described. 19th. In combination with the vibrating driving shaft, supported at one end in bearing on the frame, a reel mounted upon a pivoted standard and provided with a pinion, for transmitting motion from the driving shaft to the reel, said driving shaft passing through, and being free to reciprocate within said pinion, whereby, when the reel is adjusted, the pinion can slide longitudinally of the driving shaft, and the latter vibrate to follow the movement of the reel, while the machine is in operation, substantially as described. 20th. In a harvester, such as described, the combination of the longitudinal rails and cross-pieces constituting a main frame supported upon a single drive wheel, the platform connected to the longitudinal rails by the curved brackets and the inner extensions of the cross-pieces. the reel standard mounted upon the front cross-piece, and the elevator frame secured to the said cross-pieces, substantially as described. 21st. The combination, with the main frame composed of the longitudinal rails A, A1 and cross-pieces A 2, A3, of the stationary axle for the drive wheel, said axle being mounted in boxes attached to the longitudinal rails and provided with adjusting rods or braces, substantially as described. 22nd. In combination with the main frame, the fixed axle mounted in the adjustable bearings applied to the longitudinal rails and provided with the adjusting rods or braces, the drive wheel mounted loosely upon said axle and carrying the sprocket-wheel and the counter-shaft, for communicating motion to the crank shaft, said counter shaft and sprocket-wheel being connected by an endless chain, substantially as described. 23rd. In a harvester binder and in combination with the binding mechanism described, the clutch and tripping devices applied directly to the wheel on the knotter shaft, and the chain interposed between the packer-shaft and clutch devices, substantially as and for the purpose set forth. 24th. In combination with the casting or frame H, carrying the reel and pivoted to the reel standard, the hand lever pivoted to said standard and connected by a link to an arm or projection on said frame or casting, substantially as described. 25th. In a harvester such as described, the combination, with the main frame, the elevator and the platform, connected together and mounted upon a single drive-wheel, of the reel standard mounted in front, and the driver's seat in rear of the elevator, the reel driving shaft extending backwards across the elevator, and supported at one end in a movable swivel bearing on the reel standard, and at the other in a bearing in rear of the elevator frame, substantially as and for the purpose set forth. 26th. In combination with the main frame and the platform, connected together but located in different planes, as described, the tongue pivoted to the inner rail and the two braces extending from a pivot on the tongue, the one to a point on the main frame above to tongue bolt, the other to the outer rail of the platform below and in rear of the tongue bolt, with devices for raising and lowering the tongue, substantially as and for the purpose set forth. 27th. The combination, with the main frame of a harvester such as described, of the tongue pivoted to the inner longitudinal rail and provided with braces connected on opposite sides to the main frame and the platform, at points proportionally above and below the tongue bolt, substantially as and for the purpose set forth. 28th. In combination with the longitudinal rails A, A1 and cross-pieces A 2, A 3, constituting the main frame, the arched bracket uniting the ends of the cross-piece A 2 and outer rail A1, the crank-shaft with its pitman projected across the end of the rail A1, the tongue pivoted to the inner rail A in advance of the pitman, and the brace extending from the tongue to the end of the said arched bracket, substantially as described. 29th. The combination, to form a main frame or truck upon which to mount the elevating and binding mechanism of a harvester, of the longitudinal rails A, A1, the cross-pieces A 2, A 3, the arched bracket uniting the ends of the rail A1 and cross-piece A 2, the fixed axle carrying the main drive-wheel and mounted in boxes applied to the longitudinal rails, the tongue pivoted to the forward extension of the inner rail A, and the seat attached to the rear extension of said rail, the curved brackets extending beneath the longitudinal rails and the platform, supported upon the inner ends of said curved brackets and attached to the inner extensions of the cross-pieces A 2, A 3, substantially as described. 30th. In a harvester such as described, and in combination with the main frame connected to the platform by the curved brackets, and inner extensions of the cross-pieces A 2, A3, the whole supported upon the grain wheel and single main drive wheel, the reel standard mounted upon the cross-piece A 2 and above the outer end of the platform, substantially as described. 31st. In a harvester such as described, and in combination with the main frame and platform connected by the curved brackets and inner extensions of the cross-pieces A 2, A3, of the main frame, the reel standard mounted upon the front cross-piece A 2 and above the platform, and the tongue pivotally secured to the forward extension of the inner rail A of the main frame, substantially as described.

No. 22,680. Sheet Straightener for Printing Presses. (*Guide-Papier pour Presses d'Imprimerie.*)

Frank J. Ball, Brooklyn, N.Y., U.S., 23rd October, 1885 ; 5 years.

Claim.—1st. In combination with the delivery table B, provided with stop cleats b, $b1$, or their described equivalents, the adjuster C constructed to embrace the two sides of the angle of the sheet diagonally opposite to the cleat b, and means, substantially as described, for withdrawing the said adjuster in the delivery of the sheet, and moving it forward immediately after said delivery, substantially as hereinbefore set forth. 2nd. In combination with the delivery table B, having stops b, $b1$, the grooved segment I, the guide-block H adjustable on the said segment, the slide G, the adjuster C adjustable on the said slide, the spring E attached with one end to the slide G, and with the other to a stationary point $o1$, and means, substantially as described, for withdrawing the adjuster C in the delivery of the sheet, substantially as hereinbefore set forth.

No. 22,681. Fire-Escape. (*Sauveteur d'Incendie.*)

Newman J. Powell, Pontiac, Ill., U.S., 23rd October, 1885 ; 5 years.

Claim.—1st. The combination of the fixed drum, a revolving carrier provided with a rope-pulley, a governing arm pivotally supported on said carrier, and a brake-band of spring metal adapted to engage on the fixed drum and having an outward tension, substantially as set forth. 2nd. The combination, with the fixed drum and the carrier provided with a rope-pulley, and the brake-band, of the two gov-

erning arms pivotally supported on the carrier, and having their outer ends extended in opposite circumferential directions, whereby the descent may be regulated with either direction of rotation of the carrier, substantially as set forth. 3rd. In a fire-escape, the combination, with a drum, of a spring brake band wound around said drum, and means, substantially as described, for automatically tightening said band in accordance with the speed of the operator, substantially as and for the purpose set forth. 4th. A fire-escape, comprising a fixed drum, a brake-carrier provided with a rope pulley, the governing arms pivotally supported on said carrier in different vertical planes, and having their outer ends extended in different circumferential directions, and the brake-band wrapped several times around the fixed drum and secured at its extremities to the governing-arms, substantially as set forth. 5th. The combination of the fixed drum, the revolving carrier provided with a pulley having rope-engaging surfaces F, *g*, the retaining ring placed over said pulley and adapted to hold the rope in contact with said surfaces, and the governing arms supported on said carrier, substantially as set forth. 6th. The combination of the fixed drum, the carrier provided with a rope-pulley, the governing arms pivotally supported on said carrier and extended in opposite circumferential directions, and provided with hooks *d*, and the brake-band wound on the fixed drum and provided at its extremities with loops or eyes *e* and engaged with the hooks *d*, all substantially as and for the purposes specified. 7th. The combination of the fixed drum, having a shaft A1 extended from its outer end, the carrier journalled on said shaft and provided with a rope-pulley, the governing-arms pivotally supported at their inner ends on said carrier, and having their outer ends extended in opposite circumferential direction, and the brake-band, substantially as set forth. 8th. The combination, with the carrier having the governing-arms and brake-band supported at its inner end, and provided at its outer end with separate teeth F, of the disk G, having teeth *g* corresponding with teeth F and secured alternately thereto, and the ring I, substantially as set forth. 9th. The combination of the fixed drum, the carrier provided with a rope-pulley, the governing arms, the brake-band and the guide-bracket having its lower end extended below the rope-pulley, and provided with lateral openings for the passage of the rope, substantially as set forth. 10th. The combination of the fixed drum, the revolving carrier provided with a pulley having rope engaging surfaces, the retaining ring placed over said pulley and adapted to hold the rope in contact with said surfaces, and the guide-bracket connected with the retaining-ring, substantially in the manner described, whereby the said ring is held firmly in desired position, substantially as set forth. 11th. The herein described fire-escape, consisting of the hollow fixed drum, the shaft A1 extended outward from within said drum, the carrier having boxing *b* journalled on the shaft A1, and extended within the boxing, the teeth F, formed on the outer end of the carrier and the extension *f* projected therefrom, the brake arms D D having hooks *d*, the band E having loops or eyes *e*, the disk G having teeth *g*, the retaining-ring I having eccentric depending extension provided with opening I1, and the guide-bracket provided at its lower end with lateral extension J2, having openings J4, J4, and with stud J2 projected through opening I1, all arranged substantially as set forth.

No. 22,682. Stove Lining. (*Doublure de Poêle.*)

Benjamin R. Patten, Yarmouth, N.S., 23rd October, 1885: 5 years.

Claim.—1st. A stove lining-sheet having formed in it the spherical or spheroidal embossments *a*, *a*, substantially as shown and described. 2nd. A stove lining-sheet having a spherically or spheroidally embossed surface of approximately equal thickness throughout, and provided with the air openings *b*, *b*, substantially as shown and described and for the purpose set forth.

No. 22,683. Harness and other Chains.

(*Chaîne de Harnais et autres Chaînes.*)

Albert W. Cox, Hastings, Neb., U.S., 26th October, 1885; 5 years.

Claim.—1st. In a holding device for harness and chains, the holding bar having an oblong slot for the insertion of one end of a double spring link, substantially as and for the purpose set forth. 2nd. In a holding device for harness or chains, a double spring link for attachment to the holding bar, constructed substantially as described and for the purpose specified. 3rd. In a holding device for harness or chains, the combination, with the holding bar having an oblong slot, of a double spring link, substantially as and for the purpose set forth. 4th. In a holding device for harness or chains, the combination, with the holding bar having an oblong slot, of a single piece of suitable wire or rod, the wire being passed through the slot in the bar and so bent as to form two separate loops, spread apart from each other and held in said slot, the end opposite said loops having a holding ring, substantially as and for the purpose set forth.

No. 22,684. Boot and Shoe Blacking.

(*Cirage de Chaussures.*)

George S. Colburn, Gardner, Mass., U.S., 26th October, 1885; 5 years.

Claim.—A blacking composition for boots, shoes and other articles of leather, comprising one part neat's foot oil, four parts alcohol, lamp-black to color the same, and fifteen parts of gum shellac mixed together, substantially as specified, all substantially as and for the purpose described.

No. 22,685. Metal Shearing Machine.

(*Machine à Cisailler le Métal.*)

Robert J. Knapp, Half-Moon Bay, Cal., U. S., 26th October, 1885; 5 years.

Claim.—1st. In an apparatus for cutting or shearing metals, a base having one blade fixed to it and a movable blade connected with a weight or steam-driven piston, in combination with guides and a lifting and releasing mechanism, substantially as herein described. 2nd. In a metal cutting or shearing machine, a fixed base to which one blade of a shears is attached, vertical guides extending upward from said base, a weight fitted to move upon said guides and having the other blade of the shears fixed to it, in combination with a stem extending upward from the weight, and a mechanism by which it can be raised and released, substantially as herein described. 3rd. The vertically-moving shear-blade with its stem, the compression or frictional lifting-rollers, toggle I, lever J and rod L, in combination with the collar N fixed to the rod, and the arm O connected with the movable shear blade or weight, substantially as herein described. 4th. The clamping-block P with its knee and operating levers, as shown, in combination with the rod V notched or toothed, and the pawl X, substantially as herein described. 5th. The vertically moving shear-blade, compressing or lifting rollers, toggle and actuating levers, in combination with the rod L having the collar *a*1 fixed to it, and the arm O projecting from the moving shear-blade support, substantially as herein described. 6th. The rod L connected with the roller or lifting mechanism, and the toothed or ratchet rod V with the holding pawl X, in combination with the vertically-moving shear-blade with its arm O, the collar *a*1 and the collar *b*, substantially as herein described.

No. 22,686. Oil Can. (*Bidon à Huile.*)

John A. Griswold, Chicago, Ill., U.S., 26th October, 1885; 5 years.

Claim.—1st. The combination, with the can or vessel provided with an interior cylinder, having a valved inlet opening and a discharge tube connected thereto, and extended to the upper side of the main body and terminating in a coupling, of a piston head in the cylinder, having its rod extended to the outside of the can, and a nozzle for attachment to the discharge tube provided with a sliding cut-off, substantially as and for the purpose set forth. 2nd. The combination, with the can body provided with an interior cylinder and a piston therein, the rod of which passes out through the top of the can, of a socket upon the can top surrounding the piston rod, and a screw cap for attachment to said socket after the end of the rod is pushed therein, substantially as and for the purpose set forth. 3rd. The combination, with the can or holder, of a fixed interior cylinder having a valved inlet, a discharge tube extended therefrom to the top of the can, and provided with a screw cap, a piston within the cylinder having its operating rod passed through the top of the can, and a socket in the can top around the rod provided with a screw cap, whereby, when not in use the can is sealed, the rod protected from injury, substantially as and for the purpose set forth. 4th. The combination, with the can or body and its fixed discharge tube, having its upper end provided with a coupling, of a nozzle adapted for attachment thereto and provided with a spring actuated cut-off valve, substantially as and for the purpose set forth. 5th. The combination, with the can or body provided with an interior cylinder having a piston and a discharge tube extending to the out side of the can, of a nozzle for attachment to this tube, and a filling opening in the can top, over which the end of said nozzle is turned to discharge back into the can, substantially as and for the purpose set forth. 6th. The piston head formed of two concave-convex sheets of metal, having peripheral flanges and secured together on their concave sides, with their flanges forming a groove for the reception of the packing, substantially as shown and described. 7th. The combination, with the can or body provided with a tube extending to the outside of the body, of a piston rod passed through the top of the can and having its head within the cylinder, provided with a passage through or around it from one side to the other, whereby the contents of any vessel may be siphoned back into the can, substantially as and for the purpose set forth. 8th. The combination, in an oil can, of the main body *a* provided with the removable cap *e*1, *f*1, the cylinder *g* having a valved inlet and a fixed outlet tube *c* having a removable cap *c*1, the piston head *d*, rod *d*4 having a spring *e*3 and the socket *e*4, and its cap *e*5, all constructed and arranged to operate substantially as and for the purpose set forth. 9th. The combination, with the can body of a cylinder enclosed therein, having a piston, the rod of which extends to the outside of the can, a valved inlet to the cylinder from the interior of the can, and a discharge tube extending from cylinder to the outside of the can, substantially as and for the purpose set forth.

No. 22,687. Safety Attachment for Coal Oil Can. (*Bidon à Pétrole de Sureté.*)

Ansel E. Fox, Leadville, and George W. Bowman, Redcliffe, Col., U.S., 27th October, 1885; 5 years.

Claim.—1st. In combination with an oil-can, having its screw-cap provided with a screen and a movable cover, a spout having a spherical enlargement and screen, substantially as shown and described. 2nd. In combination with an oil-can having its spout provided with a spherical enlargement and a screen, the screw-cap having a screen and a movable cover pivoted thereon, substantially as shown and described. 3rd. An oil-can, having its spout provided with a spherical enlargement and a screen, substantially as shown and described. 4th. An oil-can, having its screw-cap provided with a screen and a movable cover, substantially as shown and described.

No. 22,688. Wheel Plough. (*Charrue à Roues.*)

The Moline Plough Company (Assignee of August Lindgren), Moline, Ill., U.S., Ill., U.S., 27th October, 1885; 5 years.

Claim.—1st The improved frame for a wheeled plough, consisting essentially of the parallel bars *a*, *a*1, the arms *b*, *b*, and the angular outside bar or girt *c*. 2nd. In a wheeled plough, the combination, with the main frame, of the band wheel, its axle provided with the two cranks, the hand lever and its locking devices, and the spring interposed between the crank and lever, as shown. 3rd. The wheel and its axle provided with cranks at its opposite ends, in combination with the hand-lever mounted loosely around the axle, the devices for locking the lever, the rod connecting the lever and crank, and the spiral spring. 4th. In a wheeled plough, the combination of the following members, a frame or beam having a mould board plough secured thereto, a land-wheel, a swiveling leading wheel connected to,

and guided by the draft-pole and arranged to travel in the furrow in advance of the plough, a rear caster wheel to travel in the new furrow behind the plough, and a locking device, substantially as shown, whereby the operator may lock and unlock the rear wheel at will. 5th. In a wheeled ploughing machine provided with a mould-board plough, two swiveling furrow wheels, one in advance and the other in rear of the plough, the forward wheel attached to and guided by the draft devices and the rear wheel, combined with devices, substantially such as described, by which it may be locked during the ploughing action, but unlocked when turning the machine. 6th. In a wheeled plough, the triangular main frame having the mould-board plough attached, in combination with the swiveling leading wheel, the swiveled rear wheel and the land wheel located at the apex of the frame, between the front and rear wheels, as described, whereby the turning of the machine in a small space is permitted. 7th. In a wheeled ploughing machine having a main frame and a mould-board plough attached thereto, a non-swiveling wheel to travel on the unploughed ground, a swiveling leading wheel attached to and guided by the tongue and pole, and a swiveled tra iling wheel provided with locking devices, said parts combined and arranged for joint operation, as described. 8th. In a wheel plough, the combination of the main frame provided with a vertical box or bearing *r*, the wheel E, the tongue connection and the axle F having the vertical middle portion arranged to turn in the bearing *r*, and the two horizontal ends extended in opposite directions, end of said ends carrying the wheel and the other secured to the tongue connection, substantially as described and shown. 9th. The main frame having the slotted arm *d*, in combination with the leading wheel, the axle having the vertical portion, and the axle box or bearing connected to the slotted arm by bolts. 10th. The improved colter attachment consisting of the plate adapted for application to the plough beam or frame, the socket and lever pivoted thereto, and the link or its equivalent connecting said socket and lever. 11th. In a colter attachment for ploughs, the plate a_1, socket d_1, lever g_1, the stirrup-bolt c_1 upon which the socket and lever are mounted, and the connecting link f_1. 12th. In a wheel plough, the combination of a wheeled frame, a plough pivotally connected thereto, to rise and fall at its point, a colter also pivoted to the frame to rise and fall, the plough operating lever, and a colter-operating rod or bar connected with the plough lever, and by an elbow lever with the colter support, substantially as described, whereby the operation of the hand-lever is caused to effect the simultaneous adjustment of the plough and the colter.

No. 22,689. Elastic Faced Printing Type, and Art or Process of Manufacturing the Same. (*Caractère d'Imprimerie à Surface Elastique et Art de le Fabriquer.*)

Richard H. Smith. Springfield, Mass., U. S., 27th October, 1885; 5 years.

Claim.—1st. In the art of manufacturing elastic-faced type, the method or process of expanding and shrinking a type form, preparatory to taking a matrix therefrom, which consists in arranging and locking the type in a frame, and then subjecting the frameand type to heat for expanding and compacting the type in the frame, substantially as described. 2nd. In the art of manufacturing elastic-faced type, the method or process of obtaining a matrix or mould from a form of type, while expanded by heat, which consists in heating the type form, and then forming a matrix or mould of the type faces while they are thus heated, substantially as described. 3rd. The improvement in the art of manufacturing elastic-faced type, which consists in arranging and locking the type in a metallic frame, then subjecting them to heat for expanding and closely compacting them in the frame, then permitting them to cool and shrink, then tightening up the type in the frame, and again subjecting them to heat practically, or nearly so, of the same degree at which rubber vulcanizes, then taking a matrix or mould of the type faces while they are thus heated, then cooling the frame and type, then heating the form and matrix and arranging the same upon each other with a sheet of raw rubber interposed between it and the type faces, then forcing the rubber into the mould, and the bowls and recesses of the type forms by pressure, then subjecting them to a vulcanizing process, and, finally, separating the type, substantially as described. 4th. In a new article of manufacture, a printing type having its printing face cushioned with an elastic covering. 5th. The herein described process of manufacturing elastic-faced printing type and the several steps in the process, substantially as stated.

No. 22,690. Load Elevator. (*Monte-Charge.*)

Jacob Lane, Nelson McPherson and Ephraim A. McPherson, Gainsborough, Ont., 28th October, 1885; 5 years.

Claim.—1st. The construction of the driving wheels B, C, in the manner above described, which combine strength and cheapness. 2nd. The manner of applying the rope *b*, so as to operate both driving wheels with the one rope. 3rd. The use of long horizontal bars F, with the cross bars G, G, so as to be easily adjusted to any length of waggon, rack or box. 4th. The adjustment of the ratchet pawls E, E, and the trip ropes *f*, *f*, so as to hold the load at any required height, substantially as and for the purpose hereinbefore set forth.

No. 22,691. Side Bar Spring for Vehicles.

(*Ressort de Voiture à Barres Longitudinales.*)

Ferdinand Horn, George A. Hay and John H. Hay, Coshocton, Ohio, U.S., 28th October, 1885; 5 years.

Claim.—1st. A spring for vehicles, consisting of a wood side bar B and a metal spring C, having position underneath and extending lengthwise of the side bar and its ends attached thereto, as set forth. 2nd. A spring for vehicles having in combination a wood side-bar, a metal spring C having position underneath and extending lengthwise of the side bar and its ends attached thereto, body loops extending across from the metal spring on one side to that on the other side, and the vehicle body supported on the said loops, as set forth.

No. 22,692. Side Bar Waggon.

(*Voiture à Barres Longitudinales.*)

Frank Wilson (Assignee of Elisha Depue), Skinner's Eddy, Pa., U.S., 28th October, 1885; 5 years.

Claim.—1st. The combination, in a spring, of two leaves of about equal length, one upon the other, and secured together centrally, and a tip having a pocket in its end fitted to receive the ends of both leaves at once, and means for securing said tip to one of the leaves, substantially as shown and described, whereby the two leaves are positively clamped together with freedom for longitudinal motion between them. 2nd. The combination of a carriage axle, a pair of side springs having two leaves, one upon the other, and of about equal length, the lower leaf placed directly across the top of the axle, a clip for the axle, the bolts whereof pass through the said lower leaf, their heads being countersunk flush into the said leaf, the upper leaf resting directly thereon, and a clamp receiving the ends of both leaves and securing them together, substantially as shown and described.

No. 22,693. Soldering Machine.

(*Machine à Souder.*)

Edwin Norton (Co-inventor with George Hodgson), and Oliver W. Norton, Chicago, Ill., U.S., 28th October, 1885; 5 years.

Claim.—1st. In a can-soldering machine, the combination of a solder bath or tank, with inclined can-supporting and can-revolving rolls, and mechanisms for driving said rolls, and thus rotating the can, substantially as specified. 2nd. The combination, with a solder bath, of inclined can-supporting and can-revolving rolls, and a pivot or pin for the end of the can to rest and turn upon, substantially as specified. 3rd. The combination, with a solder bath, of a series of can-supporting and can-revolving rolls, all driven in the same direction, and a sprocket chain and wheels for driving said rolls, substantially as specified. 4th. The combination of the solder-bath with two or more can-supporting and can-revolving inclined rolls adjustable to and from each other, to accommodate cans of different diameters, substantially as specified. 5th. The combination of the solder-bath with two or more adjustable inclined can-supporting and can-revolving rolls, and one or more adjustable pivots for the end of the can to rest and then turn against, substantially as specified. 6th. The combination of solder bath B, slotted rail or plate D, adjustable slides or brackets F, rolls E journalled upon said adjustable bracket, sprocket wheels E_2 and sprocket chains E_3, and adjustable tension pulley E_8, substantially as specified. 7th. The combination, with a soldering machine, wherein the can is revolved in an inclined position in a bath of molten solder, of an adjustable pivot G for the end of the can to rest and revolve against, substantially as specified. 8th. The combination, with a soldering machine wherein the can is revolved in an inclined position in a bath of molten solder, of an adjustable pivot G having a bent arm G_1, to form a pivotal bearing for conical headed cans, substantially as specified. 9th. In a soldering machine wherein the can is revolved in a bath of molten solder, a pivot or pin for the end of the can to rest and bear against, substantially as specified.

No. 22,694. Waggon Box. (*Caisse de Wagon.*)

William H. Jenkins and Andrew J. May, Tazewell, C. H., U.S., 28th October, 1885; 5 years.

Claim.—1st In a waggon box, the combination, with the bed or bottom having transverse braces or cross pieces, at or near the ends and centre, said braces being provided at their outer ends with perpendicular sides set against said shoulders upon the cross-pieces and having vertical braces or standards, the lower ends of which are provided with forwardly-extending hooks, substantially as and for the purpose set forth. 2nd. In an improvement in waggon boxes, the combination of the bed or bottom having transverse braces near the ends and centre, said end braces being provided with the perpendicular retaining shoulders at their outer ends, and the longitudinal retaining flanges secured upon and connecting the middle of the detachable sides set against said shoulders, and flange having vertical standards provided with forwardly extending hooks, substantially as and for the purpose set forth. 3rd. As an improvement in waggon-boxes, the combination of the bed or bottom having transverse braces or cross-pieces secured to its under side and near its ends and middle, said cross-pieces being provided with the retaining shoulders and flanges, as described, secured to said cross-pieces by means of vertical bolts having nuts at their lower ends, and the detachable side pieces having standards provided at their lower ends with forwardly extending hooks engaging the sides of said nuts, to prevent them from turning, substantially as and for the purpose set forth. 4th. As an improvement in waggon boxes, the combination of the bed or bottom having transverse flanged or shouldered braces, the detachable sides having standards provided at their lower ends with forwardly-extending hooks, and having vertical cleats on their inner sides at their front and rear ends, and the detachable end-gates having bolts adapted to extend through the waggon bed or bottom and provided with suitable fastening nuts, substantially as and for the purpose herein shown and specified.

No. 22,695. Vessel and Steering Apparatus.

(*Vaisseau et Appareil de Gouvernement.*)

John I. Thornycroft, Chiswick, Eng., 28th October, 1885; 5 years.

Claim.—1st. A navigable vessel, constructed with an external hollow or recess at the under part of the stern, to partly receive the propeller or propellers, and having at each side thereof a rudder, arranged and operating substantially in the manner hereinbefore described. 2nd. A navigable vessel, in which the dead wood at the stern or propeller end is cut away, the remaining portion being hollowed out to partially receive the propeller or propellers, and two rudders with blades, curved as set forth, are provided, one being arranged at each side of the propeller or set of propellers, and the two rudders being connected in such manner as to operate simultaneously as specified.

No. 22,696. Cultivator. (*Cultivateur.*)

John T. Bond, Bond's Mill, Ga., U.S., 29th October, 1885 ; 5 years.

Claim.—An improved cultivator, consisting of two beams carrying suitable shovels, adjustable bars *b*, *d*, connecting the beams at front and rear respectively, said bars being in line with the said beams, a bare *e* at the front, for attachment of the clevis and handles extending upward from the beams, supported thereon by stay rods *f* and connected together by an adjustable bar, substantially as described, as and for the purpose herein set forth.

No. 22,697. Journal Bearing.

(*Coussinet de Tourillon.*)

Robert W. Hardie, Albany, N.Y., U.S., 29th October, 1885 ; 5 years.

Claim.—1st. In a journal bearing for grinding and polishing machines, the combination, with the sustaining-yoke, of a journal or bearing box suspended freely within said yoke and capable of a limited movement therein, substantially as described. 2nd. In a journal bearing for grinding and polishing machines, the combination, with the sustaining yoke, of a journal or bearing box and flexible or loose-jointed connections between the said box and yoke supported upon resilient cushions, substantially as described. 3rd. In a journal bearing for grinding and polishing machines, the combination, with the sustaining yoke, of a journal or bearing box and flexible or loose-jointed connections between said box and yoke supported on rubber cushions, substantially as described. 4th. In a journal bearing for grinding and polishing machines, the combination, with the sustaining yoke, of a journal or bearing box and tightening bolts connected therewith, and supported upon the yoke by resilient cushions, substantially as described. 5th. In a journal-bearing for grinding and polishing machines, the combination, with the sustaining-yoke, of a journal or bearing box and tightening bolts connected therewith and supported upon the yoke by rubber cushions, substantially as described. 6th. In a journal bearing for grinding and polishing machines, the combination, with the sustaining-yoke, of a journal box and loose-jointed or flexible connections between said box and yoke, a bearing plate and resilient cushions between said plate and yoke, substantially as shown and described. 7th. In a journal bearing for grinding and polishing machines, the combination, with the sustaining yoke, of a journal box and loose-jointed or flexible connections between said box and yoke, a bearing plate and rubber cushions between said plate and yoke, substantially as shown and described.

No. 22,698. Artificial Arm. (*Bras Artificiel.*)

George Beacock and Terence Sparham, Brockville, Ont., 29th October, 1885 ; 5 years.

Caim —1st. The fore-arm, wrist and hand made of one piece of raw-hide, substantially as specified. 2nd. A fore-arm, wrist and hand made of one piece of raw-hide, and provided with a thumb passed through the palm of the hand and pivoted on the edge thereof, substantially as specified. 3rd. In an artificial hand, a thumb held in position by the shrinkage of the material of which the hand portion is made, substantially as specified. 4th. The combination of thumb M, having the notches M^1 and the head M^2, the fore-arm L and the spring curved to fit the head of the thumb, substantially as specified. 5th. The combination of the thumb M having the head M^2, the spring N having the curved arm N^2 and the block O, substantially as shown and described. 6th. The combination of the socket K, pivot K^1, fore-arm L and thumb M, the whole being made of rawhide, substantially as shown and described. 7th. The thumb M made of a single piece of raw hide, cut away, as at M^1, and provided with the head M^2, substantially as shown and described. 8th. The combination of the shoulder cap P, button Q and arm, substantially as shown and described. 9th. An artificial limb, having an air chamber provided with a valve. to secure the natural stump inserted therein by atmospheric pressure, as described.

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

475. S. G. COHNFELD (Assignee) 3rd 5 years of No. 5,257, from the 5th day of Oct., 1885. Improvements on Feeding Apparatus for Steam Boilers, 1st Oct., 1885

476. G. R. PROWSE, 2nd 5 years of No. 11,844, from the 4th day of Oct., 1885. Improvements in Cooking Ranges, 3rd Oct., 1885.

477. J. CORNWELL, 2nd 5 years of No. 11,855, from the 9th day of Oct. 1885. Improvements in the Process of Preparing Grain for After Milling, 5th Oct., 1885.

478. R. A. COWELL, 2nd 5 years of No. 11,863, from the 9th day of Oct., 1885. Improvements on Car Platforms, 5th Oct., 1885.

479. THE AMERICAN SHIP WINDLASS CO., (Assignees) 2nd and 3rd 5 years of No. 22,337, from the 1st Sept., 1870. Improvements in Locking Gear for Windlasses, 7th Oct., 1885.

480. J. WHITFIELD, 2nd 5 years of No. 11,998, from the 15th Nov., 1885. Improvement on Stump Extracting Machines, 8th Oct., 1885.

481 G. W. PRESSEY & E. L. CROWELL, 2nd 5 years of No. 11,852, from the 9th Oct., 1885. Improvements on Velocipedes, 8th Oct., 1885.

482. R. H. SMITH (Assignee) 3rd 5 years of No. 5,288, from the 23rd day of Oct., 1885. Improvements on Apparatus and Process for Tempering and Forming Saws, 8th Oct., 1885.

483. THE A. S. WHITING MANUFACTURING CO. (Assignees), 2nd 5 years of No. 12,128, from the 14th Dec., 1885. Improvements on Hay Knives, 8th Oct., 1885.

484. R. SELDON, 2nd 5 years of No. 12,273, from the 28th day of January, 1885. Improvements on Machines for Digging Potatoes, 10th Oct., 1885.

485. P. FITZGIBBONS, 2nd 5 years of No. 5,334, from the 2nd Nov., 1885. Improvements on Tube Expanders, 10th October, 1885.

486. J. G. COCKSHUTT, 2nd 5 years of No. 12,006, from the 23rd November, 1885. Improvements on Horse Hoes, 13th Oct., 1885.

487. J. H. CONNOR, 2nd 5 years of No. 5,340, from the 2nd Nov., 1885. Improvements on Washing Machine, 16th Oct., 1885.

488. G. MURRAY, 2nd 5 years of No. 11,967, from the 11th Nov. 1885. Improvements on Rotary Engines, 16th Oct., 1885.

489. THE HAMILTON INDUSTRIAL WORKS CO., (Assignees) 3rd 5 years of No. 5,486, from the 11th Dec., 1885.. Combined Stove Pipe Shelf and Dryer, 21st October, 1885.

490. Z. S. & H. A. LAWRENCE, 2nd 5 years of No. 11,924, from the 2nd Nov., 1885. Combination Sap Spout, 21st Oct., 1885.

491. P. G. FIRM, 2nd 5 years of No. 11,910, from the 13th Oct., 1885. Improvements in Kilns for Drying Lumber, 23rd Oct., 1885.

492. R. F. CARTER, C. E. LACEY and G. H. KENDALL (Assignees) 3rd 5 years of No. 5,528, from the 18th Dec., 1885. Improvements on Oil Stoves, 27th Oct., 1885.

493. W. WOODS (Assignee) 3rd 5 years of No. 5,573, from the 10th Jan., 1886. Improvements on Wash Boards, 27th Oct., 1885.

494. T. BUCKINGHAM, 2nd 5 years of No. 11,935, from the 6th Nov., 1885. Improvements in Sleighs, 28th Oct., 1885.

495. A. E. BROWN, 2nd 5 years of No. 12,937, from the 7th Nov., 1885. Improvements in Hoisting and Conveying Machine. 29th Oct., 1885.

496. J. MILLER and F. C. L. G. SUSEMIHL, 2nd 5 years of No. 12,017, from the 24th Nov., 1885. Improvements on Grain Car Doors, 13th Oct., 1885.

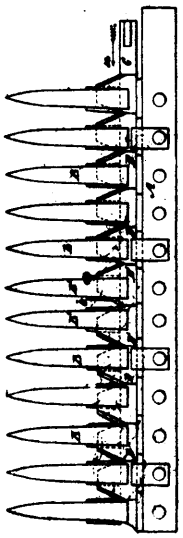
497. G. W. Rodebaugh, 2nd 5 years of No. 11,912, from the 30th Oct., 1885. Improvements on Saw Guides, 30th Oct., 1885.

THE

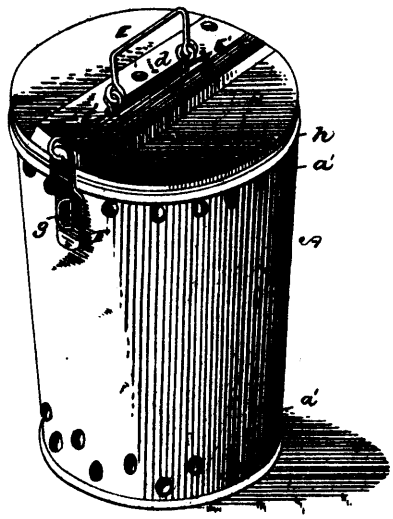
CANADIAN PATENT OFFICE RECORD.

ILLUSTRATIONS.

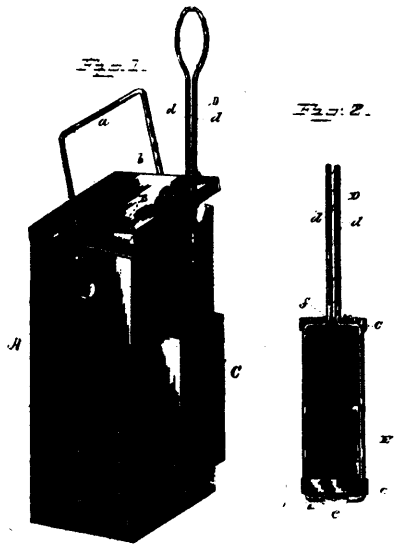
Vol. XIII. NOVEMBER, 1885. No. 11.



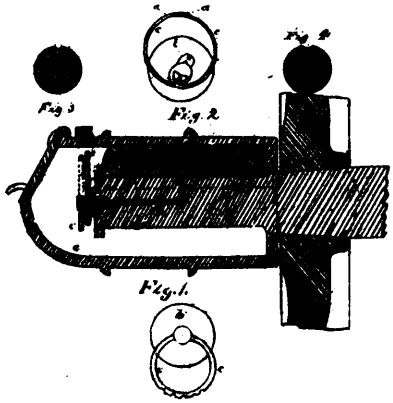
22551 Rundell's Cutting Apparatus for Mowers and Reapers.



22552 Eaton's Re-shipping Butter Pail.



22553 Hall's Fire Kindles.



22554 Gallaher's Car Axle Oiler.

Fig. 1.

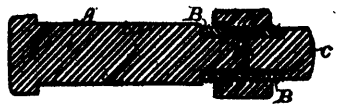
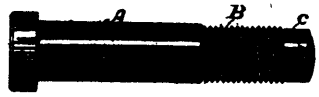
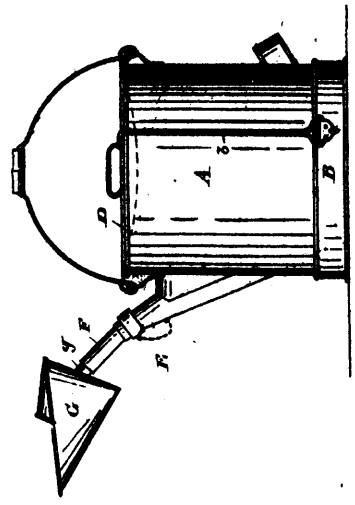


Fig. 2.

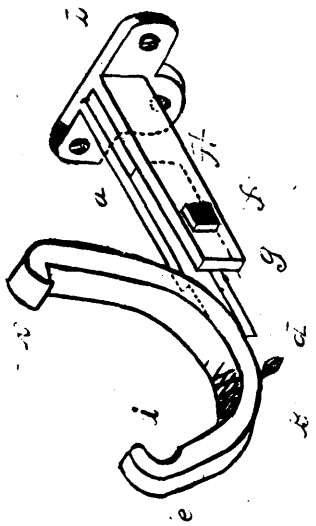
Fig. 3.



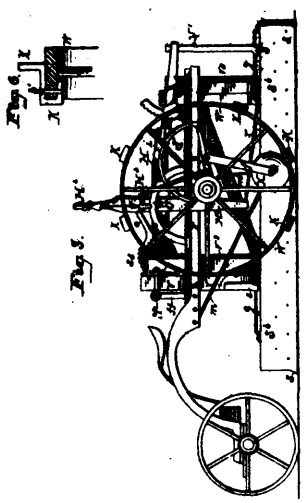
22585 Morton's Nut Lock.



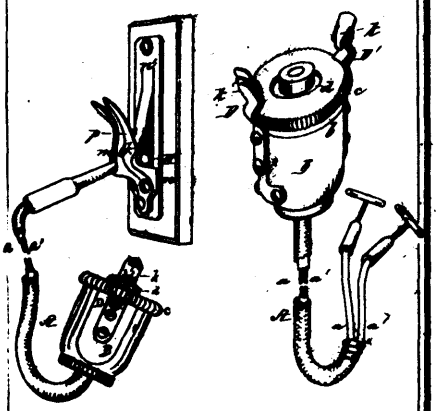
22556 Putt's Milking Pail and Stool.



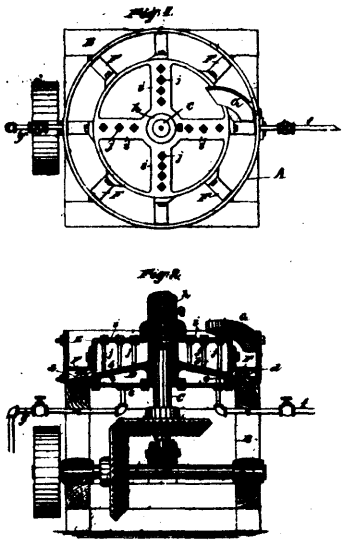
22557 Gould's Eaves Trough Hanger.



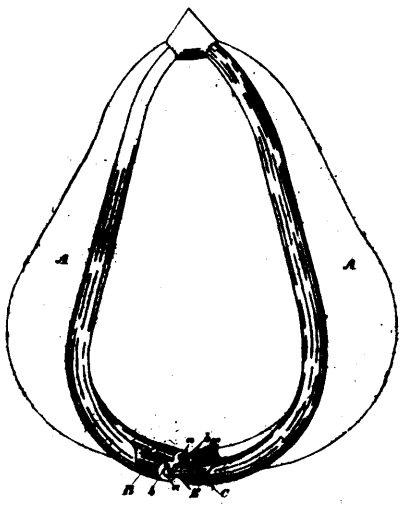
22558 Pennock's Road Grader.



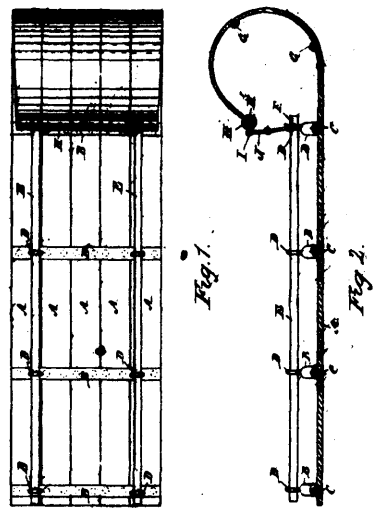
22559 Currier's Electric Signalling Apparatus for Railway Trains.



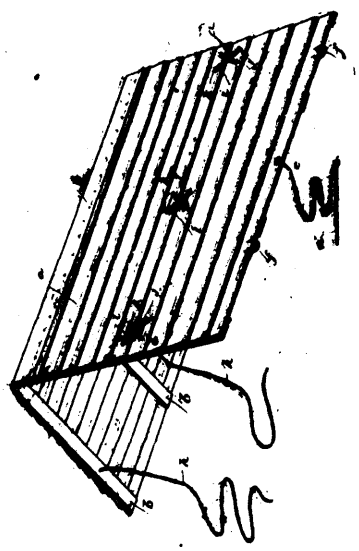
22560 Moller's Amalgamator.



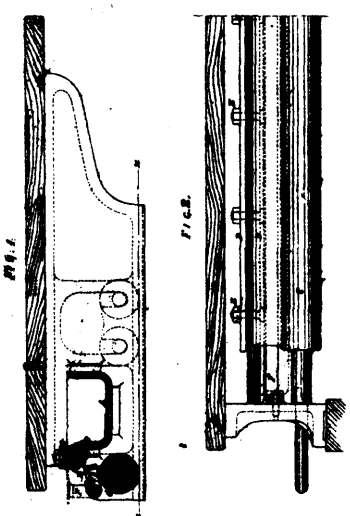
22561 Gillespie & Cassan's Horse Collar.



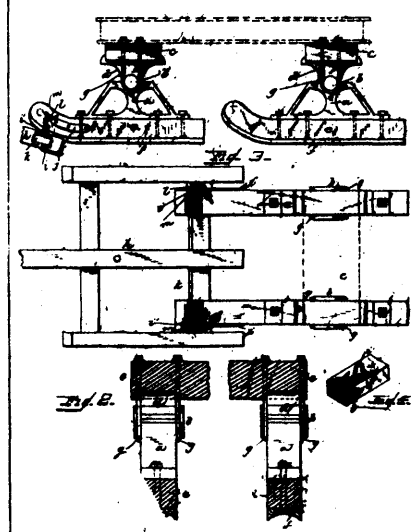
22562 Hore's Toboggan.



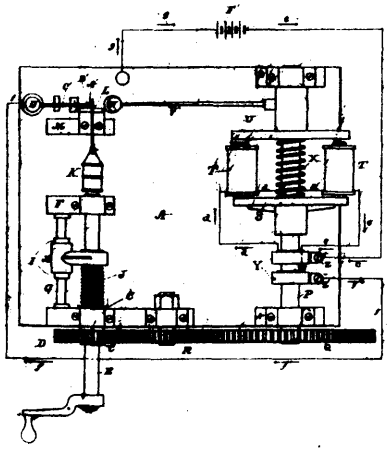
22563 Black's Weather Protector for Wheat, Barley, Hay, etc.



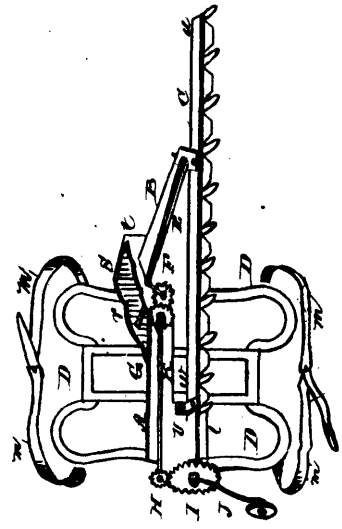
22564 Powrie's Damping Apparatus for Lithographic Printing and other Machines.



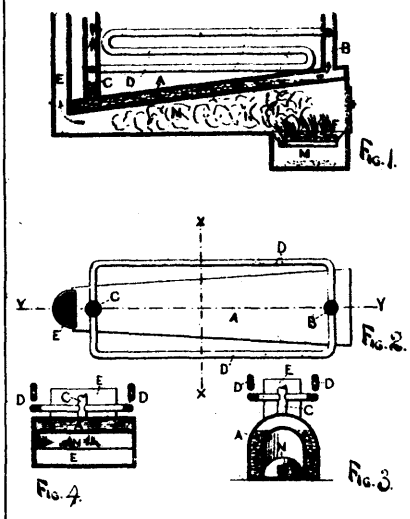
22565 Kruger & Trim's Sleigh.



22566 Eames' Method of Straightening Needles, Wire, etc.



22567 Williams' Hedge Trimmer.



22568 Renwicks Heating Furnace.

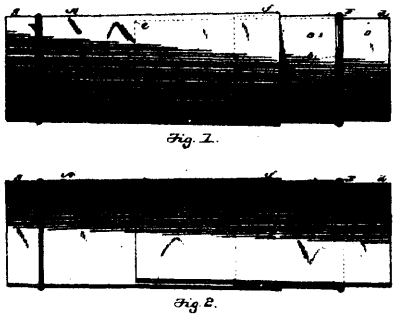


Fig. 1.

Fig. 2.

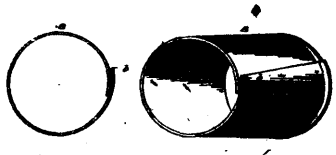
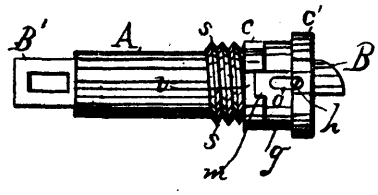
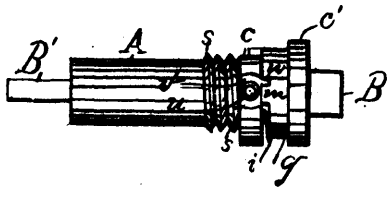


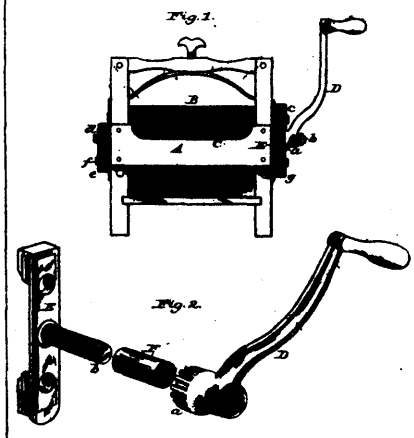
Fig. 3. Fig. 4.

22569 Pare & Reinchenbach's Stove Pipe Fastener.

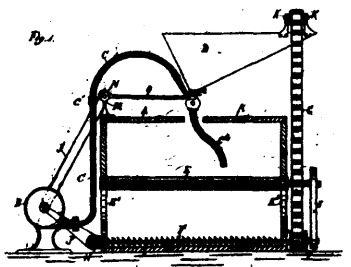


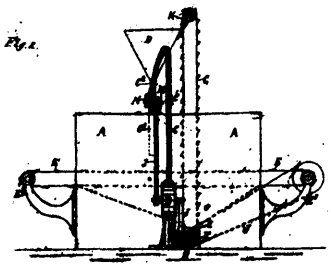


22570 Hollenbeck's Mortise Lock and Catch.

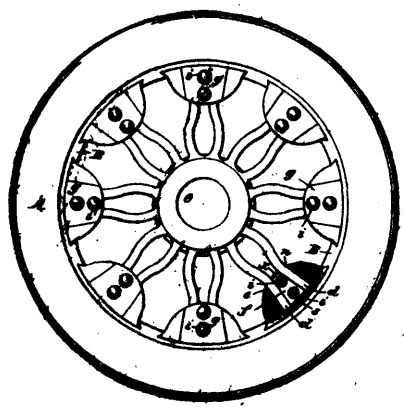


22571 White's Journal and Bushing for Clothes-Wringing Machines.

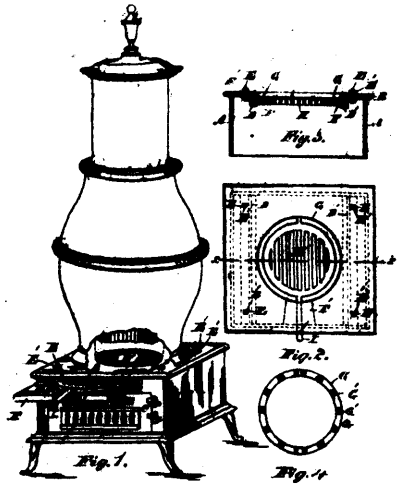




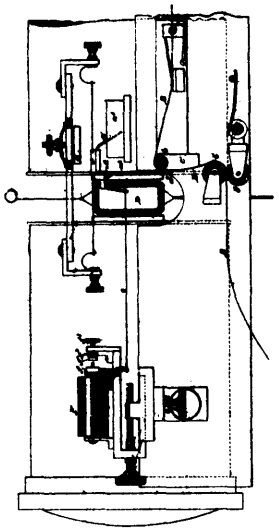
22573 King & Maw's Machine for Cleaning Castings.



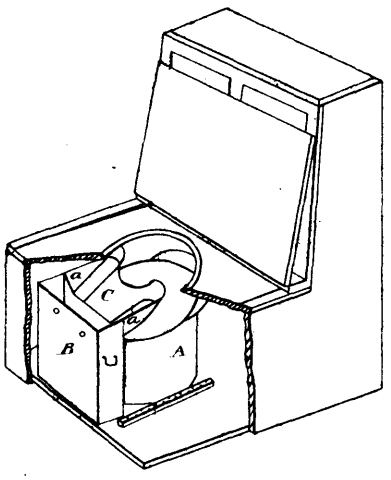
22574 Sax's Car Wheel.



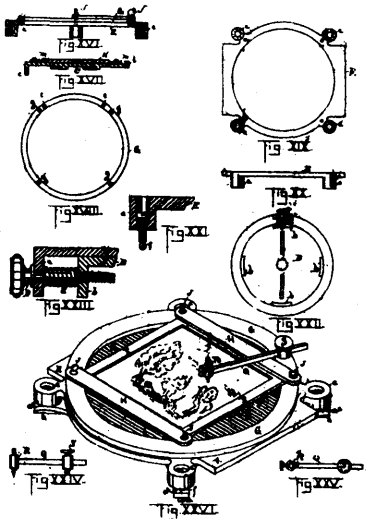
22575 McKay's Stove and Furnace Grate.



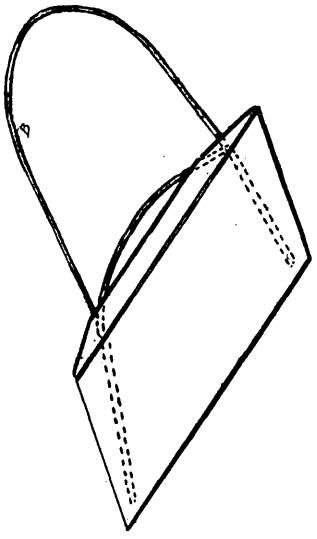
22576 Dickinson's Siphon Recording Instrument for Electric Cables.



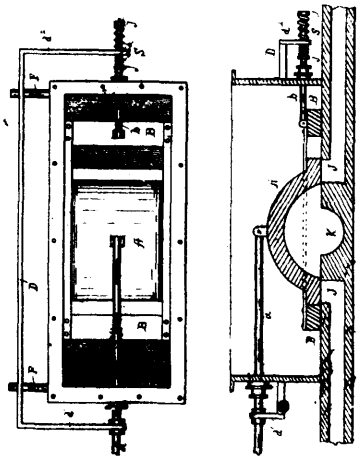
22579 Heap's Earth Closet.



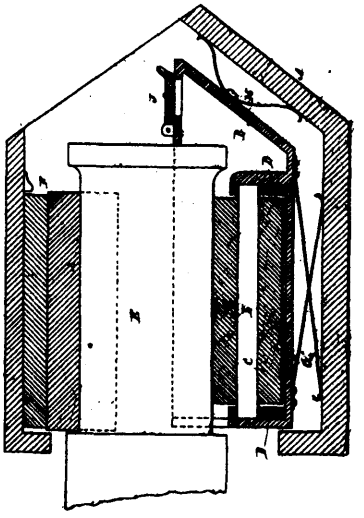
22580 Brown's Tintograph.



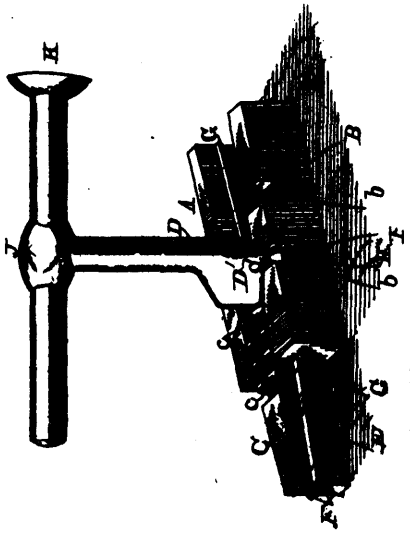
22582 Waite's Snow Shovel.



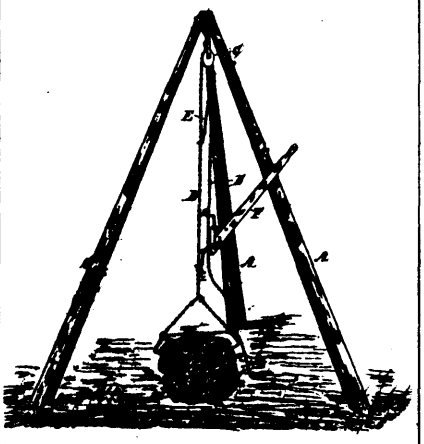
22583 Topmiller's Cut-off Valve for Steam Engines.



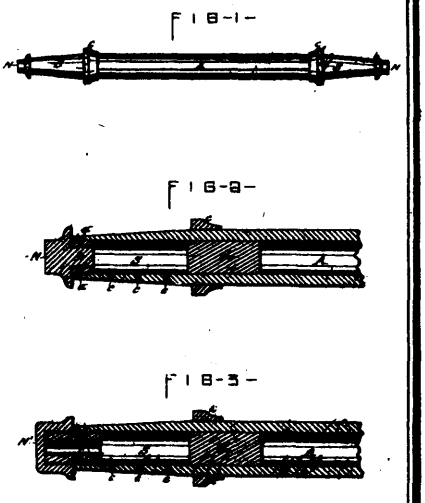
22584 Cooper's Attachment to Car Axle Boxes.



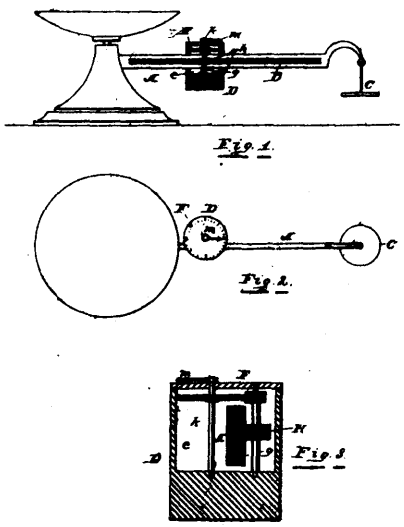
22585 McConnell & Drodzewski's Printer's Quoin.



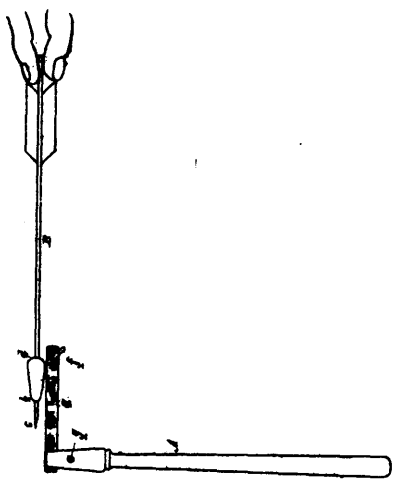
22586 Burbank's Stone and Stump Lifter.



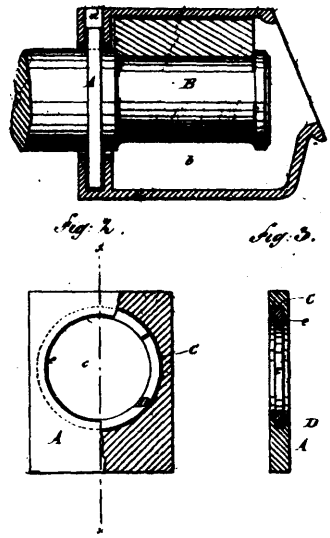
22587 Peckham's Tubular Axle.



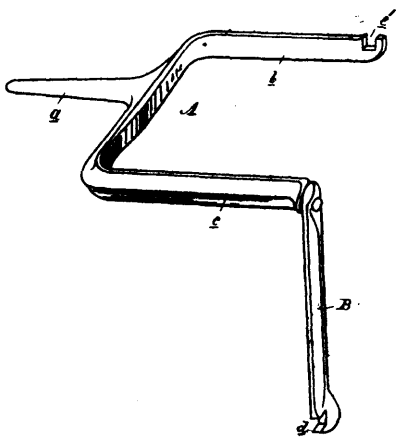
22588 Irvine's Indicating Poise for Lever Scales.



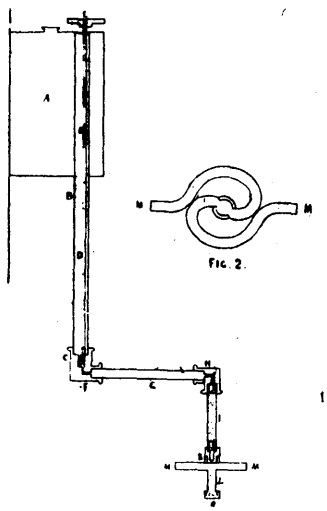
22589 Shears, Target Dart.



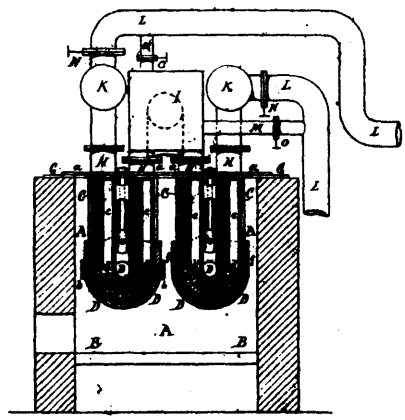
22590 Baker's Dust Guard for Railway Car Axles.



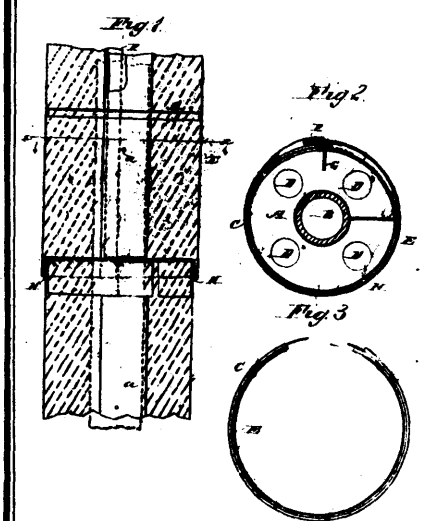
22591 Leadley's Conductor Pipe Hook.



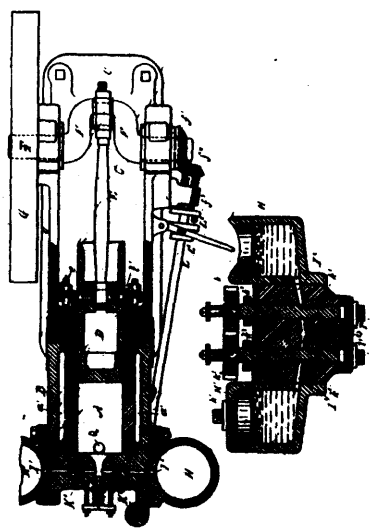
22592 Barraclough's Method of Producing Light and Heat and Apparatus therefor.



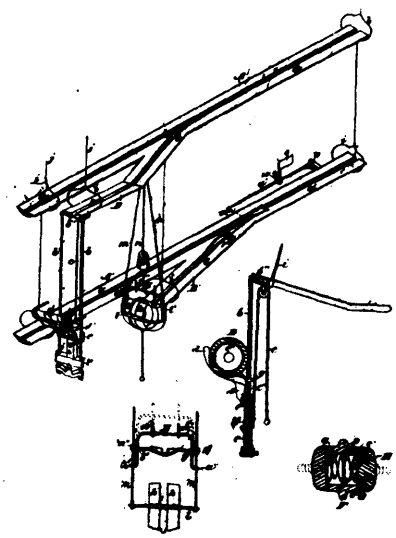
22593 Carvalho's Apparatus for Heating Air, Steam, or other like Mediums.



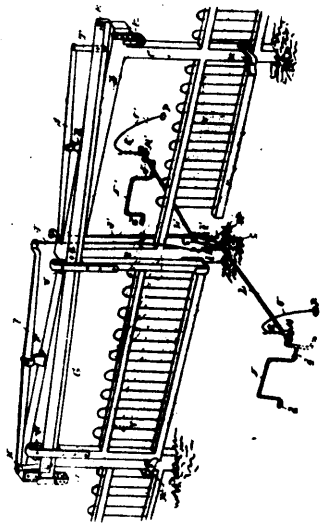
22594 Wood's Casing for Pipes.



22595 Asher & Buttress' Chemical Engine.



22596 Hazard's Cash Railway for Store Service.



22597 Buckner's Gate.

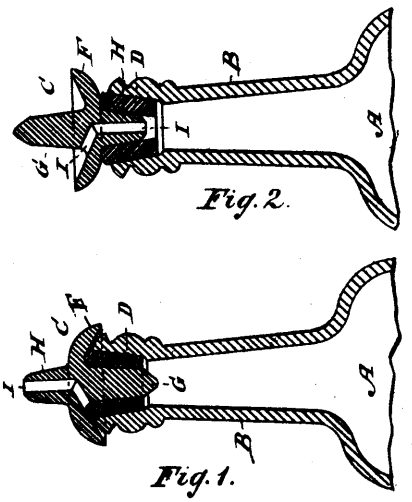
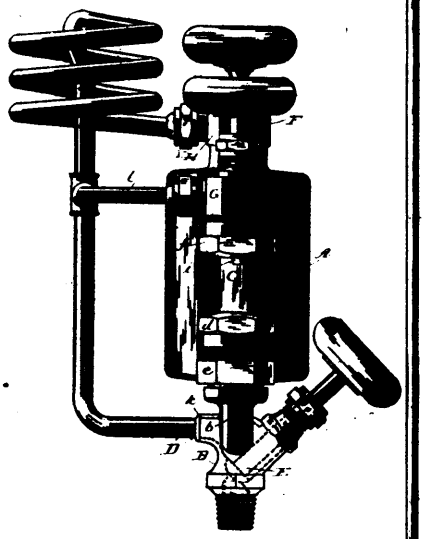


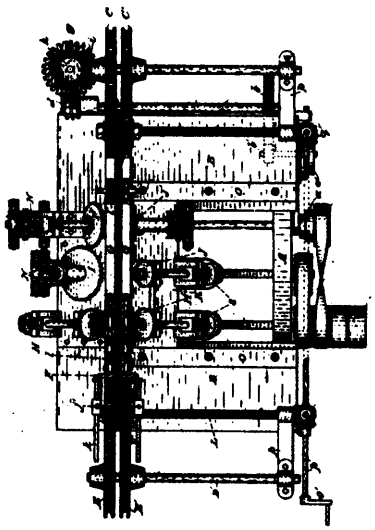
Fig. 2.

Fig. 1.

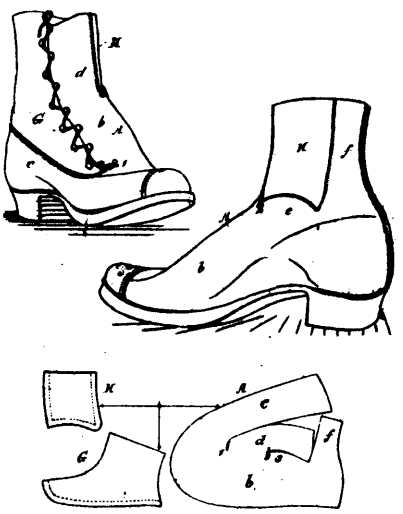
22598 Deverall's Bottle Stoppers.



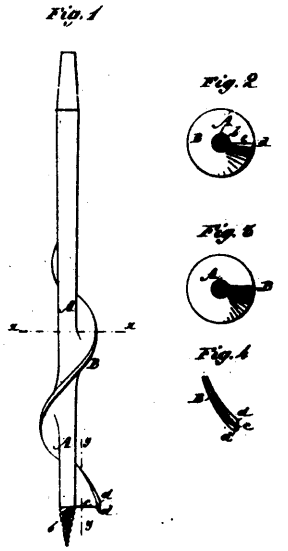
22599 Schmitt's Lubricator.



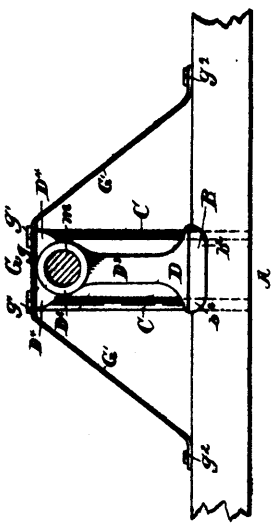
22600 Millen & Derouin's Boxing Machine.



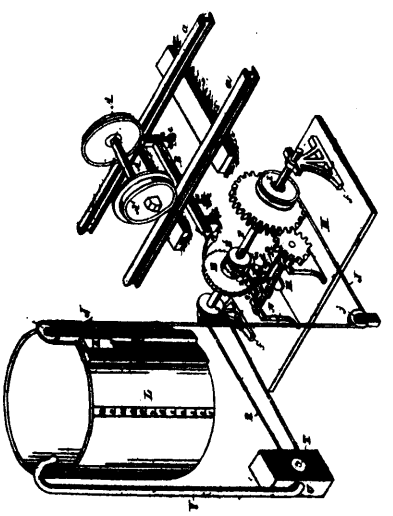
22601 Kirkland's Boot.



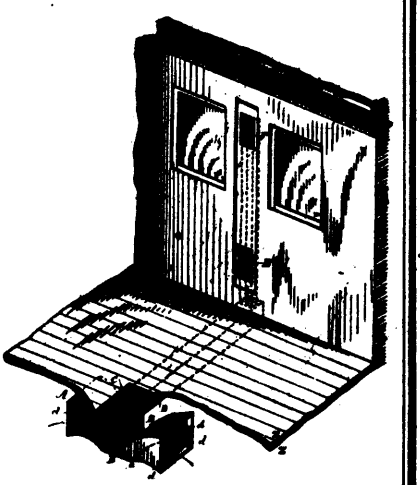
22602 Dimitt's Auger Bit.



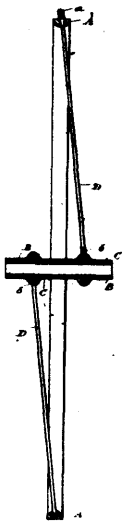
22603 Taylor's Sleigh Knee.



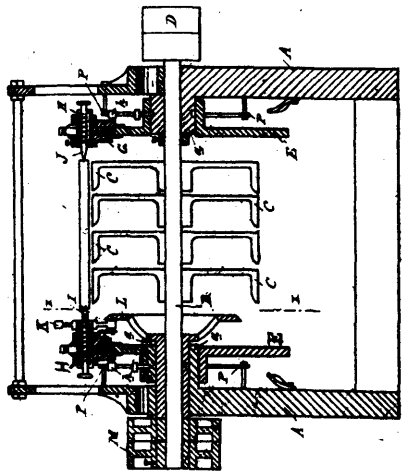
22604 Houlehan's Automatic Device for Storing Power.



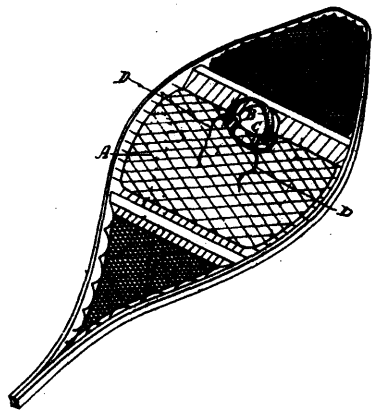
22605 Bell's Car Ventilator.



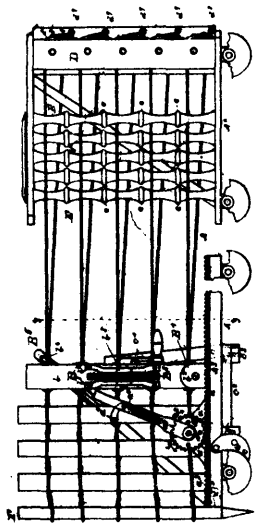
22606 Flock's Construction of Light Metal Wheels.



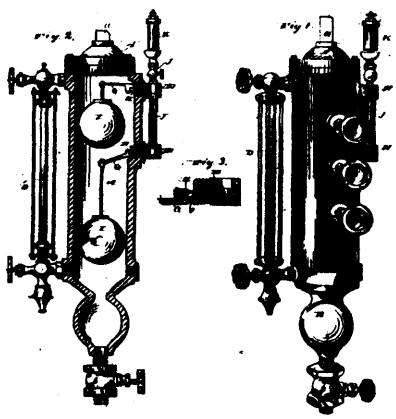
22607 Albee's Lathes for Turning Concentric Forms.



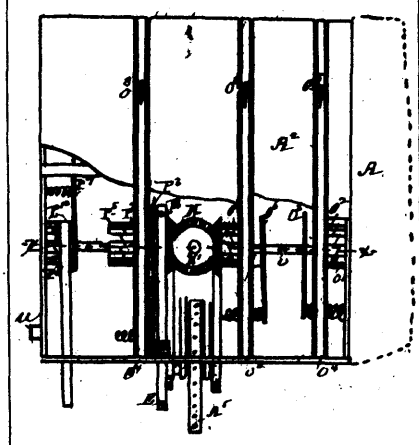
22608 Harkin's Foot Band for Snow Shoes.



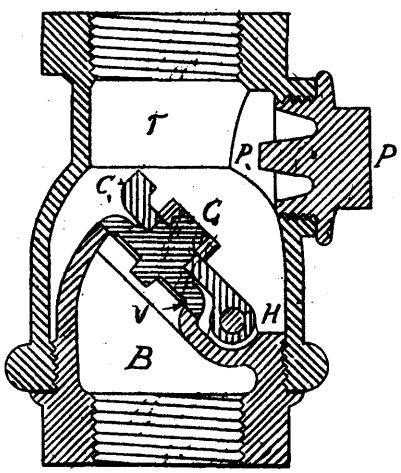
22609 Watson's Machine for Making Wire Fences.



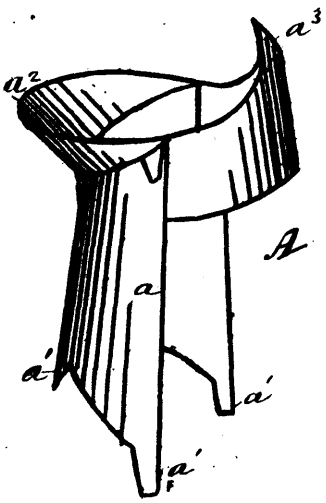
22610 Bort & Allen's Water Alarm Indicator.



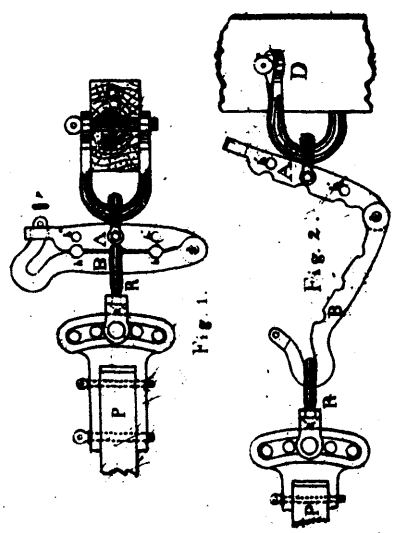
22611 Bradley's Self-Binding Reaper.



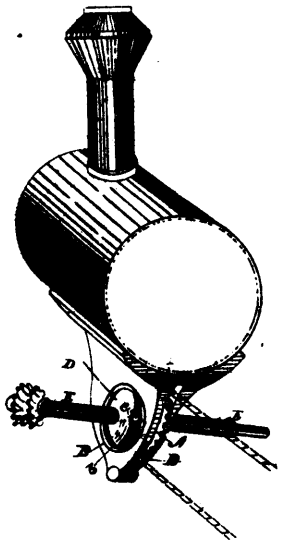
22612 McShane's Straightway Swinging Check Valve.



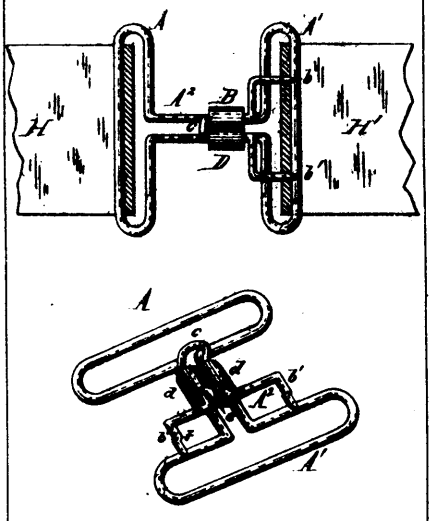
22613 Etheridge's Measure Spout



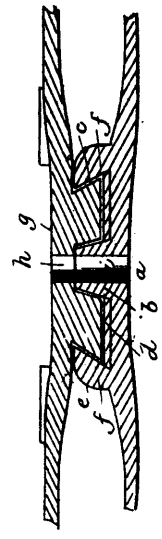
22614 Davis' Clevis.



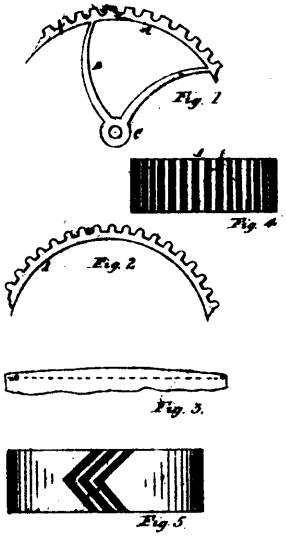
22615 Leigh's Traction Engine.



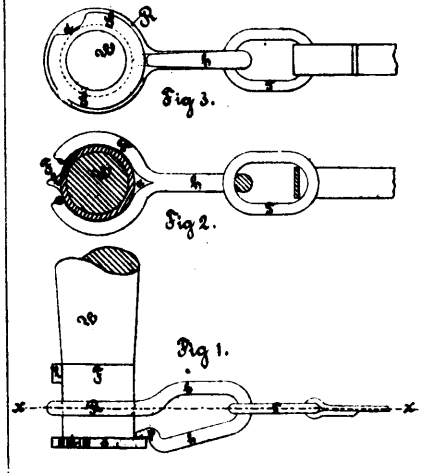
22616 Mann's Buckle.



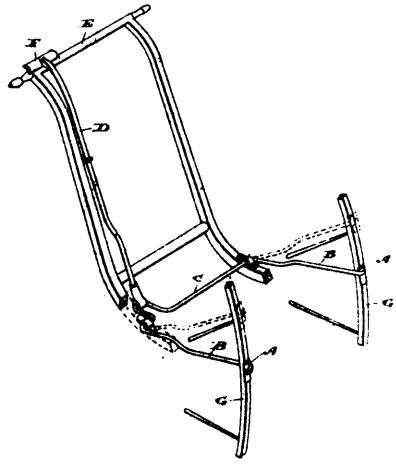
22618 Targan's Fifth-Wheel.



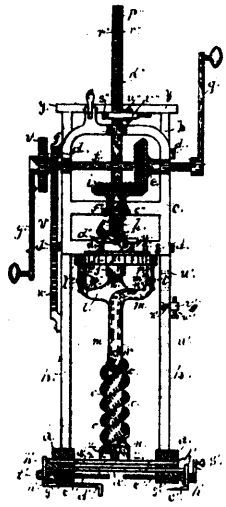
22619 Stephenson's Pulley.



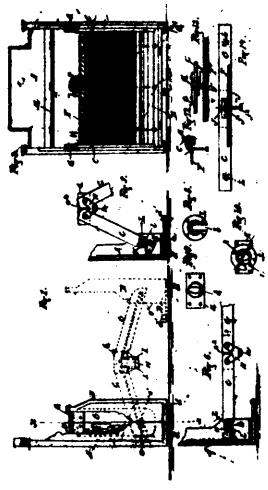
22620 Davis' Whiffletree Hook.



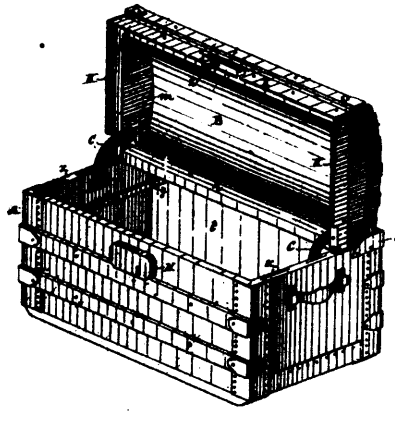
22621 Griffin's Running Gear of Baby Carriages.



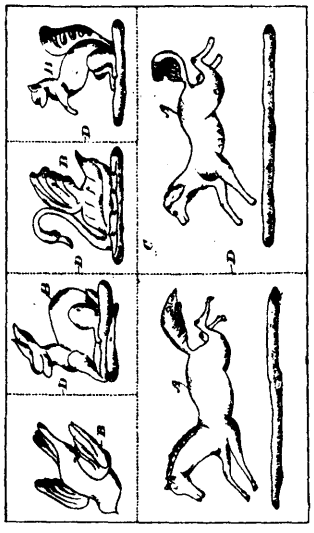
22622 Ernst's Boring Machine.



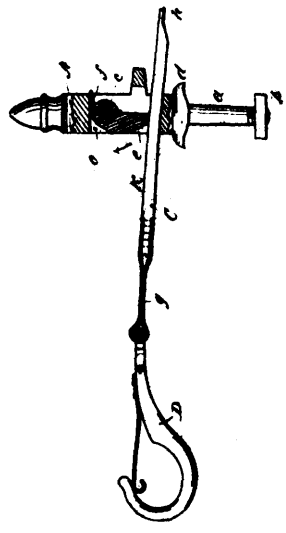
22623. Powers' Folding Bed.



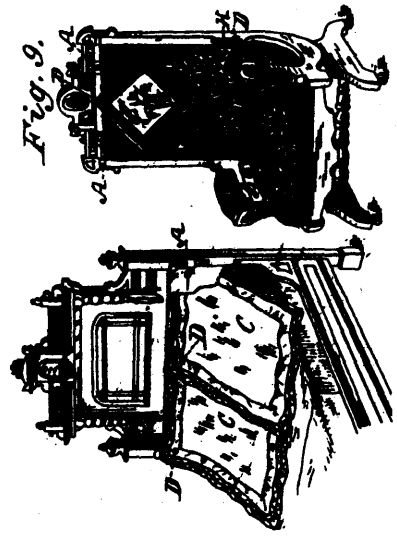
22624 Wells' Trunk and Chest.



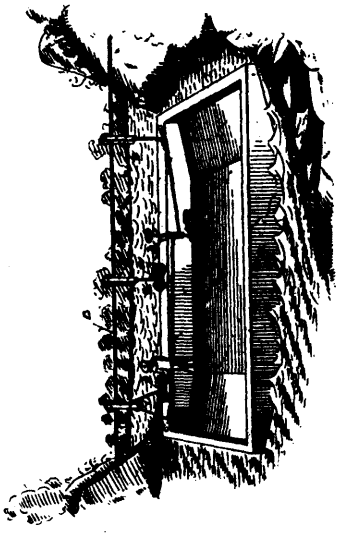
22625 Robertson's Toy Card.



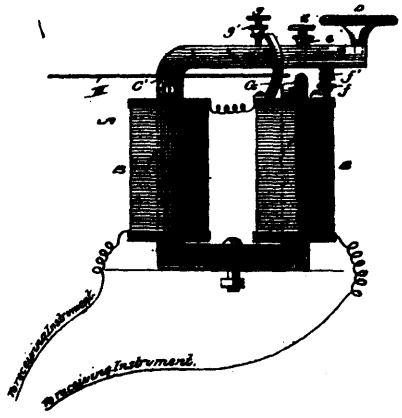
22626 Taber's Check Rein Holder.



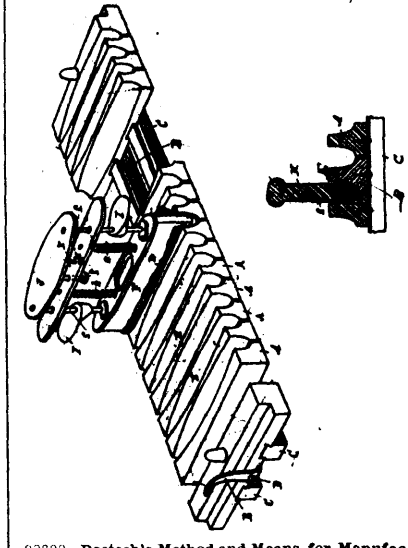
22627 Goodwin's Furniture.



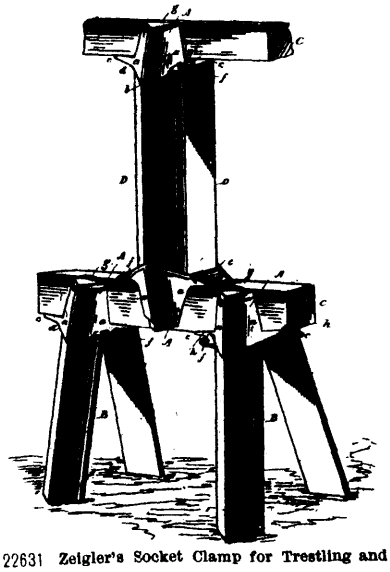
22628 Puckett and Pyles' Ferry Boat.



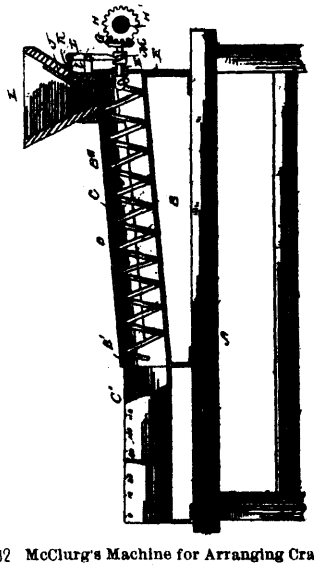
22629 Brown's Magneto-Electric Telegraphy.



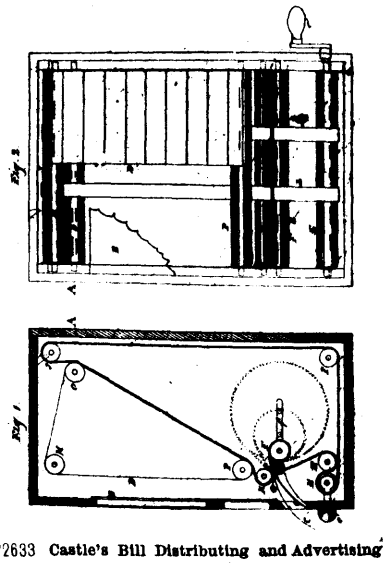
22630 Doetsch's Method and Means for Manufacturing Cigar Bunches.



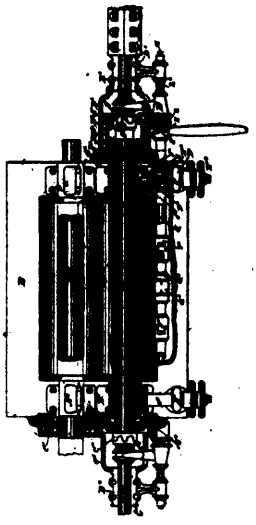
22631 Zeigler's Socket Clamp for Trestling and Scaffolding.



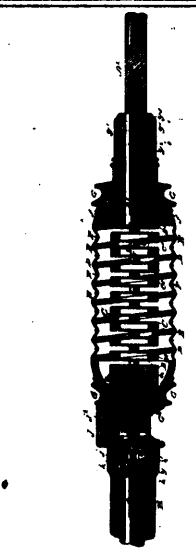
22632 McClurg's Machine for Arranging Crackers for Packing.



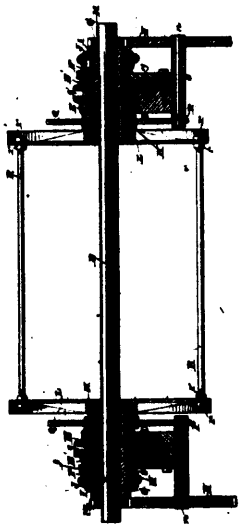
22633 Castle's Bill Distributing and Advertising Machine.



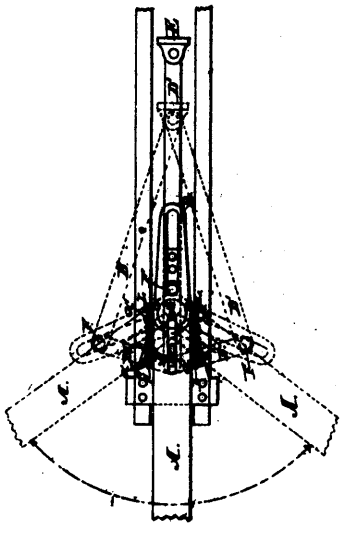
22634 Cochrane's Gearing and Relief Mechanism for Driving Rolls, etc.



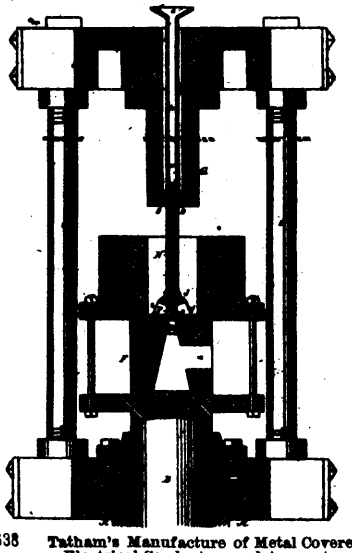
22635 Browne's Dental Engine.



22636 Smith's Journal Bearing.

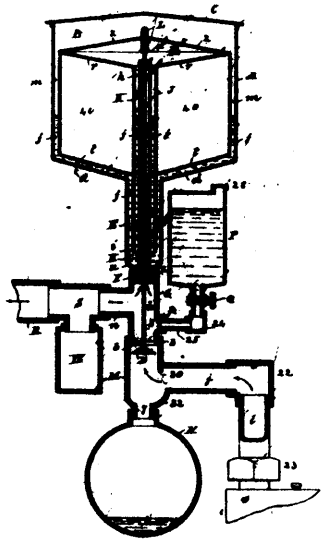


22637 Seeley's Lever Power.

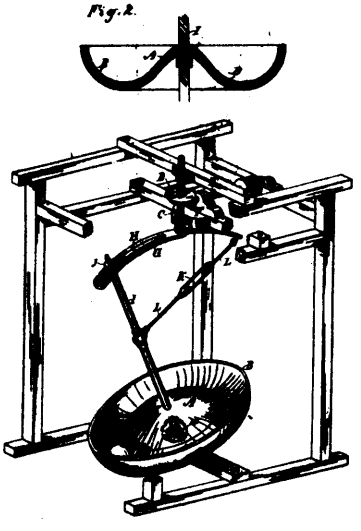


22638 Tatham's Manufacture of Metal Covered Electrical Conductors and Apparatus therefor.

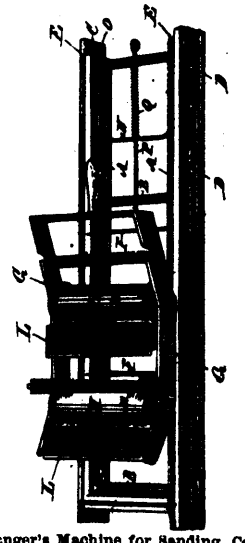
22639 Greather's Vehicle Spring.



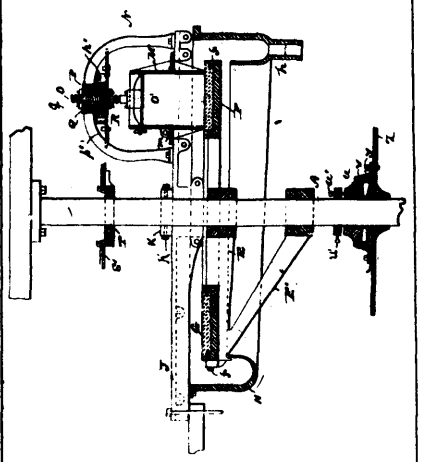
22640 Palmer's Automatic Gas Regulator.



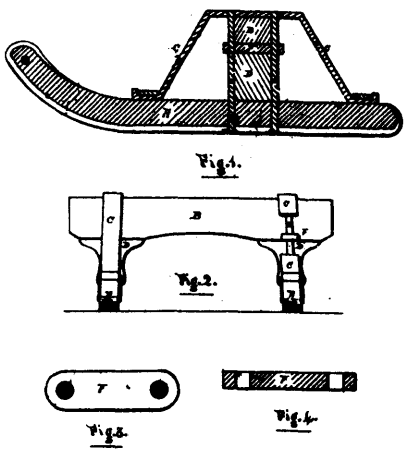
22641 Bowen's Grinder and Amalgamator.



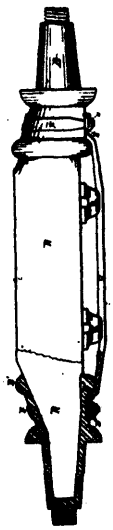
22642 Conger's Machine for Sanding, Cementing and Cutting Fibrous Sheets for Tarring and Roofing.



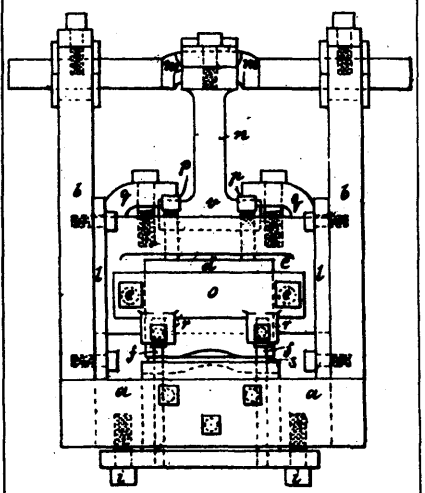
22643 Ely's Machine for the Reduction of Wood to Paper Pulp.



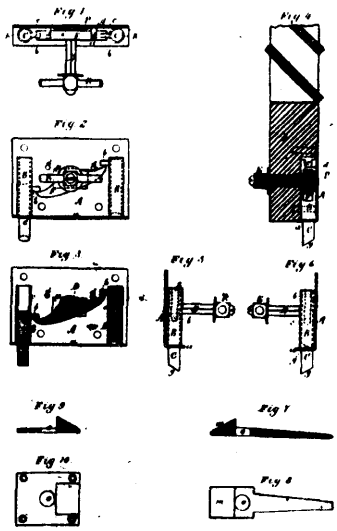
22644 Milner's Pin Sleigh.



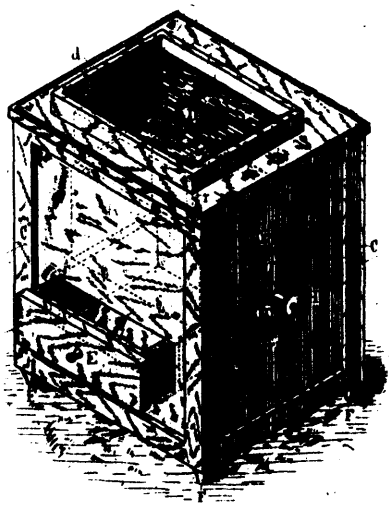
22645 Milner's Axle Truss Rod.



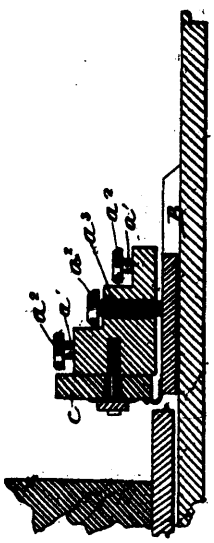
22646 Ruberg's Combined Punching, Cutting and Stamping Machine.



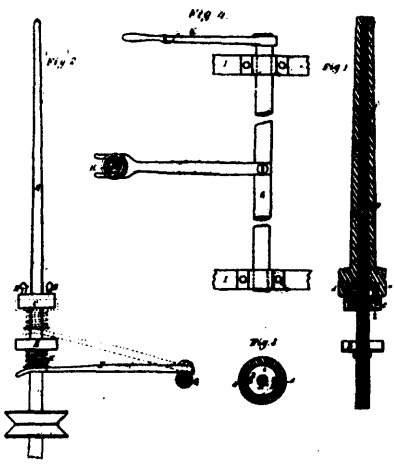
22647 Thomas' Blind or Shutter Fastening.



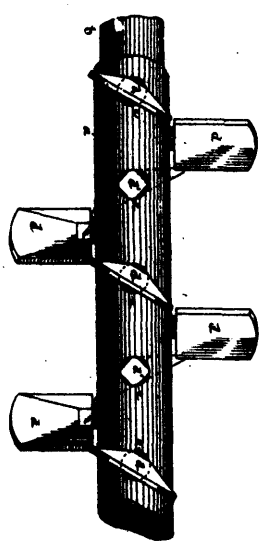
22648 Patient's Hydro-Incubator.



22649 Weir's Key-Board for Musical Instruments.



22650 Cuthbertson's Spinning Machine.



22651 Bing's Conveyor for Flour and other Mill Products

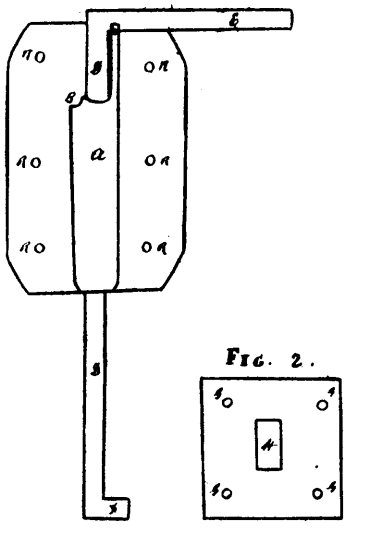
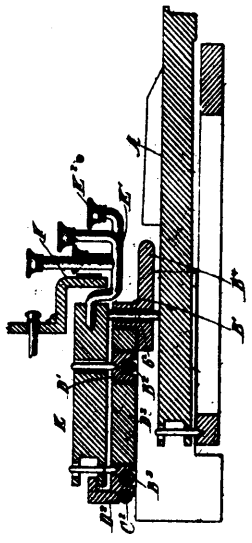


FIG. 2.

22652 Butchart's Contrivance for fastening Milk Cans to the Waggon.



22654 Weir's Key-Board for Musical Instruments.

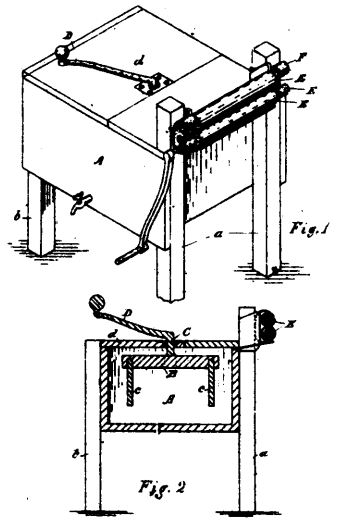
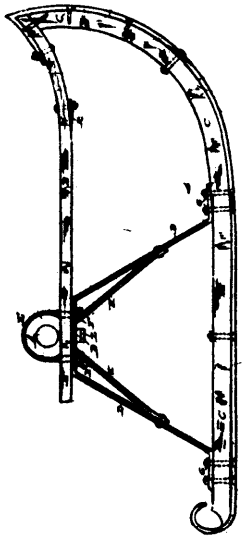


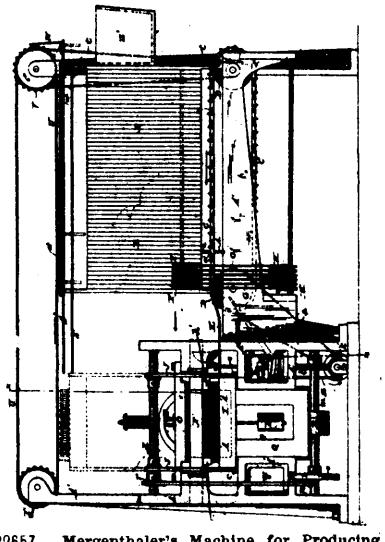
Fig. 1

Fig. 2

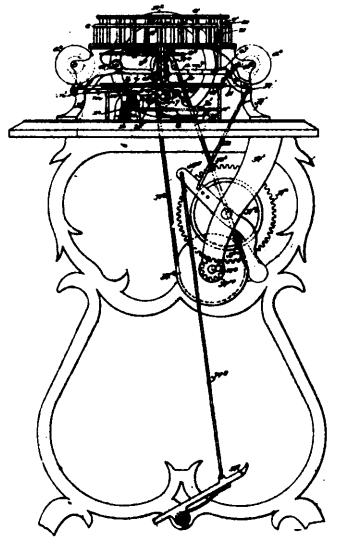
22655 Ducharme's Washer and Wringer.



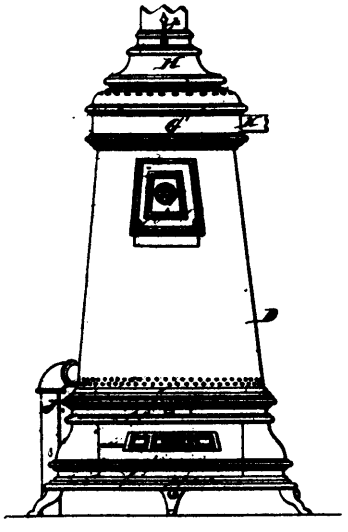
22656 Mason's Sleigh Runner.



22657 Mergenthaler's Machine for Producing Type Bars and Matrices for Type Surfaces for Letter-Press Printing.



22658 Ambler's Type Writer.



22659 McEwan's Hot Water, or Steam Boiler.

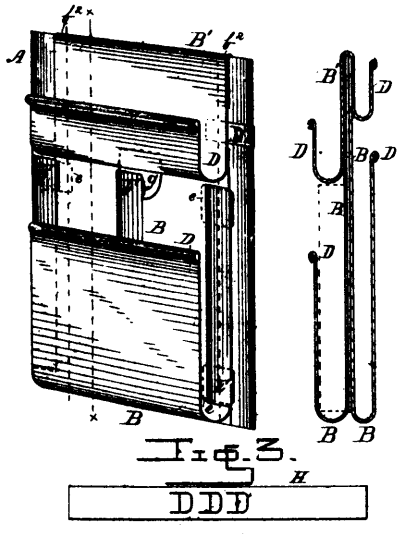
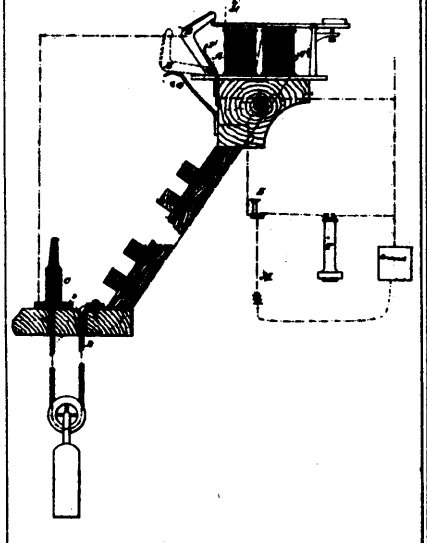


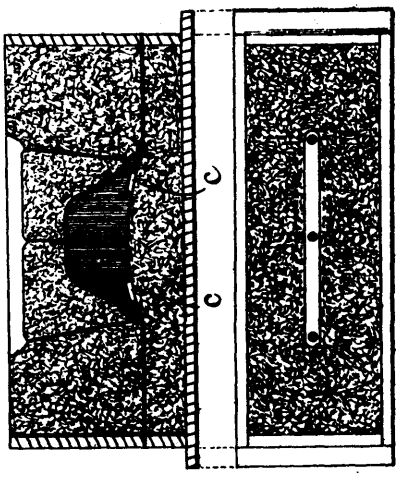
FIG. 3.

DDD

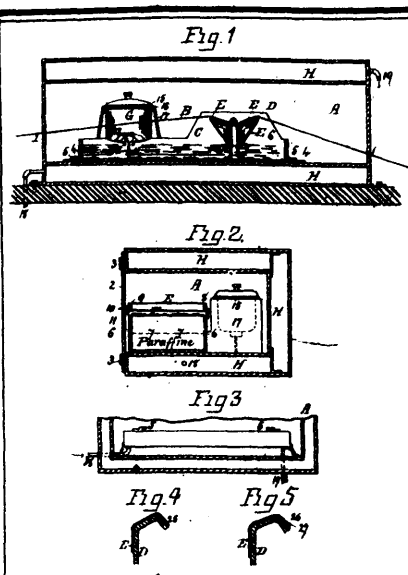
22660 Gray's Postal Cabinet.



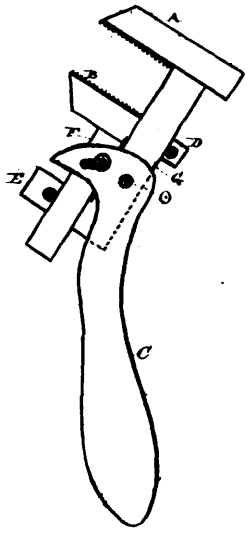
22661 Sonne's Telephone Switch Board.



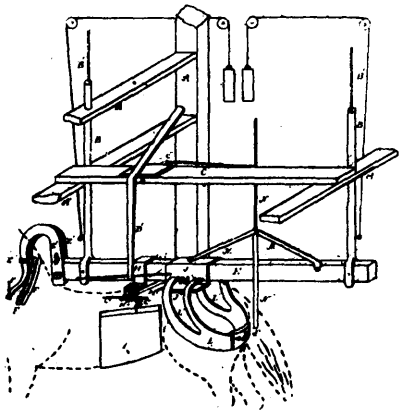
22662 Wohlfarth's Method for Moulding Car Brake Shoes.



22663 Frasch's Paper Waxing Machine.



22664 Elmore's Wrench.



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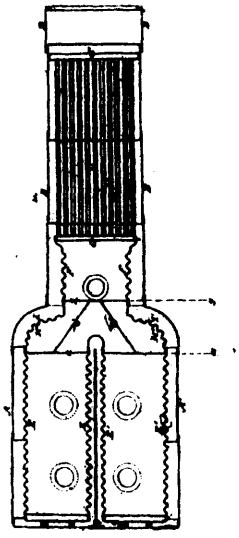

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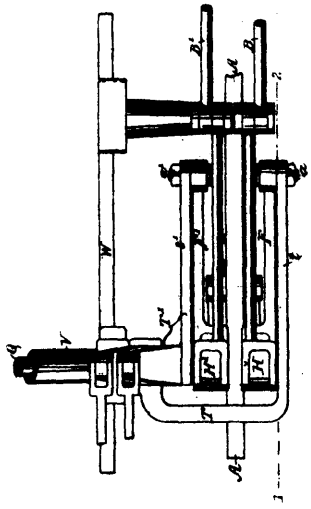

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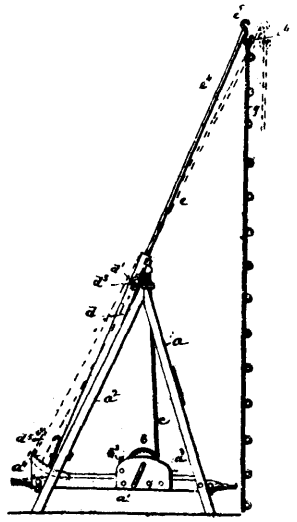
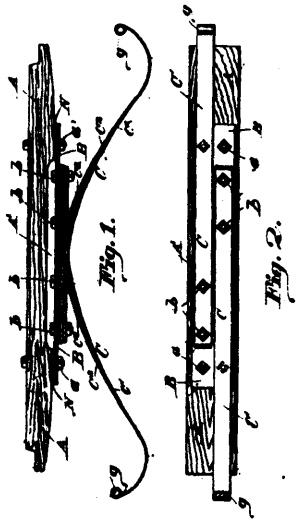


22668 Barkley's Fire Escape.



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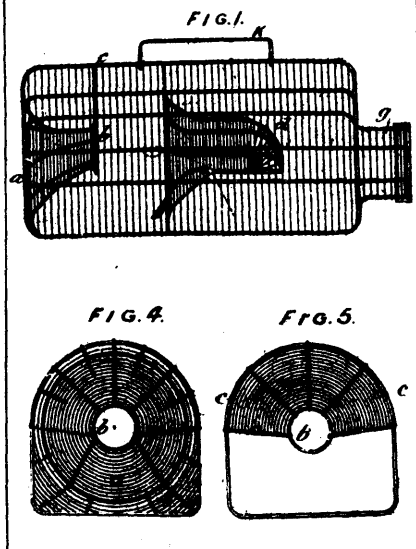

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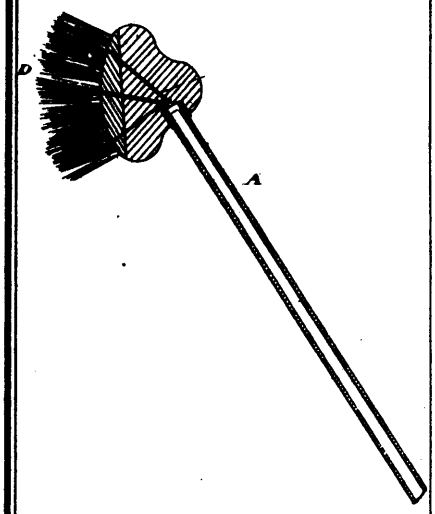

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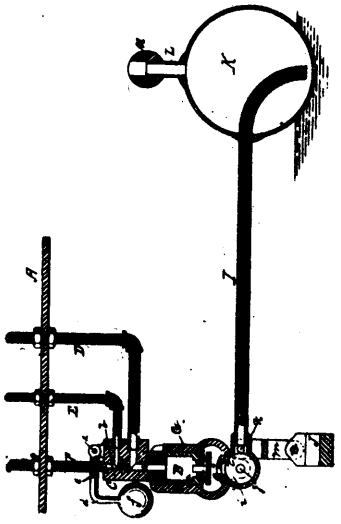

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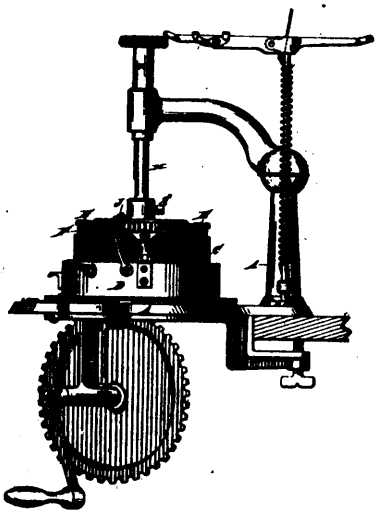
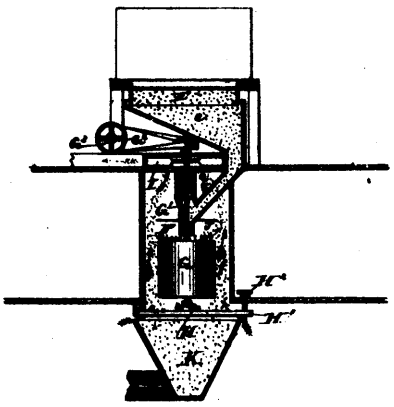


22673 Murly's Looping Attachment for Knitting Machines.



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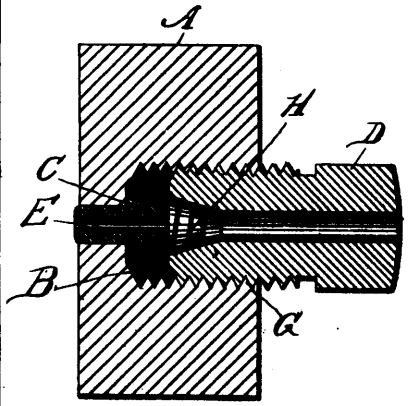

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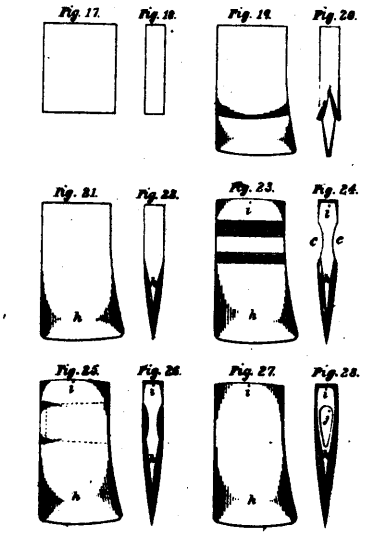

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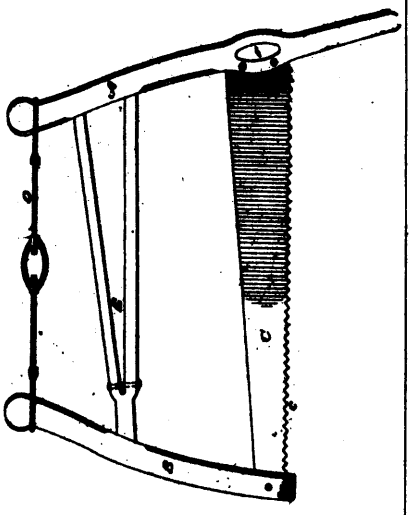

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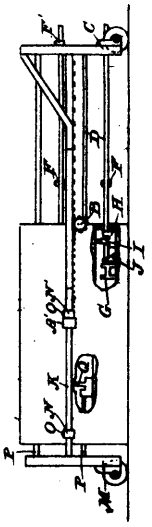

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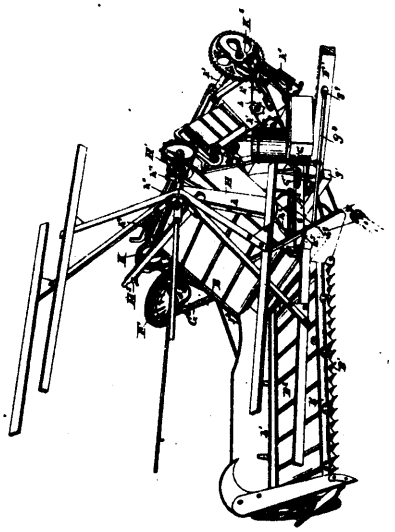

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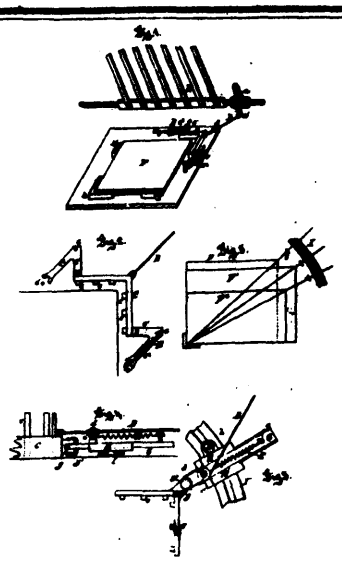
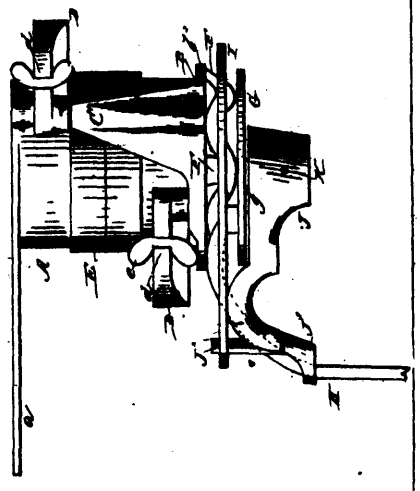
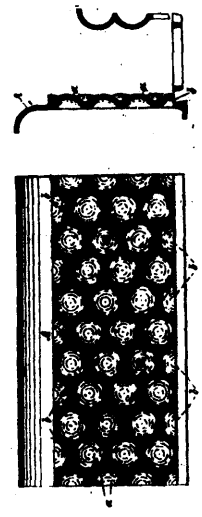


22680 Ball's Sheet Straightener for Printing Presses.



22681 Powell's Fire-Escape.



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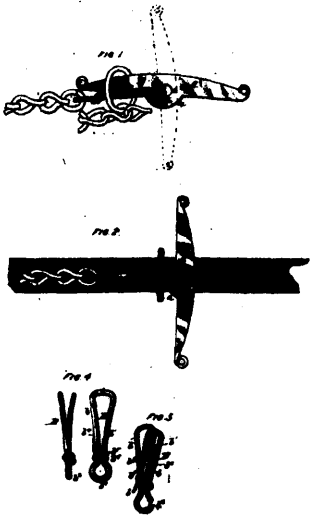

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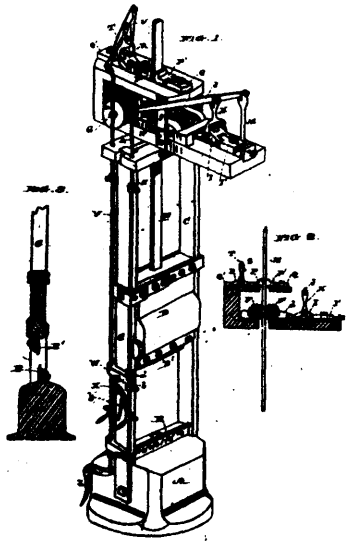
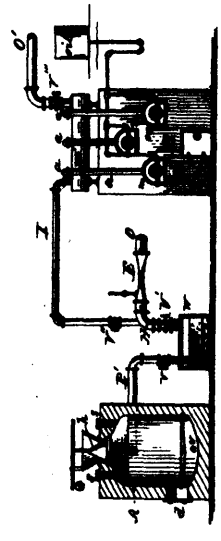


22685 Knapp's Metal Shearing Machine



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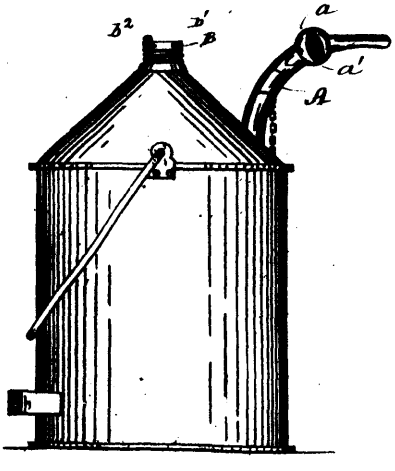
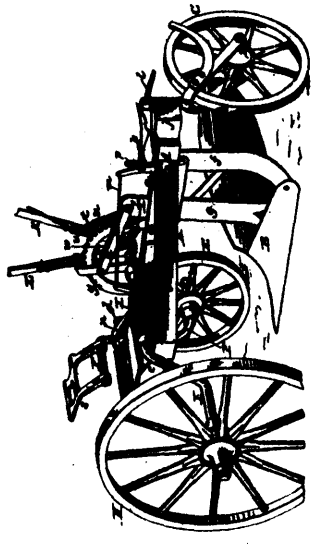
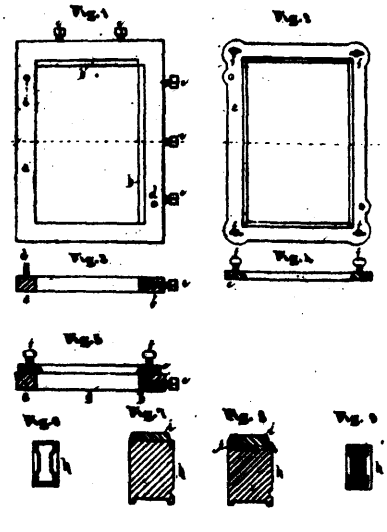


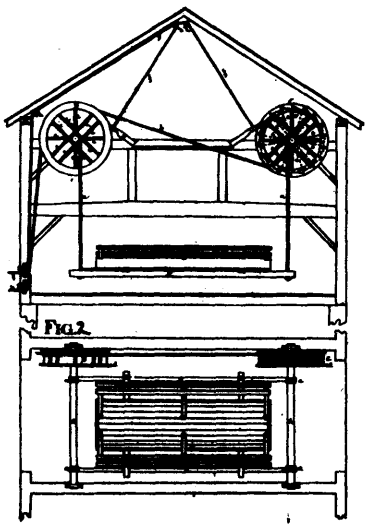
22687 Fox's Safety Attachment for Coal Oil Can.



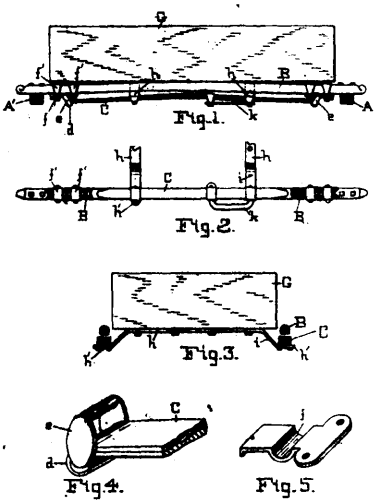
22688 Lindgren's Wheel Plough.



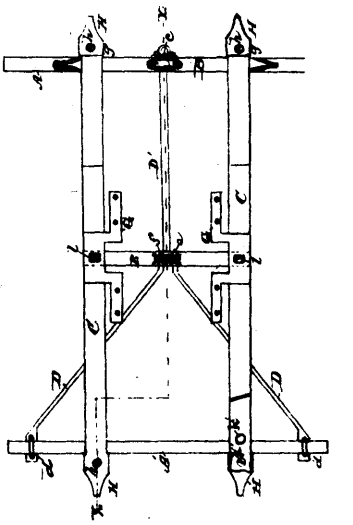
22689 Smith's Elastic Faced Printing Type.



22690 **Lane & McPherson's Load Elevator.**



22691 **Horn's Side Bar Spring for Vehicles.**



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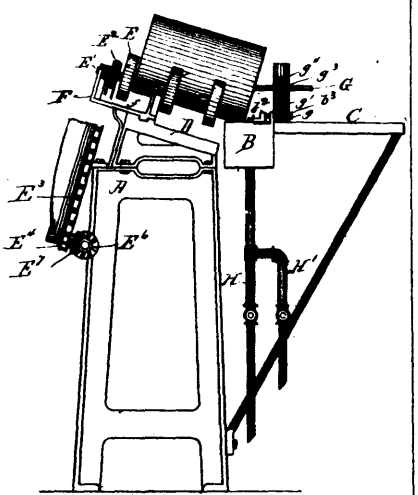
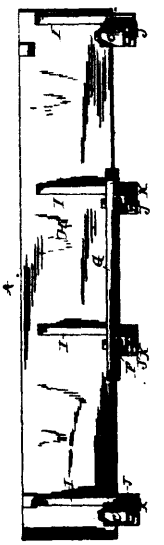


22693 **Norton and Hodgson's Soldering Machine.**



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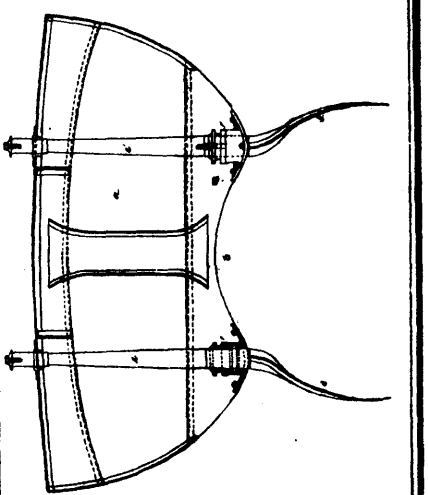

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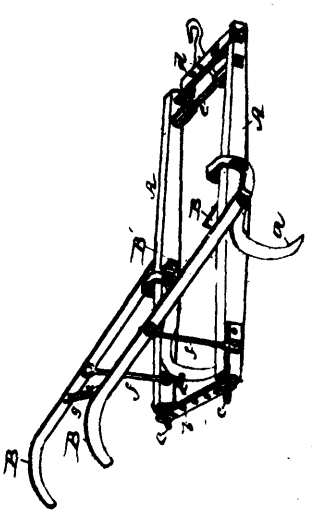

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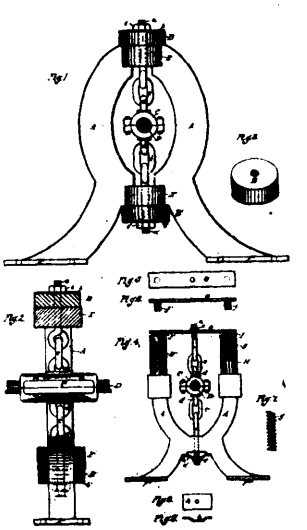
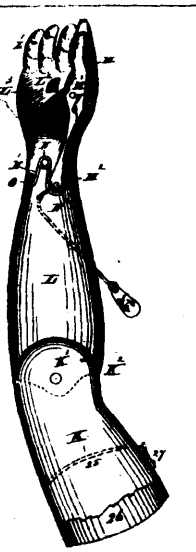


22697 **Hardie's Journal Bearing.**



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