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The Canadian Patent Office

RECORD




Vol. XIX.—No. 4.

APRIL, 1891.

{ Price in Canada \$2.50 per An.
United States - \$2.50 "

INVENTIONS PATENTED.

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

No. 36,245. Screw Bolt and Nut.

(*Boulon et écrou.*)

Clinton Allen Higbee, Philadelphia, Pennsylvania, U.S.A., 1st April, 1891; 5 years.

Claim.—1st. In screw bolts, nuts, and equivalent threaded objects adapted for use in screw couplings or unions, as specified, a screw thread having its end terminating in a blunt broad face beneath the end or face of the part in or on which it is formed, said end being symmetrically disposed, or substantially so, with respect to the line of the centre of the thread, substantially as shown and described and for the purpose specified. 2nd. In screw threaded bolts, and nuts, and equivalent male and female threaded objects adapted to screw together and form a screw-coupling or union, threads having their ends terminating beneath the ends or faces of the threaded parts of the coupling, and each end symmetrically disposed, or substantially so, with respect to the centre line of the threads, all substantially as shown and described and for the purpose specified. 3rd. In screw bolts, nuts, and equivalent threaded objects adapted for use in screw-couplings, as specified, a screw thread having its end terminating in a blunt broad face symmetrically disposed with respect to the centre line of the thread, and a cylindrical extension as *a'*, formed to fit neatly in the other member of the coupling, said extension extending between the end of the thread and the face of the threaded object, all substantially as and for the purpose set forth.

No. 36,246. Fanning Mill. (*Tarare-cribleur.*)

Cyrus Russ, Beamsville, Ontario, Canada, 1st April, 1891; 5 years.

Claim.—1st. In a grain scouring and cleaning mill, a rigid cylinder B, the interior of which is formed with a series of punched projections D, having hopper C, and outlet *c'*, in combination with the internal revolving cylinder E, enlarged at E', the external surface being formed with a series of punched projections F, and a series of pins H, substantially as and for the purpose hereinbefore set forth. 2nd. The combination in a grain cleaner and fanning mill, of the cylinders B, and E', with hoppers c, and T, and outlet *c'*, the frame work A, provided with the vibrator V, its supports S, fan M, the wheels J, K, and O, on their shafts, the eccentric R, and the connecting rod *b'*, substantially as and for the purpose hereinbefore set forth.

No. 36,247. Nut Lock. (*Arrête-écrou.*)

Thomas Poindexter Pollard, Richmond, Virginia, U.S.A., 1st April, 1891; 5 years.

Claim.—1st. In a nut lock, the combination of a screw bolt formed with a groove, one side of which is inclined to a greater extent than the other side, a nut formed with one or more grooves, one side of which, respectively is inclined to a greater extent than the other side, and a locking device applied between the nut and the screw bolt, substantially as described. 2nd. A nut lock, comprising in combination, a bolt having a longitudinal groove *a'*, which is inclined at its ends, and a locking device bridging or spanning the bottom of the groove and resting with its ends upon the incline, and a nut, substantially as described.

No. 36,248. Helve for Axes. (*Manche de hache.*)

Hiram Hall, Jr., Spruce Head, Maine, U.S.A., 1st April, 1891; 5 years.

Claim.—1st. In an axe-helve, the combination of a chamber formed in the outer end thereof, having curved grooves in its side walls, a

saw-kerf extending inwardly from the bottom of said chamber, wedges having bosses adapted to enter said grooves, and inclined inner faces provided with vertical grooves for receiving a screw, a beveled nut disposed in said chamber, and a screw provided with an approximately oval or button-shaped head, and working in said nut, substantially as described. 2nd. In an axe-helve, the helve A, provided with the chamber *d*, having the grooves *f*, in its walls, the saw-kerf *g*, the wedges *h*, provided with the grooves *k*, and bosses *i*, the nut *m*, and the screw B, working in said nut and provided with the curved head *p*, combined and arranged to operate, substantially as set forth. 3rd. In an axe-helve provided with a chamber in its head, having a saw-kerf extending longitudinally from the bottom thereof, the combination of two wedges adapted to be inserted in said chamber, and provided with the inclined working faces and vertical grooves, with a screw having an oval shaped head and a nut on said screw provided with inclined faces adapted to engage said wedges, substantially as described. 4th. In an axe-helve, a chamber opening through its end, two wedges inserted in said chamber, a screw disposed between the wedges, and a nut travelling on said screw for spreading said wedges, substantially as described.

No. 36,249. Pulley. (*Poulie.*)

Andrew Tolton, Guelph, Ontario, Canada, 1st April, 1891; 5 years.

Claim.—1st. The combination, with the rim of an ordinary belt pulley, of two flanges detachably connected to the said rim, substantially as and for the purpose specified. 2nd. The combination, with the rim of an ordinary belt pulley, of two flanges made in sections detachably connected to the said rim, substantially as and for the purpose specified. 3rd. The rim A, of an ordinary belt pulley, having holes *a*, made in it, in combination with the flaring flanges B, each flange being provided with a base C, having oblong holes made in it to receive the bolts D, substantially as and for the purpose specified. 4th. The flaring flanges B, each flange cast integral with the base C, the flaring of the upper portion *b*, of each flange being at a greater angle than the angle of the portion extending from the base C, in combination with the bolts D, arranged to secure the said flanges to the rim A, of an ordinary belt pulley, substantially as and for the purpose specified.

No. 36,250. Tag. (*Etiquette.*)

Herman Baumgarten, Washington, District of Columbia, U.S.A., 1st April, 1891; 5 years.

Claim.—A metallic tag formed of ductile metal, capable of being impressed, having a bushing of harder metal inserted in one end thereof and expanded therein, with the eccentric hole in said bushing located toward the center of the tag, so as to subject the thick side of the bushing to wear when suspended by a wire, substantially as set forth.

No. 36,251. Cover for Packing Tubs.

(*Couvercle pour cuvettes d'emballage.*)

Laron S. Hendrise, Westfield, Vermont, U.S.A., 1st April, 1891; 5 years.

Claim.—The combination of the packing-tub and the metallic cover having a sharpened continuous depending flange adapted to be driven into the edges of the staves, the strengthened portion for strengthening the edges of the cover, the said cover also having an orifice therein for the reception of the stopper, substantially as shown and described.

No. 36,252. Washing Machine.

(*Machine à laver.*)

Elisha Draper, Sioux City, Iowa, U.S.A., 1st April, 1891; 5 years.

Claim.—1st. The combination, with the box mounted upon rockers and provided interiorly with guides, of a horizontal removable partition provided on its under side with projections, as set forth. 2nd. The combination, with the box mounted upon rockers, of the remov-

able superimposed horizontal partitions, the lower partition having upper and lower projections and the upper partition with lower projections only, substantially as set forth. 3rd. The combination, in a washing machine, of a box mounted upon rockers, vertical guides located on the inner sides thereof, horizontal removable partitions provided with projections, located on each end of the box, and designed to act on the goods or material at each end as it leaves the action of the partitions, substantially as set forth.

No. 36,253. Car Coupler. (*Attelage de chars.*)

William Ira Langford and John Edward Langford, both of Bedford, Virginia, U.S.A., 1st April, 1891; 5 years.

Claim.—1st. In a car coupling, the combination, with the draw-head having a web provided with an inclined front face and a notch through its body, of a coupling bar mounted on a horizontal pivot in said draw head in rear of the web and resting normally in said notch, substantially as described. 2nd. In a car coupling, the combination, with the open topped draw head D, and the rearwardly inclined web W, therein, having a notch N, in its upper edge, of the connecting bar C, mounted on a horizontal pivot through the draw head in rear of said web, and resting normally in the notch therein, and a laterally enlarged head A, at the front end of said bar, having a beveled under front end, as and for the purpose set forth. 3rd. In a car coupling, the combination, with a draw head having a web provided with a notch in its upper edge, of a link having a head at one end for engagement with said notch and an eye at its other end standing in a horizontal plane, as set forth. 4th. In a car coupling, the combination, with a draw head having an inclined web provided with a notch, and a coupling bar mounted on a horizontal pivot in said draw head in rear of the web and resting normally in said notch, the free end of said bar having a laterally enlarged head, of a link L, having an eye at one end and a head A, at the other end, and an inclined face F, upon said link between its ends, each and all substantially as and for the purpose hereinbefore set forth.

No. 36,254. Wrench for Pipes. (*Clé à tuyau.*)

George Henry Buzzell, Boston, Massachusetts, U. S. A., 1st April, 1891; 5 years.

Claim.—1st. In a pipe wrench, a handle chambered longitudinally at one end and provided with slots in the walls thereof, in combination with two movable jaws mounted on a pivot fitted to slide in said slots, substantially as set forth. 2nd. In a pipe wrench, a handle provided with a chamber opening through one end and having slots in its walls, in combination with a pivot fitted to slide in said slots, two movable jaws mounted on said pivot and projecting from the mouth of said chamber, and mechanism for securing said pivot in said slots, substantially as described. 3rd. In a pipe wrench, a chambered body or handle, in combination with a movable pivot or bolt fitted to slide laterally in slots in the chamber walls, a check-nut for said bolt, two jaws pivoted in said bolt and projecting from said chamber, and a spreader for said jaws, substantially as set forth. 4th. In a pipe wrench, the body or handle A, provided with the chamber *b*, having the slots *h*, roughened or corrugated at *m*, in combination with the pivot bolt *i*, the check-nut *k*, thereon, and the jaws B, C, pivoted on said bolt, substantially as described. 5th. In a pipe wrench, the handle A, chambered at *b*, and provided with the slots *h*, and spreader *d*, in combination with the bolt *i*, and nut *k*, the toothed jaw B, and smooth jaw C, pivoted on said bolt, all being arranged to operate substantially as described.

No. 36,255. Boot and Shoe. (*Chaussure.*)

Richard Nagle, Lynn, Massachusetts, U. S. A., 1st April, 1891; 5 years.

Claim.—1st. A boot or shoe having a fold or plait arranged in its upper between the toe and heel portions thereof, said plait being disposed between the soles outside the sole-seam, and an elastic sheet secured to the inner face of the upper across said plait, substantially as and for the purpose set forth. 2nd. A boot or shoe having a fold or plait in its upper, concealed between the soles, said upper at the outer side of said plait being secured to an elastic sheet attached to the lining, and said sheet and upper being secured to the sole by the sole-seam at the opposite side of said plait, substantially as described.

No. 36,256. Construction of Window Sashes. (*Construction des croisées.*)

Frederick James Rice, Toronto, Ontario, Canada, 1st April, 1891; 5 years.

Claim.—As a new article of manufacture, the combination, with the window pane, of the projections *a*, rubber strips *b*, inner strips *c*, and the top and bottom rails hunched into the stiles, substantially as and for the purpose specified.

No. 36,257. Truck for Cars. (*Châssis de chars.*)

Edward William MacKenzie Hughes, Chicago, Illinois, U. S. A., 1st April, 1891; 15 years.

Claim.—1st. The combination, in a railway truck, of the pressed steel truck frames provided with a flanged opening for the reception of a bolster beam box, a pressed steel bolster beam box fitting the flange of said opening and extending transversely from truck frame to truck frame, and having its exterior ends supported by the flanges of said truck frames and fastened thereto, and a pressed steel bolster beam vertically movable in said box, substantially as described. 2nd. The combination of the pressed steel box, bolster

beam 5, the pressed steel bolster beam box 5, the spring plates 9, 9, and the springs inclosed in said pressed steel box, and the truck frames 1, provided with flanges 4, integral therewith and forming supports for the bolster beam box 5, which is attached to said flanges, substantially as described. 3rd. The combination of the pressed steel truck frames 1, 1, the pressed steel cross pieces 2, 2, having closed box ends surrounding and fitting the ends of the truck frames 1, the pressed steel bolster beam box 5, the pressed steel bolster beam 5, and the pressed steel journal plates 7, 8, substantially as described. 4th. The combination of the pressed steel flanged side frames 11, and 12, and the pressed steel flanged end frames 13, and 14, the flanges of said frames accurately fitting against each other, so as to produce an accurately rectangular frame, substantially as described. 5th. The combination of the pressed steel side frames 11, and 12, having flanges at right angles to their main plane, and the pressed steel flanged end frames 13, and 14, having their flanges at right angles, fitting accurately the flanges of the side frames 11, and 12, and the whole firmly attached by riveting or welding, so as to insure a rectangular frame, substantially as described. 6th. The combination of the pressed steel side frames 11, and 12, having flanges at right angles to their main plane, and the pressed steel flanged end frames 13, and 14, having their flanges at right angles, fitting accurately the flanges of the side frames 11, and 12, and the bolster beam box 16, fitting the flanged side frames 11, and 12, the whole firmly attached by riveting or welding, so as to insure a rectangular frame, substantially as described. 7th. A truck frame for vehicles, having the side frames and end frames integral, substantially as described. 8th. A truck frame for vehicles, having the side frames and end frames integral, the said side frames and end frames being pressed from a single piece of metal into a box shape, substantially as described. 9th. The truck for moving vehicles herein shown, consisting of a single piece of pressed steel having side frames, end frames, and pedestals pressed thereon, substantially as described. 10th. A truck frame for rolling vehicles, in which the side frames, end frames, and transom are formed of one piece of metal, substantially as described. 11th. A truck for rolling vehicles, having the side frames, end frames, and transom all pressed of one piece of metal, so as to form boxes, substantially as described. 12th. The combination of the truck 23, with the axle safety bars 28, formed of pressed steel, substantially as described. 13th. The truck for vehicles herein shown, having the side frames, end frames, and transom and pedestals all pressed from one piece of metal, substantially as described. 14th. The combination of the side pieces 31, 31, having flanges 32, and 33, on alternate sides thereof, with the end boxes 34, 34, substantially as described. 15th. The combination of the side pieces 31, 31, having internal flanges 33, with the end box 31, and the transverse framing 36, supported upon the flanges 33, substantially as described. 16th. The combination of the side pieces 31, 31, having internal flanges 33, with the end box 34, the transverse framing 36, supported upon the flanges 33, and the longitudinal beams 35, 35, resting on the flanges of the parts 36, and 34, substantially as described. 17th. The side frames having flanges 32, 33, the internal flange 33, being folded back, as at 39, substantially as described. 18th. The arch beam connections shown, consisting of the two channel arch beams 43, 43, and the cross pieces 37, 37, attached to the beams 43, 43, by plates 40, 41, substantially as described. 19th. A truck frame for rolling vehicles, having the side frames and transom formed of one piece of metal, which affords the necessary strength and rigidity without the employment of end frames, substantially as described. 20th. A truck for rolling vehicles, consisting of the box shaped side frames and transom pressed from a single plate of metal said transom affording sufficient strength and rigidity without the employment of end frames, substantially as described. 21st. The combination of the side frames 43, 43, the transom 44, and the stiffener 47, the said side frames being unprovided with end frames and relying for their support upon the transom 44, and stiffener 47, substantially as described. 22nd. The combination of the wheel pieces 50, 50, formed of pressed steel and flanged at 52, with the pressed steel transom 53, having flanges 54, bearing against the side frames, thereby insuring the parallelism of the side frames without end frames, substantially as described. 23rd. The combination of the side frames 50, 50, of pressed steel, and having flanges 52, with the transom 53, of pressed steel, having flanges 54, and lugs 56, 56, 56, pressed from the flanges 54, substantially as described. 24th. The combination, in a car truck, of the wheel frames 60, having a pocket 63, with the pressed steel box transom 61, the end thereof fitting the pocket 63, substantially as described. 25th. The combination of the wheel pieces 60, 60, having pockets *s* 63, 63, 63, 63, with the pressed steel box transom 61, 61, having the ends of the boxes 61, 61, riveted in the pockets 63, 63, 63, 63, substantially as described.

No. 36,258. Bolster Beam for Cars.

(*Sommier de chars.*)

Edward William MacKenzie Hughes, Chicago, Illinois, U. S. A., 1st April, 1891; 15 years.

Claim.—1st. A pressed steel bolster beam formed of one piece of metal, and in the shape of an inverted box having sides and ends integral with the remainder of the box, substantially as described. 2nd. The combination of the pressed steel bolster beam 1, formed of one piece of metal and having sides and ends integral with the beam itself, and the pressed steel bolster beam box *a*, formed of one piece of metal, and having sides and ends integral with the beam box itself adapted to receive the same, substantially as described. 3rd. The pressed steel bolster beam box 2, cut away at the end 3, for passage through the truck frames, substantially as described.

No. 36,259. Spring for Platform Rocking Chairs. (*Ressort pour fauteuil à bascule.*)

Oron Edward Lambert, Wawanese, Manitoba, Canada, 1st April, 1891; 5 years.

Claim.—The combination of the springs *a*, *d*, and *b*, *c*, with the platform rocker, substantially as and for the purpose hereinbefore set forth.

No. 36,260. Cart. (Charette.)

Robert Day Scott, Pontiac, Michigan, U. S. A., 1st April, 1891; 5 years.

Claim.—1st. In a road cart, the combination, with the body connected by pivoted links with the shafts, of longitudinal springs B, on the shafts, the rear of the body being supported from the rear ends of said springs by pivoted links, substantially as described. 2nd. In a road cart, the combination, with the body and shafts, of springs B, on said shafts, and pivoted links engaging the rear of the body with the rear ends of said springs, and means for vertically adjusting the rear end of the body, substantially as described. 3rd. In a road cart, the combination, with the body and shafts, of springs B, on said shafts, and pivoted links engaging the rear of the body with the rear ends of said springs, said pivotal links being in the form of spiral springs, substantially as described. 4th. In a road cart, the combination, with the body and shafts, of springs B, on said shafts, said body supported at its forward end by links from the shafts, and supported at its rear end by links from the rear extremities of said springs, said supporting links being in the form of spiral springs, substantially as described. 5th. The combination, with the shafts and body of brackets D, and links whereby the forward end of the forward part of the body is supported, said links engaged with said brackets, substantially as described.

No. 36,261. Method of Oiling Journal Boxes. (Manière de huiler les coussinets de tourillon.)

Julius E. Waterous, Brantford, Ontario, Canada, 1st April, 1891; 5 years.

Claim.—1st. The combination of a journal box A, shaft B, and chain D, substantially as and for the purpose hereinbefore set forth. 2nd. The combination of the chain D, placed loosely on the shaft B, in the annular recess C, forming a loop around the shaft so that the lower side of the loop passes downward into the oil reservoir F, substantially as and for the purpose hereinbefore described. 3rd. The use of a flat chain placed upon a shaft in a journal box, having numerous joints, so that it comes in contact with the shaft for at least one half its circumference, substantially as and for the purpose hereinbefore described.

No. 36,262. Machine for Sharpening Calks of Horse Shoes. (Appareil pour affiler les crampons de fer à cheval.)

Thomas Spellman, Halifax, Nova Scotia, Canada, 1st April, 1891; 5 years.

Claim.—The application of an emery wheel of shifting plane to that particular service, substantially as and for the purpose hereinbefore set forth.

No. 36,263. Shingle Sawing Machine. (Machine à scier le bardeau.)

Willis J. Perkins, Grand Rapids, Michigan, U.S.A., 1st April, 1891; 5 years.

Claim.—1st. A shingle sawing machine having saws mounted on vertical arbors, and a rotary carriage 5, supported on a vertical shaft 1, in combination with a lever *a*, extending from the outside of the frame A, to the central shaft 1, fulcrumed near and having a bearing on said shaft, whereby said shaft and carriage 5, may be lifted to permit access of the saws, substantially as described. 2nd. The combination, with the rotary carriage 5, of a shingle sawing machine, of a central vertical supporting shaft 1, a lever *a*, stepped under said shaft and extending outside the frame of the machine, and a swing piece *f*, attached to the frame and adapted to engage said lever *a*, and hold it up or down, substantially as described. 3rd. The combination, with the rotary carriage 5, and central vertical shaft 1, of a shingle sawing machine, of a lever *a*, formed in sections *e*, *c*, the inner section *e*, fulcrumed near and engaging the central shaft of the carriage, and the outer section *c*, extensible beyond the outer portion of the frame of the machine, substantially as described. 4th. The combination, with the rotary carriage 5, of a shingle sawing machine, of a dog 8, near the periphery of said carriage, a bent arm 13, pivotally connected at its outer end to said carriage, and at its inner end bearing an anti-friction roll 14, a spring 9, surrounding said arm, having an abutment 10, on the carriage, and an adjustable abutment 11, on the arm whereby the pressure of the spring may be regulated and a cam or incline 15, on the frame against which the anti-friction roll has a bearing in the rotation of the carriage, substantially as described. 5th. The combination, with the rotary carriage, of a shingle sawing machine, of a dog 8, near the periphery thereof, and guided in radial ways 18, of said carriage, an arm 13, connected to said dog and extending inwardly past the stationary dog 19, toward the center of the carriage, a spring 9, pressing said dog and arm inwardly, a cam surface 15, on the frame in position to press out the said arm during a portion of the revolution of the carriage, and a support 16, for the inner end of said arm, substantially as described. 6th. The combination, with the rotating carriage 5, having a rack, of a shaft bearing a pinion 31, engaging said rack, a pulley 35, on said shaft, a counter-shaft 37, toward the opposite side of the machine having suitable pulleys, and a belt connection to the pinion shaft, a saw shaft, and a belt connection from said saw shaft straddling the central arbor connecting to one of the pulleys 35, on said counter-shaft, as set forth. 7th. In a shingle sawing machine, in combination a horizontal saw, a tilt-table 21, supported on a universal bearing 55, a pendent lever 50, connected to said table, means for tilting the table longitudinally, and a shifter 120, for operating the table laterally during the longitudinal movement, whereby the table is

tilted longitudinally and laterally at the same time, substantially as described. 8th. The combination, with the horizontal saws and rotary carriage, of a shingle sawing machine of the character described, of a tilt table 21, at each side of the machine, a train of mechanism 104, by which either tilt-table 21, may be tipped by power communicated from the rotary carriage, a handle 104, near the operator's position, and connections, substantially as described, leading from the handle to the tilt-table, whereby the tilt tables 21, may be separately thrown into operation, as set forth. 9th. The combination, with the rotating saws and carriage, of a tilt-table 21, at each side of the machine, a train of mechanism 104, substantially as described, whereby each tilt-table may be separately actuated from the rotary carriage, a handle 104, pivoted to the frame near the operator's position, a rod 103, connecting said handle to the tilt-controlling catch 101, at one side of the table, and a lever 105, and controlling catch connected to said rod, whereby the other rod (107, and 158, figs. 2, and 5), is actuated by moving the handle in the reverse direction, as set forth. 10th. The combination, in a shingle sawing machine, of a tilt-table 21, an oscillating beam 76, for rocking the same, a rotating cam 81, engaging said beam, a power driven rocker 82, and a clutch 88, by which said rocker and cam may be thrown into connection. 11th. The tilt-table 21, and its walking beam 76, the loosely mounted cam 81, the rock shaft 82, and rocker wheel 88, fixed thereto, a clutch 85, between the rocker and cam, and a holding stop 95, by which the rocker is held so that the clutch 89, cannot come into engagement. 12th. The oscillating beam 76, of the tilt-table 21, engaging the race cam 81, a rocker wheel 88, in proximity to the race cam 81, having two stops 85, and 89, thereon, and a detent in position to swing in front of one or the other of the stops of the rocker the specified elements, in combination, as set forth. 13th. The combination, with the tilt-table 21, and its rocking beam 76, of the race cam 81, engaging said beam 76, the rock shaft 82, on which said cam 81, is loosely mounted, having a rocker wheel 88, thereon, provided with a series of stops 85, and 89, a clutch 85, between the rocker wheel and the cam, and a plurality of detents 83, and 84, in position to engage the stops 85, and 89, on the rocker wheel 88, and a handle 104, on the frame near the operator's position, by which said detents are operated, substantially as described. 14th. The rotating carriage having block receptacles, and projections 22, equal in number to the receptacles, the rock shaft 82, having an arm 110, in position for engagement with each of these projections 22, a spring 92, tending to rock said arm into position for engagement with said projections, and a detent 95, which holds said spring 92, under tension, and the arm 110, out of engagement, all combined, substantially as described. 15th. The combination, with the rotating carriage rock shaft 82, and mechanism for throwing the shaft into engagement, as described, of the race cam 81, on the rock shaft 82, a clutch 89, whereby the shaft may be engaged to move the race cam, and a stop 101, fixed to the frame and engaging said race cam 81, to hold it (and the tilt-table) in fixed position at the extreme of the movement of the table, substantially as described. 16th. The combination, with the tilt-table 21, and its oscillating beam 76, of the rock shaft 82, and race cam 81, thereon engaging said beam the rocker wheel 88, a catch 89, on said wheel in position to engage the race cam 81, and a pawl 89, on the frame in position to engage the race cam 81, and to be lifted by the incline 87, on the rocker wheel 88, substantially as described. 17th. The combination, with the tilt-table 21, and its walking beam 76, the race cam 81, engaging said beam and the clutch pawl 89, and connecting mechanism, substantially as described, by which the race cam 81, is actuated from the rock shaft 82, of a detent 83, for operating the clutch pawl 89, the first time, and having engagement with the race cam 81, for causing a second engagement of the clutch pawl, substantially as set forth. 18th. In a shingle sawing machine and in combination, a horizontal saw, a rotating carriage having block receptacles, a tilt-table 21, mounted on universal bearing 55, beneath said carriage mechanism for tilting said table laterally, and a bearing 223, on the frame against which a portion of the table is carried to produce a limited swing of the table in longitudinal direction. 19th. The combination with a rotating carriage and horizontal saw, of a tilt-table 21, having automatic adjustment in all lateral directions, substantially as described. 20th. The combination, with a rotary carriage and horizontal saws, of a tilt-table 21, and mechanism for tilting the same, a rigid pendulous attachment to the tilt-table, and a bearing surface 223, on the frame, whereby the pendulum may be swung out of true, substantially as set forth. 21st. The combination, with a rotary carriage and horizontal saws, of a tilt-table 21, having a rigid pendulous attachment 50, an adjustable piece 120, on said attachment, and an adjustable bearing 223, on the frame against which said pendulum is supported. 22nd. The tilt-table 21, supported on wedges 62, having grooves on their lower surfaces, the inverted cups 70, having splines entering said grooves, and the screw collars 72, and movable risers 74, entering said cups 70, all the specified elements combined, substantially as described. 23rd. The tilt-table 21, guided by a universal bearing 55, a pendulum lever 50, fixed to the table and passing through said bearing, and an adjustable incline on said pendulum 120, engaging a projection 223, on the frame, all the specified elements, in combination, with mechanism for tilting the table, substantially as described. 24th. The combination, with the frame and rotating carriage, and the movable piece 76, for operating the tilt of the operator's table 140, in proximity to the carriage, a hinge 141, connecting said operator's table to the frame, and an indicator 220, on the table to show the position at which the tilt must be shifted. 25th. In a shingle sawing machine, the combination of a horizontal saw, a rotating carrier, a tilt-table 21, mounted on a universal bearing 55, beneath the carrier mechanism 120, for rocking the tilt-table in lateral direction, and an adjustable bearing 223, on the frame against which part of the table is carried to produce limited longitudinal oscillation, as set forth. 26th. In a shingle sawing machine, the combination of the saw, the rotating carriage having bolt receptacles which move over the saw, a bolt supporting way consisting of two concentric circular tracks 20, and two movable sections 150, and 151, side by side and forming part of said tracks adapted to be displaced from normal position under the bolt. 27th. The saw and carriage, substantially as described, the circular guideway 20, movable sections 150, and 151, in and forming part of said guideway supported on hinged posts 152, and 155, the lever me-

chanism 157, connected to the posts, whereby the sections may be swung radially in opposite directions, all in combination substantially as described. 28th. The combination, with the saw and carriage arranged substantially as shown, of the circular supporting way 20, beneath the carriage, two movable sections 150, and 151, forming part of said way supported on hinged posts 152, and 155, beneath the carriage, and a rod 157, connecting one hinged post from one side of its pivot to the other post at the other side of its pivot, whereby the movable sections 150, and 151, may be expanded radially to the table but in opposite directions, substantially as described. 29th. The combination, with the rotating carriage and its saw, arranged, substantially as shown, of the circular way 20, beneath the carriage having a movable section 150, 151, a movable bar 160, outside the rotating carriage and connected to the movable section 150, 151, of the way 20, and a trip 170, on the carriage adapted to be thrown into position to displace the movable track section, as set forth. 30th. The rotating carriage and saw arranged, substantially as described, the way 20, beneath the carriage having a movable section 150, 151, the movable bar 160, outside the carriage connected to the movable section 150, the trip 170, on the carriage adapted to be thrown into position to engage the movable bar, and a stop 173, on the frame in position to throw the trip 170, out of operative position, substantially as described. 31st. The combination, with a rotary carriage and a horizontal saw, of a block supporting way constructed of two tracks 20, a section of each track 150, and 151, in advance of the saw made movable, and a catch 170, on the carriage in position to operate both tracks simultaneously as set forth. 32nd. The combination, with the rotating carriage and a plurality of saws arranged, substantially as described, of a way 20, beneath the carriage having a plurality of movable sections 150, and 151, and a trip 170, on the carriage adapted to be moved into position to actuate either movable section 150, 151, of the way 20, as set forth. 33rd. The combination, in a shingle sawing machine, of a plurality of saws on opposite sides of the machine, a rotating table pivoted between said saws and having bolt receptacles which move over the saws, a dog 8, for each bolt receptacle, an incline 15, operating radially of the machine to operate said dogs tilt-tables 21, for each saw, and inclines 22, operating radially to change the same, and a way 20, beneath the carriage having movable sections 150, and 151, arranged to be operated radially, and a pusher 170, on the carriage, all substantially as shown and described. 34th. The two saws arranged on vertical arbors at opposite sides of the machine, substantially as described, combined with a saw-dust spout 180, for one saw, open at its side and covering an arc of the saw, and the saw-dust spout 182, for the other saw presenting its open end toward said saw, the two spouts uniting and extending to the side of the machine, substantially as described. 35th. The combination, with a shingle sawing machine, of a saw arbor secured in a vertical position at the side thereof, a bracket 136, on the floor or support of the machine, a screw bolt 135, (fig. 1) connected to the bearing box 133, of the saw arbor and passing through said bracket 136, and set nuts 137, 138, on said bolt 135, in proximity to the bracket 136, substantially as described. 36th. The combination, with a rotary saw, of a saw-dust spout 182, having a movable section 223, in proximity to the saw, substantially as described. 37th. In a shingle sawing machine, the rotating carriage, the tilt-table 21, adjunctive shifting mechanism 76, substantially as described, by which the tilt-table may be shifted by the movement of the carriage, a lever 104, to throw said shifting mechanism into action, and a trip 101, connected to the shifter 104, and operating to discharge the same so that the tilt is automatically restored to its first position, as set forth. 38th. The combination, with the vertical saw-arbor having fixed collars, of a box 201, (fig. 13) fitting said collars and adjustable in a bridge-pot 200, and a mechanism for holding said box 208, and the arbor from rising. 39th. The vertical saw-arbor and its fixed rings, the box 201, fitting said rings inclosed in a bridge-pot 200, a fork 208, crossing said box above the rings, and mechanism 207, for pressing down the fork, substantially as described. 40th. The combination, with the vertical saw-arbor, having fixed rings, of a box 201, fitting said rings, a bridge-pot 200, in which said box is adjustably enclosed, a fork 208, crossing the dash-pot and bearing upon the arbor box, and a screw 207, by which the said fork may be depressed. 41st. The combination, with the rotating carriage, of a fixed gage 221, supported on the frame by which the time for changing the position of the tilt-table is indicated. 42nd. The combination, with the rotating carriage, a plurality of tilt-tables 21, and a plurality of saws, of a series of gages 221, and 220, supported on the frame for indicating the time to operate each tilt-table, substantially as described. 43rd. The combination, with the saw carriage, of a wooden block 230, furnishing a bearing for the same, and an oil retaining trough 231, in which said block is seated. 44th. The combination, with the rotary saw carriage, of lubricating blocks 230, supporting the rim of said carriage, a retaining trough 231, for each block, and an oil cup 232, communicating with the lower portion of the block, substantially as described. 45th. In combination, in a shingle sawing machine, a series of block receptacles grouped round a central axis, a movable dog 8, at the outer side of each block receptacle, and an arm 12, connected to the movable dog 8, and extending inward past the fixed dog 19. 46th. The combination, with a rotary carriage and horizontal saws, of a tilt-table 21, having a simultaneous transverse and longitudinal movement, substantially as described. 47th. In a shingle sawing machine, a tilt-table 21, a carriage and intermediate adjunctive mechanism by which the tilt-table 21, is shifted by the carriage movement, a catch 85, holding the table in its tilted position, and an abutting surface 87, in position to disengage said catch, so that the tilt-table will be automatically restored to position, substantially as described. 48th. In combination, with the saw carriage, a metallic guard depending below the dogs having a surface toward the saw of a greater width than the distance between the saw teeth. 49th. The combination of the tilt-table, the supports on the frame, and an intermediate movable piece 62, bearing on said supports, and table by the movement of which the height of the table may be adjusted, substantially as described. 50th. The combination, with the tilt-table having an inclined under surface, and a bearing piece 62, with upper inclined surface and the table supports, of an adjusting screw 65, whereby the position of the bearing piece is regulated, substantially as described. 51st. The combination, with the tilt-table and supports beneath the same, of an interposed ad-

justable piece 62, whereby the height of the table above its supports may be regulated, as set forth. 52nd. In a shingle sawing machine, the combination, with the tilt-table, the opposite sides of the bolt bearing surfaces of which are rigid with relation to each other, the said table having a vibratory motion from a central longitudinal axis 55, of independent butt-controlling devices 72, and independent point-controlling devices 74, located on each side of the axis of the tilt-table, substantially as set forth. 53rd. In a shingle sawing machine, the combination, with a carriage adapted to support a shingle bolt, and gripping dogs attached thereto, of adjustable bolt holding or pushing blocks 17, secured in sockets at the side of the carriage, and adapted to be adjusted toward and away from the saw, substantially as set forth. 54th. In a shingle sawing machine, in combination, with a shingle bolt carriage provided with bolt holding dogs, of a vertically adjustable block 17, secured to the sides of the carriage at a point between the dogs, and adapted to force the bolt into engagement with the saw, substantially as set forth. 55th. In a shingle sawing machine, the combination, with a shingle bolt carriage provided with bolt holding dogs of vertically moving blocks 17, secured to the side of the carriage at a point between the dogs and adapted to force the bolt into engagement with the saw, substantially as set forth. 56th. In a shingle sawing machine, the combination, with a bolt supporting carriage and dogs adapted to grip the ends of the bolts, of auxiliary dogs at the sides of the carriage adapted to grip the block when the latter is too thin to be gripped by the end dogs, substantially as set forth.

No. 36,264. Heater and Purifier for the Feed Water of Steam Boilers. (*Réchauffeur et épurateur de l'eau d'alimentation.*)

Benjamin Franklin Field, Chicago, Illinois, U.S.A., 1st April, 1891; 5 years.

Claim.—1st. The combination, with a steam boiler, of a conduit 1, located within the boiler, connected to the feed water pipe, and having one or more discharge pipes or orifices within the boiler above the water line and communicating with the steam space, said conduit being provided with a series of internal tubes or plates arranged within and extending longitudinally thereof, substantially as described. 2nd. The combination, with a steam boiler, and a conduit 1, located within the boiler and connected at one end to the feed-pipe, and provided with a discharge pipe at the opposite end projecting into the steam space, of a series of plates or open tubes arranged longitudinally of and within the said conduit and held separated to form passages for the water; substantially as described. 3rd. The combination in a steam boiler and with the conduit 1, therein, a series of corrugated tubes open at the ends, supported one within another and arranged longitudinally of and within the said conduit; substantially as described. 4th. The combination, with a steam boiler, of a feed water heater and purifier, such as described, the same comprising a conduit 1, located within the boiler and provided with a discharge orifice above the water line, and a series of perforated tubes or plates arranged one within another and extending longitudinally of the conduit; substantially as described. 5th. In a feed water heater and purifier for boilers, the combination, with a conduit 1, provided with internal plates or tubes having openings therethrough, of retarding plates or abutments as at 3 arranged between said plates or tubes; substantially as described. 6th. The combination to form a feed-water heater and purifier, such as described, of a conduit 1, located within a boiler and provided with internal tubes arranged at intervals, in the length of the conduit, with retarding plates occupying the lower portion of the conduit and arranged in the spaces between contiguous groups of internal tubes, substantially as described. 7th. A feed-water heater and purifier such as described, for application within a boiler, composed of a series of sections united together to form a continuous conduit, the sections being provided with a series of shorter perforated tubes held separated and removed from the ends of the sections to form settling chambers therein, and an inclined-faced plate or abutment 3, located in the induction end of the section; substantially as described. 8th. In combination, with a locomotive boiler, a feed-water heater and purifier 1, suspended by adjustable supports at opposite ends upon the stay rods and dry pipe yoke, substantially as described. 9th. In combination, with a boiler, a feed-water heater and purifier suspended above the flues upon adjustable and removable supports, indirectly connected to the shell of the boiler above the flues; substantially as described. 10th. In combination, with a locomotive boiler, a conduit 1, extending longitudinally of the boiler above the flues and supported at each end within the boiler, and an independent adjustable support for the discharge end of the conduit; substantially as described. 11th. In combination, with a locomotive boiler, such as described, a feed-water heater suspended above the flues and provided with a removable clamp or clumps applied to its rear end and extending above the crown bars, said extension being connected to the crown bars to prevent longitudinal movement of the heater; substantially as described. 12th. In combination, with a locomotive boiler, such as described, a feed-water heater located wholly within the boiler and above the flues, connections intermediate the heater; and check-valve casings on opposite sides of the boiler for placing both feed-water pipes in communication with the heater, and a pipe provided with a valve connected to one of the check-valve casings above the check-valve through which steam is discharged while blowing off to clear the heater; substantially as described.

No. 36,265. Manufacture of Lace Boots and Shoes. (*Fabrication de chaussure lacée.*)

Lionel Bertie Legge, Bridgetown, Nova Scotia, Canada, 1st April, 1891; 5 years.

Claim.—1st. A shoe upper, shaped to fit a foot and composed of a single piece, substantially as described. 2nd. A shoe upper, com-

posed of a single piece, having a curved inwardly-extending slot in one edge and having the part of one side of said slot shaped to fit a part corresponding to the quarter and located on the opposite side and at one end of the upper, substantially as described.

No. 36,266. Apparatus for Baking by Steam.

(Appareil pour cuire à la vapeur.)

Edward Mousseau, Hull, Quebec, Canada, 1st April, 1891; 5 years.

Claim.—In a baking oven, the combination of a casing A, enclosing a suitable cavity accessible by doors, a series of circulating steam pipes C, disposed in tiers in said cavity, supported by bearers and provided with flow and return pipes, and floors F, carried upon said pipes, substantially as set forth.

No. 36,267. Reclining Chair. (Siège pliant.)

Charles H. Pew, Jamestown, New York, U.S.A., 1st April, 1891; 5 years.

Claim.—1st. The combination of the rigid frame, of a chair-seat, standards secured thereto adjacent to the front thereof, a back pivoted to said frame adjacent to the rear end thereof, a rod pivoted to each standard and provided with teeth on the top and bottom thereof, a forked rod having teeth on the inner side of the arms of said rod, and means, substantially as described, for releasing the toothed rods from engagement, substantially as set forth. 2nd. The combination of the rigid frame of a chair, a back pivoted to said frame, a forked rod pivoted to said back and having teeth on the inner side of the arms of said rod, a rod *e*, pivoted to the chair frame and provided with teeth on the top and bottom thereof, and an arm G, having a secondary arm G², provided with means, as set forth, for releasing the toothed rods from engagement, substantially as described. 3rd. The combination of the rigid frame of a chair, seat bars H, pivoted thereto, and connected at the rear thereof, and a foot rest pivoted to the forward end of said bars, said rest consisting of a board *i*, standards *k*, and rods *l*, substantially as and for the purpose hereinbefore set forth.

No. 36,268. Window Blind Attachment.

(Store de fenêtre.)

John Alvin Edes, Lawrence, Massachusetts, U.S.A., 1st April, 1891; 5 years.

Claim.—In a window-blind attachment, the rod H, having its outer end bent downwardly and laterally, and its inner end provided with the knob E, in combination with the casing A, escutcheons G, the blind B, and link K, having the slot *b*, and loop *p*, and the catch L, secured to said blind, substantially as set forth.

No. 36,269. Extractor for Honey.

(Appareil pour extraire le miel.)

Albert Redfield Seaman, Connellsville, Pennsylvania, U.S.A., 1st April, 1891; 5 years.

Claim.—1st. The combination, with the sway-pole having its lower end retained in a socket, and its upper end connected with a swinging arm, of the horizontal arm connected with the pole near its upper end, and a honey-pan suspended from the said arm, substantially as shown and described. 2nd. The combination, with the upright sway-pole having its lower end in a socket, of the fixed pin C, depending from the ceiling, the horizontal arm pivoted at one of its ends upon said pin, and its opposite end pivotally connected with the upper end of the sway-pole, the adjustable horizontal arm connected with the pole near its upper end, the double hooks adjustable on said arm, and a honey-pan having a bail suspended from said hooks, substantially as and for the purpose specified.

No. 36,270. Steam Engine. (Machine à vapeur.)

Charles Campbell Carlyle, Chatham, Ontario, Canada, 1st April, 1891; 5 years.

Claim.—1st. In a slide valve engine, a driving wheel having an extra rim mounted rotatively upon the rim of the wheel, and provided with means to prevent separation laterally and yieldingly connected by a spiral spring so that each may rotate within certain limits independently of the other, an eccentric keyed upon the crank shaft having mounted upon it another eccentric carrying the eccentric strap, and carrying an arm with stud, and means of clamping and adjustably connected by means of a slotted link to an arm on the loose rim, substantially as set forth. 2nd. The combination of the crank shaft A, wheel B, mounted and keyed upon said shaft and having a groove *b*, rim B¹, mounted rotatively upon the rim of the wheel B, and overhanging the same and provided with screw studs *b*¹, extending into the groove *b*, a rod B², secured at one end to the inner face of the rim B¹, and passing at the other through an eyed lug secured to the edge of the rim of the wheel B, a spring B³, coiled upon said rod and extending from the fast end to said guide lug an eccentric C, mounted upon another C¹, keyed upon the shaft, an arm C², secured to said eccentric and provided at the end with a stud, and means of clamping the arm C², secured to the rim B¹, and provided with a stud, and means of clamping and the slotted link C³, adjustably connecting said arms, substantially as set forth. 3rd. The combination of the crank shaft A, wheel B, mounted on said shaft and having in its rim a groove *b*, rim B¹, mounted rotatively upon the rim of the wheel B, and having screw studs *b*¹, projecting into the groove *b*, rod B², curved concentric with said wheel rims, and having one end secured to the rim B¹, and the other end passing through an eyed lug secured to the rim of the wheel B, and a spring B³, coiled

upon said rod and extending between its fast end and the guide lug, substantially as set forth. 4th. The combination of the wheel rim B¹, the inwardly projecting radial arm C¹, secured to said rim and provided with stud and means of clamping the eccentric C, mounted upon another eccentric, and an eccentric C¹, keyed upon the crank shaft and carrying the eccentric C, arm C², radially secured to said eccentric C, and provided with stud and means of clamping and the slotted link C³, connecting said arms, substantially as set forth.

No. 36,271. Jack for Lifting. (Cric.)

Frederick Fischer, Newark, New Jersey, U.S.A., 1st April, 1891; 5 years.

Claim.—1st. In a lifting jack, the combination, with a hollow base, a lifting screw provided with a step, a turn-table on the upper side of said base, a cup-shaped sleeve, arranged on a shoulder on said base provided with one or more set screws, a nut working on said screw and provided with teeth which are entirely protected by said cup-shaped sleeve, gear mechanism for operating said nut, and a protecting plate provided with a lip, as and for the purposes set forth. 2nd. In a lifting jack, the combination of a hollow base, a lifting screw, a turn-table upon the upper part of said base, a sleeve surrounding the base and provided with one or more set screws as set forth, and means for raising and lowering said lifting screw, as and for the purposes set forth. 3rd. In a lifting jack, the combination of a hollow base, a lifting screw, a turn-table upon the upper part of said base, a sleeve surrounding said table provided with one or more set screws, as set forth, a nut on said screw provided with teeth on its under side, a gear *e*, meshing therewith, gears *e*¹, and *e*², and plate *f*, all of said parts being arranged as and for the purpose set forth.

No. 36,272. Car Coupler. (Attelage de chars.)

Thomas Herman Walsh, of Montreal, Quebec, Canada, 1st April, 1891; 5 years.

Claim.—1st. A draw-bar for coupling cars, having a closed head hooked on a horizontal plane and adapted to lock, and downwardly projecting side guards formed in one with said draw bar, for the purpose set forth. 2nd. A draw-bar for coupling cars, having a closed head hooked on a horizontal plane and adapted to lock, and downwardly projecting side guards formed in one with said draw bar and containing buffing faces, as set forth. 3rd. In a car-coupler, the combination, with a main recessed draw-bar having a head formed in one with it and hooked on a horizontal plane, of an auxiliary draw-bar arranged within said main draw-bar, and means for holding same together, as set forth. 4th. In a car-coupler, the combination, with a main recessed draw-bar having a head hooked on a horizontal plane, of an auxiliary draw-bar arranged to slide within said main draw-bar and having a head hooked in a vertical plane, and means for holding such draw-bars together, as set forth. 5th. In a car-coupler, the combination, with a main recessed draw-bar having a head formed in one with it and hooked on a horizontal plane, of an auxiliary draw-bar arranged to slide within said main draw-bar and having a chambered head with pin hole, and means for holding such draw-bars together, as set forth. 6th. In a car-coupler, the combination, with a main recessed draw-bar having a head hooked on a horizontal plane of an auxiliary draw-bar arranged to slide within said main draw-bar, and having a hooked projection on its upper side adapted to engage with the hooked lower side of said main draw bar, and means for holding such draw-bars together, as set forth. 7th. In a car-coupler, the combination, with a main recessed draw-bar having a head hooked on a horizontal plane, of an auxiliary draw-bar arranged to slide within said main draw-bar, and having a bevelled projection on its under side adapted to slide over and rest on the usual supporting sling, and means for controlling the movement of such auxiliary bar, as set forth. 8th. In a car-coupler, the combination, with a main draw-bar having a head hooked on a horizontal plane and buffing shoulders, and a cavity open and extending along its bottom for nearly the full length of the draw-bar back from such buffing shoulders and having enlargements on each side, of an auxiliary draw-bar arranged to slide within such cavity and having a leeking head and buffing shoulders, and pin projections working in slots in the sides of said main bar, as set forth.

No. 36,273. Creamer. (Crémeuse.)

Benjamin Bogman Prentice, Morrisburg, Ontario, Canada, 1st April, 1891; 5 years.

Claim.—1st. The combination of the supporting stand A, the rotary tub E, and the removable milk cans G, therein provided with the cocks or valves M, as set forth. 2nd. The combination with the stand A, of the rotary tub E, provided with a cover P, and removable milk cans G, provided with ventilating caps N, and draw-off cocks M, having a screw connection with the cans from the outside of the tub and connecting the tub and cans, as set forth. 3rd. The combination of the stand A, having a center pin or pivot C, and provided with anti-friction rollers D, the tub E, rotating on said frame and bearing on said rollers, the milk cans G, removably attached to the bottom of the tub, and draw-off cocks M, passing through the wall of the tub and screwing into the cans, as and for the purpose set forth.

No. 36,274. Coupling for Thills.

(Armon de limonière.)

David Ewing, Cobourg, Ontario, Canada, 1st April, 1891; 5 years.

Claim.—The combination of the clips B, B¹, the clip plates C, C¹, having upwardly projecting brackets E, E¹, provided with concave sockets F, F¹, respectively the thill iron G, having semi-spherical lugs J, J¹, fitting into said concavities, and the coupling bolt L, passing through said concave sockets and thill iron, and provided with a nut M, as set forth.

No. 36,275. Box for Money. (*Boîte à monnaie.*)

Henry M. Brigham, Brooklyn, and Elias B. Koopman, New York City, both in the State of New York, U.S.A., 1st April, 1891; 5 years.

Claim.—1st. A coin-holder, consisting of a tube having a removable end piece, an opening for the admission of coins, and releasing devices operated in connection with the column of coins to release the removable end piece and discharge the coins. 2nd. A coin-holder, consisting of a single tube having a fixed end, and a detachable end, an opening for the insertion of the coins at the fixed end, and means for detaching the detachable end, and discharging the coin, only when the requisite number have been inserted. 3rd. A coin-holder, consisting of a single tube having a spring supported follower, and an opening above the follower through which the coins are inserted, the construction being such that the follower is depressed by the insertion of the coins, and that the coins are discharged from the holder, when a certain pre-determined number have been inserted and the follower is depressed to a predetermined point. 4th. A coin holder, consisting of a tube closed at both ends having a spring supported follower, an opening above the follower through which the coins are inserted, and devices in connection with which the follower operates at a certain time in connection with the discharge of the coins from the holder, the construction being such that the follower is depressed by the insertion of the coins, and the discharging devices operated when a predetermined number of coins are inserted.

No. 36,276. Non-Explosive Fire Kindler.(*Allumoir non-explosif.*)

George Makinson and Michael Wise, both of Hamilton, Ontario, Canada, 1st April, 1891; 5 years.

Claim.—A compound, composed of a solution of tallow, and neat's foot-oil, and resin, together with pine saw-dust, substantially in the proportions and for the purposes set forth.

No. 36,277. Damper for Stove Pipes.(*Clé de tuyaux de poêle.*)

Charles A. Kennedy, assignee of George A. Kennedy, both of Coaticook, Quebec, Canada, 1st April, 1891; 5 years.

Claim.—1st. In a stove-pipe damper, the combination of the body of the damper A, with the rod B, having the handle C, and nut D, and washer E, substantially as set forth. 2nd. In a stove-pipe damper, the combination of the projection F with the body of the damper A, and rod B, provided with nut D, washer E, handle C, substantially as set forth. 3rd. In a stove-pipe damper, the combination of the elongated opening G, with ventilating holes H, H', and short rod B, handle C, provided with washer E, nut D, substantially as set forth. 4th. In a stove-pipe damper, the combination of the handle C, with the rod B, provided with washer E, nut D, opening G, substantially as set forth. 5th. In a stove-pipe damper, the combination of the washer E, with the shank I, handle C, rod B, provided with nut D, substantially as set forth. 6th. In a stove-pipe damper, the combination of the short rod B, with handle C, nut D, substantially as set forth. 7th. In a stove-pipe damper, the combination of the small slide J, with the elongated opening G, and rod B, substantially as set forth.

No. 36,278. Furnace for Heating Buildings.(*Fournaise pour le chauffage des bâtiments.*)

Henry James Callowhill, Hamilton, Ontario, Canada, 1st April, 1891; 5 years.

Claim.—1st. In a heating furnace, the combination and arrangement of the inside radiator B, surrounded by the radiator A, and both contained inside of the socket Q, as herein described. 2nd. In a heating furnace, the combination and arrangement of the radiators B and O, both situated directly over the fire pot D, and in connection with the ducts H and G, chamber I, vents M, and socket Q, all operating substantially as and for the purpose of a heating furnace as herein set forth.

No. 36,279. Calk for the Soles of Boots.(*Crampon pour chaussures.*)

William H. Church and James Knox, both of Fenelon Falls, Ontario, Canada, 2nd April, 1891; 5 years.

Claim.—1st. A calk for the soles of river drivers' and raftsmen's boots, consisting of a screw shank B, a shoulder C, a square base D, and a terminating point or spike E, as set forth. 2nd. A calk for insertion into the soles of boots having one end pointed, and a screw at the other end, and an intermediate shoulder C, and an enlarged square portion D, substantially as set forth.

No. 36,280. Governor for Steam Pumps.(*Gouverneur de pompe à vapeur.*)

Teresa M. Johnson, assignee of Edward C. Johnson, both of Keokuk, Iowa, U.S.A., 2nd April, 1891; 5 years.

Claim.—1st. The combination, with the steam controlling valve governing a pump driving engine, said valve being open in intermediate position and closing in both directions therefrom, and the water supply pipe leading from the pump, of a cylinder connected to said supply, a piston therein, a lever controlled by said piston and

operating to close the steam valve as the water rises above or falls below the predetermined average pressure in the cylinder, and a by passage permitting water to escape, substantially as described. 2nd. The combination, with the valve of a steam engine, and the water supply pipe leading from the pump driven by said engine, of a water cylinder and piston therein, a lever controlled by said piston and controlling the steam valve aforesaid and a stop in the line of movement of said lever, said stop operating to retain the steam valve in its closed position when the pressure falls in the cylinder below the given minimum, and a by passage from which the water escapes, substantially as described. 3rd. The combination of the steam valve, water cylinder, piston, and lever controlled by the piston and controlling the steam valve as described, of the supply pipe from the pump to the water cylinder having a reduced orifice at the entrance of the water cylinder, whereby the movement of the piston in the water cylinder is rendered gradual, substantially as described.

No. 36,281. Opener for Letters.(*Machine à ouvrir les lettres.*)

Francis H. Sleeper, Waterville, Quebec, Canada, 2nd April, 1891; 5 years.

Claim.—1st. The combination in a letter opener, of a knife of a thickness equal to the amount to be cut from the letter envelope, a base provided with a slot or opening to fit the said knife, and means for guiding the said knife to the said slot, substantially as and for the purpose hereinbefore set forth. 2nd. The combination of the base a, sliding block b, knife b², false plate a², and spring b¹, substantially as described and for the purpose set forth.

No. 36,282. Cleaner for Channels.(*Nettoyeur de chenal.*)

William Evans, Galveston, and Robert Strachan, Rockport, both in Texas, U. S. A., 2nd April, 1891; 5 years.

Claim.—1st. In a channel-cleaner, the combination of the perforated trunk A, provided with the flaring mouth C, and the screw D, journaled in the trunk, substantially as specified. 2nd. In a channel-cleaner, the combination of the perforated trunk A, the flaring mouth C, the strainer B, arranged over the flaring mouth, and the spiral screw D, substantially as specified. 3rd. In a channel-cleaner, the combination of the perforated trunk A, the spiral screw D, and the motor screw E, substantially as specified. 4th. In a channel-cleaner, the combination of the perforated trunk A, provided with valves c, and the spiral screw D, arranged to revolve within the perforated trunk, substantially as specified.

No. 36,283. Oil Can. (*Bidon à huile.*)

Rau Manufacturing Company, assignee of Charles E. Raud, all of Chicago, Illinois, U.S.A., 2nd April, 1891; 5 years.

Claim.—1st. In a feeder, the combination, with the body, the spout and the valve seat situated at the inner end of the spout, of a valve having its face presented upward, a valve-stem to which said valve is pivoted having stops for limiting the oscillation of said valve, and a spring and push-rod for operating the valve, substantially as set forth. 2nd. In a feeder the combination, with the body, the spout and the valve-seat presented downward, of the valve-stem, a valve resting loosely upon said stem and having its face presented upward, a loose connection between the valve and stem stops carried by the stem for limiting the oscillation of the valve and a spring and push-rod, substantially as set forth. 3rd. In a feeder, the combination, with the body, the spout and the valve-seat presented downward, of the valve-stem having an upwardly projecting arm, a valve resting loosely upon said arm and having its face presented upward, a loose joint between said arm and valve, said arm carrying stops for limiting the oscillation of the valve, a spring for holding said valve seated and a push-rod for unseating said valve, substantially as set forth. 4th. In a feeder, the combination, with the body, the spout and the valve seat presented downward, of the valve-stem, a valve having a rolling bearing thereon, and having its face presented upward, stops for limiting the independent movement of said valve, and a spring and push-rod, substantially as set forth. 5th. In a feeder, the combination, with the body, the spout and the valve-seat presented downward, of the valve-stem, a valve loosely pivoted thereto face upward and having a rolling bearing thereon, stops for limiting the independent movement of said valve, and means for seating and unseating it, substantially as set forth. 6th. In a feeder, the combination, with the body, the spout and the valve-seat presented downward, of a valve-stem, a valve loosely connected face upward thereto, so as to be capable of sliding longitudinally thereon, stops for limiting the independent movement of the valve, and means for seating and unseating said valve, substantially as set forth. 7th. In a feeder, the combination, with the body, the spout and a valve-seat presented downward into the body of the feeder of the valve-stem, an upwardly presented valve connected with said stem and having vertical and longitudinal movement independent thereof, stops for limiting the longitudinal movement of said valve, said stops being independent of the can and spout, and means substantially as described for seating and unseating said valve, substantially as set forth. 8th. In a feeder, the combination, with the body, the spout and the valve-seat situated at the inner end of the spout and presented downward, of a valve situated opposite said seat with its face presented upward, a spring-actuated valve-stem having the curved portion e', bearing directly against the back of the valve, loose connections between the valve and stem, the stops e², for limiting the movement of the former relatively to the latter, and a push-rod engaging the valve-stem, substantially as set forth. 9th. In a feeder, the combination, with the body, the spout and the valve-seat presented in-

ward of the valve-stem, consisting of a lever having at one of its ends a cross-head *t*, fulcrumed to the cam, a valve situated opposite said seat and connected to the valve-stem so as to have a limited lost motion, and a spring and push-rod for actuating said stem, substantially as set forth.

No. 36,284. Crocheting Machine.

(Machine à tricoter au crochet.)

Joseph Millard Merrow, assignee of William H. Stedman, both of Norwich, Connecticut, U. S. A., 2nd April, 1891; 5 years.

Claim.—1st. In a machine such as described, the combination, with a thread carrier and a looper, of a looper carrier, a reciprocating support to which said carrier is pivotally attached, and actuating devices such as cams engaging said carrier, to reciprocate and oscillate the latter. 2nd. In a machine such as described, the combination, with a thread carrier and a looper, a looper-carrier and a reciprocating support to which said carrier is pivotally connected, of two cams engaging said carrier at different points remote from its center of oscillation, and co-operating to reciprocate and oscillate said carrier and the looper, as set forth. 3rd. In a machine, such as described, provided, with a thread carrier and a reciprocating looper co-operating therewith to form loops, the combination, with said looper, of an oscillatory reciprocating carrier to which said looper is attached, pivotally mounted on a reciprocating support, and two actuating devices such as cams engaging said carrier on opposite sides of its center of oscillation, substantially as described. 4th. In a machine, such as described, and in combination with a thread carrier and a looper, the looper-carrier pivotally attached to a support, the latter guided to reciprocate in the plane of the looper, of two separate actuating devices, such as cams engaging the carrier and co-operating to both reciprocate and oscillate the latter in the manner and for the purpose set forth. 5th. In a machine, such as described, the combination, with a thread-carrier, of the looper and its carrier, a support to which the carrier is jointed, a guide in or upon which said support is mounted to reciprocate, and actuating devices for oscillating and reciprocating the carrier. 6th. In a machine, such as described, the combination, with a thread-carrier and a looper, of an oscillatory reciprocating looper-carrier pivotally connected to its support, two sets of cam surfaces, and two co-operating projections or studs on the carrier, each of said projections or studs being acted upon by one set of cam-surfaces, as set forth. 7th. In a machine, such as described, the combination, with a thread-carrier and a looper, of an oscillatory reciprocating looper-carrier pivotally connected to a reciprocating support and provided with two studs or projections, and two sets of cam-surfaces co-operating to oscillate and reciprocate said carrier, each of the studs or projections on the latter being received between the members of one set of cam-surfaces. 8th. A thread-carrier, a looper and its carrier, a support for said carrier, and a guide for said support, in combination with two cam cylinders with cam-surfaces formed thereon which engage said looper-carrier to actuate the latter, with means for rotating said cylinders, substantially as described. 9th. A thread-carrier, a looper, a looper-carrier and its support, and a guide for said support, in combination with two cam-cylinders engaging studs or projections on the carrier, and each provided with a gear, supports for said cylinders and gears and devices for rotating the latter, substantially as described. 10th. A thread-carrier, a looper and the looper-carrier *N*, provided with studs or projections *n*¹, *n*², and pivotally attached to the reciprocating support *O*, and a guide for said support, in combination with the cam-cylinders *M*, provided with cam-groove *m*¹, and the cam-cylinder *L*, provided with the cam-groove *l*, substantially as described. 11th. In combination with a thread-carrier, a looper and the looper-carrier, a support for said carrier mounted to reciprocate in guides, and provided with a pivot-bearing for the carrier, the axis of said pivot-bearing being transverse to the line of reciprocation of the support, substantially as described. 12th. A thread-carrier, a looper and an oscillatory reciprocating looper-carrier pivotally attached to a reciprocating support, in combination with two actuating cams engaging said carrier on opposite sides of its center of oscillation, substantially as described. 13th. A thread-carrier, a looper and a looper-carrier pivotally connected to a reciprocating support and provided with two separate studs or projections, in combination with two moving cams, each provided with opposing cam-surfaces between which one of the studs or projections on the carrier is received and operates, substantially as described. 14th. A thread-carrier, a looper and an oscillatory reciprocating looper-carrier, whose axis of oscillation is transverse to the looper, in combination with two actuating mechanisms, such as two sets of cam-surfaces each engaging the opposite faces of a stud or projection on the carrier to positively actuate the latter, substantially as described. 15th. In a machine, such as described, the combination, with the reciprocating block or support provided with an undercut or dovetailed guide, the oscillating carrier pivotally mounted upon said support, and actuating devices controlling the movements of said carrier, of the gibs attached to the frame and forming ways for the block, one of said gibs being fixed and held from movement, the other laterally adjustable and sustained in position parallel with the first named gib by the wedge, substantially as described. 16th. In a machine, such as described, the combination, with the carrier reciprocating block or support and actuating mechanism of the ways upon which said block is reciprocated, the same comprising a removable gib held in position by a longitudinal rib, and an adjustable gib backed by a wedge and held parallel with the first named gib, and a dovetail or undercut guide or rib on the reciprocating block received between the inclined parallel surfaces of the gibs and the face of the support, substantially as described. 17th. In a machine, such as described, the combination, with the hook-operating mechanism comprising a carrier loosely pivoted upon a block or support guided to reciprocate on ways and controlled by actuating devices, such as cams, of a fixed guiding surface engaging the carrier to retain it in position upon its pivot, substantially as described. 18th. In a machine, such as described, the combination of a block or support guided to reciprocate on ways applied to a re-

movable section of the frame, and provided with a pivot or journal, an oscillating carrier mounted upon said pivot and projecting to or beyond the end thereof, actuating devices engaging the carrier, and a fixed surface parallel with the line of movement of the said reciprocating block or support, and engaging the carrier when in position to hold it upon its pivot, substantially as described. 19th. In a machine, such as described, the combination, with a thread-carrier, a looper and actuating devices for controlling the looper-mechanism, and a frame enclosing the looper actuating devices, of an oscillatory reciprocating looper-carrier guided and supported upon a removable section of the frame, substantially as described. 20th. The combination, with the thread-carrier, a looper and actuating devices for the looper-mechanism, and a frame or casing inclosing the said looper-actuating devices, of a looper-carrier pivotally attached to a reciprocating support and engaging the actuating devices and guides or ways for said support mounted upon a removable section of casing inclosing the actuating devices substantially as described. 21st. The combination, with the thread-carrier looper rotating cams, and casing inclosing the latter, of an oscillatory reciprocating looper-carrier, supported wholly upon a removable section of said casing, substantially as described. 22nd. The combination, with a thread-carrier looper and rotating cams controlling the movements of the looper, of a looper-carrier pivoted upon a block or support, the latter reciprocating on ways applied to a removable section of the frame, and a fixed guiding or retaining surface against which the carrier operates, substantially as described. 23rd. The combination, with the thread-carrier, the looper and the looper-actuating cams of the oscillatory reciprocating looper-carrier, the block or support upon which said carrier is pivoted, the adjustable gibs or guides on which said block reciprocates, and the adjustable guide-bar engaging the said carrier to maintain it in position upon its pivot, substantially as described. 24th. The combination, with the rotating cams and the oscillatory reciprocating looper-carrier supported upon a removable section of the casing, of the angular guide secured to the front of the casing and having one arm projecting within the casing to form a guide for the inner side of the looper-carrier, substantially as described. 25th. In a machine, such as described, the combination, with the thread-carrier and the oscillating looper-carrier supported to reciprocate on guides or ways, of a guiding surface engaging the outer or forward portion of the carrier to hold the looper up to the thread-carrier and insure its engaging the thread, substantially as described.

No. 36,285. Air Pump. (Pompe à air.)

George Reynolds Case and Frederick M. Peck, assignees of Cornelius Birkery, all of Hartford, Connecticut, U. S. A., 2nd April, 1891; 5 years.

Claim.—1st. An air pump with a chamber to be connected with a vessel to be exhausted, having a narrow outlet, a fluid passage, and a plate located a slight distance in front of the outlet and fluid passage, substantially as specified. 2nd. An air pump with a chamber to be connected with a vessel to be exhausted, having a narrow outlet, a fluid passage, and a plate adjustably held to the pump in front of the outlet and fluid passage, substantially as specified. 3rd. An air pump, consisting of a body provided with a passage to be connected with a supply of rarefaction fluid, having a reduced outlet at an angle to the passage, and a chamber which opens by a thin slit into the reduced outlet to be connected with the vessel to be exhausted, substantially as specified. 4th. An air pump, consisting of a body provided with a passage to be connected with a supply of rarefaction fluid, having reduced outlets at an angle with the passage, a diaphragm separating the reduced outlets, and chambers which open by thin slits parallel with the passage into the reduced outlets, substantially as specified. 5th. An air pump, consisting of a body having an annular air chamber to be connected with the vessel to be exhausted, with an air slit encircling the liquid passage through the body, and a deflecting plate adjacent to the air slit and liquid outlet, substantially as specified.

No. 36,286. Door for Ovens. (Porte de fourneau.)

Samuel L. Hall, Chicago, Illinois, U. S. A., 2nd April, 1891; 5 years.

Claim.—1st. The combination, with an oven having a sight opening, of a solid door and a sight door having a transparent pane, said doors being connected together at an angle with respect to each other and hinged at their point of connection, said hinge being located to one side of said sight opening, substantially as set forth. 2nd. The combination, with an oven and a suitable frame having a sight opening of a hinged door adapted to close said opening from without, and having a transparent pane, a hinged solid door adapted to close said opening from within, and connections between said doors, so that as one opens the other closes said opening, the hinge of the solid door being located to one side of said opening, substantially as set forth. 3rd. The combination, with an oven and a suitable frame having a sight opening of a solid door, and a door having a transparent pane situated on the inside and the outside of said frame respectively, and both adapted to close said opening, said doors being connected together at an angle and hinged at their point of connection, said hinge being located to one side of said sight opening, substantially as set forth. 4th. The combination, with an oven having a sight opening, of a door having a transparent pane and a solid door connected thereto, so as to move therewith, said doors being hinged at their sides and to one side of the sight opening, substantially as set forth. 5th. The combination, with an oven having a sight opening, of a door opening outward, and having a transparent pane, and an iron door opening inward, said doors being hinged to one side of the sight opening and connected so that as one opens the other closes, substantially as set forth. 6th. The combination, with an oven having a sight opening, of a hinged door opening outward and having a curved transparent pane with the convex side thereof presented inward, and a solid door opening inward, said doors being hinged at their edges and connected so as to move together, substantially as set forth. 7th. The

combination, with an oven and the frame *p*, of the door *L*, having a transparent pane hinged at its side so as to open outward, and the solid door *H*, hinged at its side so as to open inward, substantially as set forth. 8th. The combination, with the oven and the frame *p*, having the sight opening of the door *L*, situated on the outside of said frame, and having a transparent pane, and the solid door *H*, situated on the inside of said frame, said doors being hinged at their sides and both adapted to close said opening, substantially as set forth. 9th. The combination, with an oven having a sight opening of the doors *H* and *L*, connected at an angle with each other, the door *L* having a curved transparent pane with its convex side presented toward the door *H*, said doors being hinged at their point of connection and to one side of the sight opening, substantially as set forth. 10th. The combination, with an oven having a sight opening of the doors *H* and *L*, having perforated knuckles *K*, and *K*, respectively, and shoulders *k*, and a pintle passing through said perforations, said door *L* having a transparent pane, substantially as set forth. 11th. The combination, with an oven and the frame having a sight opening and perforated lugs at the side of said opening, of the solid door *H*, the sight door *L*, having the transparent pane, said doors having perforated knuckles *K*, and *K*, respectively, and a pintle passing through said lugs and knuckles, substantially as set forth. 12th. The combination, with the oven of the frame *l*, the plates *l'*, the curved flanges *l''*, the pane *M*, and the binding frame *B*, substantially as set forth. 13th. The combination, with the oven of the frame *l*, the flanges *l'''*, the plates *l'*, the curved flanges *l''*, the transparent pane *M*, and the binding frame *B*, substantially as set forth. 14th. The combination, with the oven, of the frame *l*, and the plates *l'*, the curved flanges *l''*, the transparent pane *M*, the binding frame *B*, having tubes *t*, and the pins *X*, substantially as set forth.

No. 36,287. Spring for Watch Cases.

(*Resort pour boîtes de montre.*)

James Harvey Fleming, Newark, New Jersey, U.S.A., 2nd April, 1891; 5 years.

Claim.—1st. The improved watch-case spring herein described, combining an imperforate spring *c*, a lug *f*, soldered or brazed on the back of said spring, and a center support having a notch to receive said lug, substantially as and for the purposes set forth. 2nd. The improved watch-case spring combining a spring *c*, having at the end thereof a lip *d*, adapted to engage the cap of the watch-case and having an angular lug soldered or brazed to the back of said spring, and a center support having a toe and a dovetailed notch, said parts being arranged and combined substantially as and for the purposes set forth.

No. 36,288. Nut Lock. (*Arrête-écrou.*)

William Harrison, Kingston, Ontario, Canada, 2nd April, 1891; 5 years.

Claim.—1st. As a new article of manufacture, an integral locking key comprising an upper and a lower arm adapted to fit the side of a nut, one or both of said arms being provided with a beveled shoulder upon which the nut binds, and locks when reversed, substantially as described. 2nd. As a new article of manufacture, a locking key for nuts, comprising two arms extending substantially at right angles from each other, the lower arm adapted to lie between the lower edge of the nut, and an angle bar provided with a beveled shoulder, so that when the nut is reversed its corner will tightly bind and lock on said shoulder, substantially as described. 3rd. As a new article of manufacture, a right angled integral metal locking key for nuts to fit against the sides of a nut, and the body against which is clamped said key being of variable thickness, so that the corners of the nut can extend over portions of the same, and having one or more shoulders against which the corners of the nut are adapted to bind and wedge when the nut is reversed, substantially as described. 4th. The combination, with two adjacent nuts and the angle bar against which they are clamped, of a double locking key for said nuts, consisting of a rod having a right angled key at one end to fit against the sides of one nut, provided with a beveled shoulder against which a corner of said nut tightly binds when the nut is reversed, said rod at the opposite end having a corresponding shoulder against which the other nut binds, substantially as described. 5th. The herein described double lock, consisting of a rod having a right angled key formed on one end, provided on one or both arms with beveled shoulders against which the corners of a nut are adapted to bind when the nut is reversed, said rod having a corresponding shoulder on the other end against which another nut is adapted to bind when reversed, substantially as described.

No. 36,289. Stove Pipe. (*Tuyau de poêle.*)

Angus McIntyre Thom, Montreal, Quebec, Canada, 2nd April, 1891; 5 years.

Claim.—1st. A stove pipe length, the outer surface of which is entirely free from fastening devices such as rivets, lips, indentations and the like or any parts of same. 2nd. A stove pipe length, the meeting edges of which are held together solely by a series of folds formed in such edges. 3rd. A stove pipe blank, each meeting edge of which has a return fold at each end, opposite to and adapted to engage with each other, and one of such edges having a double fold between its two return folds to receive the plain opposite edge, as set forth. 4th. A stove pipe blank, each meeting edge of which has a double fold, a plain return fold and a plain section or edge, the return folds being adapted to interlock with each other and the plain sections or edges to fit the double folds, as set forth.

No. 36,290. Four Wheeled Dog Cart.

(*Charette à quatre roues.*)

William Henry Barlow, Charlottesville, Virginia, U.S.A., 2nd April, 1891; 5 years.

Claim.—1st. The combination, with a dog-cart having the body

balanced, as explained, of a front axle by which the vehicle is drawn connected thereto by the elastic out-under connection, substantially in the manner set forth. 2nd. The combination, with a dog-cart having the body balanced, substantially as explained, of the front axle by which the vehicle is drawn connected thereto by means of the upwardly curved spring bars, as set forth. 3rd. The combination, with the body and the rear axle over which the body is centred, of the front axle connected to the body by means of the upwardly curved spring bars, substantially as set forth. 4th. The combination of the rear axle, the body mounted thereon, the front axle and the curved spring bars connecting the front axle to the body, and forming the frame for the dash board, substantially as set forth. 5th. The combination of the rear axle and body, the front axle and the upwardly curved bars having the yoke forming the rein rack substantially as set forth. 6th. The combination of the rear axle carrying the body, the front axle having the fifth wheel and the converging springs, having their ends made to conform to the fifth wheel and secured thereto, substantially as set forth. 7th. The combination with the front and rear axles, and body of the circular spring bars having the curve prolonged and terminating in the rearwardly extending ends, as and for the purpose set forth. 8th. The combination, with a dog-cart of the front axle by which it is drawn, and the elastic springy connection between the front axle and the dog-cart, and for the purpose set forth. 9th. The combination, with a dog-cart, of the front axle by which it is drawn and the elastic springy connection between the front axle and the dog-cart, and a connection between the two axles for limiting the horizontal stress on the springs, as and for the purpose set forth.

No 36,291. Tone Softener for Pianos.

(*Pedale douce pour pianos.*)

Octavius Newcombe, Toronto, Ontario, Canada, 2nd April, 1891; 5 years.

Claim.—1st. A lever 12, moveably secured to the key-board 11, and operating on the pedal levers 5, to which is attached by suitable means, the tone softener for the purpose of bringing the said tone softener permanently into action with the hammers and strings of the instrument, substantially as and for the purpose specified. 2nd. A lever 12, moveably secured to the under side of the key-board 11, having formed thereon, a cam 13, to engage with and force downwardly the end of the pedal levers 5, for the purpose of permanently bringing into action the tone softener, substantially as and for the purpose specified. 3rd. In a piano, a lever 12, moveably secured to the under side of the key-board 11, and having formed on its inner end a cam 13, and on its outer end a handle 14, with the pedal levers 5, to which are secured the uprights 2, having attached to their upper ends a tone softener, substantially as and for the purpose specified. 4th. The combination of the lever 12, moveably secured to the key-board 11, the cam 13, pedal levers 5, suitably journaled in hanger blocks 15, secured to the under side of the said key-board, the uprights 2 cross-bar 3, and felt 4, with the strings and hammers of the instrument, substantially as and for the purpose specified. 5th. The combination of the lever 12, moveably secured to the key-board 11, the cam 13, pedal levers 5, pedal rod 7, pedal 8, uprights 2, cross-bar 3, felt 4, and the pedals 9 and 10, with the strings and hammers of the instrument, substantially as and for the purpose specified.

No. 36,292. Collar for Lamp Burners.

(*Collet pour becs de lampe.*)

George Benjamin Norton Dow, Manchester, New Hampshire, U.S.A., 2nd April, 1891; 5 years.

Claim.—1st. In a filler-collar, a base ring, in combination with a collar pivoted thereon, the said collar having its lower periphery provided with a series of corrugations, substantially as shown and described and set forth. 2nd. A base ring having a catch extending vertically and horizontally therefrom, in combination, with a collar pivoted on said base ring, and provided with a series of corrugations extending across the edges of the opening in said ring, for the purpose set forth, and a spring catch on said collar adapted to engage the catch on the base ring, all substantially as shown and described. 3rd. In a filler-collar, a base ring having a pivot pin extending at a right angle to the line of the top of said ring, and also having a catch extending from it, the said catch having a curved upper portion, in combination with a collar provided with a loop for engagement with said pivot pin, and with a series of corrugations extending across the edge of the opening in said base ring, and a spring catch on said collar adapted to engage the catch on the base ring, all substantially as shown and for the purposes set forth.

No. 36,293. Push Button. (*Bouton électrique.*)

Charles E. Foster, Washington, District of Columbia, U.S.A., assignee of Hjalmar von Kohler, Stockholm, Sweden, 2nd April, 1891; 5 years.

Claim.—1st. A circuit closer or push button, consisting of a base and a flexible metallic cap or cover constituting one of the contacts and enclosing the base, substantially as described. 2nd. A two part case, one part supporting one of the contacts and the other enclosing the first part and constituting the other contact, substantially as set forth. 3rd. A push button consisting of a flat base of non-conducting material, having a contact on the base, and a top piece provided with flanges embracing and covering the outer edges of the base and having a thumb portion opposite the contact, the top piece, flanges and thumb portion being formed of a single integral piece and connected to the base piece by fastening devices extending through the flanges, substantially as described. 4th. A push button consisting of a base piece having a number of screw contacts extending there through, and a metallic top piece embracing the base piece and having a number of elevated thumb pieces, and supporting pieces intermediate of the screw contacts, substantially as set forth.

No. 36,294. Hub Boring Machine.

(*Machine à percer les moyeux.*)

Theophile Paquette and Frederick Rice Child, both of Webster, Massachusetts, U. S. A., 2nd April, 1891; 5 years.

Claim.—1st. The combination, with a boring tool, and a stationary externally-threaded tube, of alternating jaws and arms pivoted thereon, two nuts on said tube provided with loose bands or collars, and links connecting the jaws and arms with the collars, substantially as shown and described. 2nd. The combination, with a frame, a stationary externally-threaded tube mounted therein, and clamping jaws pivoted to the front end of the tube and having an operating nut travelling on said tube, of a nut, and a screw-threaded boring tool spindle passed through the nut and tube, substantially as set forth. 3rd. In a hub boring machine, the combination, with a threaded tube, of arms pivoted to one outer end of said tube and adapted to engage the face of the wheel, links pivotally connected with said arms, a ring pivotally connected with said links, and a nut adapted to screw on said threaded tube and carrying said ring, substantially as set forth. 4th. The combination, with the tube S, having the parallel longitudinally-projecting pins U, on one end, of the two jaws or nut sections T, between the adjacent edges of which said pins project, and the cam-arms T¹, on the peripheries of said jaws and lying in the planes thereof, of the rotary casing R, turning on said tube and having internal cam surfaces R¹, to operate on the outer surfaces of the cam-arms T¹, and intermediate projections R², to engage the inner surfaces of said cam-arms substantially as set forth. 5th. A hub boring machine, comprising the frame A, the externally threaded tube mounted between the frame uprights, the short tube S, extending into the inner end of the tube and provided with an annular flange on its outer end, the clamping jaws and arms pivoted on the outer end of the screw-threaded tube, and the operating nuts, the expandible nut comprising the casing R, turning on the tube S, and having internal cams R¹, and projections R², and the jaws or nut sections T, within the casing R, and having peripheral cam-arms T¹, substantially as set forth.

No. 36,295. Method of Treating the Molten Products of Smelting Furnaces.

(*Traitement des matières en fusion provenant des fourneaux de fusion.*)

The Canadian Copper Company, assignee of James McArthur, all of Nipissing, Ontario, Canada, 2nd April, 1891; 5 years.

Claim.—The process of treating all metals, mattes, slags, etc., after having left the smelting furnace of any kind whatsoever, or structure appurtenant thereof, and while still in a molten condition, by which a small stream of water under a heavy pressure is brought in contact with the descending stream of molten material, which is thereby broken up, disintegrated and reduced to a more or less fine granulated state, and is in this condition carried away and deposited in a receptacle provided for it, substantially as described.

No. 36,296. Poke for Animals. (*Carcan.*)

Andrew R. Moore and William J. Byers, both of Charlotte, Michigan, U.S.A., 2nd April, 1891; 5 years.

Claim.—The herein described animal-poke, the same consisting of the opposite side-pieces A, A, placed V-shape, the V-shaped block B, fastened between A, A, at lower ends at nearly right angles of A, A, the spikes of *d, d, d, d*, the bars E, E, shouldered and placed as shown in figure 3, and held by bolt G, the spring F, held to place by bolt H, the strap I, as attached to A, A, all substantially as set forth and described.

No. 36,297. Dog for Saw Mills.

(*Clumeau de scierie.*)

William H. Prouty, Worth, New York, U.S.A., 2nd April, 1891; 5 years.

Claim.—1st. In a saw mill dog, the combination, with a revoluble block fitted to slide, of a dog proper secured on the said block and having arms standing at right angles to each other, substantially as shown and described. 2nd. In a saw mill dog, the combination with a rod of a revoluble block fitted to slide on and adapted to be locked in place on the said rod, and a dog proper secured on the said block, and provided with two arms standing at right angles to each other, each having a point and of which arms one is longer than the other, substantially as shown and described. 3rd. In a saw mill dog, the combination, with a rod, of a revoluble block fitted to slide on and adapted to be locked in place on the said rod, a dog proper secured on the said block and provided with two arms standing at right angles to each other, each having a point and of which arms one is longer than the other and means substantially as described for locking the said block on the said rod, substantially as shown and described.

No. 36,298. Safety Gauge for Water.

(*Indicateur d'eau.*)

Peter Barlay, Winthrop, Massachusetts, U.S.A., 2nd April, 1891; 5 years.

Claim.—In combination, with the stop-valve and the water-glass, of a water-gauge, the nut A, provided with a seat or socket for the glass, a valve-seat *a*, and passage *a*¹, the valve *b, b*¹, the bridge *c*, removably secured to said nut, and an internally-screw threaded extension on the other side of the bridge from the valve proper *b, b*, as and for the purposes hereinbefore set forth.

No. 36,299. Lantern. (*Lanterne.*)

Charles Trafton Ham, Rochester, New York, U.S.A., 2nd April, 1891; 5 years.

Claim.—In combination with a tubular lantern, a reflector provided with a spring-clamp on its back and immovably secured at its bottom to the top of the lamp-pot, and having its upper corners secured directly rigidly to the lantern tubes near the top of the globe, said reflector extending laterally beyond the inner face of the tubes and covering the entire space between them to cut off light at the rear, the lamp-pot tube and reflector being secured together and firmly held independently of the globe, substantially as set forth.

No. 36,300. Nut Lock. (*Arrêtée-écrou.*)

The Thomas Nut Lock Company, assignee Charles H. Thomas, Moncton, New Brunswick, Canada, 2nd April, 1891; 5 years.

Claim.—In a nut lock, a spring metal plate bent upon itself to form diverging planes, V-shaped, each provided with circular openings, one of which is provided with a thread which is made at a slight angle with the plane of lock in which the thread is made, and which engages the bolt, the other-plane having an opening of greater diameter than that of the bolt, substantially as specified.

No. 36,301. Lock. (*Serrure.*)

Ralph E. Van Zant and Thomas A. Faucett, Noblesville, Indiana, U.S.A., 2nd April, 1891; 5 years.

Claim.—1st. The lock having the slide provided with the catch-lug projecting from both sides, and having a broad surface for engagement with the shackle, and the lateral studs, said slide being carried by a stem or spindle, in combination with the locking mechanism and means for engagement with the catch-lug, substantially as set forth. 2nd. The lock having the slide provided with the catch-lug at its right-hand upper-corner edge projecting from both sides, and having a broad surface for engagement with the shackle, the forward edge of said slide being inclined inward just beneath said catch-lug and lateral studs, said slide being carried by the spindle or stem carrying the tumblers, in combination with the slotted tumblers, the spindle or stem carrying the latter, and the means thereon for actuating said tumblers and the shackle, substantially as set forth. 3rd. The lock having the slide provided with the catch-lug at its right-hand upper-corner edge and lateral studs, and the elongated approximately circular opening in combination with the shackle, the springs acting upon said slide on the opposite sides, and the stem or spindle carrying the slotted tumblers, and means for effecting the registration of the slots of said tumblers with said lateral studs, substantially as set forth. 4th. The lock having the slide provided with the catch-lugs and the lateral studs, and the springs acting upon said slide in combination with the shackle, the spindle or stem carrying the rose or collar, said rose or collar having characters or numerals thereon, and the slotted tumblers, two having studs engaged by studs on said spindle, and one having an arcuate slot engaged by a stud on a second tumbler, and additional slot receiving a cross-pin on said spindle or stem, and the lock-case having numerals or characters thereon, substantially as set forth. 5th. The lock having the slide provided with the catch lug, the lateral stud, the vertical transverse end extensions, and the finger or thumb-piece projecting through a slot on the front plate of the lock-case, and the extension for covering the unoccupied part of the slot, in combination with the locking mechanism, substantially as set forth.

No. 36,302. Supporter for Napkins.

(*Porte-serviette.*)

Ephriam Aliger Foster, Port Clinton, U.S.A., 2nd April, 1891; 5 years.

Claim.—1st. The herein-described napkin-holder, consisting of the slidable bars 1, having recurved outer ends, and the strips 5, bent over upon themselves and secured to the bars 1, so as to form the clamps 5^a and 6, substantially as described. 2nd. The herein-described napkin holder, consisting of the slidable bars 1, having recurved outer ends, and the strips 5, bent over upon themselves and secured to the bars 1, so as to form the clamps 5^a, and 6, and the hook 8, movably secured to the inner ends of said bars, substantially as set forth. 3rd. The herein-described napkin-holder, consisting of the slidable bars 1, having recurved outer ends, the strips 5, bent over upon themselves and secured to said bars and having their free ends formed into loops 7, and the hook 8, movably attached to said bars, substantially as set forth.

No. 36,303. Key. (*Clé.*)

Paron England, Aspen, Colorado, U.S.A., 2nd April, 1891; 15 years.

Claim.—The combination, with the key proper, having the bit *b*¹, the hollow shank B, rigidly connected, of the key-hole guard composed of the part *c*, the shank C, and the flat head C¹, as shown and described.

No. 36,304. Adjustable Holdbacks.

(*Ragot de limonière.*)

Henry W. Roberts, Duncan, Cheboygan Co., Michigan, U.S.A., 2nd April, 1891; 5 years.

Claim.—1st. The combination, with a slotted pole iron, of a hold-back engaging the pole iron and provided with an aperture, and a bolt passing through the slot of the pole iron and the aperture of the holdback, substantially as described. 2nd. The combination,

with a pole iron slotted longitudinally and provided with ratchet teeth, of a holdback apertured and provided with ratchet teeth engaging the ratchet teeth of the pole iron, and a bolt passing through the slot of the pole iron and the aperture of the holdback and locking the parts together, substantially as herein shown and described. 3rd. The combination, with a pole, and a longitudinally slotted pole iron attached thereto, having side flanges and teeth between the flanges, of a holdback adapted to fit between the flanges of the pole iron, and having teeth to engage the teeth of the pole iron, and a bolt passing through the holdback and pole iron, substantially as described. 4th. A holdback for vehicle poles, consisting of a longitudinally slotted pole iron having side flanges and teeth between said flanges, a plate adapted to fit between the flanges, having teeth to engage the pole iron teeth and having a vertical projection, and a fastening bolt, substantially as described. 5th. The combination, with the pole A, having a recess A', therein, and the pole B, having teeth a, and flanges b, thereon, and the longitudinal slot B', therein, of the plate C, having teeth d, and a vertical post C', thereon, and means as bolt e, and nut f, for attaching the plate C and pole iron B together, substantially as described. 6th. In a holdback for wagon poles, the combination, with a holdback, of a spring pressed bolt fitted to slide in a post of the said hold-back, and adapted to engage the base plate of the latter, substantially as shown and described. 7th. In a hold-back for wagon poles, the combination, with a base plate, and a post formed thereon, of a bolt fitted to slide in the said post and adapted to engage an aperture in the said base plate, and a spring pressing on the said bolt and held in the said post, substantially as shown and described. 8th. In a holdback for wagon poles, the combination, with a base plate, and a post formed thereon, of a bolt fitted to slide in the said post and adapted to engage an aperture in the said base plate, a spring pressing on the said bolt and held in the said post, and a handle engaging the said bolt and passing through a slot, and notches formed in the said post, substantially as shown and described.

No. 36,305. Pulley. (*Poulie.*)

John Goldie, Galt, Ontario, Canada, 2nd April, 1891: 5 years.

Claim.—1st. A gas pipe or hollow metal spoke having its end inserted into the wooden rim of a pulley, and expanded into an oval form, substantially as and for the purpose specified. 2nd. A gas pipe or hollow metal spoke having its end inserted into the wooden rim of a pulley, and expanded into an oval form, the said oval-shaped end being filled by an oval-shaped wooden plug, substantially as and for the purpose specified.

No. 36,306. Wooden Shovel. (*Pelle de bois.*)

Jean Baptiste Lafleur and Adam Alexandre Wilson, both of Montreal, Quebec, Canada, 2nd April, 1891: 5 years.

Résumé.—Un nouvel article de manufacture, une pelle en bois, formée de la table A et du manche B, a, a', a'', a''', reliés au moyen des boulons a', a'', et renforcés d'un ferrement C, b, b', b'', b''', b'', fixé à la dite table, au moyen des vis d, d', d'', d''', le tout, tel que ci-dessus décrit, et pour les fins sus mentionnées.

No. 36,307. Flexible Shatt.

(*Arbre de couche flexible.*)

Thos. H. Eagen, Toronto, Ontario, Canada, 3rd April, 1891: 5 years.

Claim.—1st. A shaft for transmitting rotary motion to any desired distance, supported by means of counter weights suitably attached to the rafters or ceilings of the work shop, the said counter weights allowing the shaft to freely rotate and to move in any desired direction, substantially as and for the purpose set forth. 2nd. A shaft for transmitting rotary motion to any desired distance having arranged thereon movable bands 1, to which are attached ropes 4, passing upwardly and through pulleys 5, secured to the rafters 6, a counter weight 8, being fastened to the downwardly extending end of the said rope, substantially as and for the purpose set forth. 3rd. A shaft for transmitting rotary motion to any desired distance, having movable bands 1, arranged thereon, a coiled spring attached to the upper part of the said bands, and ropes connected to the coiled spring passing upwardly and suitably secured to the rafters, substantially as and for the purpose set forth. 4th. A shaft for transmitting rotary motion to any desired distance, in combination, with the bands 1, moveably arranged thereon, the coiled spring 9, secured to the upper side of the bands 1, a rope 4, attached to the coiled spring 9, passing upwardly through the shaft pulleys 5, and 7, secured to the rafters 6, and counter weight 8, fastened to the end of the rope 4, substantially as and for the purpose set forth.

No. 36,308. Tongs for Clothes. (*Pinces à linge.*)

William H. Mitchell, Bar Harbor, Maine, U.S.A., 3rd April, 1891: 5 years.

Claim.—The combination, with the opposite straight tong-sections terminating at one end in jaws, of the U-shaped spring (the tendency of the terminals of which is to spread or separate) inserted between the sections, each terminal being formed to fit the adjacent section and secured thereto, and the sections terminating in rear of the spring in opposite handles.

No. 36,309. Holder for Rubber Dams.

(*Attache pour petite écluse dentaire en caoutchouc.*)

John W. Haughwout, Omaha, Nebraska, U.S.A., 3rd April, 1891: 5 years.

Claim.—1st. As a new article of manufacture, a rubber dam-clasp comprising a suitable frame-plate, and a pressure-plate resting within said frame plate, in combination with suitable operating levers, all arranged, substantially as shown and for the purpose set forth. 2nd. As a new article of manufacture, a rubber dam-clasp, comprising a suitable frame plate flanges centrally and integral with said frame plate, a pressure-plate pivoted within and extending beyond said flanges, and provided at the ends with suitable depending lips, in combination with suitable operating levers pivoted between said flanges and above said pressure-plate, substantially as shown and described. 3rd. As a new article of manufacture, a clasp comprising a suitable frame-plate flanges integral with and formed by extending opposite edges of said frame-plate, a spring pressure-plate pivoted between said flanges, cross-bars within the center of said frame-plate, and two operating lever arms operating above said pressure-plate, and between the said flanges, all arranged and adapted to operate, substantially as shown and for the purpose set forth. 4th. As a new article of manufacture, a rubber dam-holder comprising a suitable frame-plate at one end of said frame-plate flanges, centrally and integral with said frame-plate, a pressure-plate pivoted within and extending beyond said flanges, and provided at the ends with suitable depending lips, in combination with suitable operating levers pivoted between said flanges and above said pressure-plate, substantially as shown and described.

No. 36,310. Cloth Napping Machine.

(*Machine à lainer les étoffes.*)

Charles Francis Xavier Ott, Cornwall, Ontario, Canada, 3rd April, 1891: 5 years.

Claim.—1st. In a napping machine, the combination of the main shaft B, the drums F, on said shaft, napping rollers M, carried between the drums at intervals around their periphery, the wheels m, at the extremities of the napping-rollers, the collar G, around the main shaft but independent of its motion, means for driving said collar at any rate of speed, the chain t, driven by said collar and passing alternately over and under the wheels m, and driving them alternately in opposite directions, substantially as set forth. 2nd. In a napping machine, the combination of the main shaft B, the drums F, on said shaft, napping rollers M, carried between said drums at intervals around their periphery, and having their shafts extending through their bearings, means for producing axial rotation of the rollers, other drums H, outside the drums F, revolving upon the same centre but independent of the shaft B, and the inclined planes A', running around the inner side of the peripheries of said drums H, and acting upon the extended ends of the shafts, of the napping rollers M, so as to cause the lateral play of the same, substantially as set forth. 3rd. In a napping machine, the combination of the main shaft B, the drums F, on said shaft, napping rollers M, carried between said drums at intervals around their peripheries, means for imparting axial rotation to these rollers, the stationary drums E, larger and outside the drums F, the cloth rollers N, arranged at intervals between the peripheries of the drums E, the roller U', V', V'', placed outside the rollers N, by which the fabric to be napped after passing around part of the circle upon which the napping rollers act, with one surface presented to their action may be carried around the other side of said circle, and the other side of the fabric presented to the action of the remaining portion of the circle, substantially as set forth. 4th. In a napping machine, the combination of the main shaft B, the drums F, on said shaft napping rollers M, carried between bearing plates arranged at intervals around the peripheries of the drums, bolts l, playing in circumferential slots, whereby said bearing plates may be laterally adjusted and means for producing axial rotation of the rollers M, substantially as set forth. 5th. In a napping machine, the combination of the main shaft B, the drums F, on said shaft, napping rollers M, carried between said drums at intervals around their periphery, the stationary drums E, larger than and outside the drums F, cloth rollers N, carried between bearing plates K, arranged at intervals around the peripheries of the drums E, and bolts playing in circumferential slots in the drums E, whereby the bearing plates K, may be laterally adjusted, substantially as described. 6th. In a napping machine, the combination of the main shaft B, the drums F, on said shaft napping rollers M, carried between said drums at intervals around their periphery, means for producing axial rotation of the rollers, and means, substantially as described, for producing lateral play of the same simultaneously with their rotation, substantially as set forth.

No. 36,311. Machine for Polishing Buttons.

(*Machine à polir les boutons.*)

Dilman Brubacher Shantz, Berlin, Ontario, Canada, 3rd April, 1891: 5 years.

Claim.—1st. A button polishing machine, consisting of a revolving buffing wheel and a series of rotating chucks in which the buttons are placed, the said chucks being supported in succession against the buffing wheel, for the purpose specified. 2nd. A button polishing machine, consisting of a revolving buffing wheel and a series of rotating chucks in which the buttons are placed, in combination with a circular revolving table designed and driven at a suitable speed so as to bring each successive chuck with its button against the periphery of the buffing wheel, as it revolves as specified. 3rd. A button polishing machine, consisting of a revolving buffing wheel supported in adjustable bearings above the circular revolving table, and a series of rotating chucks in which the buttons are placed, in combination with a circular revolving table designed and driven at a suitable speed, so as to bring each successive chuck with its button against the periphery of the buffing wheel, as it revolves, as specified. 4th. A button polishing machine, consisting of a revolving buffing wheel and a series of rotating chucks in which the buttons are placed, in combination with a circular revolving table designed and driven at a suitable speed, so as to bring each successive chuck with its button against the periphery of the buffing wheel, as it revolves, each chuck being detachably secured on the

top of a spindle held in bearings supported from the central spindle around which the table with its chucks and their supporting spindles revolve, substantially as and for the purpose specified. 5th. The buffing wheel A, supported in bearings in the open frame B, which extends on both sides of the slotted rear arm c, and is clamped in position by the spindle D, with handle d', in combination with the chucks K, detachably secured on the top of the spindles J, which are successively caused to revolve by the cord g, passing around the pulley Q, guide pulleys o, and pressing against the chuck revolving pulley p, secured to the spindle J as specified. 6th. The buffing wheel A, supported in bearings in the open frame B, which extends on both sides of the rear arm c, and is adjusted vertically by the screw-spindle E, in combination with the chucks K, detachably secured on the top of the spindles J, which are successively caused to revolve by the cord g, passing around the pulley Q, guide pulleys o, and pressing against the chuck revolving pulley p, secured to the spindle J, as specified. 7th. The chucks K, detachably secured on the hollow spindles J, which are driven as described, in combination with the rod L, which is raised, projection r, on the bracket R, as it passes it, substantially as and for the purpose specified. 8th. The chucks K, detachably secured on the hollow spindle J, and carried around past the buffing wheel by the circular revolving table F, in combination with the rod L, operated as described and a brush S, arranged, as and for the purpose specified. 9th. The chucks K, attached to or forming part of the spindle J, and carried around past the buffing wheel by the circular revolving table F, in combination with the brushes T, secured to the forwardly projecting arms c', and arranged as and for the purpose specified.

No. 36,312. Attachment for Mirror Frames.
(*Attache pour cadres de miroirs.*)

Thomas Hargreaves Brigg, Bradford, Yorkshire, England, 3rd April, 1891; 5 years.

Claim.—A device applicable to swing dressing or looking-glass frames, and other similarly suspended articles, for permitting of such articles being readily adjusted to and causing them to be automatically maintained in any desired position, consisting of frictionally engaging parts 9, 10, combined with pivotal attachments 11, 12, by which such parts 9, 10, can be respectively pivotally attached to the top, upper or other convenient part of the swing-frame, and to some convenient part of its supporting frame, substantially as hereinafore described.

No. 36,313. Foot-Rest for Shoe-Shops.

(*Tabouret pour magasins de chaussures.*)

John Knox Phillips, South Orange, New Jersey, U.S.A., 3rd April, 1891; 5 years.

Claim.—1st. As an improved article of manufacture, a foot-rest having a slide movable outward through its rear end, said slide being fitted in inclined guides, substantially as described. 2nd. As an improved article of manufacture, a foot-rest A, having an inclined top and open at its rear high end, grooves b, in the inner faces of its side walls inclined upward from the said open end, a cross-rod connecting the sides at said open end below the grooves, the sliding section B, the ends of which enter said grooves, and a stop b', on the lower side of the sliding section, at its inner end, to engage the said rod and prevent the said section B, from being entirely withdrawn, substantially as set forth.

No. 36,314. Plaster Slab. (*Barres pour plâtrage.*)

Robert Rose Coursen, Newark, New Jersey, U.S.A., 3rd April, 1891; 5 years.

Claim.—1st. A perforated plaster slab for walls of buildings, having a series of wires through the center thereof, with apertures or perforations registering with those in the slab, and formed therein for the reception of nails for fastening said slabs to said walls, as described for the purposes set forth. 2nd. A perforated plaster-slab for walls of buildings having a series of wires arranged parallel with one another through the center thereof, longitudinally with perforations formed thereon, and a series of perforations through the slab coinciding with those on the wires, as described for the purposes set forth. 3rd. A plaster-slab for walls of buildings, provided with perforations or means, whereby it may be secured in position by suitable fasteners, and having its edges beveled, as described and for the purposes set forth.

No. 36,315. Folding Bath Tub.

(*Baignoire pliante.*)

Olof Pehrsson, Tacoma, Washington, U.S.A., 3rd April, 1891; 5 years.

Claim.—The combination of the folding supporting frame, the lower bars thereof being formed with transverse openings 26, and the lower and upper bars having the buttons 22, 27, the side and end covers having their upper ends passing around the upper bars of the supporting frame, and buttoned on the buttons thereof and having secured to their lower ends the apertured strips 23, the top cover having the flap and the neck opening and buttoned on the buttons 22, the bottom cover having the upwardly inclined apertured edges, and the straps 25, passing through the strips 23, the upper ends of the bottom cover and the openings 26, of the bottom bars of the supporting frame, substantially as set forth.

No. 36,316. Roller Bearing.

(*Coussinet anti-frottant.*)

Ernest W. Cooke, Chicago, Illinois, U.S.A., 3rd April, 1891; 5 years.

Claim.—1st. In a roller bearing for car wheels or other purposes, an end plate or box drilled to admit of a pin or bolt holding the

same to an axle, the said plate or box being held by the pin on the end of the axle, and the said plate or box having an annular groove on its inner face for the accommodation of a series of metallic balls, and a collar of smaller diameter surrounding the axle combined with a plate having pits or an annular groove for the reception of metallic balls with one or more cages containing rollers, all as and for the purpose substantially as set forth and described. 2nd. In a roller bearing for car wheels or other purposes, a wheel having its core turned out to correspond with the outside diameter of the rollers of the cage, having a length equal, or nearly equal to the said rollers, combined with a space bored out larger than the said diameter of the outside of the rollers, with an axle having its diameter large enough to enter said cage in said wheel, and between said roller cage or said rollers, and outside cage rings, the said axle being turned down so as to correspond with the enlargements bored in the said wheel, all as and for the purpose substantially set forth and described. 3rd. In a roller bearing for car wheels or other purposes, an outer box or plate secured to an axle, having a spring to receive the weight of the car, combined with a loose wheel having an end plate shrunk on the axle to receive the end thrust of the wheel, all as and for the purpose substantially set forth and described. 4th. In a roller bearing for car wheels or other purposes, a wheel having an outer face or box the inner face of which is turned down with suitable grooves, and a wheel having similar grooves in the outer face of the hub combined with a suitable packing and a band ring for adjusting the same, all as and for the purpose substantially set forth and described. 5th. In a roller bearing for car wheels or other purposes, a wheel having an inner collar shrunk on the axle, having the outer edge turned down with a groove or grooves, and a similar set of grooves on the opposite inner face of the hub of the wheel, combined with a suitable packing and a band for adjusting the same, all as and for the purpose substantially set forth and described. 6th. A roller bearing for car wheels or other purposes, having an inner collar shrunk on the axle having an annular recess turned on the outer face of the same for the introduction of one or more washers, and a ring having its outer face grooved for the accommodation of a series of metallic balls, combined with a loose wheel having the inner face of the hub grooved with an annular groove to receive the said metallic balls, all as and for the purpose substantially set forth and described. 7th. In a roller bearing for car wheels or other purposes, a wheel having the collar attached to the axle at the inner side of the hub, having a depression on the outer face of the collar to receive a suitable washer or washers and metallic rings with pits or grooves of less diameter than said depression, for holding a series of metallic balls, combined with a roller cage having its inner terminal ring playing or rolling against said metallic balls, all as and for the purpose substantially set forth and described. 8th. In a roller bearing for car wheels or other purposes, a wheel having a box or plate secured to the axle with a washer or collar fitted to the axle resting against the inner face of the box or plate, combined with a plate having its inner diameter equal to the diameter of the axle, and its outer diameter of less diameter than the inner diameter of the said wheel, all as and for the purpose substantially set forth and described. 9th. In a roller bearing for car wheels or other purposes, a wheel having a box or plate secured to the axle, having one or more washers resting against the inner face of said box or plate, and a plate resting against said washer having pits or annular grooves on its inner face to receive one or more metallic balls, combined with a roller cage revolving on a stationary axle with the outer face of the cage revolving against the said balls, all as and for the purpose substantially set forth and described. 10th. In a roller bearing for car wheels or other purposes, a wheel having a box or plate secured to the axle with the inner face grooved to receive a series of metallic balls, rolling in the corresponding grooves in the plate, all as and for the purpose substantially set forth and described. 11th. In a roller bearing for car wheels or other purposes, a wheel having one or more cages revolving on a stationary axle combined with a series of metallic balls revolving or playing against a collar secured to the stationary axle, all as and for the purpose substantially set forth and described. 12th. A roller bearing for car wheels or other purposes, having a series of rollers revolving about an axle or shaft being held in a cage consisting of rings and pins or stay-bolts, the said rollers having angular pits in their ends, combined with a ring having spherical pits to receive metallic balls acting as pinions upon which said rollers revolve, all as and for the purpose substantially set forth and described. 13th. A roller bearing for car wheels or other purposes, consisting of two or more cages containing rollers having the inner side of the terminal rings of each cage, in juxtaposition cut out so as to receive a lubricant and form less bearing surface, combined with a shaft or axle, all as and for the purpose substantially set forth and described. 14th. A roller bearing for car wheels or other purposes, having a series of rollers held in position by a cage, said cage having stay-bolts or pins and rings and balls for pinions for the rollers combined with an adjustable plug holding the said pinion balls and a washer or packing for adjusting the plugs of the ball pinions about the rollers, all as and for the purpose substantially set forth and described. 15th. A roller bearing for car wheels or other purposes, having a series of rollers held in position by pinions, cages, rings and stay-bolts combined with a plug in one or both ends of the cage, rings having a metallic or suitable washer at the back of said plug or plugs, and a hole for adjusting the said plug or plugs so as to take up the end motion of the said rollers, all as and for the purpose substantially set forth and described.

No. 36,317. Hook. (*Crochet.*)

John Killinger, Wayne, Pennsylvania, U.S.A., 3rd April, 1891; 5 years.

Claim.—1st. In a hook, the combination of a hook portion and a spring tongue, the latter being bent back at a point outside of or beyond the bend of the former, and having therein an offset in close relation with its main or shank portion, substantially as specified. 2nd. In a hook, the combination of a hook portion formed, of sub-

stantially parallel side bars, and a spring tongue intermediate said side bars, said tongue being bent back at a point outside of or beyond the bends of the side bars, and having therein an offset in close relation with its main or shank portion, substantially as specified.

No. 36,318. Clasp for Trousers.

(*Agraffe de pantalon.*)

Isaac Blum, Baltimore, Maryland, U.S.A., 3rd April, 1891: 5 years.

Claim.—A trousers' clasp, provided with aperture *x*, having arched top with base *a*, in a right line, attached to the inner side of the waist section of the garment by strip *B*, of textile fabric looped over said base line then returned flatly upon itself, said strip looped over, as set forth, being connected to the garment by rows of stitches *s*, all in combination with staple *C*, having spear ends passed downwardly through the main fabric of the garment, and turned over on the reverse side thereof, substantially as described.

No. 36,319. Tightener for Saddle Girths.

(*Appareil pour serrer les sangle de selle.*)

Ferdinand Von Eulenfeld, Breslau, Silesia, Germany, 3rd April, 1891: 5 years.

Claim.—1st. A device for tightening saddle girths, consisting of two arms *A*, and *B*, movably linked together at the two extremities of their lateral edges *a*, and *b*, by means of hinge-joints *a*¹, and *b*¹, so as to leave free when both arms are laid flat in one plane between the two hinge-joints, a longitudinal slot *c*, through which the free end of the girth is inserted, whereupon the free end of the arm *B*, being leaned against the flank of the horse, the other arm *A*, is raised upwards and the girth is tightly clasped between the two arms and tightened to the desired degree, substantially as shown and described. 2nd. In a girth-tightening device, having the arrangement specified in claim 1, the movable parts *A*¹, *a*¹, the perforation *a*², and the notches *b*², *b*³, intended for enabling the application of the device as an accessory tool for saddling and bridling the horse, and for removing some small deficiencies of the hoof and of the shoe of the horse, substantially as shown and described.

No. 36,320. Kiln for Lime. (*Four à chaux.*)

Clark Dean Page, Rochester, New York, U.S.A., 3rd April, 1891: 5 years.

Claim.—1st. In a lime-kiln, the combination, with the cupola, of a combustion chamber having a wedge-shaped abutment in its discharge end, and a hydrocarbon-atomizer discharging against the edge of said abutment, substantially as described. 2nd. In a lime-kiln, the combination, with the cupola, of a combustion chamber having a hydrocarbon-atomizer therein, a discharge opening in its lower side, and a door or valve for closing said aperture adapted to be opened when desired, substantially as described. 3rd. In a lime-kiln, the combination, with the cupola and the furnaces at the sides thereof, of a steam-boiler within the cupola located below said furnaces, and heated by the burned lime, hydrocarbon-atomizers located in the furnaces, and discharging laterally in the cupola, and connections between the boiler and atomizers for conveying steam to the latter, substantially as described. 4th. In a lime-kiln, the combination, with the cupola, of the furnaces, the division walls having coping blocks *G*, *G*¹, the former being the higher and arranged at an angle to the furnace opening, and the central cone *H*, of refractory material extending above the furnace opening, substantially as described. 5th. In a lime-kiln, the combination, with the cupola and furnace, of a transverse division wall or arch extending below the furnace and a steam-boiler extending transversely of the cupola beneath the arch, substantially as described.

No. 36,321. Holder for Umbrellas.

(*Porte-parapluie.*)

George Maurice Furnival, Toronto, Ontario, Canada, 3rd April, 1891: 5 years.

Claim.—As a new article of manufacture, an umbrella holder, consisting of the plate *A*, with jaws *a*, swinging bracket *B*, with crooked ends *B*¹, and stop *b*, and spring *C*, arranged as and for the purpose specified.

No. 36,322. Machine for Painting Window Shades. (*Machine pour peindre les store de fenêtre.*)

Fannie Barnett, assignee of Thomas Barnett, both of Toronto, Ontario, and Alexander G. Cole, Ottawa, Ontario, all in Canada, 4th April, 1891: 5 years.

Claim.—1st. An improved machine for painting window shades, consisting of a painting tank provided with one or more rollers designed to direct the web of fabric through the said tank, in combination with scrapers designed to remove surplus paint from the fabric, and with a series of revolving rollers designed to draw the fabric through the paint tank and support it during the process of drying, substantially as and for the purpose specified. 2nd. A paint tank *B*, having an agitator *L*, suitably journaled in it and deriving motion from contact with the rollers *D*, around which the fabric passes, in combination with the scrapers *F*, *H*, and *I*, and an elastic bar *G*, substantially as and for the purpose specified.

No. 36,323. Bureau. (*Bureau.*)

Charles E. Rigley, Daniel M. Estey, and the Estey Manufacturing Company, assignees of Dwight C. Clapp, all of Owosso, Michigan, U.S.A., 4th April, 1891: 5 years.

Claim.—1st. The improvement herein described and shown, consisting in the combination of the drawer with the casing having a series of curved, flat springs adapted to bear against the sides of the drawer, substantially as described. 2nd. The improvement herein described and shown, consisting in the combination of the casing, with the drawer having its side notched or cut out, and curved, flat springs placed in the said notches and bearing against the casing, substantially as described.

No. 36,324. Wrench for Pipes. (*Clef à tuyaux.*)

William O. Campbell, St. Louis, assignee of Thomas Newman, Poplar Bluff, both in Missouri, U.S.A., 4th April, 1891: 5 years.

Claim.—1st. A pipe wrench, consisting of an arm, a jaw and a lever for impinging the resistance pivotally secured between the same, substantially as set forth. 2nd. A pipe wrench, consisting of an arm, a bifurcated jaw, and a lever pivotally secured to said jaw and arm for impinging the resistance, substantially as set forth. 3rd. A pipe wrench, consisting of an arm 1, a bifurcated jaw 2, pivotally secured to said arm, a lever 4, pivotally secured to said jaw, and plates 7, pivotally secured to said arm and lever for transmitting the power applied to the arm to the resistance to be overcome, substantially as set forth.

No. 36,325. Manufacture of Soap.

(*Fabrication de savon.*)

Richard Clarkson Scott, Burlington House, Lancaster, England, 4th April, 1891: 5 years.

Claim.—1st. A bar or tablet of soap, formed with corrugations, grooves, indentations, projections, or the like, within or between which the fingers may lie or into which they may partly enter, and thus grasp the soap firmly and securely, and by means of which the water may quickly drain off when the soap is placed with the corrugations downward on a flat surface, substantially as described.

No. 36,226. Duplicate Memorandum Book.

(*Agenda double.*)

Carter and Company, Limited, Niagara Falls, New York, and Walter Winfield O'Hara, Boston, Massachusetts, U.S.A., 4th April, 1891: 5 years.

Claim.—1st. A manifold memorandum book, comprising a case provided with a rigid front plate, and with a slot in said plate, and a series of memorandum leaves formed in one continuous strip folded in the case with the leaves consecutively in opposite directions, and having one end passing through the aforesaid slot, as set forth. 2nd. In a manifold memorandum book, the combination of a case provided with a rigid front plate, a transverse slot in one end of said plate, a transfer leaf secured at one edge to one of the edges of the case and adapted to lie upon the aforesaid front-plate, and a series of memorandum leaves formed in a continuous strip, and passing with one end through the aforesaid slot, as set forth. 3rd. In a manifold memorandum book, the combination of a case provided with a rigid front plate, a transverse slot in one end of said plate, a series of memorandum leaves formed in a continuous strip secured in the case and passing with one end through the aforesaid slot, and a cover hinged to the case and adapted to lie upon the front plate thereof, as set forth. 4th. In a manifold memorandum book, the combination of a case provided with a rigid front plate, and with a transverse slot in one end of said plate, a series of memorandum leaves formed in a continuous strip secured in the case, and passing with one end through the aforesaid slot, a transfer leaf secured at one edge to one of the edges of the case, and a cover hinged to the case and adapted to lie upon the aforesaid front plate, substantially as set forth. 5th. A manifold memorandum book, composed of a case provided with a rigid front plate and with a transverse slot in one end of said plate, a series of memorandum leaves formed in a continuous strip folded with the leaves one upon the other, consecutively in reverse directions, and seated in the case and passing with its free end through the slot of the case, and a spring-bar supporting the folded memorandum leaves on the inner side of the stiff front plate in proximity to the slot thereof, as set forth. 6th. The combination of a rectangular case having its front plate provided with a transverse slot at one end, a series of memorandum leaves formed in a continuous strip seated in the case, and passing with one end through the aforesaid slot, a transfer leaf secured to the slotted end of the case, and a cover hinged to the side of the case, substantially as set forth. 7th. The combination of a rectangular case formed with a rigid front plate having a slot across one end thereof, and the back-plate hinged to the opposite end of the case, a series of memorandum leaves formed in a continuous strip folded consecutively in reverse directions, and seated in the case and passing endwise through the aforesaid slot, substantially as described and shown. 8th. The combination of a rectangular case formed with a rigid front plate having a slot across one end thereof, and the back plate hinged to the opposite end of the case, a series of memorandum leaves formed in a continuous strip folded consecutively in reverse directions, and seated in the case and passing endwise through the aforesaid slot, a bar seated movably in the case above the slot thereof, and a transfer leaf secured at one end between the aforesaid bar and case, and passing with the opposite end through the aforesaid slot of the case, substantially as set forth. 9th. The combination of a rectangular case formed with a rigid front plate having a slot across the upper end thereof, and a lip along the upper edge of the slot, a bar seated on movably the inner side of said lip, a transfer leaf inserted at one

end between said bar and lip, springs pressing on the bar, and a series of memorandum leaves formed in a continuous strip folded consecutively in reverse directions and seated in the case and passing endwise through the slot thereof, as set forth. 10th. The combination of a rectangular case formed with a rigid front plate having a slot across the upper end thereof and a lip along the upper edge of said slot, a bar seated movably on said lip, a transfer leaf inserted at one end between the aforesaid bar and lip, a series of memorandum leaves formed in a continuous strip folded consecutively in reverse directions and seated in the case and passing endwise through the aforesaid slot, the back-plate hinged to the lower end of the case, and a spring or springs secured to the hinged back-plate and bearing on the aforesaid bar, substantially as described and shown. 11th. The combination of a rectangular case formed with a rigid front-plate having a slot across the upper end thereof, and a lip along the upper edge of the slot, a bar seated movably on said lip, a transfer leaf inserted at one end between the lip and bar, a series of memorandum leaves formed in a continuous strip folded consecutively in reverse directions, and seated in the case, and passing endwise through the aforesaid slot, the back-plate hinged to the lower end of the case, spring arms secured at one end to the hinged back plate, and a cross-bar secured to the free ends of the spring arms and bearing on the transfer-leaf retaining bar, substantially as described and shown.

No. 36,327. Combined Trunk and Wardrobe. (*Coffre et garde-robe combinés.*)

Sarah Mandeville McCormack, Cold Spring, New York, and Jane Eliza Nelson Thorpe, Ottawa, Illinois, both in U.S.A., 4th April, 1891; 5 years.

Claim.—1st. In a combined wardrobe and trunk, the combination of two sections hinged together at the top, each section being provided with shelves and drawers, and an elastic packing strip secured to the outer surface of the sections, and extending across the top above the joint between the said sections, substantially as herein shown and described. 2nd. The herein described wardrobe-trunk, consisting of the two sections A¹, and A², hinged together at the top, and each provided with the outwardly-swinging doors F, the section A¹, being provided with the shelf G, the drawer I, on one end of the shelf, and the drawer H, below the shelf, and the section A², with the shelf G², the drawer K, on the shelf G², and the drawers J, J¹, on opposite ends of the shelf G¹, formed by the abutting tops of the sections, and the elastic packing strip a', secured to the outer surfaces of the sections, as specified.

No. 36,328. Litter for Waggon Bodies.

(*Chêvre à voiture.*)

Simeon Langford and Andrew Farris, Cynthiana, Indiana, U. S. A., 4th April, 1891; 5 years.

Claim.—1st. The combination of a suspended beam, a connecting piece adapted to connect one end of the beam with the waggon body, a lever suspended from the other end of the beam, and a hook suspended from one end of the said lever, and adapted to engage with the waggon, substantially as described. 2nd. The construction of the suspended beam, a connecting piece adapted to connect one end of the beam with a waggon body, a lever suspended from the other end of the beam, a hook suspended from one end of the said lever and adapted to engage with the waggon body, and a hook G, which connects the lever and the chain, substantially as described. 3rd. The combination of the suspended beam, the loop suspended from one end thereof, the lever D, suspended from the opposite end thereof, the chain E, secured to the lever, the hook e, secured to the chain and the hook G, substantially as described. 4th. The combination of the suspended beam, the connecting piece adapted to connect one end of the beam, with one end of the waggon body, a link or piece connected to the opposite end of the beam, a lever pivoted to the lower end of the link, a chain secured to one end thereof, a hook detachably secured to said chain adapted to engage with the waggon body, and a shorter chain secured to the end of the link on the end of the beam, the lower end of which is adapted to engage with the hook when the body has been partly elevated, substantially as described.

No. 36,329. Jack for Lifting. (*Cric.*)

Eugene E. Rinter, Waterloo, Quebec, and Ezra Eastman, Foster, Quebec, Canada, 4th April, 1891; 5 years.

Claim.—The combination, with the main frame, of the power shaft 3, having a cog pinion 8, cog wheel 9, meshing therewith, the master wheel 10, gearing with wheel 9, the twin screws 13, 14, having cog pinions 11, 12, gearing with said wheel 10, the lifting bar 16, carried by the twin screws, and the hooks 18, connected to said bar 16, as set forth.

No. 36,330. Burner for Vapor. (*Bec à vapeur.*)

Charles Wesley Ingraham, Eight Mile, Oregon, U. S. A., 4th April, 1891; 5 years.

Claim.—1st. In a vapor burner, the combination, with the bowl A, the tube C, rising therefrom, and having a number of holes D, a mixing chamber and a burner carried by the upper end of said tube, and a regulator surrounding said holes, of a sleeve I, fitting said tube above the holes therein, and having inclined slots O, pins N, on said tube, with which said slots engage, a pipe J, surrounding said sleeve and extending below the lower end thereof, bars a, connecting said sleeve and pipe, and an operating handle K, extending outwardly from said pipe, as and for the purpose set forth. 2nd. In a vapor burner, the combination, with the bowl A, a tube C, rising therefrom and having a number of holes D, a mixing chamber and a burner carried by the upper end of said tube, and means substantially as described, for regulating the admission of air through said holes, of

a small pipe E, secured within and to one side of the tube C, and extending from a point within the bowl above the liquid therein, to a point within the tube above the holes therein, as and for the purpose set forth. 3rd. In a vapor burner, the combination, with the bowl A, the tube C, rising therefrom and having a number of holes D, a regulator around said holes, and an extension R, from the upper end of said tube, of a mixing chamber W, mounted upon said extension and having holes b, in its bottom, a disk T, moving over said bottom and around said extension, and having holes t, adapted to register with said holes in the bottom, an operating handle Q, connected to said disk, and a burner Y, at the upper end of said chamber, all substantially as described. 4th. In a vapor burner, the combination, with the bowl A, the tube C, rising therefrom and having a number of holes D, a regulator around said holes, and an extension R, from the upper end of said tube, of a mixing chamber W, mounted upon said extension and having holes b, in its bottom, a regulating valve T, for controlling the admission of air through said holes, a sleeve d, tightly fitting upon said extension, a fender plate P, extending outwardly from said sleeve for the purpose set forth, and a burner Y, at the upper end of said mixing chamber, all substantially as described. 5th. In a vapor burner, the combination, with the bowl A, the tube C, rising therefrom and having a number of holes D, a regulator around said holes, an extension R, from the upper end of said tube, and the tongues U, mounted upon said extension and having outwardly bent upper ends, of a mixing chamber W, mounted upon said extension and having holes b, in its bottom, a regulating valve T, moving upon said bottom around said extension and beneath the outwardly bent upper ends of said tongues, said valve having holes t, and an operating handle Q, and a burner Y, at the upper end of said mixing chamber, all substantially as and for the purpose hereinbefore set forth.

No. 36,331. Pump for Barrels.

(*Pompe pour barils.*)

Harry H. Ayer, Moncton, New Brunswick, Canada, 4th April, 1891; 5 years.

Claim.—1st. The combination of the pump A, and the tray C, substantially as and for the purpose hereinbefore set forth. 2nd. The combination of the lock B, on the pump, with the groove I, on the pipe G, substantially as and for the purpose hereinbefore set forth. 3rd. The combination of the pipe G, and the body of the pump A, forming the passage F, substantially as and for the purpose hereinbefore set forth. 4th. The combination of the strainer D, and the sloping bottom of the tray C, substantially as and for the purpose hereinbefore set forth.

No. 36,332. Manifold Order Book.

(*Livre de commandes multiples.*)

James S. McDonald, Chicago, Illinois, U. S. A., 4th April, 1891; 5 years.

Claim.—1st. In a manifold order book, the combination, with the spring actuated clamping plate, of a binding plate hinged thereto, substantially as described. 2nd. In a manifold order book, the combination with a pair of spring arms, and a clamping plate connecting the free ends thereof, of a binding plate hinged to one of said arms above the clamping plate, and provided with a spring hook at the opposite end thereof, for engagement with the other arm, substantially as described. 3rd. In a manifold order book, the base, in combination, with a pair of spring arms having double angular bends at one end thereof, secured to said base, and a clamping plate connecting the free ends of said arms, substantially as described. 4th. In a manifold order book, the combination, with the base provided with a transverse groove between the center and one end thereof, of a pair of spring arms secured to and extending longitudinally of said base, the bodies of which lie in said transverse groove, and the ends of which are bent at an angle to the body portion thereof, and a clamping plate connecting the free ends of said arms, substantially as described. 5th. In a manifold order book, the combination, with the base and tablet, of a spring actuated clamping plate bearing on one end of said tablet, and a spring actuated holder bearing on the opposite end of said tablet, substantially as described. 6th. In a manifold order book, the combination, with the base and tablet, of a spring actuated clamping plate bearing upon one end of said tablet, and a spring actuated holder having an anti-friction roller mounted thereon, and bearing upon the opposite end of said tablet, substantially as described. 7th. In a manifold order book, the combination, with the base and tablet, of the clamping plate and holder secured to spring arms and extending in opposite directions from their point of attachment to the base plate, said arms being of unequal length, substantially as and for the purpose described. 8th. In a manifold order book, the combination, with the base and tablet, of a spring actuated clamping plate, a holder secured to spring arms, which latter are provided with double angular bends secured to said base, substantially as described. 9th. In a manifold order book, the base provided with a transverse slot, and the tablet mounted thereon, of a spring actuated clamping plate, a holder secured to a pair of spring arms extending longitudinally of and secured to the base, the body portions of which arms lie in said transverse grooves, and the ends of which are bent at an angle to said body portion, substantially as described. 10th. In a manifold order book, the base provided with a transverse groove toward one end thereof, and a tablet mounted thereon, in combination, with a clamping plate and holder bearing on the opposite ends of said tablet, said plate and holder being secured to spring arms extending longitudinally of and secured to said base, the body portions of which arms lie in said groove, and the ends of which are bent at angles to said body portions, substantially as described. 11th. In a manifold order book, the combination, with the cover and the record card, of the metallic strengthening plate D, and metallic holding strip E, substantially as described. 12th. In a manifold order book, the combination, of the base provided with a roughened surface near the outer end thereof, the tablet, and a spring-actuated clamping plate for holding said tablet upon the base, substantially as described.

No. 36,333. Extensible Burial Casket.
(*Cercueil à rallonge.*)

Edward Harvey Saxton, Cleveland, Ohio, U.S.A., 4th April, 1891; 5 years.

Claim.—1st. An extensible burial casket, substantially as set forth. 2nd. A burial casket, having a slip joint for varying the length of the casket, substantially as set forth. 3rd. An extensible burial casket divided transversely, the body and lid each having an external band for covering the joint of the casket, substantially as set forth. 4th. An extensible burial casket, having a slip joint, external bands for covering such joint, slotted bars extending across the joints, securing-bolts operating in the slots of such bars, substantially as set forth.

No. 36,334. Chimney. (*Cheminée.*)

Paul Dickinson, Chicago, Illinois, U.S.A., 4th April, 1891; 5 years.

Claim.—1st. In combination with a roof, a chimney A, formed in connected sections and extending partly above and partly below the roof, the lower portion being pivotally suspended from a point below the roof, substantially as described. 2nd. A chimney A, formed with connected sections r , and r^1 , to extend, respectively, below and above a roof B, and a section r^2 , pivotally suspended from a point below the roof in engagement with the lowermost section r , substantially as and for the purpose set forth. 3rd. A chimney A, formed with connected sections r , and r^1 , to extend, respectively, below and above a roof B, a section r^2 , pivotally suspended on the lowermost section r , and a drop-section C, having bails s^2 , secured to its hood C^1 , and suspended and counterbalanced from the said bails, substantially as described. 4th. A chimney A, formed with sections r , and r^1 , to extend, respectively, below and above a roof B, a flanged collar n , for supporting the portion extending above the roof, a flanged collar m , for sustaining the portion below the roof, and tie-rods l , connecting the said collars from their flanges and holding the sections r , together, substantially as described. 5th. In a chimney A, the sections r , r^1 , fastened together, a section r^2 , pivotally supported on the lower section r , a drop-section C, suspended to telescope with the section r^2 , and counterbalanced, and a ventilator E, on the upper end of the chimney, formed with the conical deflectors c , c^2 , and hood c^3 , and the conical deflectors c^4 , and c^5 , between the hood and deflector c^2 , substantially as described. 6th. A chimney A, formed in connected sections r , and r^1 , to extend respectively below and above roof B, and means for supporting the uppermost section r^1 , comprising bails k , fastened at their ends to the said section near its upper end, and guy-rods g , connecting the bails with the roof, substantially as described. 7th. A chimney A, formed with sections r , to extend below a roof B, and connected together by pendent rods l , having stops and engaging projections on the sections, substantially as described. 8th. A chimney A, formed in connected sections r , and r^1 , to extend respectively below and above a roof B, flanges o , extending from the sections r , a collar m , for the lowermost of said sections, having a flange o , slots in the flanges extending inward from the peripheries thereof, and tie-rods l , suspended from their upper ends and adapted to enter the slots in the flanges, the rods being threaded near their engagement with the said slots, and provided with nuts for fastening the rods and flanges together, substantially as described. 9th. A chimney A, formed in connected sections r , and r^1 , to extend respectively below and above a roof B, flanges o , extending from the sections r , a collar m , for the lowermost of said sections, having a flange o , slots v , in the flanges extending inward from the perimeters thereof, and provided with stops v^1 , near their outer ends, and tie-rods l , suspended from their upper ends and adapted to enter the slots in the flanges, the rods being threaded near their engagement with the slots and provided with nuts for fastening the rods and flanges together, substantially as described. 10th. A chimney A, formed in connected sections r , and r^1 , to extend respectively below and above a roof B, a collar t , at the junction of the uppermost section r , with the adjacent section r^1 , and provided with a flange l^1 , supported on a prop n , on the roof, collars p , at the junctions of the sections r , and a collar m , for the lowermost of said sections the collars having flanges o , provided with slots v , extending inward from their perimeters, and tie-rods l , suspended from the flange l^1 , and adapted to be swung into the slots v , the rods being threaded near their engagement with the slots, and provided with nuts for fastening the rods and flanges together, substantially as described. 11th. A chimney A, formed in connected sections r , and r^1 , to extend respectively below and above a roof B, flanges o , extending from the sections r , a collar m , for the lowermost of said sections, having a flange o , and provided with perforated lugs w , slots v , in the flanges extending inward from the perimeters thereof, tie-rods l , suspended from their upper ends and adapted to enter the slots in the flanges, the rods being threaded near their engagement with the slots, and provided with nuts for fastening the rods and flanges together, bails k , fastened to the perforated lugs w , on the collar m , and guy-rods g^1 , extending from the said bails to the roof, substantially as described. 12th. A chimney A, formed in connected sections r , and r^1 , to extend respectively below and above a roof B, a collar m , for the lowermost of said sections having a flange o , from which the sections r , are tied together, and dependent lugs i , a section r^2 , and bifurcated links h^1 , pivotally connecting the section r^2 , with the lugs i , substantially as described, 13th. A chimney A, formed in connected sections r , and r^1 , to extend respectively below and above a roof B, a collar m , for the lowermost of said sections, having a flange o , from which the sections r , are tied together, dependent lugs i , and a deflector d , and bifurcated links h^1 , pivotally connecting the section r^2 , with the lugs i , substantially as described. 14th. A chimney A, formed in connected sections r , and r^1 , to extend respectively below and above a roof B, a collar t , at the junction of the uppermost section r , with the adjacent section r^1 , and provided with a flange l^1 , supported on a bearing n , on the roof, collars p , at the junctions of the sections r , and a collar m , for the lowermost of said sections, the collars having flanges o , provided with slots v , perforated lugs w , dependent lugs i , and a deflector d , on the collar o , tie-rods l , suspended from the flange l^1 , and adapted to be swung into and secured in the slots v ,

bails k , secured in the lugs w , and connected by guy-rods g^1 , with the roof, and a pivotal section r^2 , suspended by bifurcated links h^1 , from the lugs i , on the collar m , substantially as described. 15th. In a chimney A, formed with connected sections r , and r^1 , to extend respectively below and above a roof B, a drop-section C, supported to telescope with the lower end of the chimney, and carrying a hood C^1 , a rotary shaft g , supported in a suitable bearing g^1 , and carrying at opposite ends pulleys f , and f^1 , from which the drop-section is suspended from opposite sides by ropes s , and a counter-balancing weight D, on a rope s^1 , connected with the shaft through the medium of a pulley thereon, substantially as and for the purpose set forth. 16th. A chimney A, formed in connected sections r , and r^1 , to extend respectively below and above a roof B, a section r^2 , pivotally suspended from the lowermost section r , a drop-section C, carrying a hood C^1 , provided circumferentially on its upper side with a gutter e , having a discharge-pipe e^1 , a rotary shaft g , supported in a suitable bearing g^1 , and carrying at opposite ends pulleys f , and f^1 , from which the drop-section is suspended from opposite sides by ropes s , and a counter-balancing weight D, on a rope s^1 , secured to the pulley f , substantially as described. 17th. In combination, with a chimney A, a hood C^1 , provided circumferentially on its inner side with a gutter C^2 , and on its outer side with a gutter e , having a discharge-pipe e^1 , and with which the inner gutter communicates, substantially as described. 18th. In combination, with the section r^1 , a ventilator cap E, supported on the upper end of the section and formed with a deflector c , through which the section r^1 , extends, and braced with an inverted cone shaped collar c^1 , extending from the said section against the under side of the said deflector midway, or thereabout, of its extent, a conical deflector c^2 , overlapping deflectors c^4 , and c^5 , and a surmounting hood c^3 , substantially as described.

No. 36,335. Water Wheel. (*Roue hydraulique.*)

Hiram Burrill, Sangerville, Maine, U.S.A., 4th April, 1891; 5 years.

Claim.—An improved water wheel, consisting of the combination of the annular chute-box B, having vertical tangential partitions d , with chute-openings between them, the inclosing-ring C, with attached floors e , passing through each chute, as described, the raising and lowering mechanism, consisting of the standards c , horizontal shafts J, with attached arms k , connecting rods l , pivoted to arms k , and ring C, the cogged arms D, also attached to shafts J, and adapted to engage worm-wheel E, with its operating shaft f , for the purpose described, with the improved wheel, consisting of the inwardly curved rim A, spokes b , and hub H, attached to wheel-shaft I, and the curved water buckets a , attached to the concave surface of the rim, substantially as shown and for the purpose described.

No. 36,336. Apparatus for Vaporizing Liquid Hydrocarbons and Supplying the Vapor to Burners.
(*Appareil pour évaporer et fournir la vapeur aux brûleurs à hydro-carbures.*)

Charles Mahlon Hollingsworth, Cleveland, Ohio, U.S.A., 6th April, 1891; 5 years.

Claim.—1st. The combination in a vapor stove or other heating appliance, of an elevated vaporizing chamber having an air-inlet at its upper part, and an air and vapor outlet at its lower part, a suitable evaporating surface inclosed therein, an oil-reservoir above said chamber, an oil-feeding device in connection with the reservoir and a burner in communication with the outlet of the vaporizing chamber, substantially as set forth. 2nd. In combination, an elevated vaporizing chamber, an oil reservoir supported above said chamber, an oil feeding device in connection with said reservoir, a conducting pipe, a burner, and a conical evaporator of perforated metal plate placed within said chamber, substantially as set forth. 3rd. In combination, an elevated vaporizing chamber, an oil reservoir supported above said chamber, an oil feeding device, in connection with said reservoir, a conducting pipe, a burner, and a conical evaporator of perforated metal plate placed within said chamber, said conical evaporator having a horizontal flattened top, substantially as set forth. 4th. In combination, an elevated vaporizing chamber, an oil reservoir supported above said chamber, an oil feeding device, in connection with said reservoir, a conducting pipe, a burner, and a conical evaporator of perforated metal plate placed within said chamber, said conical evaporator having an imperforated top horizontally flattened in the center, and divided in a ring around the center by apertures or raised points, substantially as set forth.

No. 36,337. Process of Vaporizing Liquid Hydrocarbons and Supplying the Vapor to Burners. (*Procédé pour évaporer et fournir la vapeur aux brûleurs à hydro-carbures.*)

Charles Mahlon Hollingsworth, Cleveland, Ohio, U.S.A., 6th April, 1891; 5 years.

Claim.—The process of vaporizing a liquid hydrocarbon and supplying the vapor, mixed with air, to a burner, which consists in delivering the liquid hydrocarbon in a drip or stream as it is required for vaporization and receiving and spreading the fed liquid on an evaporating surface freely exposed to the air, thereby vaporizing it as it is fed, and conducting the resulting mixture of vapor and air as it is formed directly to the burner by gravity.

No. 36,338. Connections for Radiators and Boilers. (*Raccordement pour calorifère et chaudière.*)

Charles Edward Gate and Charles James Orr, both of Winnipeg, Manitoba, Canada, 6th April, 1891; 5 years.

Claim.—1st. A threaded, flanged nipple with water way so formed

as to admit of a wrench being inserted to screw up. 2nd. A nut or flange so formed as to remain immovable laterally when in position, and to cover the same hole through which it had passed. 3rd. A nut or flange and nipple, in combination, substantially as set forth, forming a connection holding together with waterway through such as sections of hot-water or steam radiator or sections of sectional boilers.

No. 36,339. Switch for Railways.

(*Aiguille de chemin de fer.*)

Joseph Hyde Fisher, Deerfield, Illinois, U. S. A., 6th April, 1891; 5 years.

Claim.—An improvement in pivoted frog-rail switches for railway-tracks, consisting of the bed-plates I, and J, provided, respectively with the stops *a*, *e*, and *b*, *c*, and the portions N, M, having their respective heights equal to the thickness of the base-plate, in combination with a frog-rail provided with a projecting base-plate, and the track-rails resting on said portions N, and M, and projecting on to the end of the base-plate as and for the purpose specified.

No. 36,340. Apparatus for Sinking Well Pipes. (*Appareil pour le fonçage des puits artésien.*)

Charles A. Sellon, Pike, New York, U.S.A., 8th April, 1891; 5 years.

Claim.—In a rig or apparatus for sinking well-pipe, the combination, with the anchor-frame composed of the timbers B, B, the cross-timbers D, D, and super-imposed timbers E, E, of the sheaves G, H, connected with timbers B, B, the hooks adapted to engage with the end of a pipe carrying the sheaves L, M, and the chain I, secured to the lower end of one of said hooks and passing around said sheaves G, M, H, L, substantially as described.

No. 36,341. Meter for Gas and Fluids.

(*Compteur à gaz et fluide.*)

William John Gurd, Sarnia, Ontario, Canada, 8th April, 1891; 5 years.

Claim.—1st. In a gas or fluid meter, a measuring chamber divided by a pulsating flexible diaphragm into two compartments, said compartments connected by a conduit outside the diaphragm, a four-way valve at the inlet to the meter and controlling the passages into the measuring compartments, and conduit to cause ebb and flow through said conduit, a shaft carrying a valve-gear and operated by a hollow arm secured to the center of the diaphragm at right angles thereto, and a registering mechanism, substantially as described and set forth. 2nd. A gas or fluid meter, consisting of a measuring chamber divided by a flexible diaphragm into two compartments, said compartments connected by a conduit, and said diaphragm having a hollow-arm extending at right angles from the center, a shaft operated by said arm and carrying a valve-gear in a chamber exterior to the measuring chamber, a four-way valve controlling ports to the measuring compartments, and a registering mechanism operated by said valve, whereby the flexible diaphragm is pulsated, as set forth, for measurement of the gas or fluid and recorded, substantially as shown and described. 3rd. A gas or fluid meter, composed of a measuring chamber divided by a flexible diaphragm into two compartments, said compartments connected by a conduit outside the diaphragm, said diaphragm having a central disk, said disk having a hollow arm at right angles thereto, a rock shaft having a spiral portion operated by said disk, and arm, said shaft carrying a tripping device or valve-gear and operating a four-way valve controlling the inflow and outflow to and from the measuring chambers, to cause pulsation of the flexible diaphragm, and a registering mechanism, substantially as set forth. 4th. In a gas or fluid meter, the combination, with a gravitating tripping weight O, having an arm 6, and hung to a rock shaft operated by the pulsation of a flexible diaphragm in a measuring chamber, as set forth, of two concentric rings 2, 3, having overlapping tripping projections, a yoke 5, straddling said rings, and a screw 8, connecting said arm and yoke, whereby the overlapping tripping will spread and contract for timing the pulsation of the diaphragm to obtain correct measurement by adjustment, as set forth. 5th. In a gas or fluid meter, having a registering index operated by a valve-stem 3, of a valve casing 31, having a packing-box 13, containing elastic packing 15, a cap 14, screwing on said packing box, and a spiral spring 16, intervening the hub on the end of the valve spindle, and the packing to draw the valve up into its seat and compress the packing to make a tight joint around the valve spindle, as set forth.

No. 36,342. Apparatus for Photographic Negative Vignetting. (*Appareil photographique à vignettes.*)

John Nicholson Gray, St. Mary's, Ontario, Canada, 8th April, 1891; 5 years.

Claim.—1st. An attachment for photographic cameras, consisting of two shutters operating alternately midway between the sensitive plate and the photographic lens for the purpose of limiting the amount of person or object shown upon the sensitive plate, and also by a second exposure upon the same sensitive plate to produce a vignettted edge to the line of limitation, as well as fill up the remaining portion of the plate with a suitable tint or ground, substantially as described. 2nd. The combination in an attachment for photographic-cameras, of a metal frame G, for the purpose of supporting shutters A, and B, which are hinged at top and bottom, also ratchet teeth D, with accompanying springs which fit into ratchet-teeth, substantially as described. 3rd. The combination, with shutters A, and B, frame G, and ratchet-teeth D, of flat springs C, having ends bent over against which shutters rest when open, substantially as described. 4th. The combination, with shutters A, and B, frame G,

ratchet-teeth D, flat springs C, of thin metal frame or can H, with flanges K, also thin metal frame I, with thumb screws J, and flanges L, substantially as and for the purpose set forth.

No. 36,343. Rotary Propellor.

(*Propulseur rotatoire.*)

Jeremy Taylor Marsh, Kensington, Middlesex, and Thomas Seaville Truss, Chesnut Villas, Forest Gate, Essex, both in England, 8th April, 1891; 5 years.

Claim.—1st. A rotary propeller for propelling ships and other vessels floating on, or immersed in water, and for creating air currents for all purposes, the said propeller being formed with two, or more, blades attached at an angle to a boss, or driving shaft, the form for the face of such blades, contiguous to the penetrant end thereof, being produced by lines drawn from the "blade point of delivery" to dividing points on the line selected for the "penetrant end," thereof, and the form for the face of the part of such blades, contiguous to the "run end" thereof, being produced by lines drawn from the "intersection centre" to dividing points on the line selected for the "run end" of such blades, substantially as hereinbefore described. 2nd. The construction of a propeller, as hereinbefore described and illustrated in the accompanying drawings.

No. 36,344. Alimentary Liquid.

(*Liquide alimentaire.*)

John Henry Hooker, Verney Junction, Bucks, England, 8th April, 1891; 5 years.

Claim.—1st. An alcoholic alimentary liquid, produced by treating ordinary milk, essentially as hereinbefore described, that is to say by adding thereto saccharine matter, and acid, and producing alcoholic fermentation of the mixture. 2nd. An alcoholic alimentary liquid, produced by treating peptonized milk, essentially as hereinbefore described, that is to say by adding thereto saccharine matter, and acid, and producing alcoholic fermentation of the mixture. 3rd. An alimentary liquid, produced by the action of alcoholic fermentation on ordinary milk. 4th. An alimentary liquid, produced by the action of alcoholic fermentation on peptonized milk.

No. 36,345. Box and Basket for Berries.

(*Boite et panier à fruits.*)

Montague Alexander Beckingham Shipman, Hamilton, Ontario, Canada, 8th April, 1891; 5 years.

Claim.—A tin or metal binding A, on the ordinary basket, in combination with the metal support B, and the swinging bale C, substantially as and for the purpose hereinbefore set forth.

No. 36,346. Paddle Wheel. (*Roue à aubes.*)

Frank Emil Pirrung and Hubert August Pirrung, both of St. Paul, Minnesota, U.S.A., 8th April, 1891; 5 years.

Claim.—1st. In a feathering paddle wheel, the combination, with its shaft, of a central hub of less length than the length of the wheel, having suitable connections with the rims of the wheel, shaft bearings abutting against the ends of said hub, and a hanger supporting the outer bearing, substantially as and for the purposes set forth. 2nd. In a device of the class described, the combination of the paddle wheel having a central hub of less length than the wheel, inturned spokes connecting said hub with the rims of the wheel, a driving shaft rigidly secured in said paddle wheel hub, an idler or feathering wheel eccentric with and equal in diameter to the paddle wheel, having its hub outside the plane of the wheel, a fixed bearing shaft for said hub, a bearing for the end of the driving shaft, carried by said fixed shaft, and bars pivotally connected to the rim of the feathering wheel and rigidly connected to the paddles of the paddle-wheel, substantially as and for the purposes set forth. 3rd. In a device of the class described, the combination of a paddle wheel having its outer end projecting beyond the end of the hub, a feathering wheel, a stationary shaft projecting beyond the end of its hub and adjacent to the end of the paddle wheel upon which said idler wheel is journaled, a hanger upon the end of said shaft, a bearing carried by said hanger, and a drive shaft for said paddle wheel journaled in said bearing, substantially as described. 4th. In a device of the class described, the combination, with the hubs, of the paddle and idler wheels of oil reservoirs surrounding said hubs, and conduits connecting said reservoirs with the bearings of said wheels, and with the bearings of the paddles and their arms, substantially as and for the purposes set forth. 5th. The combination, with the paddle wheel having its outer end projecting beyond the end of its hub, a driving shaft secured in said hub and projecting beyond the same, an idler wheel of equal diameter and eccentric with the paddle wheel, adjacent to its outer end and having its rim extending beyond the outer end of its hub, a stationary journal shaft for said idler wheel, and a journal box for the driving shaft carried by said stationary shaft, substantially as described. 6th. The combination, with the paddle wheel having its outer end projecting beyond the end of its hub, a driving shaft secured in said hub and projecting beyond the same, an idler wheel of equal diameter and eccentric with the paddle wheel adjacent to its outer end and having its rim extending beyond the end of its hub, a stationary journal shaft for said idler wheel, a journal box for the driving shaft carried by said stationary shaft, oil reservoirs upon the hubs of said wheels, and conduits connecting said reservoirs with the bearings of said wheels, substantially as described. 7th. In a device of the class described, the combination of the paddle wheel, its driving shaft, the feathering wheel, its stationary shaft and a bearing carried by the stationary shaft, offset therefrom and supporting the journal of the driving shaft, substantially as and for the purposes set forth.

No. 36,347. Paddle Wheel. (*Roue à aubes.*)

Frank Emil Pirrung and Hubert August Pirrung, both of St. Paul, Minnesota, U.S.A., 8th April, 1891; 5 years.

Claim.—1st. In a feathering paddle wheel, the combination, with suitable supports, of a shaft passing through and journaled in said supports, a paddle wheel carried by said shaft and arranged between said supports, fixed eccentrics upon the inner side of said supports through which the driving shaft passes, and having a common axis parallel with said driving shaft, a feathering wheel of the same diameter as the paddle wheel journaled on each of said eccentrics, and bars or links pivotally connected at one end to the rim of the feathering wheel, and rigidly connected at the other end to the paddles of the paddle wheel, substantially as described. 2nd. The combination, with suitable fixed supports, of pivot or journal posts upon the adjacent sides of said support having a common horizontal axis, a driving shaft journaled in said supports and passing through said posts eccentric therewith, a paddle wheel carried by said shaft arranged between said posts, paddles journaled upon said wheel, feathering wheels journaled upon said posts and bars rigidly connected to said paddles, and pivotally connected to said feathering wheels, substantially as and for the purposes set forth. 3rd. The combination, with the supports 4, of the driving shaft 2, passing through said supports, fixed eccentrics 14, upon the adjacent sides of said supports through which said shaft passes, cranks and crank pins upon the ends of said shaft, the paddle wheel 10, carried by said shaft intermediate of said supports, the paddles 12, journaled in said wheel, the feathering wheels 18, of equal diameter with the paddle wheel journaled upon said eccentric, and the arms 22, journaled upon said feathering wheels and rigidly connected to said paddles, substantially as and for the purposes set forth.

No. 36,348. Pole for Vehicles.

(*Timon de voiture.*)

John Atkins, Cincinnati, Ohio, U. S. A., 8th April, 1891; 5 years.

Claim.—The combination, of the under clamp piece, which has the grooved transverse portion to receive the circle-bar, and the partially flanged longitudinal portion, to receive the end of the pole, the upper T-shaped clamp and bracing strap, the pole, the circle-bar and the hammer-strap formed of a continuation of the upper clamp piece, substantially as shown and described.

No. 36,349. Signal for Railways.

(*Signal de chemin de fer.*)

William Phillips Hall, Greenwich, Connecticut, U. S. A., 8th April, 1891; 5 years.

Claim.—1st. In a railway signal, the combination, with a semaphore arm or signal banner, of a background upon which the position of the same is indicated, said semaphore or banner and background having contrasting colors, of means for artificially illuminating one of said elements, substantially as described. 2nd. In a railway signal, the combination, with a colored semaphore arm or signal banner through which light may pass, and a contrasting colored background upon which the position of the same is indicated, of means for artificially illuminating one of said elements, substantially as described. 3rd. In a railway signal, the combination, with a semaphore arm or signal banner, of a translucent background upon which the position of the same is indicated, and means for illuminating said background, substantially as described. 4th. In a railway signal, the combination, with a translucent semaphore arm or signal banner, of a translucent background therefor upon which the position of the same is indicated, and a lamp located behind said background, for the purpose set forth. 5th. In a railway signal, the combination, with a semaphore arm or signal banner, of an illuminated background or screen upon which the position of the semaphore arm or banner is indicated.

No. 36,350. Electrical Ground and Circuit System. (*Système de circuit électrique.*)

Charles E. McCluer, Richmond, Virginia, U.S.A., 8th April, 1891; 5 years.

Claim.—1st. In combination, with a system of ordinary electrical conductors, such as telephone or telegraph wires, and included electrical apparatus, one or more conductors of comparatively low resistance insulated from the earth, and forming a substitute for the earth to which the terminals of all the direct wires are connected, substantially as and for the purpose described. 2nd. In combination, with a system of line wires and included translating devices, a common return conductor insulated from the earth and connected to the terminals of the line wires, and of comparatively low resistance and high conductivity to which the terminals of all the line wires are connected, substantially as and for the purpose set forth. 3rd. In a telephone exchange or other electrical system, consisting of a number of wires radiating from the central office switch-board to the places of business or residences of subscribers, and equipped at the central station and at the local stations with the usual appliances, in combination with a series of metallic conductors of comparatively low resistance radiating likewise from the central station, and following the different wire routes and insulated from the earth, thus forming a system of "artificial grounds" to which all other conductors of the system are connected both at the central office and the local stations instead of to the earth, substantially as and for the purpose described. 4th. In a telephone or other electrical exchange system, the combination of a number of subscribers' lines radiating from a central office, and including the necessary working apparatus with electrical conductors of large conductivity and low resistance constituting an "artificial ground" or substitute for the earth to which subscribers' lines are connected at their distant ends, and which are insulated from the earth at all points save one, where

they are connected to a ground switch, whereby the system can be converted into a "compound metallic circuit" system by breaking connection with the earth, or can be worked in connection with the earth, and another system of ordinary "mixed" circuits at will, substantially as and for the purpose described.

No. 36,351. Obstetrical Forceps.

(*Forceps d'accouchement.*)

James Raymond Brown, Springfield, Massachusetts, U. S. A., 8th April, 1891; 5 years.

Claim.—1st. The obstetrical forceps, consisting essentially of two separable looped members hinged together near the center, and provided with depending handles which cross the longitudinal line of the loops, substantially as described. 2nd. The obstetrical forceps, comprising two curved members adapted to be centrally hinged together, the front ends of the members terminating in loops, and the rear ends in depending handles, substantially as described. 3rd. The obstetrical forceps, comprising two similar members adapted to be centrally hinged together, the front ends of the members terminating in loops, and the rear ends in depending handles which have a forward bend at the extremities, substantially as described. 4th. The obstetrical forceps comprising two similar members adapted to be hinged together, each member having a central bend, a loop at one end, and a depending curved handle at the opposite end, substantially as described.

No. 36,352. Method of and Apparatus for Forming Finger Rings. (*Méthode et appareil pour former les bagues.*)

William Henry Peckham, Brooklyn, New York, U.S.A., 8th April, 1891; 5 years.

Claim.—1st. The method hereinbefore described of forming rings from flat circular blanks having a central opening, which consists in first, by means of a swage, driving said blank entirely through a die having tapering walls to form substantially one-half of the ring, then reversing the position of the blank in another die having tapering walls, and by means of a swage driving it entirely through the same to form the other half of said ring, and finally finishing the ring on forming-rolls, as described. 2nd. The method hereinbefore described of forming rings from flat circular blanks having a central opening, which consists in first, by means of one die, forcing the inner portion of the blank surrounding the central opening outward to form one-half of the ring, at the same time bending the outer portion of the blank into substantially a vertical position, and then by means of another die, in forcing the substantially vertical portion of the partly-formed ring inward to form the other half of the ring, leaving the greater thickness of the ring along its annular center and its opening with vertical walls. 3rd. For forming finger-rings, the die I, and the swage J, having the yielding sleeve T, jointly with the die Y, and swage d, substantially as set forth.

No. 36,353. Pipe and Mouthpiece for Tobacco. (*Pipe et ambre.*)

Charles Wallace Jones, Bowdon, Chester, England, 9th April, 1891; 5 years.

Claim.—The improvement in tobacco pipes and other smoking mouthpieces, which consists in forming them with one or more filters, of a porous material comparatively unalterable under the conditions used, and impregnated with a drug or chemical capable, when the pipe or other smoking mouthpiece is being smoked, of producing a medicinal effect or of absorbing or neutralising the nicotine or its effects in whole or in part, substantially as described.

No. 36,354. Fibrillation of Pine Needles.

(*Fibrillation de la feuille de pin.*)

Alexander Scott, Cronly, North Carolina, U.S.A., 9th April, 1891; 5 years.

Claim.—1st. In a machine for fibrillation of pine-needles, etc., the combination, with a card-cylinder and with feeding and splitting rolls, of one or more groups or trains of re-feeding and re-splitting members, substantially as set forth. 2nd. In a machine for fibrillation of pine-needles, etc., the combination of a card-cylinder and an initial train of heckling or splitting rolls, and a cleaning roll of one or more additional trains consisting of deflecting plate 12, forwarding apron 6', and train of re-feeding, re-splitting and re-cleaning rolls 7', 8', 9, 10', substantially as set forth. 3rd. In a machine for fibrillation of pine-needles, etc., the combination, with a card-cylinder with initial feeding and heckling members, of one or more sets of deflecting, re-feeding, re-heckling and re-cleaning members, a final cleaner and stripper and a delivery apron, substantially as and for the purpose set forth.

No. 36,355. Bar for Grates. (*Barreau de grille.*)

Charles Johnson Dorrance, Chicago, Illinois, U. S. A., 9th April, 1891; 5 years.

Claim.—1st. In a grate, a series of bars as B, B', provided with pivots or trunnions located on one side of a line drawn vertically through the center of the grate surface of said bars, in combination with means for rocking each alternate series of bars in one direction and the intermediate bars simultaneously in the other direction, substantially as described. 2nd. In a grate, a series of bars B, B', provided with pivots or trunnions located on one side of a line drawn vertically through the center of the grate-surface of said bars, said bars being provided with depending arms B², B³, two bars C, C', one

of which bars is connected with the arms B², of the alternate bars B, and the other with the arms B³, of the intermediate bars B¹, a rock-shaft provided with opposite lugs severally connected with the said bars C, C¹, whereby the alternate grate-bars will be oppositely moved when the rock-shaft is oscillated, and means for actuating the rock-shaft, substantially as described.

No. 36,356. Elevated Railway.

(*Chemin de fer élevé.*)

David B. Weaver, Hopewell Township, Michael B. Brenaman, Samuel B. Stoler and Theodore C. Saunderson, of Saxton, and Alexander C. Mullin, Liberty Township,, all in Pennsylvania, U.S.A., 9th April, 1891; 5 years.

Claim.—1st. In a cable railway, of the character described, the combination of a drum, bearings for the same, one of which is laterally adjustable, and a housing for the drum having an opening in one side, substantially as and for the purpose set forth. 2nd. In an elevated railroad, the combination, with a car, of a plate held above the top of the car and pivoted in its middle to a suitable bearing on the said car, substantially as shown and described. 3rd. In an elevated railroad, the combination, with a car, of a plate held above the top of the car and pivoted in its middle to a suitable bearing on the said car, and guide-posts held on the ends of the said car and passing through the ends of the said plate, substantially as shown and described. 4th. In an elevated railroad, the combination, with a car, of a plate held above the top of the car and pivoted in its middle to a suitable bearing on the said car, guide posts held on the ends of the said car and passing through the ends of the said plate, ropes connected with the ends of the said plate, and a drum mounted in the said car and adapted to wind up or unwind the said ropes to change the position of the said plate, substantially as shown and described.

No. 36,357. Combined Chair and Lounge.

(*Chaise et sofa combinés.*)

James Thompson and Company, (assignees of Charles Thompson), all of Montreal, Quebec, Canada, 9th April, 1891; 5 years.

Claim.—1st. The combination, with the seat portion of a lounge, of a revoluble chair body, for the purposes set forth. 2nd. The combination of lounge frame A, upholstered in part, chair body C, and means for rendering same revoluble, as set forth.

No. 36,358. Waggon. (*Wagon.*)

Robert Anderson and Walker Green Anderson, both of Toronto, Ontario, Canada, 9th April, 1891, 5 years.

Claim.—1st. A waggon body 1, consisting of two or more sections, each section hinged to some part of the waggon frame so that they may be dumped independently of the other, substantially as and for the purpose specified. 2nd. In a waggon, a box consisting of two or more sections, each section hinged to some part of the waggon frame, each section provided with a locking lever to engage with a keeper secured to the said frame for the purpose of holding the waggon section in its horizontal position, substantially as and for the purpose specified. 3rd. In a waggon, a box consisting of a series of sections, each section hinged to some portion of the waggon frame and provided with pivoted levers to engage with keepers secured to the said frame, a spring locking bar secured to the side bars to engage with and lock the said pivoted levers, substantially as and for the purpose specified. 4th. In a waggon, a box consisting of a series of sections, each section hinged to some portion of the waggon frame, so that each section may be dumped independently of the other, and mechanism for locking the said sections together, substantially as and for the purpose specified. 5th. In a waggon, a box consisting of several sections 2, and 3, each section hinged to a bolster 5, by means of a strap hinge 4, and having pivoted to their under sides locking levers 9, and 11, engaging respectively with keepers 10, fastened to the side bar 6, and keepers 13, fastened to the section 3, the said lever 11, being pivoted to the side bar 6, and engaging with keepers 13, secured to the said section 3, and held in guide brackets 12, secured to the bolsters 5, on the opposite side of the waggon to which it is pivoted for the purpose of locking the sections into their horizontal position, substantially as and for the purpose specified.

No. 36,359. Hat and Cap.

(*Chapeaux et casquettes.*)

Arthur Lapointe and Jean Baptiste Laliberté, both of the City of Quebec, Province of Quebec, Canada, 9th April, 1891; 5 years.

Claim.—1st. A hat or cap, having a band secured to the sides of the interior of the cap or hat and passing around the inside front portion thereof, the said band being made smaller size than the front portion of the hat or cap leaving an air space between and the strips E, and F, substantially as and for the purpose set forth. 2nd. The combination of the cap A, band C, secured to the said cap at c, c, and the strips E, and F, substantially as set forth.

No. 36,360. Machine for Folding Sheet Metal. (*Machine pour plier le métal en feuille.*)

Matthew E. Hastings and W. Stuart Walcott, both of New York, State of New York, U.S.A., 9th April, 1891; 5 years.

Claim.—1st. In a sheet metal folding machine, the combination of a quadrilateral table, a presser-plate, substantially of the size and form of the table, adapted to descend thereon, brakes upon the two

adjacent sides of the table adapted to work by or around its edge, and brakes upon the two adjacent sides of the presser-plate being the opposite sides to those having the brakes on the table, the brakes upon the presser-plate being adapted to work by or around its edge, substantially as set forth. 2nd. In a sheet-metal folding machine, the combination of the table having a partial bearing affixed thereto, a presser-plate having the complement of the bearing affixed thereto, and the brake working in the bearings. 3rd. The combination of the table, the presser-plate adapted to descend upon the table, and having a vertical and horizontal movement, and the bearings part of which are affixed to the presser-plate and table, respectively, and adapted to be brought together when the presser-plate descends upon the table and the brakes in said bearings. 4th. In a sheet-metal folder, the combination of the table, the presser-plate adapted to descend upon the table, and mounted upon a post movable within guides, the angular slot in the guides and pin in the post engaging in the slot. 5th. In a sheet-metal folder, the combination of the table, the presser-plate adapted to descend upon the table and mounted upon a post movable within guides, the roller upon the guides, and the projection upon the post having a rounded or beveled edge and adapted to engage the roller upon each upward movement, whereby sidewise movement is given to the presser-plate to withdraw it from the fold, substantially as set forth.

No. 36,361. Loom for Hair Cloth.

(*Méter pour tissus de crin.*)

Robert Hamilton Young, assignee of John Holyoak, both of Toronto, Ontario, Canada, 9th April, 1891; 5 years.

Claim.—1st. In combination, the connecting rod adjustably hinged at one end to a revolving-crank arm, and at its other end, by means of a universal joint, to a bell crank having a slot in its other extremity for adjustment the connecting rod, connecting said bell crank arm to a pendulum arm, the said pendulum arm having a hinge therein, a slot at its lower extremity and supported to vibrate at its upper extremity, the bilge shaped anti-friction roller operating in the slot in said pendulum arm operating, the nipper rod and the supporting arm secured to the frame of the loom to support the mechanism specified, substantially as shown and described and for the purpose specified. 2nd. In a hair cloth loom, the batten having a longitudinal opening therein played at its under side, in combination with the mechanism hereinbefore claimed and specified, substantially as shown and described.

No. 36,362. Car Coupler. (*Attelage de chars.*)

Clayton Weeks and John Elisha Bush, both of Hobart, New York, U.S.A., 9th April, 1891; 5 years.

Claim.—The combination, with a draw-head having the holes a², and spiral inclines a³, a³, of a loose spindle D, having the pin supports C, and opposite arms d, d, whereby the pin support will automatically take its place under the pin, as and for the purpose set forth.

No. 36,363. Fuel Saving Composition.

(*Composition pour économiser le combustible.*)

William Christopher Owston, Carleton, York, England, 9th April, 1891; 5 years.

Claim.—The above described fuel saving composition, consisting of a dry powder composed of coal slack, peat soil, or sand, lime, salt of potassium, and salt of sodium, particularly common salt, kainit and bicarbonate of soda, mixed together in or about the proportions, as herein set forth.

No. 36,364. Key for Telegraphs.

(*Touche de télégraphie.*)

John Doggett, Plain City, Ohio, U.S.A., 9th April, 1891; 5 years.

Claim.—1st. In a telegraph key, the combination, with a sounding arm, a support for the same, and a pivoted key lever having arms extending at each side of its fulcrum, of pivoted rods depending from each side of the pivot of the sounding arm and terminating below one of the arms of the key lever, and a pivoted switch located between said arms and adapted to engage and rigidly connect either one of said rods with the key lever, substantially as specified. 2nd. In a telegraph key, the combination, with a pivoted sounding arm, a support for the same, and a pivoted key lever extending at each side of its pivot to form operating arms, and provided in one of said arms with a pair of openings, of a pair of pivoted rods, one located at each side of the pivot of and depending from the sounding arm, and each passing through an opening in the key lever, and a switch lever pivoted to the under side of the key lever between the lower ends of the rods and provided at each side of its pivoted end with a shouldered flange adapted to engage kerfs formed in the lower ends of the rods, and thereby lock either of said rods rigidly with said key lever, substantially as specified. 3rd. In a telegraph key, the combination, with a pivoted sounding arm, a support for the same and a pivoted key lever arranged under the arm of a pair of rods pivoted at their upper ends to and on each side of the fulcrum of the sounding arm, and having their lower ends depending through openings formed in the key lever, one of said rods being threaded, a set nut threaded on the rod above the key lever and a coiled spring encircling the rod and interposed between the said nut and the support for the sounding arm, and means for locking either of said arms rigid with the key lever, substantially as specified. 4th. A telegraph key base, provided with a pivoted switch, and opposite insulated and non-insulated posts, in combination with a relay and a wire leading from said rod with a switch, substantially as specified. 5th. A telegraph key, the base of which is provided with the binding posts 58, 59, 65, and the lever 61, and the insulated and non-insulated posts 59, and 60, respectively, in combi-

nation with a relay and battery, said relay having the posts 50, to 53, inclusive, the wire leading from the battery to the post 52 of the relay, the wire 62, leading from the battery to the post 63, of the key, the wire 64, leading from the post 53, to the post 65, and forming, in connection with the wires 55, and 62, a local circuit, the wire 56, of the main line connected to the post 50, of the relay, and the main line wire 57, connected to the post 58, of the key, and to the contact point, substantially as specified. 6th. In a telegraph key, the combination, with a base, a standard rising therefrom, and a rib secured to the base a short distance in rear of the standard, and combining with the same to form a transverse recess, of a yoke secured within the recess, screws passing through the base into the yoke, and a key lever pivoted in said yoke, substantially as specified.

No. 36,365. Machine for Separating Flax Seed. (*Séparateur de graine de lin.*)

Lucy Jane Bolt Easton, Rochester, Minnesota, U. S. A., 10th April, 1891; 5 years.

Claim.—The flax seed separating machine, consisting of the closure or casing, the upper and lower oppositely-inclined pivoted frames supported in said closure or casing, the screens carried by said frames, the fans and their common shaft having intermediately of the fans, oppositely-arranged eccentrics, the rods loosely embracing said eccentrics at one end and each having at the opposite end a series of apertures, and passing through an aperture in the outer end piece of each sieve, and the adjusting-pins passing through other apertures in said end pieces of the sieves and engaging the series of apertures in said rods, substantially as set forth.

No. 36,366. Ventilator. (*Ventilateur.*)

William Talbot Cottier, Oakland, California, U. S. A., 10th April, 1891; 5 years.

Claim.—1st. The combination, with a stack or chimney, of an induction-pipe having a flaring or bell-mouth receiver on the outside thereof, and an upwardly increasing discharge on the inside, the latter being placed free from contact with the inner wall of the chimney and approximately in the vertical centre of said chimney, substantially as specified. 2nd. The combination, with a stack or chimney, of a plurality of induction pipes having a bell-mouth receiver on the outside, and an upwardly increasing discharge, on the inside, and arranged approximately in the vertical center of the stack and at different heights or altitudes, substantially as specified. 3rd. The combination, with a stack or chimney having a plurality of induction pipes, provided with an upwardly increasing discharge portion arranged approximately within the center of the chimney at different altitudes and free from the walls thereof, and deflecting plates in the upper portion of said stack, substantially as specified.

No. 36,367. Window. (*Fenêtre.*)

Oliver Murray Edwards, Syracuse, New York, U. S. A., 10th April, 1891; 5 years.

Claim.—1st. The combination, substantially as set forth, of a sash, two pivoted movable stops arranged one at each of two edges, of one side of the sash, two other stops arranged at corresponding edges of the opposite side of the sash, and a spring or springs, whereby the sash is held in contact with both the movable and stationary stops. 2nd. The combination, substantially as set forth, of a sash, two movable stops arranged one at each of two edges of one side of the sash, a spring or springs, and means connecting the two stops together, whereby the movable stops are held in contact with the side of the sash by the spring or springs, and are moved together by the connecting means. 3rd. The combination, substantially as set forth, of a sash, two movable stops arranged one at each of two edges of one side of the sash, a spring or springs, and means for moving the stops together against the stress of the spring or springs, whereby the movable stops are held in contact with the side of the sash by the spring or springs, and the sash is relieved from such contact. 4th. The combination, substantially as set forth, of a sash, two movable stops arranged one at each of two edges of one side of the sash, two stationary stops arranged at corresponding edges of the opposite side of the sash, a spring or springs, and means for connecting the movable stops together, whereby the sash is held in contact with both the movable and stationary stops, and the movable stops are moved together to release the sash from such contact. 5th. The combination, substantially as set forth, of a sash, two pivoted movable stops arranged one at each of two edges of one side of the sash, a spring or springs, and means for connecting the stops together, whereby the movable stops are held in contact with the side of the sash by the spring or springs, and are moved on their pivots by the connecting means. 6th. The combination, substantially as set forth, of a sash, two pivoted movable stops arranged one at each of two edges of one side of the sash, a spring or springs, and means for moving the stops together against the stress of the spring or springs, whereby the movable stops are held in contact with the side of the sash by the spring or springs, and the sash is released from such contact. 7th. The combination, substantially as set forth, of a sash, two movable stops arranged one at each of two edges of one side of the sash, and to move with the initial movement of such sash, a spring or springs arranged to hold the stops in contact with the sash, and means for moving the stops together against the stress of the spring or springs, whereby the sash is held by the stops from moving in one direction, and is released from the stops to permit it to move in the same direction. 8th. The combination, with a window sash provided with means for automatically moving the same in one direction, of movable stops bearing against the sash, substantially as shown and described. 9th. The combination, with a window sash provided with means for automatically moving the same in one direction, of stops pivoted to the sides thereof, and arranged to be

withdrawn from or pressed against the sash, substantially as shown and described. 10th. The combination, with a window sash provided with means for automatically moving the same in one direction, when released, of a cord connected with a movable stop mechanism arranged to be withdrawn from or pressed against the edges of the sash, substantially as and for the uses and purposes shown, and described. 11th. The combination, with a window sash provided with means for automatically moving the same in one direction, of stops eccentrically mounted at the sides thereof, substantially as shown and described. 12th. The combination, substantially as set forth, of a sash, two movable stops arranged one at each of two edges of one side of the sash, and to move with the initial movement of such sash, a spring or springs arranged to hold the stops in contact with the sash, and means for automatically moving the sash in one direction, whereby the sash is held or locked by the stops from moving in one direction, and is released from the stops to permit the sash to be moved automatically.

No. 36,368. Window and Door.

(*Fenêtre et porte.*)

Franz Rademann, Itzehoe, Prussia, German Empire, 10th April, 1891; 5 years.

Claim.—A lever fastening for doors, windows and the like, in which a lever having a long and a short end is pivoted on the door or window so as to swing perpendicularly to the plan of the door or window and held in position by a detent, in order to allow of the door or window being pressed home against the casement and held in position, substantially as described.

No. 36,369. Weighing Machine, Etc.

(*Balance à bascule, etc.*)

George Evan Rutter, Brixton Hill, Surrey, England, 11th April, 1891; 5 years.

Claim.—1st. A counterpoise for scales, weighing, strength testing, and similar machines consisting of a cylinder containing mercury or a similar fluid resistance, and a plunger, substantially as described. 2nd. A counterpoise for scales, weighing, strength testing, and similar machines, consisting of two cylinders containing mercury or a similar fluid resistance, and two plungers, and means for connecting the plungers with the load and indicating mechanism, substantially as described. 3rd. A counterpoise for scales, weighing, strength testing, and similar machines, consisting of one or more cylinders containing mercury or a similar fluid resistance, and one or more plungers, substantially as described. 4th. A counterpoise for scales, weighing, strength testing, and similar machines, consisting of a cylinder, a fluid resistance or counterpoise, and a plunger normally floating in or upon, but adapted upon the application of the load to be forced into or displace said fluid resistance, substantially as described and illustrated in the accompanying drawings. 5th. A counterpoise for scales, weighing, strength testing, and similar machines, consisting of two cylinders containing a fluid resistance or counterpoise, and two plungers normally floating in or upon but adapted upon the application of a load to be forced into or displace said fluid resistance, substantially as described and illustrated in the accompanying drawings. 6th. A counterpoise for scales, weighing, strength testing, and similar machines, consisting of a cylinder containing a fluid resistance or counterpoise, and a plunger normally floating in and adapted upon the application of the load to be partially withdrawn from said fluid resistance or counterpoise, substantially as described and illustrated in the accompanying drawings. 7th. A counterpoise for scales, weighing, strength testing, and similar machines, consisting of cylinders containing a fluid resistance or counterpoise, and two plungers normally floating in and adapted upon the application of the load to be partially withdrawn from the said fluid resistance or counterpoise, substantially as described and illustrated in the accompanying drawings. 8th. The complete counterpoise mechanism for scales, weighing, strength testing, and similar machines, consisting of fixed cylinder F, fluid resistance or counterpoise F, plunger E, lever D, and rod B, the whole constructed and operating, substantially as described and illustrated in the accompanying drawings. 9th. The complete counterpoise mechanism for scales, weighing, strength testing, and similar machines, consisting of two fixed cylinders F', fluid resistance or counterpoise F, two plungers E, two cords or equivalent X, two pulleys Y, and rod B, the whole constructed and operating, substantially as described and illustrated in the accompanying drawings. 10th. A fluid counterpoise for scales, weighing, strength testing, and similar machines, substantially as described. 11th. In coin-freed mechanism, the combination, with the coin shoot, of a fixed contact piece and spring contact piece, substantially as described and illustrated in the accompanying drawings. 12th. In coin-freed mechanism, the combination, with a coin shoot having a fixed contact piece, and a spring contact piece of an electro-magnet the circuit through which is completed by the contact of the said contact pieces. 13th. In coin-freed mechanism, the combination, with a coin shoot having fixed and spring contact pieces and an electro-magnet connected therewith, of a pivoted detent, one end whereof serves as the armature to the electro-magnet while the other serves as the detent which prevents the operation of the indicating mechanism, substantially as described and illustrated in the accompanying drawings. 14th. In coin-freed mechanism, the combination, with the index carrying spindle, of an arm, whereby the spindle is prevented from rotating a toothed pinion and a rack rod, the latter carrying the "Thank You" plate, substantially as described and illustrated in the accompanying drawings. 15th. In coin-freed mechanism, the combination, with the index carrying spindle, of an arm, whereby the spindle is prevented from rotating a toothed pinion, and a rack rod the latter carrying the shutter which obscures the "Thank You" plate, substantially as described. 16th. In coin-freed mechanism, the combination, with the rack rod which operates the index hand, of a "Thank You" plate or shutter,

an electric lamp, and an insulating block, substantially as described and illustrated in the accompanying drawings. 17th. In coin-freed mechanism, the combination, with the rack rod which operates the index hand, of a shutter for obscuring the "Thank You" plate, an electric lamp, and an insulating block, substantially as described. 18th. In coin-freed mechanism, the combination, with the rack rod which operates the index hand and carries the "Thank You" plate or shutter and insulating block, of a spring contact piece which is always in contact either with the insulating block or with the rack rod, substantially as described and illustrated in the accompanying drawings. 19th. In coin-freed mechanism, the combination of a coin shoot, a detent operating electro-magnet, a "Thank You" plate, an electric lamp behind said "Thank You" plate, and a rack rod insulator block and spring contact, the whole, substantially as described and illustrated in the accompanying drawings. 20th. In coin-freed mechanism, the combination, with the weighing or strength testing mechanism, of a pivoted arm normally resting upon said weighing or strength testing mechanism, and sustaining the rack rod which operates the index hand, substantially as described and illustrated in the accompanying drawings. 21st. In coin-freed mechanism, the combination, with the rack rod which operates the index hand, of a pivoted arm supported upon the weighing or strength testing mechanism, and itself supporting the said rack rod, substantially as described and illustrated in the accompanying drawings. 22nd. In coin-freed mechanism, the combination, with the rack rod which operates the indicating mechanism, and the arm which supports the said rack rod of a screwed adjusting rod and plate, substantially as and for the purpose described and illustrated in the accompanying drawings. 23rd. In coin-freed mechanism, the combination, with a movable portion of the weighing or strength testing mechanism, of an adjustable stop upon which rests the supporting lever of the indicating mechanism, substantially as described and illustrated in the accompanying drawings. 24th. In coin-freed mechanism, a coin shoot having a contact piece so placed that while a coin of standard size makes the requisite contact a coin of smaller size falls clear of said contact piece, and fails to make said contact but can close an entirely distinct circuit, substantially as described and illustrated in the accompanying drawings.

No. 36,370. Pavement for Stables.

(*Pavage d'étable.*)

Johann Jungbluth, Cologne, Prussia, Germany, 11th April, 1891; 5 years.

Claim.—1st. A composition flooring for stables, public or other baths, slaughter houses and the like characterised by the use of drain channels of tapering section, which are slotted at the top in a longitudinal direction are provided laterally with projections y, y' , for the ready drainage of the water, and are so laid in the said flooring that the latter does not slope, as hitherto, practised in the longitudinal direction of the drain channels, but it is inclined laterally towards each pair of drain channels being consequently horizontal in such longitudinal direction. 2nd. In composition flooring of the kind set forth, the drain channels formed of lower stones h , which are provided at their upper edges with inclined protuberances N, O , and with inner cavities running in a longitudinal direction, and of upper stones a , laid thereon, and connected therewith by means of a layer of sand, the latter stones being held in place by the former and forming, in the direction of the drain channels of the lower stones small intervals or passages b , allowing the water or liquid sewerage to be readily drained off. 3rd. A composition flooring formed with separate drain pipes F , and of clay, iron, cement, or other suitable material, which pipes are imbedded in sand, surrounded by a layer B , of concrete and covered by the ground layer C , formed of bricks, cement concrete, wood, clay plates, asphalt, building stones, and the like, in such a manner as to form a sloping back towards two adjoining drain pipes. 4th. In the composition flooring claimed above the use of T-irons d , which are loosely laid in the slot b , of the drain pipes, and serve as a cover therefor, substantially as described.

No. 36,371. Safety Device for Cork Screws.

(*Appareil de sûreté pour tire-bouchon.*)

Richard Duszynski, Berlin, Prussia, German Empire, 11th April, 1891; 5 years.

Claim.—In a corkscrew, the metal ring A , jacket E , and cylinder G , substantially as described.

No. 36,372. Artificial Fuel.

(*Combustible artificiel.*)

John Joseph Hayes, assignee of Haydn Mozart Baker, both of Brooklyn, New York, U.S.A., 11th April, 1891; 15 years.

Claim.—1st. The process, herein set forth, for the manufacture of artificial briquets, said process consisting in mingling with finely divided organic waste an aqueous solution of sodium or potassium, bi-silicate, or tri-silicate, submitting the mass to energetic pressure and drying the same, substantially as described. 2nd. The process, herein described, the same consisting in mingling with finely divided organic waste, an aqueous solution or potassium bi-silicate or tri-silicate having a specific gravity of from 30° to 65° beaume, submitting the mass to energetic pressure in suitable molds, and finally drying the compressed mass, substantially as described. 3rd. The process described, the same consisting in mingling with finely divided organic waste, an aqueous solution of sodium or potassium, bi-silicate or tri-silicate of the specific gravity described, together with an aqueous solution of an alkaline, nitrate alkaline, or earthy or metallic permanganate, subjecting the mass to pressure, and drying the compressed block, substantially as described. 4th. As a new

article of manufacture, a briquet consisting of a compressed mass of finely divided organic waste, and a bi-silicate or tri-silicate of sodium or potassium, substantially as described. 5th. A briquet, consisting of a compressed mass of finely divided organic waste, mingled with a bi- or tri-silicate of soda in aqueous solution, of the specific gravity set forth, and an alkaline nitrate or its described equivalent, substantially as described.

No. 36,373. Cattle Guard for Railways.

(*Garde bétail de chemin de fer.*)

Parker Merrill, St. Louis, Michigan, U.S.A., 13th April, 1891; 5 years.

Claim.—1st. In a cattle guard, having guard bars elevated above the ties, the T-bars lying upon their side, resting upon and secured to the upper surface of two or more transverse beams, said bars having their ends bent down to the upper surface of the ties outside the terminal beams, substantially as set forth. 2nd. In a cattle guard, having elevated guard bars that are bent down at their ends to the tie, the spike plate D , clamped against their ends, substantially as set forth.

No. 36,374. Game. (*Jeu.*)

Timothy William McGrath, Minneapolis, Minnesota, U.S.A., 13th April, 1891; 5 years.

Claim.—1st. In a game or puzzle, a board providing concentric grooves connected by a gate, and a bridge in the inner groove opposite the gate, in combination with checkers having character faces, substantially as set forth. 2nd. In a game or puzzle, a board providing concentric grooves or other parallel grooves, connected by a gate or gates, in combination with checkers having character faces, substantially as set forth.

No. 36,375. Method of Manufacturing Buttons, etc., from Vegetable Ivory.

(*Mode de fabrication des boutons, etc., d'ivoire végétal.*)

Dilman B. Shantz, Berlin, Ontario, Canada, 14th April, 1891; 5 years.

Claim.—1st. The method of preparing the piece of rough material a , by cutting or otherwise forming the groove c , substantially as and for the purpose hereinbefore set forth. 2nd. The method of preparing the piece of rough material a , by cutting or otherwise forming the finished or partly finished surface b , and the groove c , substantially as and for the purpose hereinbefore set forth.

No. 36,376. Combined Saw Set and Gauge.

(*Jauge tourne à gauche.*)

Robert T. Richardson, Township of Metcalf, Ontario, Canada, 14th April, 1891; 5 years.

Claim.—1st. As a new article of manufacture, a saw set, formed with an opening A , and a rounded portion B , and an inclined portion C , adjacent to said opening A , substantially as shown and described, and for the purpose specified. 2nd. As a new article of manufacture a saw set, formed with an opening A , and a rounded portion B , and an inclined portion C , adjacent to said opening A , and the straight edge F , and the gages E^1, E^2, E^3 , substantially as shown and described, and for the purpose specified.

No. 36,377. Stretcher for Curtains.

(*Métier à rideau.*)

Alvin Arthur Merritt, Toronto, Ontario, Canada, 14th April, 1891; 5 years.

Claim.—Two bars A , having longitudinal slots a , made in them and connected together by the bars B , having slots b , made in them through which the thumb-screw bolts C pass, and are secured by the nuts D , substantially as and for the purpose specified.

No. 36,378. Circular Saw. (*Scie circulaire.*)

Joseph Elton Bott, Eyam, Derby, England, 14th April, 1891; 5 years.

Claim.—1st. In circular saws, the combination of planing teeth or cutters, and saw teeth or sets of saw teeth arranged in alternation, substantially as herein shown and described. 2nd. In circular saws, the combination of planing teeth or cutters, stiffening and polishing ribs and saw teeth or sets of saw teeth arranged, substantially as herein shown and described. 3rd. In circular saws, the combination in alternation with saw teeth or sets of saw teeth, of planing teeth or cutters having the cutting edge formed along one or other side of the outer edge or back thereof, substantially as herein shown and described.

No. 36,379. Holder for Sashes. (*Arrête-croisée.*)

Charles William Brower and Philip Adam Herzog, both of Racine, Wisconsin, U.S.A., 14th April, 1891; 5 years.

Claim.—1st. The combination, with a sash grooved or rabbeted in its face its entire length, of a strip secured in this groove and extending the entire length of the sash, and springs interposed between the sash and strip, substantially as described. 2nd. The combination, with a sash provided with a groove at its front edge or corner, of a pressure strip secured in said groove and provided with a rearwardly-extending tongue or rib adapted to work in a corresponding groove in the sash, and springs and stops, substantially as described.

No. 36,380. Combined Pipe Coupling and Stop Valve. (*Joint de tuyau et soupape d'arrêt combinés.*)

Felix Louis Decarie, Peter Lord and John Lee, Montreal, Quebec, Canada, 14th April, 1891; 5 years.

Claim.—The combination in a pipe coupling, of the sleeve *a*, having arms *g*, and set screw *i*, also having head *b*, provided with circular flange *d*, having valve seat *l*, and adjustable valve *g*, for controlling the flow through the coupling, with sleeve *a'*, having head *b'*, provided with a groove *d'*, and packing *e'*, adapted to form a joint with the flange *d*, by pressing them together with the set screw *i*, the whole, substantially as described.

No. 36,381. Dynamo Electric Machine.

(*Machine dynamo électrique.*)

James John Wood, Brooklyn, New York, U.S.A., 16th April, 1891; 5 years.

Claim.—1st. In a current regulator, a mechanism for shifting the commutator brushes between their maximum and minimum positions, and an intervening separable connection consisting of a clutch through which said mechanism transmits motion to the brushes, with a stop constructed to disconnect said clutch when the brushes reach the limit of their movement, whereby the mechanism is rendered impotent to carry the brushes too far, in substantially the manner described. 2nd. The particular features of construction of said separable connection, consisting of driving and driven parts, friction pawls carried by the driven part, and through which the opposite movements are communicated to it from the driving parts and a stop (or stops) arranged to arrest one or other of said pawls when the driven part reaches the position corresponding to either limit of movement of the commutator brushes, whereby the driving connection through the arrested pawl is severed, and further movement in the same direction is impotent to move the brushes further, but a movement in the reverse direction is immediately communicated through the other pawl to the brushes, essentially as described. 3rd. In a current regulator, the means for giving motion to a shifting mechanism, consisting of a friction-wheel, two oppositely revolving friction-rollers geared to the armature shaft and mounted on a lever, so that by moving the lever either roller can be pressed against the friction-wheel to drive it in one direction or the other, an electro-magnet and its retractile spring connected to said lever, and suitable means for relatively adjusting the friction-wheels and rollers, substantially as set forth. 4th. Constructing the two friction-rollers to revolve at different surface speeds, the faster one driving the shifting mechanism in such direction as to move the brushes away from the maximum position, and the slower one to move them toward the maximum, for the purpose described. 5th. The combination, with a current regulator of the class wherein a shifting mechanism is connected to a source of power by the action of a regulating electro-magnet, of a retarding device, such as a fan, for resisting undue movements of the mechanism, in substantially the manner described. 6th. The connection of such fan or other retarding device to the shifting mechanism, by means of a frictional connection, adapted to slip in the case of a quick movement of the shifting mechanism, for the purposes described. 7th. The combination, with a current regulator of the class wherein a shifting mechanism is connected to a source of power by the action of a regulating electro-magnet against a retractile spring or force, of a movable stop, such as P, constructed to be applied to receive the tension of the retractile force and prevent the latter from acting on the mechanism, substantially in the manner described, so that the regulator can be held out of action when the machine is overloaded or below the normal speed. 8th. Mounting or pivoting the stop P, so that when the electro-magnet becomes strong enough to overcome the retractile force, and set the stop free, it will fall or move of itself out of engagement, for the purpose set forth. 9th. The novel features of construction of the regulating electro-magnet or solenoid M, comprising the reducing of the mass of the pole which preponderates in polarity by reason of induction from the field magnet, also the siting of the polar ends of the core so that the sub-divisions thereof repel each other and aid the demagnetization of the core. 10th. In a dynamo-electric machine having an armature of the "closed coil" class, the combination with its commutator and main commutator brushes, and an automatic regulating mechanism for shifting said brushes between their maximum and minimum positions to compensate for variations of resistance in the circuit, of supplemental commutator brushes connected in circuit with the respective main brushes, and the two sets of brushes geared differentially to said shifting mechanism, so that the main and supplemental brushes are moved simultaneously in the same direction but at different speeds, so as to approach each other in moving away from the maximum position, and recede from each other in moving toward the maximum, in substantially the manner and for the purposes set forth. 11th. In a dynamo, the construction of the annular armature core of sections overlapping at their junction, the end portion of one section extending outside of the other, and engaged by an external support or spider arm, so that centrifugal action is resisted by said support, and the overlapping ends are pressed thereby into closer contact, in substantially the manner described. 12th. In a dynamo, the construction of the annular armature core of sections united by scarf joints, and each section built up of laminæ superposed in planes perpendicular to the axis of rotation, with their edges coinciding at the joints, as described. 13th. An annular armature core consisting of sections built up of laminæ fastened together, and exteriorly rounded caps fastened against the opposite sides of the sections, for the purpose set forth. 14th. A sectional armature core provided with exterior caps or plates arranged to partially overlap at their ends the joints of the sections, and thereby prevent their relative lateral displacement, substantially as described. 15th. A sectional armature core, combined with a supporting spider, the arms of which engage the sections at their joints, and with caps or plates fastened against the opposite sides of the sections, extending

between the spider arms and abutting at their ends against said arms, for the purpose specified. 16th. The combination, with an annular armature core divided into sections, of a supporting spider having arms formed with heads engaging the inner side of the core at the joints, and with jaws engaging the outer side of the core, and movable to draw its sections inwardly, substantially in the manner set forth. 17th. The combination, with an annular armature core divided into sections, of a supporting spider consisting of two parts, engaging opposite sides of the core, movable relatively toward and from each other, and each part formed with beveled jaws overhanging the exterior of the core at its joints, so that by moving the parts together the sections are drawn inwardly, substantially as described.

No. 36,382. Electric Arc Lamp.

(*Lampe électrique à arc.*)

James John Wood, Brooklyn, New York, U. S. A., 16th April, 1891; 5 years.

Claim.—1st. The combination, with a carbon holder having rack teeth, an armature lever, a feeding train carried by said lever, terminating in a pinion meshing with said rack and having a toothed stop-wheel, and a stationary stop-tooth arranged to engage said stop-wheel when the latter is moved toward it by the lever, of an elastic arm or spring on which said tooth is formed or mounted, extending approximately horizontally, bent at right angles, and fastened, and an adjusting screw arranged horizontally to bear against said elastic arm, whereby by the horizontal adjustment of said screw the stop tooth may be raised or lowered, and thereby adjusted relatively to the stop wheel. 2nd. In an arc lamp, the combination, with a carbon holder having rack teeth and a feeding train for feeding down the holder, including a feeding pinion, engaging with the rack and a retarding device for governing the rate of feed, of a friction clutch interposed between said pinion and retarding device, whereby when the carbon holder is forcibly pulled down the said clutch will slip and avoid injury to the feeding train. 3rd. In an arc lamp, the combination, with a carbon holder having rack teeth and a feeding train, including a feeding pinion, engaging said rack, and a retarding device, of a friction clutch consisting of a gear wheel on said train, connected through its gear teeth with the retarding device, a disk connected to the feeding pinion, so as to rotate therewith when the carbon holder descends, and a spring for pressing said gear wheel and disk into frictional contact. 4th. In an arc lamp, the combination of an armature lever, a main magnet above the lever and a shunt magnet below it, an interposed armature connected to the lever through a loose pivotal connection adapted to permit of the armature being drawn down by the shunt magnet independently of the lever, and cut-out contacts carried by the lever and armature, respectively, the one carried by the armature being arranged over and standing normally out of contact with the one carried by the lever, whereby an abnormal excitation of the shunt magnet draws down the armature and brings said contacts together and the weight of the armature tends to hold them together. 5th. In an arc lamp, the combination of an armature lever, a main magnet above the lever and a shunt magnet below it, an interposed armature connected to the lever through a loose pivotal connection adapted to permit of the armature being drawn down by the shunt magnet independently of the lever, a spring tending to lift the armature and reacting against the armature lever, and a cut-out contact carried by the armature and lever, respectively, and arranged to be closed together by the attraction of the armature downwardly relatively to the lever and against the tension of said spring, whereby the weakening of said spring by heat will have no tendency to separate the cut-out contacts. 6th. In an arc-lamp, the combination of an armature lever, a main magnet above the lever and a shunt-magnet below it, an interposed armature connected to the lever through a loose pivotal connection adapted to permit of the armature being drawn down by the shunt-magnet independently of the lever, stops for limiting the drawing down of the lever, and cut-out contacts carried by the lever and armature, respectively, that carried by the armature standing over the one carried by the lever and arranged when brought together by the attraction of the armature by an abnormal excitation of the shunt-magnet to form stops for limiting the downward movement of the armature. 7th. In an arc lamp, the combination, with an armature F, and an armature-lever E, constructed as an annular frame to inclose the armature and having notches open beneath engaged by pivot-pins on the armature, of a spring *a*, for partly sustaining the weight of the armature, consisting of a leaf fastened to the armature at its middle and having its free ends pressing downwardly on opposite sides of the lever. 8th. In an arc lamp, the combination of opposed main and shunt magnets, an armature and armature-lever connected through a loose connection adapted to permit of the armature moving independently of the lever when abnormally attracted by the shunt-magnet, and cut-out contacts carried by the armature and lever, respectively, to be brought into contact upon such abnormal attraction, and said contacts arranged in line with the connection between the armature and lever, whereby their action is free from disturbance due to the different paths of motion of the lever and armature. 9th. In an arc lamp, the combination of opposed main and shunt magnets, an armature and armature-lever connected through a loose pivotal connection adapted to permit of the armature moving independently of the lever when abnormally attracted by the shunt-magnet, and cut-out contacts carried by the armature and lever, respectively, to be brought into contact upon such abnormal attraction, and said contacts arranged closely adjacent to the axis of the pivotal connection between the armature and lever. 10th. In an arc-lamp, the combination of opposed main and shunt magnets, an armature and armature-lever connected through a loose pivotal connection adapted to permit of the armature moving independently of the lever when abnormally attracted by the shunt-magnet, and cut-out contacts carried by the armature and lever, respectively, to be brought into contact upon such abnormal attraction, and said contacts consisting, respectively, of a pivot-pin on one of the parts and a contact-arm carried by but insulated from the other part and arranged closely adjacent to said pivot-pin. 11th. In

an arc lamp, the combination of opposed main and shunt magnets, an armature and armature-lever connected through a loose pivoted connection adapted to permit of the armature moving independently of the lever when abnormally attracted by the shunt-magnet, consisting of open notches in the armature-lever engaged by pivot-pins on the armature, and cut-out contacts carried by the armature and lever, respectively, to be brought into contact upon an abnormal excitation of the shunt-magnet, and consisting, respectively, of a pivot-pin on the armature and a contact-arm fastened to but insulated from the lever and terminating adjacent to said pin on the open side of the notch in the lever. 12th. In an arc-lamp, the combination of main and shunt-magnets, an armature *F*, having pivot-pins *m*, an armature-lever *E*, having pivotal notches *m'*, and a contact-strip *L*, fastened to but insulated from the lever and formed with a contact-arm *L'*, arranged adjacent to a pin *m*, to be touched thereby when the armature is abnormally attracted by the shunt-magnet. 13th. In an arc lamp, the combination of main and shunt magnets, an armature and armature-lever connected by a loose connection adapted to permit the armature to move independently of the lever when abnormally attracted by the shunt-magnet, and cut-out contacts carried by the armature and lever, respectively, to be brought into contact upon such abnormal attraction and arranged in two pairs upon opposite sides of the lever, whereby normally a double contact is assured, or in case of the lateral tilting of the armature one pair of contacts at least is caused to act. 14th. In an arc lamp, the combination, with the mechanism-case, the negative binding-post passing through and insulated from the top of the case, and the positive-carbon holder *C*, having a pin *o'* projecting from it near its upper end, of a spring cut-out arm *O*, fastened to and in electric connection with the negative binding-post underneath the top of the case, and arranged with its free end projecting into the path of said pin *o'*, in position to be encountered thereby when the carbon-holder reaches the end of its downward movement, and thereby to stop the latter yieldingly and short-circuit the lamp. 15th. In an arc lamp having a mechanism-case and a frame extending thence downwardly for the support of the lower carbon-holder, the positive and negative binding-posts constructed with suspension hooks arranged with their bends in the same plane as said lower frame, and the binding posts displaced from said plane to the rear of the hooks, for the purpose specified. 16th. In an electric lamp, the combination, with the globe-holder having projecting lugs, of an ash-cup having a notched flange for engaging said lugs, formed with beveled teeth, the abrupt faces of which are arranged to be presented to the lugs when the ash-cup is in place. 17th. In an arc lamp, the combination, with a carbon-holding rod, of a carbon-clamp having gripping-jaws for engaging the carbon pencil, arranged to hold the latter with its axis out of line with the axis of the rod and connected to the rod through the medium of a swivel-connection, whereby it may be rotated relatively to the rod. 18th. In an arc lamp, the combination, with a carbon-holding rod, of a carbon-clamp consisting of gripping jaws arranged to hold the latter with the axis eccentric to that of the rod and connected to the rod through the medium of a swivelled connection, whereby the carbon-clamp may be turned relatively to the rod, and with a set-screw for fastening it in any rotative position. 19th. In a duplex lamp, the combination of the carbon-holders having rack teeth, feeding pinions engaging therewith, an armature-lever carrying said pinions, a feeding-train for regulating the feed, a pawl carried by the armature-lever and adapted to prevent the feeding down of the second carbon-holder during the feeding of the first holder, and a projection carried by the first carbon-holder and adapted at the termination of the movement thereof to throw said pawl out of action and cause the second carbon-holder to feed. 20th. In a duplex arc lamp, the combination, with the two carbon-holders having rack teeth, of two feeding-pinions, an armature-lever carrying said pinions, a ratchet-wheel connected to the second feeding-pinion, and a pawl adapted to engage said wheel during the feeding down of the first carbon-holder, and thereby prevent the rotation of the second feeding-pinion. 21st. In a duplex arc lamp, the combination, with two carbon-holders having rack-teeth, of two feeding-pinions, an armature-lever carrying them, a ratchet-wheel connected to the second feeding-pinion, a pawl adapted to engage said ratchet-wheel to prevent the rotation of the second feeding-pinion during the feeding down of the first carbon-holder, a stop projection on the first carbon-holder, and a mechanical connection between said stop projection and pawl, adapted upon the termination of the downward movement of the first carbon-holder to communicate motion to said pawl and withdraw it from said ratchet-wheel. 22nd. In a duplex arc lamp, the combination of the two carbon-holders having rack-teeth, two feeding-pinions engaging said racks, an armature-lever carrying said pinions, a ratchet-and-pawl device adapted to normally prevent the feeding of the second carbon-holder, a rock-shaft having an arm adapted when rocked to disengage said pawl, and the first carbon-holder having a stop projection arranged when it reaches the limit of its downward movement to encounter said rock-shaft and oscillate it in a direction to release said pawl. 23rd. In a duplex arc lamp, the combination, with the carbon-holders having rack-teeth, of feeding-pinions engaging them, an armature lever carrying said pinions, whereby both carbon-holders are suspended from the lever during the operation of the lamp, a feeding-train, means for preventing the feeding of the second carbon-holder during the feeding of the first, and means for upholding the first carbon-holder by the lever during the feeding of the second, consisting of the provision of the first carbon-holder and lever with a cam-surface on the one part and a roller on the other relatively arranged to impart to the carbon-holder the same extent of lift with a given movement of the lever as though the carbon-holder were hung by its rack-teeth from its feeding-pinion, whereby the effect of the weight of the carbon-holder upon the lever is substantially the same after as before the transfer of the feed, and the second carbons may burn with the same arc as the first. 24th. In a duplex arc lamp, the combination of the carbon-holders *C*¹, *C*², pinions *c*¹, *c*², lever *E*, carrying said pinions, pawl *x*¹, for preventing the feeding of the second holder during the feeding of the first, releasing rock-shaft *y*, having arms *y*¹, and *y*², roller *y*³, on the latter arm, and pin *b*¹ on the first carbon-holder, having an inclined cam-face which, during the burning of the second carbons, rests on

said roller and is so proportioned as to reduce the extent of lift of the first carbon-holder in order to equalize the arcs of the first and second carbons. 25th. In a duplex arc lamp, the combination of the two carbon-holders having rack-teeth, two feeding-pinions engaging said racks, an armature-lever carrying said pinions, a ratchet-and-pawl device adapted to normally prevent the feeding of the second carbon-holder, a rock-shaft having an arm adapted when rocked to disengage said pawl, and the first carbon-holder having a stop projection arranged when it reaches the limit of its downward movement to encounter said rock-shaft and oscillate it in a direction to release said pawl, and means for releasing said pawl by hand, consisting of a knob beneath the mechanism-case, and a mechanical connection between said knob and the rock-shaft whereby the shaft may be oscillated from said knob. 26th. In a duplex arc lamp, the combination, with the carbon-holders having rack-teeth, of feeding-pinions, engaging them, a ratchet-and-pawl device adapted to normally prevent the feeding of the second carbon-holder, means, substantially as described, for releasing said pawl when the first carbon-holder reaches the limit of its feeding movement, and a mechanical connection operated by the lifting of the second carbon-holder, to its extreme height to release said pawl and hold it released until the second carbon-holder is dropped sufficiently to admit of the striking of the arc.

No. 36,383. Journal Bearing.

(*Coussinet de tourillon.*)

James John Wood, Fort Wayne, Indiana, U.S.A., 16th April, 1891; 5 years.

Claim.—1st. A yielding bushing for journal bearings, consisting of a tubular sleeve formed with the internal and external bearing faces, arranged in different positions with elastic or yielding portions of the sleeve, intervening, whereby an expansive thrust against the inner faces will be compensated for by the flexure of said intervening yielding portions. 2nd. A yielding bushing for journal bearings, consisting of a tubular sleeve formed with internal and external bearing faces, arranged to extend longitudinally of the sleeve in different angular positions, with elastic or yielding portions of the sleeve intervening, whereby an expansive thrust against the inner faces will be compensated for by the flexure of said intervening yielding portions. 3rd. A journal bearing, consisting of the combination with the journal and supporting frame, of a yielding bushing within which the journal turns, constructed as a tubular sleeve with internal bearing-faces to support the journal, and with external bearing-faces seated against the frame, the internal and external faces being located out of coincidence with one another, with elastic or yielding portions of the sleeve intervening, whereby the bushing compensates by the flexure of its yielding portions for changes in the size or position of the journal relatively to the frame. 4th. A journal-bearing, consisting of the combination with the journal and supporting frame, of an inner bushing in which the journal has its bearing, and a yielding bushing intervening between said bushing, and the frame constructed as a tubular sleeve with internal bearing-faces, in contact with the inner bushing, and with external bearing-faces seated against the frame, the internal and external faces being located out of coincidence with one another, with elastic or yielding portions of the sleeve intervening, whereby the bushing compensates by the flexure of its yielding portions for changes in the size or position of the journal and inner bushing relatively to the frame. 5th. A journal bearing, consisting of the combination with the journal and supporting frame, of an inner bushing in which the journal has its bearing, of a metal having a higher coefficient of expansion than the metal of the journal, whereby as the bearing heats the bushing tends to expand in greater ratio than the journal, and thereby to loosen the fit of the journal, and a yielding bushing intervening between said bushing and the frame, constructed with internal bearing-faces to support the inner bushing, and with external bearing-faces arranged out of coincidence therewith and seated against the frame, whereby the yielding bushing compensates by its flexure for changes in the size of the inner bushing. 6th. A journal bearing, consisting of the combination with the journal and supporting frame, of an inner bushing in which the journal has its bearing, and a yielding bushing intervening between said bushing and the frame constructed as a tubular sleeve with external bearing-faces in contact with the frame, and internal bearing-faces supporting the inner bushing, said external and internal bearing-faces being arranged the one at the ends and the other at the middle portion of the sleeve and with elastic or yielding portions intervening between said internal and external bearing-faces, whereby by the flexure or distortion of the intervening portions, the bushing compensates for deflections of the journal and inner bushing out of true alignment or coincidence with the axis of the bearing. 7th. The combination, with the bearing-frame formed with an oil-duct leading to its bearing-bore, of a bearing bushing and a yielding bushing intervening between said bushing, and the bore constructed as a tubular sleeve with internal bearing-face in contact with the bearing bushing, and external bearing-faces extending longitudinally in contact with the bore, and with external flanges extending between said external bearing-faces on the side, communicating with the oil-duct to prevent escape of oil, and an oil-duct formed through the two bushings for admitting the oil from said duct therethrough to the journal. 8th. The combination, with the bearing-frame and inner or bearing bushing of an intermediate yielding bushing, and a screw or pin uniting the inner to the intermediate bushing, and a screw or pin uniting the intermediate bushing to the bearing-frame, whereby the displacement of the bushings, relatively to each other and to the frame is prevented.

No. 36,384. Stucco for Plastering.

(*Composition pour crépir.*)

Edward Olson, Jewell, Iowa, U.S.A., 16th April, 1891; 5 years.

Claim.—The herein-described compound, consisting of a decoction of hickory-bark, slippery-elm bark, pine-tar, alum, Brazilian gum, and white glue, with water, in about the proportions described, for the purpose set forth.

No. 36,385. Ointment for Curing Skin Disease. (*Onguent pour maladie de peau.*)

Anton Bergmann, Boerne, Texas, U.S.A., 16th April, 1891; 5 years.

Claim.—A liniment compound, consisting of soap, tobacco-extract, water, turpentine, and tincture of arnica, mixed together in the manner and in the proportions specified.

No. 36,386. Bob Sleigh. (*Traineau-jumeau.*)

Jesse Yenne, Egan, and John E. Clifford and George F. Standard, both of Demersville, all in Montana, U.S.A., 16th April, 1891; 5 years.

Claim.—1st. The combination, with parallel runners having their forward ends pivotally connected, of a bolster spanning the runners and adjustably attached thereto, substantially as shown and described, and for the purpose set forth. 2nd. The combination, with sled runners having their forward ends united by a cross bar and capable of a limited longitudinal movement, of raves attached to said runners, and a bolster spanning the runners and having a connection with said runners and the raves and capable of a lateral movement, substantially as shown and described. 3rd. The combination, with the runners of a sled and a cross bar pivotally connecting the said runners at one end, the said runners being capable of a limited independent longitudinal movement, and the said runners being provided with dove-tail recesses in their upper faces, of a rave secured to each runner above the recess therein and having an elongated slot in the upper end, a bolster spanning the runners, and a pin secured to each extremity of the bolster, one end of which pins passes upward through the slots in the raves and the opposite end downward into the recesses of the runners, substantially as shown and described. 4th. In a bob-sled, the combination, with the runners provided with downwardly-widening recesses 15, in their upper faces, and outwardly-widening or flaring apertures 16, in their front ends, a rocking cross bar, the ends of which rock vertically and laterally in said apertures 16, a tongue attached to said cross bar, and a rave secured to the upper face of each runner over the recess therein, each rave being provided with an elongated slot in its upper portion, of a bolster spanning the runners beneath the raves, a pin secured to each end of said bolster, the upper end of which pins extends through the slots in the raves and the other end into the recesses of the runners, and a reach bar attached to the runner cross bar at its forward end, the rear end of which reach passes through the bolster and is capable of longitudinal movement therein, substantially as and for the purpose set forth.

No. 36,387. Galvanic Battery.

(*Batterie galvanique.*)

Philip Hathaway, New York, (assignee of William M. Fink, Elizabeth, New Jersey), both in U.S.A., 16th April, 1891; 5 years.

Claim.—1st. In a chloride of silver battery, the use of a chloride of silver rod with a central wire or conductor forming the electrode of the negative element of such battery, and having attached to such wire the silver foil or other metallic connections in the shape of fine silver wires or silver gauze, such foil or other connections being so constructed as to fold over at their points when placed in the mould, and to be impacted on the surface of the chloride of silver when the same is cast in the mould for the purpose of affording complete electrical communication between the surface and the interior portions of the rod, substantially as described. 2nd. In a chloride of silver battery, the use of a chloride of silver rod formed with an indented or corrugated surface, for the purposes specified, and as described and shown. 3rd. In a chloride of silver battery, the use of the washers D, D', having silver foil discs *d, d'*, affixed thereto, for the purposes hereinbefore described and specified. 4th. In a chloride of silver battery, the use of the rubber tubing fitting closely to the electrode or conducting wire of the negative element of such battery for the purpose of insulating such conducting wire, and also for the purpose of facilitating the escape of the gas generated by the working of the battery, as hereinbefore described and specified. 5th. In a galvanic battery, the use of a seal formed of Portland cement or other similar cement pervious to hydrogen gas, but impervious to water or other liquid, superimposed upon a washer, as described, for the purpose of confining the excitant. 6th. In a galvanic battery, the use of a compound seal formed of a closely fitting washer, a film or layer of paraffin placed over such washer, and a layer of Portland cement or other similar substance, pervious to hydrogen gas but impervious to water or other liquid, superimposed upon such washer. 7th. In a chloride of silver battery, the combination of a zinc vessel, containing the negative element, the exciting medium, and the seal for confining such exciting medium, also forming the positive element and its electrode with a cement seal, pervious to hydrogen gas but impervious to water or other liquid, superimposed upon a non-conducting washer, substantially as described and for the purposes set forth. 8th. In a chloride of silver battery, the combination of a zinc electrode forming the receiving vessel for the other parts of the battery, a chloride of silver rod, and a compound seal formed of a close fitting non-conducting washer, a film or layer of paraffin or other similar non-conducting plastic substance for preventing contact of the excitant with the cement, and a superimposed layer of Portland or other similar hard porous cement. 9th. In a chloride of silver battery, the combination of a zinc vessel forming the negative electrode of the battery, and also holding the other elements of the battery, a chloride of silver rod furnished with silver foil or other internal metallic communications, with the conducting wire of such rod, and a seal composed of Portland cement or other similar cement pervious to gas but impervious to water or other liquid, as described and for the purposes specified. 10th. In a galvanic battery, the method, as described, of placing a sealed dry battery loosely between two metallic contact points, one or both of such contact points being in the form of a spring in such a manner as to be normally out of contact with the other elements of the circuit, and closing the electrical circuit, when required, by impact on

a spring contact point, thereby bringing each of the electrodes of such battery into electrical connection with its corresponding contact point, as described. 11th. The hereinbefore described method of placing a dry sealed battery tightly between two metallic contact points, one of such contact points being in the form of a spring, and the other in the form of a rigid moveable metallic base, in manner and for the purposes specified. 12th. In an electrical apparatus, the combination of a chloride of silver battery having an electrode at each end, a movable metallic base or support of such battery permanently connected with one of the line wires forming the electrical circuit, such base being so arranged as to be in contact with one electrode of the battery, and a metallic spring contact point permanently connected with the other line wire of the circuit, and so arranged as to be in contact with the other electrode of the battery.

No. 36,388. Holder for Boots and Shoes.

(*Renfort de semelle de chaussure.*)

William Webster Watts, Birmingham, England, 17th April, 1891; 5 years.

Claim.—In the operation of cleaning, polishing, treeing, stretching, or holding boots or shoes, the apparatus consisting of a base plate A, vertical arm *b*, and tongue *f*, in combination with the platform *i*, and heel abutment point or points *p*, whereby a boot or shoe is held firmly by the administration of pressure inside towards the toe end and contact or pressure at the heel end, substantially in the manner described.

No. 36,389. Curtain Fixture.

(*Gousset porte-rideau.*)

Ranald Gillis, Sydney, Nova Scotia, Canada, 17th April, 1891; 5 years.

Claim.—The combination of the roller A, A, the brackets, the cord guide *c*, and the cord stop *d*, substantially as and for the purpose hereinbefore set forth.

No. 36,390. Car Coupler. (*Attelage de chars.*)

C. G. Wheeland, Brush Creek, Iowa, U.S.A., 17th April, 1891; 5 years.

Claim.—1st. The combination, with an anchor plate, of a drawhead pivoted thereon, capable of being turned end for end, and means, substantially as shown and described, for locking the said drawhead upon the said plate, as and for the purpose specified. 2nd. The combination, with an anchor plate or similar device, of a drawhead centrally pivoted thereon and capable of being turned end for end, the said drawhead being provided with a link at one end and a coupling pin at the opposite end, substantially as and for the purpose specified. 3rd. The combination, with an anchor plate or similar device, of a drawhead pivoted thereon and capable of being turned end for end, the said drawhead being provided with a link pivoted at one end and a coupling pin at the opposite end, and an adjusting screw carried by the anchor plate and adapted for contact with the link, whereby it may be raised or lowered, substantially as and for the purpose set forth. 4th. The combination, with a drawhead, of a spring-controlled coupling pin pivoted at one end thereof, having a cylindrical outer and a flat inner face and provided with a diagonal recess in its outer face and a trip arm held to turn in said recess, and a coupling link pivoted to the opposite end of the drawhead, open at its outer end, one of the side bars being provided at its outer extremity with a concave inner face, and the opposite side bar with a chisel-edge, and an attached web section, substantially as shown and described, and for the purpose specified. 5th. The combination, with a drawhead, of a spring-controlled coupling pin pivoted at one end, having a cylindrical outer and a flat inner face, and provided with a diagonal recess in its outer face and a trip arm held to turn in said recess, and a coupling link pivoted to the opposite end of the drawhead, open at its outer end, one of the side bars being provided at its outer extremity with a concave inner face, and the opposite side bar with a chisel edge and an attached web section, and means for elevating and depressing the link and for manipulating the coupling pin, substantially as shown and described. 6th. The combination, with an anchor plate or similar device, and a drawhead pivoted thereon and capable of being turned end for end, of a spring-controlled coupling pin pivoted in one end, provided with a cylindrical outer and a flat inner face, the said coupling pin having a diagonal slot in its cylindrical face and a trip arm pivoted at one end in said slot, a link pivoted to the opposite end of the drawhead, open at its outer extremity, the inner face of one side bar at its outer extremity being concave, and the outer extremity of the opposite side bar provided with a chisel head and an attached, essentially T-shaped web, and means, substantially as shown and described, for elevating or depressing the said link, as and for the purpose specified. 7th. A coupling link, substantially as shown and described, the same consisting of side bars united at their rear ends and separated at their forward ends, the forward end of one side bar being provided with a concavity upon its inner face and an integral nose section, and the bottom surface to the rear of chisel-end, and an essentially T-shaped web section secured to its inner face at the said chisel-end, as and for the purpose specified.

No. 36,391. Saw Mill. (*Scièrie.*)

William Gowen, Wausau, Wisconsin, U.S.A., 17th April, 1891; 5 years.

Claim.—1st. In a saw mill, the combination of an upright supporting column movable about its axis, band wheels supported by and movable with said column, a band saw mounted upon said band wheels, and a circular saw supported by and movable with said column, substantially as and for the purposes set forth. 2nd. In a

saw-mill, the combination, with an upright column arranged to be turned about its axis, of arms extending laterally from said column and provided with boxes for a saw mandrel, cross-arms projecting transversely to said saw mandrel from its adjacent supporting arm, and guides adjustably attached to said cross-arms and working with the saw in front and rear of the mandrel, substantially as and for the purposes set forth. 3rd. In a saw-mill, the combination, with band wheels and their shafts, of an upright supporting column capable of angular movement about its axis and provided with bearings for a circular saw mandrel, and with bearings for said band wheel shafts, substantially as and for the purposes set forth. 4th. In a saw-mill, the combination of a supporting column arranged to swing about a vertical axis, band wheels carried by said column, and a band saw mounted upon said wheels, substantially as and for the purposes set forth. 5th. In a saw-mill, the combination of band wheels and their connections movable about a common axis, and mechanism connected with and arranged to swing said band wheels and their connections simultaneously towards and away from the log carriage way, substantially as and for the purposes set forth. 6th. In a saw-mill, the combination of an upright column supported and arranged to swing about its axis in suitable bearings, band wheels and their shafts supported by and movable with said column, a screw working in a nut, in connection with said column, and bearing in a nut, and means for operating said screw, substantially as and for the purposes set forth. 7th. In a saw-mill, the combination, with band wheels and saw, of an upright supporting column capable of angular movement about an upright axis, a vertically adjustable frame movable in ways provided therefor on said column, and furnished with bearings for the upper band wheel shaft, and mechanism arranged to raise and lower said frame, substantially as and for the purposes set forth. 8th. In a saw-mill, the combination of a supporting column, a T-frame having a central upright limb movable in vertical ways on said column, and a horizontal section, both ends of which project beyond said column boxes attached to the projecting ends of said horizontal section by universal joint connections, the box opposite the upper band wheel being vertically and laterally adjustable, and the upper band wheel shaft bearing in said boxes, substantially as and for the purposes set forth. 9th. In a saw-mill, the combination of the band wheels and saw, an upright supporting column, a vertically adjustable frame mounted thereon and furnished with bearings for the upper band wheel shaft, a screw working with a nut on said frame, and bearing at the lower end in a step lever fulcrumed to said column, a weighted lever connected with the free end of said step lever and fulcrumed transversely thereto on said column, and means for turning said screw, substantially as and for the purposes set forth. 10th. In a saw-mill, the combination, with the band wheels and saw, of a guide mounted upon a vertically adjustable slide, a supporting column provided with ways for said slide, an upright screw working with a nut on said slide and provided with a friction wheel, a sleeve feathered on one of the band wheel shafts and provided with a pair of friction wheels, either of which is capable of working with the friction wheel on said screw, and a lever connected with and arranged to move said sleeve endwise on said shaft, substantially as and for the purposes set forth. 11th. In a saw-mill, the combination, with the band wheels and saw, of an upright supporting column movable about its axis, a lever connected with and arranged to turn said column, and an adjustable stop arranged to limit the angular movement of said column, substantially as and for the purposes set forth. 12th. In a saw-mill, the combination, the saw, of a laterally movable log frame and its supporting wheels and axles, offsetting mechanism connecting said carriage frame and its supporting axles, and a friction wheel or wheels connected with said offsetting mechanism and arranged to actuate the same and to move said log frame transversely to its line of travel, substantially as and for the purposes set forth. 13th. In a saw-mill, the combination, with the saw and log carriage, of a log frame capable of lateral movement on its axles, a screw or screws arranged to move the log frame laterally and actuating mechanism connecting said screw or screws with one or more of said axles, substantially as and for the purposes set forth. 14th. In a saw-mill, the combination, with the saw and log carriage, of a log frame arranged to move laterally upon its axles, an offsetting screw or screws, a friction wheel secured on one of said axles and provided with a shoe or strap, and mechanism connecting said shoe or strap with said screw or screws, substantially as and for the purposes set forth. 15th. In a saw-mill, the combination, with the saw of a laterally movable log carriage, and offsetting mechanism connected with said carriage and arranged to move the same laterally towards or from the saw line, when the travel of the carriage is reversed, substantially as and for the purposes set forth. 16th. In a saw-mill, the combination, with the saw, of a laterally movable log carriage, offsetting mechanism connected therewith, and a friction wheel connected with said offsetting mechanism and arranged to actuate the same when the travel of the carriage is reversed, substantially as and for the purposes set forth.

No. 36,392. Band Saw Mill.

(Scierie à lame sans fin.)

Earl W. Avery, Lowell, Michigan, U.S.A., 17th April, 1891; 5 years.

Claim.—1st. In a saw-mill, the combination, with a band-saw, of a set of uprights and a saw-guide extending from one upright to the other, adjustably secured at its ends to said uprights, and adapted to receive and support the saw-blade back of its cutting edge, substantially as set forth. 2nd. In a saw-mill, the combination, with a band-saw and an elevating log-carriage, of a set of uprights, and a saw-guide consisting of a pair of thin parallel plates extending between the uprights and adjustably secured thereto, said guide adapted to receive and support the passing saw-blade back of its cutting edge, substantially as set forth. 3rd. In a saw-mill, the combination, with a band-saw and an adjustable guide through which the saw passes, of an elevating log-carriage and a gaging roller adjustably secured to the mill-frame a distance from the guide relative to the thickness of the board to be cut, substantially

as set forth. 4th. In a saw-mill, the combination, with a band-saw, pulleys for the band-saw, a driving-shaft upon which one of said pulleys is mounted, and a tension-shaft mounted so as to be moved to tighten the band saw upon its pulleys, of a log-carriage, an adjustable guide, a gaging-roller, a means of elevating the log-carriage, and means for rotating a log supported on the log-carriage, substantially as set forth. 5th. In a saw-mill, the combination, with a band-saw actuated by driving-pulleys, of a log-carriage having a vertical movement, a saw-guide adjustably secured to the frame, and a gage-roller located in close proximity to the guide for gaging the thickness of the board being cut, substantially as set forth. 6th. In a saw-mill, the combination, with a log-carriage having a vertical feed movement, of a band-saw mechanism to rotate a log simultaneously with the upward feed movement of the log-carriage, and a gaging-roller having contact with a log being operated on, substantially as set forth. 7th. In a saw-mill, the combination, with a log-carriage having a vertical feed movement, of a band-saw, a guide for said saw mechanism to rotate a log simultaneously with the upward feed movement of the log-carriage, and an engaging roller having contact with a log being cut, substantially as set forth. 8th. In a band-saw mill, the combination, with a log-carriage having a vertical feed movement, of a band-saw mechanism to rotate a log simultaneously with the upward feed movement of the log-carriage, and an adjustable saw-guide adapted to receive the saw and pass with it into the kerf of the log, substantially as set forth. 9th. In a saw-mill, the combination, with a band-saw, of an adjustable gaging-roller adapted to regulate the thickness of the board being cut, and an elevating log-carriage adapted to maintain a steady feed to the saw, substantially as set forth. 10th. In a saw-mill, the combination, with a band-saw, of a guide composed of a top and bottom plate, and a slotted spacing plate adjustably secured between the top and bottom plates by means of screws or similar devices, substantially as set forth. 11th. In a saw-mill, the combination, with a band-saw, of a guide for the saw, said guide being composed of a pair of bevelled plates, and a slotted spacing-plate adjustably secured between said bevelled plates by means of screws passing through the slots, substantially as set forth. 12th. In a saw-mill, the combination, with a frame, a vertical-movable log-carriage, and a pair of clamping-bars pivoted on said carriage, of a screw passing through a threaded hole in the adjacent edges of said bars, and thence to the frame, whereby the carriage is raised by the screw, substantially as set forth. 13th. In a saw-mill, the combination, with a frame, a vertical-movable log-carriage, a base-plate having a slotted guard formed on its edge, and a pair of clamping bars pivoted on the base-plate and extending through the slot in the guard, said bars having a threaded hole in their adjacent edges, and held together by a sliding link, of a screw passing through said hole in the pivoted bars and adapted to turn therein, thereby elevating or lowering the carriage, substantially as set forth. 14th. In a saw-mill, the combination, with a band-saw, pulleys to support the saw, and a driving-shaft to move the saw, of a log-carriage head, and tail stocks on the log-carriage, a mandrel journaled in the head-stock, a shaft geared with said mandrel, a fixed hand-wheel on the end of this shaft to rotate it, and an adjusting screw extending through the log-carriage and into the frame, and adapted to regulate the height and support in position the log-carriage, substantially as set forth. 15th. In a saw-mill, the combination, with a frame, an elevating log-carriage, pulleys on the frame, a drive-shaft connected with one of the pulleys, and a band-saw carried on the pulleys, of a secondary shaft *p*, in position to be driven by a belt from the main drive-shaft, a cone-shaft geared with shaft *p*, a second cone-shaft receiving motion therefrom, the latter having a worm thereon, a transversely located shaft receiving motion from said worm, a shaft below said transverse shaft receiving motion from the latter, a mandrel journaled in the log-carriage receiving motion from said lower shaft, and a shifting belt on the cone-shafts, whereby the motion to the mandrel is regulated, substantially as set forth.

No. 36,393. Device for Moistening and Affixing Postage Stamps. (Mouilleur pour les timbres et les enveloppes.)

Walter Wade Hamilton, Salem, Massachusetts, U.S.A., 18th April, 1891; 5 years.

Claim.—1st. A device for attaching postage-stamps, comprising a box or holder combined with a plunger-block therein, cam-plates fitted to slide on said block, a spring-cushioned plunger-bar for spreading said plates, and springs actuated by said plates for releasing the stamps from said holder, substantially as described. 2nd. In a device of the character described, a box or holder provided with slots in its walls, in combination with flat springs disposed in said slots, and having arms projecting into the mouth of said holder, a plunger fitted to slide in the box, and cams for spreading said springs as the plunger descends, substantially as described. 3rd. In a device of the character described, the combination of a stamp-holder, a plunger for forcing the stamps therefrom, spring-arms detachably retaining the stamps therein, and cams on said plunger for moving said arms to release the stamps, substantially as described. 4th. In a device of the character described, the slotted holder provided with the retaining spring, in combination, with a plunger provided with sliding cam-plates fitted to work in said slots, and a spring-cushioned plunger-bar adapted to spread said plates, substantially as and for the purpose described. 5th. In a device of the character described, the holder *A*, provided with slots *i*, and retaining springs *m*, in combination with a plunger fitted to slide in said holder, sliding cams on said plunger working in said slot, and a plunger-bar for conjointly actuating the plunger and spreading said cams, substantially as set forth.

No. 36,394. Fastener for Coffin Lids.

(Agraffe pour couvercles de cercueil.)

Robert Watson, Toronto, Ontario, Canada, 18th April, 1891; 5 years.

Claim.—1st. A coffin-lid, having two or more lugs formed upon or fixed to its bottom surface, and designed to fit into grooves made in the sides of the coffin, substantially as and for the purpose specified.

2nd. A coffin-lid A, having lugs C, and D, and spring-plate G, fixed to its bottom surface, in combination with the grooves E, and F, and notch H, made in the coffin B, substantially as and for the purpose specified. 3rd. A coffin-lid A, having lugs C, and D, dowel I, and spring-plate G, fixed to its bottom surface, in combination with the grooves E, and F, hole J, and notch H, made in the coffin B, substantially as and for the purpose specified.

No. 36,395. Barrel Key for Locks.

(*Clef à cylindres pour serrures.*)

Arthur Thomas White, East Dulwich, Surrey, England, 18th April, 1891; 5 years.

Claim.—In a pipe or barrel key, the formation of the hole *g*, formed near the center of the pipe nearest the bow, and of sufficient size to allow of the expulsion of the dust or dirt by blowing through the pipe, as herein explained and set forth.

No. 36,396. Barrel Key for Locks.

(*Clef à cylindres pour serrures.*)

Arthur Thomas White, East Dulwich, Surrey, England, 18th April, 1891; 5 years.

Claim.—In a pipe or barrel key, the combination of the pin, or disk *a*, and the coiled spring *b*, and rivet *b*, for the purpose of automatically excluding dust or dirt as herein explained and set forth.

No. 36,397. Step for Cars. (*Marche-pied de chars.*)

Elias E. Fashion, Emporia, Kansas, U.S.A., 18th April, 1891; 5 years.

Claim.—1st. The combination of the extension-step, the side plates secured to the ends of the step and having sigmoidal extensions adapted to be secured to the sides of the car-steps and provided with sigmoidal slots, whereby the step is caused to descend slowly, and suitable operating means, substantially as described. 2nd. The combination of the extension step, the side plates secured to the ends of the step and provided with sigmoidal extensions designed to be secured to the sides of car-steps and provided with sigmoidal slots, whereby the step is caused to descend slowly, the levers fulcrumed on the sides and having their front ends pivoted to the side plates and their rear ends connected by a rod, and the operating rod or bar pivoted to the rear end of one of said levers, substantially as described. 3rd. The combination of the extension step, the side plates having arms *6*, secured to the ends of the step and provided with sigmoidal extensions adapted to be secured to the sides *4*, of car-steps and having sigmoidal slots, whereby the step is caused to descend slowly, the levers fulcrumed on the sides *4*, and having their front ends pivoted to the sigmoidal extensions, the rod *13*, connecting the rear ends of the levers, and the operating rod or bar pivoted to the rear end of one of the levers and arranged in a keeper *15*, and provided with shouldered notches to engage the keeper and maintain the extension step in its open and folded positions, substantially as described.

No. 36,398. Consumer for Smoke.

(*Fourneau fumivore.*)

David Charles Adams, Toronto, Ontario, Canada, 18th April, 1891; 5 years.

Claim.—1st. The combination, with a furnace, of a pipe or pipes carried through the furnace in such a manner as to superheat the steam contained in the pipe or pipes producing hydrogen gas, which is discharged into the furnace at the required point to produce combustion of the smoke, substantially as and for the purpose specified. 2nd. An air pipe or pipes located within the furnace and designed to discharge its superheated contents into the furnace at a point where it will mix with the smoke, in combination with a blast of hydrogen gas introduced into the furnace at a point where it will ignite the smoke after it has been mixed with the superheated air, substantially as and for the purpose specified.

No. 36,399. Mop. (*Guipon.*)

S. William C. Adams, Reading, Michigan, U.S.A., 18th April, 1891; 5 years.

Claim.—1st. In a mop, the combination of the following elements, a handle having a double screw-thread at its lower end, a mop-head consisting of a single wire bent as described and having interlocking spirals engaging with said screw-threads, and a sliding clamping-bar engaging upon the sides *f*, and recessed to receive the pin *a*, of the handle, the parts being arranged to operate, substantially as and for the purpose described. 2nd. In a mop, a handle having a double screw-thread at its lower end, a head adjustably secured thereto by means of interlocking wire spirals engaging into said screw-threads, and held therein by means of the tension of the spring-coils, and a clamping-bar recessed to receive the end of the handle and adapted to be clamped upon the mop-cloth by the screw movement of the handle, substantially as described.

No. 36,400. Roller for Land.

(*Rouleau d'agriculture.*)

William R. Walker, Sabula, Iowa, U.S.A., 18th April, 1891; 5 years.

Claim.—1st. In a land roller, the combination, with a frame having bars E, formed with vertical guide-slots, of the swinging frame G, hinged at its front to the main frame, and the roller mounted in the said swinging frame and having the ends of its axles extended

through the guide-slots of the fixed bars E, substantially as set forth. 2nd. In a land roller, the combination of the rigid frame A, B, C, and E, the bars E, having the vertical guide-slots *e*, the rollers D, mounted in the front part of said frame, the swinging frame G, hinged at its front within the rigid frame, and the roller F, mounted in the hinged frame and having the ends of its axles extended through the guide-slots *e*, of the fixed bars E, substantially as set forth. 3rd. An adjustable land roller, consisting of an oblong frame, the adjustable section G, pivotally secured to the bar B, the roller F, mounted in said section and having extended ends of its axles passing through the slots in the cross-bars E, E, the roll sections D, D, mounted in the front side of the frame, the seat erected in the middle of said frame, the tongue pivotally secured to the front section, substantially as described.

No. 36,401. Pulley. (*Poulie.*)

Wallace Harlow Dodge, Mishawaka, Indiana, U.S.A., 18th April, 1891; 5 years.

Claim.—1st. A pulley having a rim and radial support therefor centrally located, and a hub, as common, combined with removable closing exteriorly-smooth divided or sectional disks or plates, and non-projecting fastenings for the same adapted to close the open ends of said pulley, substantially as set forth. 2nd. The combination of a pulley provided with a central radial support, with the two-part disks E, joined with tongue, and groove formed by projecting cross-grained edges of the central and external members, as set forth. 3rd. The closing divided or sectional disk E, composed of three veneers or thin boards, arranged so as to cross the grain and with the cross-grain edges of the central member of one section projected to form the tongue on one side and the projecting cross-grain edges of the external members of another section to constitute the groove, as set forth.

No. 36,402. Protector for Electric Wires.

(*Protecteur pour fils électriques.*)

James Albert Woodman, Montreal, Quebec, Canada, 18th April, 1891; 5 years.

Claim.—A block made of any non-conducting material, as glass, a groove or slot slightly zig-zag in shape running, the entire length of the said block adapted to receive an "electric" wire, the said block being held on the wire by the tension of the said wire, substantially as and for the purpose set forth.

No. 36,403. Expander for Hoofs.

(*Appareil pour elargir les sabots des animaux.*)

Samuel Webster Mackey, Baltimore, Maryland, U.S.A., 18th April, 1891; 5 years.

Claim.—1st. The combination, with a hoof-expander adapted to be fitted to the heel of the hoof and extended upwardly over the quarters of the hoof, of a front plate having a spur or spike at its lower end, and loops on its forward face, and a strap, whereby the expander may be secured to the hoof, substantially as specified. 2nd. The combination, with a hoof-expander fitted to the heel of the hoof and extended upward over the quarters thereof, of a circlet provided with a pocket at its rear, and fastening devices at its ends, whereby it may be secured around the hoof and over the expander so as to secure the same, substantially as described. 3rd. The combination, with a hoof-expander adapted to be secured to the heel of the hoof and extended upwardly over the quarters thereof, of a circlet D, provided with a pocket adapted to inclose and protect the upwardly extending portion of the expander, a loop *l*, secured to the circlet and passing through a slot in the side of the pocket, and a strap encircling the hoof and passing through the loop *l*, outside of the pocket, substantially as described. 4th. A hoof expanding spring for horses, having arms bent so as to be inserted between the frog and the heel of the hoof, and pressing outward, said spring being adapted to pass upward over the quarter of the foot, substantially as and for the purpose specified.

No. 36,404. Die Roll for Horse Shoe Blank Bars. (*Cylindre pour plaques d'ébauche de fer à cheval.*)

Charles Henry Perkins, Providence, Rhode Island, U.S.A., 18th April, 1891; 15 years.

Claim.—1st. A die roll for forming bars, containing toe weighted horse shoe blanks, having adjacent to each edge of its working face a series of nail score creasers, arranged in pairs, and with the pairs of creasers in either series, alternating in position with the pairs of the other series. 2nd. A die roll for forming tapered horse shoe blanks in bars, having a zig-zag grooving tongue, which at its periphery for a distance equal to the length of blank desired, is inclined to and fro with respect of the edges of the working face of the roll. 3rd. In a die roll, a zig-zag grooving tongue which is variably beveled at its sides, substantially as described, for variably beveling one edge of each horse shoe blank, in a blank bar. 4th. In a die roll for forming tapered horse shoe blanks, two series of heel marking studs or spurs, located at the edges of the working face of the roll, and having the spurs of either series, alternating in position with those of the other series, the distance between the spurs in each series being equal to the length of blank desired. 5th. A die roll for forming bars containing toe weighted horse shoe blanks having the two series of nail creasers arranged in pairs, the pairs in one series alternating in position with those of the other series, and also having a zig-zag grooving tongue located between the two series of creasers. 6th. A die roll (for forming bars containing toe weighted horse shoe blanks), having a zig-zag grooving tongue located between the edges of the working face of the roll, and two series of heel marking studs or spurs located at the edges of said face, the studs in one series alternating in position with those in the other series for defining the

length of the blank. 7th. A die roll, having between the edges of its working face, a zig-zag grooving tongue, two series of nail creasers, and two series of heel marking studs or spurs. 8th. A die roll having a zig-zag grooving tongue which at its periphery inclines to and fro once within the length of a horse shoe blank, in combination with a grooved co-operating roll. 9th. A die roll having a zig-zag grooving tongue, and two series of nail creasers arranged in pairs, the pairs in one series alternating in position with those in the other series, in combination with a grooved co-operating roll, substantially as described. 10th. In combination with a grooved roll, a die roll co-operating therewith, provided with a zig-zag grooving tongue, two series of nail creasers, and two series of heel marking studs, substantially as described.

No. 36,405. Leveller for Billiard Tables.

(*Niveau pour tables de billiard.*)

Roswell A. Weed, Guelph, Ontario, Canada, 18th April, 1891; 5 years.

Claim.—1st. A base A, and cap B, in combination with a screw C, having at one of its ends a left hand thread cut thereon, and a right hand thread on the opposite end of said screw C, substantially as described. 2nd. A base A, and cap B, in combination with a screw C, having right and left threads cut thereon, and at the center of said screw C, there is provided a nut D, this nut forms a part of said screw C, and rotates with the same around the outside edge of said nut D, there is provided holes to receive a spanner E, and by the use of said spanner E, the nut D, and screw C, are rotated both together substantially as and for the purposes hereinbefore set forth.

No. 36,406. Fastener for Sashes.

(*Arrête-croisée.*)

James Dawson Stephens and Frank William Stephens, Winnipeg Manitoba, Canada, 18th April, 1891; 5 years.

Claim.—1st. The metal clamp B, perforated to receive the axle pin screw C, and the ordinary screw C', the axle pin screw C, and the pall D, perforated working on the axle pin screw C, in combination with the rack E, substantially as and for the purpose above set forth. 2nd. A double hinged stop, consisting of foot plate K, with perforations, as shown, brace plate L, hinges O, and N, and grip or holder plate M, with corrugated surface, as shown, substantially as and for the purpose above set forth. 3rd. The metal clamp B, perforated to receive the axle pin screw C, and the ordinary screw C', the axle pin screw C, the pall D, working on the axle pin screw C, the rack E, in combination with a double hinged stop consisting of foot plate K, brace plate L, hinges O, and N, and grip or holder plate M, having corrugated surface, as shown, substantially as and for the purpose above set forth.

No. 36,407. Washing Machine.

(*Machine à blanchir.*)

John B. Webster, Petitcodiac, New Brunswick, Canada, 18th April, 1891; 5 years.

Claim.—1st. In a washing machine, the combination, with a corrugated roller adjustably journaled in a suitable frame and operated by a cranked handle, of the two counterbalanced rollers H, H, journaled in the pivoted blocks I, substantially as set forth. 2nd. In a washing machine, the combination, with the frame A, B, C, of the corrugated roller D, spring F, bolt f, sliding pieces G, cranked handle E, the rollers H, H, blocks I, pivoted in recesses J, substantially as set forth.

No. 36,408. Roller for Shades.

(*Bâtons pour stores de fenêtre.*)

Stewart Hartshorn, Short Hills, New Jersey, U. S. A., 18th April, 1891; 5 years.

Claim.—1st. In a shade or curtain roller, a metallic section constructed and adapted to be yielding and elastic, or capable of varying in diameter, as and for the purposes set forth. 2nd. In an extension roller, a metallic portion arranged to permit the roller to be extended and contracted, constructed and adapted to be yielding and elastic or capable of varying in diameter, as and for the purposes set forth. 3rd. In a wooden roller, a metallic section for uniting the wooden parts, constructed and adapted to be yielding and elastic or capable of varying in diameter, as and for the purposes set forth. 4th. In a shade roller, the combination of the sections B, B, with the metallic tube A, longitudinally slotted throughout its entire length and claspings said sections by the elasticity of the tube, whereby contraction and expansion may be evenly distributed, as and for the purposes set forth. 5th. In an extension roller, the combination with the roller B, of the metallic tube A, longitudinally slotted throughout its entire length and claspings said sections by the elasticity of the tube, whereby contraction and expansion may be evenly distributed, substantially as described and for the purpose set forth. 6th. In a shade roller, the combination of the sections B, B, having the groove b, with the metallic tube A, longitudinally slotted throughout its entire length, and claspings said sections by the elasticity of the tube, whereby contraction and expansion may be evenly distributed, and provided with the turned-down edges a, a, substantially as described and for the purpose set forth.

No. 36,409. Vice. (Etau.)

George Washington McKenzie, Boston, Massachusetts, U.S.A., 18th April, 1891; 5 years.

Claim.—1st. The improved vise, consisting of a fixed jaw affixed to a bench or other suitable support, a movable jaw, a screw adapted

to move said movable jaw toward and from the fixed jaw, a guide piece affixed to the lower end of said movable jaw and sliding on a track under said bench, a dog affixed to the upper side of the inner end of said guide piece, and a ratchet supported in suitable relation with said dog, as set forth. 2nd. In a vise, the combination, with a bench, of the fixed jaw attached thereto, the movable jaw, a screw adapted to move said movable jaw toward and from the fixed jaw, the guide piece affixed to the lower end of said movable jaw and adapted to move on a track under said bench, a dog affixed to the upper side of the inner end of said guide piece by screws passing through slots in said dog and allowing a slight amount of horizontal and vertical movement to said dog, the backing piece or support I adapted to prevent a too great horizontal movement of said dog, and the ratchet supported above said guide piece in suitable relation to the said dog, as set forth. 3rd. The improved vise consisting of a fixed jaw affixed to a bench or other suitable support, a movable jaw, a screw adapted to move said movable jaw toward and from the fixed jaw, the guide piece C, attached to the lower end of said movable jaw and projecting under the bench or other support, the cross piece F acting as a track on which the guide piece C, moves, the roller L, at the underside of the inner end of said guide piece, the dog H, loosely attached to the upper side of the same by screws passing through slots in said dog and thus allowing said dog a slight horizontal and vertical movement with relation to said guide piece, the cross piece E, the ratchet G, on said cross piece, and supported thereby just out of engagement with the dog H, when the latter is in its normal position, and so as to be engaged by said dog when any article is clamped between the jaws of the vise, the guide bars O, and O', and the support I, firmly affixed to the guide piece C, in close proximity to the dog H, as set forth.

No. 36,410. Kiln for Lime. (Four à chaux.)

Zozime Langlois and Marie Rose Flore Desjardins, both of Montreal, Quebec, Canada, 20th April, 1891; 5 years.

Résumé.—1o. La combinaison des trois fonds B, D, et F, dont se compose la coupole de mon fourneau avec espaces vides entre-eux pour empêcher le refroidissement de la chaleur, tel que décrit. 2o. La combinaison du conduit de fumée G, en rapport avec la coupole à triple fold depuis la voûte D, jusqu'à la cheminée c, constituant un tirage renversé avec registre de fumée I, tel que ci-dessus décrit et pour les fins indiquées. 3o. La combinaison des conduits d'air N, N, avec les tubes ou conduits d'air O, tel que décrit et pour les fins indiquées.

No. 36,411. Stove Pipe. (Tuyau de poêle.)

James Andrew McGolpin and Daniel McKillop, both of Toronto, Ontario, Canada, 20th April, 1891; 5 years.

Claim.—A stove-pipe section, composed of a cylindrically-curved sheet of metal having an inwardly-bent fold on one longitudinal edge, and an outwardly-bent fold on its opposite longitudinal edge arranged to engage with each other, a portion of the outer fold at one end of one edge, and a portion of the inner fold on the opposite end and edge being cut away, and a short reverse fold being formed at the end of each longitudinal fold to receive the edge from which the portion of the longitudinal fold has been removed, substantially as and for the purpose specified.

No. 36,412. Shuttle for Sewing Machines.

(*Navette pour machine à coudre.*)

The Singer Manufacturing Company, of New York City, assignees of Philip Diehl and William Brandt, both of Elizabeth, New Jersey, all in U.S.A., 20th April, 1891; 5 years.

Claim.—1st. The combination, with a sewing-machine shuttle, having at its centre of rotation a pin provided near its outer end with an annular recess, of a bobbin-case supported by said pin and having in its outer face a recess and in said recess a locking-latch to engage said pin, said latch being located bodily in said recess and movable crosswise of the said face. 2nd. The combination, with a sewing-machine shuttle having at its centre of rotation a bobbin-supporting pin, provided near its outer end with an annular recess forming a neck, and outside of said recess a head having a tapered outer face, of a bobbin-case supported by said pin and having in its outer face a recess, and a locking-latch located bodily in said recess and having an opening for the passage of the head of said pin, said opening being smaller at one end than at the other to fit the said neck. 3rd. The combination, with a shuttle A, having a pin a, provided near its outer end with an annular recess a', of a bobbin-case having in its outer face a recess c, and a thumb-nail notch j, and a spring-pressed locking-latch arranged in said recess c. 4th. The combination, with a shuttle A, having a pin a, provided near its outer end with an annular recess a', of a bobbin-case having in its outer face a recess c, and a thumb-nail notch j, and a spring-pressed locking-latch arranged in said recess c, and having an undercut outer side or end k. 5th. The combination, with the shuttle A, having a pin a, provided near its outer end with an annular recess a', of the bobbin-case B, having an undercut recess in its outer face, and the spring-pressed sliding latch d, arranged in said recess and provided with a stop, as pin or screw h.

No. 36,413. Board for Ironing.

(*Planche à repasser.*)

Josiah Shepherd and Elias M. Davis, both of North Lewisburg, Ohio, U.S.A., 20th April, 1891; 5 years.

Claim.—The combination, with the board I, and the leg H, hinged thereto, of the button B, pivoted near one end to said board alongside the leg, its body being bent and its other end standing in a plane to move over the leg when the latter is folded, and to shut against it when distended, substantially as shown and described.

No. 36,414. Apparatus for Separating Asbestos from Crushed Rock. (*Appareil pour separer l'amiante de la roche.*)

Henry Powers, Cranbourne, Quebec, Canada, and Frederick S. McKay, Salisbury, New Brunswick, Canada, 20th April, 1891; 15 years.

Claim.—1st. The herein described process of separating asbestos fibre from crushed rock, which consists in agitating the pulp in a body of water having an upward current. 2nd. The herein described process of separating asbestos from crushed rock, which consists in subjecting the rock to the action of a stamp in the presence of a body of water which has a constant upward movement, whereby the asbestos fibres freed from the rock are floated and carried away. 3rd. The herein described process of separating asbestos fibre from crushed rock, which consists in subjecting to rock to the action of a stamp in the presence of a body of water, which has a constant upward movement, and which is constantly renewed. 4th. The herein described process of separating asbestos fibre from crushed rock, which consists in subjecting the rock to the action of a stamp in the presence of a body of water which has a constant upward movement, and which is constantly supplied and discharged to a settling chamber. 5th. In an apparatus of the character described, a stamp, a chamber or reservoir in which the stamp is located, having a reticulated bottom and a water outlet at the top, and a settling chamber, substantially as and for the purpose specified. 6th. In an apparatus of the character described, a stamp, a chamber or reservoir in which the stamp is located, having a reticulated bottom, and a water outlet near the top of less area than the water inlet, and a settling chamber, substantially as and for the purpose specified. 7th. In an apparatus of the character described, a stamp, a chamber or reservoir in which the stamp is located, having a reticulated bottom and a water outlet near the top of less area than the water inlet, and a settling chamber provided with a water outlet and a water receiving vessel, as and for the purpose set forth. 8th. In an apparatus of the character described, a stamp, a chamber or reservoir in which the stamp is located, having a reticulated bottom and a water outlet near the top of less area than the water inlet, a settling chamber provided with a baffle plate bent inward to form a serpentine channel, a receptacle suspended in the centre of the channel, and a sluice connection between the water outlet from the stamp and the suspended receptacle of the settling chamber, as and for the purpose set forth. 9th. In an apparatus of the character described, a stamp mill, and a water reservoir above and around the stamp, having its outlet near the top, substantially as and for the purpose specified. 10th. In an apparatus of the character described, a stamp mill, and a water reservoir above and around the stamp, the said reservoir being provided near its top with an adjustable outlet, as and for the purpose specified. 11th. In an apparatus of the character described, a stamp, a chamber or reservoir in which the stamp is located, having a reticulated bottom, a water inlet at the top and an adjustable water outlet of less area than the water inlet, and a settling chamber adapted to receive the water from the said adjustable outlet, substantially as and for the purpose specified. 12th. In an apparatus of the character described, a separator, comprising a jacket, the base of which is provided with a chambered bed-block, screens engaging with the jacket and surrounding the block, compartments at the sides of the block, and an inclined shed leading to the said compartments, substantially as shown and described. 13th. In an apparatus of the character described, a separator, comprising a jacket the base of which is provided with a chambered bed-block, inclined screens engaging with the jacket and surrounding the block, compartments below the screens at the sides of the block, an inclined shed leading to the said compartments, and elevators located in the said compartments, substantially as and for the purpose specified. 14th. In an apparatus of the character described, a separator, comprising a jacket the base of which is provided with a chambered bed-block, screens engaging with the jacket and surrounding the block, perforated shields located above the screens, an inclined shed surrounding the shed, as and for the purpose specified. 15th. In an apparatus of the character described, a separator, comprising a jacket the base of which is provided with a chambered bed-block, compartments formed at the sides of the block, screens surrounding the block, an inclined shed located beneath the screens and leading to the compartments, and stamps located within the jacket, the said stamps being held to reciprocate to and from the bed-block, as and for the purpose specified. 16th. In an apparatus of the character described, the combination, with a separator comprising a jacket adapted to contain water and having an outlet of less area than its inlet, and a stamp mill located within the jacket, of screens surrounding the mill, a settling chamber provided with a suspended receptacle, and a sluice connection between the outlet of the separator and the receptacle of the settler, as and for the purpose specified. 17th. In an apparatus of the character described, the combination, with a separator, comprising a jacket having a water inlet and an adjustable water outlet of less area than the inlet, both the inlet and outlet being located near the top of the jacket, a stamp mill located within the jacket, and screens surrounding the mill and engaging with the jacket, of shields located above the screens, a settling chamber provided with a serpentine channel, a water outlet and a suspended receptacle, and a sluice connection between the suspended receptacle and the outlet of the separator, substantially as and for the purpose specified. 18th. In an apparatus of the character described, the combination, with a separator, consisting of a jacket containing a stamp mill and provided with a water inlet near its upper end at one side, and a water outlet near the upper end at the opposite side, the said water outlet being of less area than the inlet, and overflow openings above the outlet, screens located around the stamp-mill, an inclined shed beneath the screens located around the stamp-mill, an inclined shed beneath the screens located around the stamp-mill, an inclined shed beneath the screens located around the stamp-mill, an inclined shed beneath the screens located around the stamp-mill, and an elevating mechanism connected with the chambers, of a settler, a sluice connection between the outlet of the separator and the settler, and an elevating apparatus located in the settler, as and for the purpose set forth. 19th. In an apparatus of the character described, consisting of a tank having an inclined bottom and an upper water

outlet, a baffle plate suspended in the tank and bent to form a serpentine channel, and a receiving receptacle suspended between the walls of the baffle plate, as and for the purpose specified. 20th. In an apparatus of the character described, a settler, consisting of a tank provided with a bottom inclined from the sides and ends to the center, a baffle plate suspended within the tank above its bottom, the said plate being curved inward to form a serpentine channel, a receiving receptacle suspended between the walls of the baffle plate near the center thereof, and an elevating mechanism having connection with the bottom of the tank, as and for the purpose specified.

No. 36,415. Hank for Jibs. (*Erseau pour voiles.*)

David Crowell, Yarmouthport, Massachusetts, U.S.A., 20th April, 1891; 5 years.

Claim.—The hank A, constructed in sections *b, d*, pivoted at *h*, and having their ends adapted to overlap, said section *b*, having the hook *k*, and pin *p*, and the section *d*, provided with the groove *l*, and companion hook *m*, and pin *q*, substantially as described.

No. 36,416. Skid for Logging.

(*Chaîne pour enrayer les billots.*)

William Joel Ackerman, Malcolm, Wisconsin, U.S.A., 20th April, 1891; 5 years.

Claim.—1st. A logging skid or travois, composed of a metal nose piece having sockets at its ends, runners having their front ends let into and fastened in the said sockets, and a bolster secured at its ends to the said runners, substantially as described. 2nd. The hereinbefore specified logging skid or travois, composed of the metal nose having projections on its sides near each end, wear plates on its underside at each end and at its middle, and having a chain guide at its middle, runners let into the ends of the nose and secured therein, the castings having points *e*, and the bolster having its ends secured to the said castings, substantially as set forth.

No. 36,417. Catcher for Soot. (*Attrape-sue.*)

Sarah Hart, St. Louis, Michigan, U.S.A., 20th April, 1891; 5 years.

Claim.—1st. A new article of manufacture, a self-sustaining soot catcher, consisting of a receptacle for the soot, provided with a curved projection adapted to be pressed between a stove pipe and the thimble, and of sufficient size to sustain the receptacle when the pipe is removed. 2nd. In a soot catcher, the combination of a receptacle *1*, provided with handles with the concave-convex plate *2*, secured at one edge to the back of *1*, and of the size of a chimney thimble, substantially as described.

No. 36,418. Monument. (*Monument.*)

Freeman A. Green, Hamilton, Ontario, Canada, 21st April, 1891; 5 years.

Claim.—In a metallic plate glass monument, the metallic framework A, provided at its lower end with a double shank B, and a central shank B', fitting therein, the outer glass plates D, and E, the central stained glass *c*, left plain at H, the border I, corners J, and the parallel spaces K, and R, for suitable words and inscriptions thereon, all formed, combined and arranged, substantially as described and set forth.

No. 36,419. Process for Preserving Substances. (*Procédé de conservation des substances.*)

Charles Leon Bachelerie, Paris, France, 21st April, 1891; 5 years.

Claim.—1st. The new or improved process of preservation of alimentary substances, which consists essentially of treating them in a closed vessel and under pressure, with a mixture of gaseous or very finely divided chorhydic acid, and carbonic acid, the latter acting more especially as a medium for the chorhydic acid in the manner and for the purpose above specified. 2nd. In the new or improved process of preservation of alimentary substances above described, the construction and use of a treatment chamber of large or small dimensions, such as represented in the accompanying drawings, and more especially the combination of the recipient B, the movable bowl C, and the perforated tubes E, for the washing after each operation.

No. 36,420. Fire Alarm. (*Avertisseur d'incendie.*)

John Henry Earles, Denver, Colorado, U.S.A., 21st April, 1891; 5 years.

Claim.—1st. In a fire-alarm, the combination of a mercury-receptacle, consisting of an outer wall 5, and an inner wall 6, a tube leading from the top of the receptacle and communicating with the mercury-chamber, a piston fitting within said tube and having a rod leading upward therefrom, a lever 31, having a fulcrum 34, said lever being pivoted to the piston-rod at 28, and provided with a weighted standard rigidly secured to the lever preferably just above the fulcrum, whereby as the mercury rises in the tube and lifts the piston a movement will be given to lever 31, an alarm mechanism and suitable means connected with lever 31, for operating the same, substantially as described and for the purpose set forth. 2nd. In a fire-alarm, the combination of the levers 31, and 36, each having a suitable fulcrum their inner extremities engaging when in a horizontal position the outer extremity of lever 36, being provided with a removable weight, the outer extremity of lever 31, being connected with a suitable tripping mechanism lever 31, being also provided

with a standard 34, rigidly secured to the lever preferably just above the fulcrum, said standard being provided with a weight 35, substantially as and for the purpose set forth. 3rd. In a fire-alarm levers 31, and 36, suitably fulcrumed and having their inner extremities in contact when in the horizontal or approximately horizontal position, the outer extremity of lever 36, being provided with a removable weight, and the outer extremity of lever 31, connected with a suitable tripping mechanism, each lever being provided with an adjustable weight or nut 32, substantially as and for the purpose set forth. 4th. In a fire-alarm, the combination of an eccentric cam pivoted at 16, to a suitable support, and provided with notches or recesses 20, and 21, a hooked lever pivoted at 18, and having its hook end engaging the cam, a rod 12, having a hook or loop in one end adapted to engage notch 21, of the cam, a hinged door 11, opening downward to which rod 12, is hinged, a suitable weight resting upon door 11, a cord or its equivalent connecting this weight with the alarm mechanism, and suitable means of disconnecting the hooked lever from the eccentric cam, substantially as and for the purpose set forth. 5th. In a fire-alarm, the combination, with an escapement-wheel mounted upon a shaft journaled in a suitable frame and means for operating said wheel, consisting of drum 53, upon which is wound a cord or its equivalent supporting a weight, a gear-wheel 49, secured to said drum, another gear-wheel 54, mounted upon a shaft, as the escapement-wheel, and meshing with gear-wheel 49, of the adjustable escapement 57, and suitable alarm mechanism connected therewith, a shaft or bar 80, upon which said escapement is rigidly secured, said shaft or bar being provided with a notch or recess 81, and having its extremities loosely secured within a suitable casing, and capable of such adjustment as to disengage the escapement from its corresponding wheel notch 81, at the same time engaging the casing and supporting the escapement in the disengaged position, whereby the drum may be rotated for the purpose of winding up the cord and elevating the weight without actuating the escapement and sounding the alarm, substantially as described.

No. 36,421. Swinging Barrel Support.

(Support de baril oscillant.)

James H. Gamble, Merrimack, Wisconsin, U.S.A., 21st April, 1891; 5 years.

Claim.—In a barrel stand, the combination, with the vertical rectangular staff S, turning in bearings at its ends, of the fixed hook H, near the lower end of said staff and the removable hook M, sliding on the staff, said movable hook consisting of a square rod bent around the rear face and sides of the staff, extending thence forwardly, and having upturned ends E, with downturned hooked extremities h, as and for the purpose set forth.

No. 36,422. Metallic Shingle.

(Bardeau métallique.)

John Onions Thorne, Toronto, Ontario, Canada, 21st April, 1891; 5 years.

Claim.—1st. A sheet metal plate or shingle having a hollow rib formed on one side, the inner wall of the said rib being substantially at right angles to its surface while its outer wall is set in at an angle of about forty-five degrees, substantially as and for the purpose specified. 2nd. A sheet metal plate or shingle having a hollow rib formed on one side, the inner wall of the said rib being set in at an angle of about forty-five degrees, while its outer wall is substantially at right angles to the surface of the metal plate or shingle, and has a nailing edge formed on its base, substantially as and for the purpose specified. 3rd. A hollow rib C, formed on one side of a metal plate or shingle B, with a nailing edge f, formed at the base of the outer wall E, of the said rib C, the inner wall d, of which is set in substantially at an angle of forty-five degrees, a hollow rib A, being formed on the opposite side of the said metal plate or shingle, the outer wall of this rib A, being set in at an angle to substantially correspond with the inner wall d, while the inner wall of the rib A, is substantially at right angles to the surface of the metal plate or shingle, substantially as and for the purpose specified.

No. 36,423. Flushing Tank.

(Réservoir de latrines.)

William Baxter Malcolm, Toronto, Ontario, Canada, 21st April, 1891; 5 years.

Claim.—1st. A narrow rectangular tank A, located a short distance above the bowl G, to which it is connected by the pipe F, in combination with a bucket B, pivoted within the tank A, and supplied with water by an inlet pipe C, having a curved spout E, extending from it, substantially as and for the purpose specified. 2nd. A spindle J, fitted into a socket K, attached to the side of the bucket B, a flanged sleeve L, extending through the side of the tank A, and forming a journal for the spindle J, in combination with the gland g, and nut b, substantially as and for the purpose specified. 3rd. A narrow rectangular tank A, located a short distance above the bowl G, to which it is connected by the pipe F, and bucket B, pivoted within the tank A, the pivot-point being formed in the sides of the tank, one pivot projecting through the front side and operated by a crank handle, substantially as and for the purpose specified.

No. 36,424. Irons for Waggon Beds.

(Ferrement pour lits de wagon.)

David A. Plecker, Mount Crawford, Virginia, U. S. A., 21st April, 1891; 5 years.

Claim.—A corner iron C, having the screw-bolt B, which passes through the frame of the body sockets formed on its outer side for the reception of the ends of the top bows, and an inwardly extending vertical flange on its outer edge to which the end boards are secured, substantially as shown and for the purpose described.

No. 36,425. Cutter for Feed. (Coupe-paille.)

Emmor W. Silver, Salem, Ohio, U.S.A., 21st April, 1891; 5 years.

Claim.—1st. In a machine for cutting hay, straw, etc., the combination of a continuously-rotating lower feed roll, an adjustable upper feed roll, gear wheels secured to the shafts of the feed-rolls, a floating lever pivoted to a link loosely mounted on the shaft of the upper feed roll, a train of gearing mounted on the floating lever and arranged to transmit motion from the lower to the upper feed-roll, and a lever for supporting and operating the floating lever, substantially as set forth. 2nd. In a machine for cutting hay, straw, etc., the combination of side plates having rearwardly-inclined slots, suitably driven feed-rolls, the shaft of the upper feed-roll passing through said slots, gear-wheels secured to the shafts of the feed-rolls, a floating lever pivoted to a link mounted on the shaft of the upper feed-roll, a train of gearing mounted on the floating lever and arranged to transmit motion from the lower to the upper feed-roll, and a lever for supporting and operating the floating lever, substantially as set forth.

No. 36,426. Last. (Forme de chaussure.)

William Gordon, Boston, and Oliver Anni Miller, Brocton, both in Massachusetts, U.S.A., 21st April, 1891; 5 years.

Claim.—1st. A last transversely divided into two sections, composed of a fore-part section provided with an outwardly curved seat at its rear end, and a heel section connected to slide on the fore-part section and provided with an inwardly curved seat 3, formed to bear upon the seat 2, and a pivot for hinging the two sections permanently to each other, the said seats being formed to give the heel section a solid support when in its operative position, and to permit said section to swing upward and forward from its operative position without being removed or disconnected from the fore-part section, as set forth. 2nd. In a last transversely divided into two sections, the combination of the fore-part section having at its rear portion an outwardly curved seat 2, and provided with a slot 4, extending forward from said seat, the heel section having an inwardly curved seat 3, formed to bear on the seat 2, and provided with a tongue 5, formed to enter said slot, and means for pivotally securing said tongue to the fore-part section within said slot, as set forth. 3rd. A last transversely divided into two sections and composed of a fore-part section and a heel section movable on the fore-part section, one section having a slotted tongue and the other a slot or recess receiving said tongue, and a pin passing through the slot in said tongue whereby the tongue is secured to the slotted section and permitted to move up and down independently, as set forth. 4th. In a last transversely divided into two sections, the combination of a fore-part section having an outwardly curved seat at its rear end, a heel section having an inwardly curved seat formed to bear on the seat of the fore-part section, a tongue on one section engaged with the other section and adapted to move in a slot in the latter to permit the upward and downward movement of the heel section in the arc of a circle, and a stop arranged to co-operate with said tongue in limiting the downward movement of the heel section, as set forth.

No. 36,427. Tag. (Etiquette.)

Arthur Jerome Edly, Chicago, Illinois, (assignee of Alfred Carl North), Benton Harbor, Michigan, U.S.A., 21st April, 1891; 5 years.

Claim.—1st. A tag, provided with a flexible tying medium passing through an opening in the body portion of the tag, and a fastener extending through the body portion between the said opening and adjacent top edge of the tag, and there embracing the tying medium on both sides of the tag, substantially as described. 2nd. A tag, provided toward one end with a re-enforced opening, a tying medium looped through the said opening, and a fastener extending through the body portion of the tag between the said opening and adjacent top edge, and there embracing the tying medium on both sides of the tag, substantially as described.

No. 36,428. Bedstead. (Couchette.)

Thomas James Keyworth, St. Henri, Quebec, Canada, 21st April, 1891; 5 years.

Claim.—1st. In a bedstead, the combination, with the head and foot, of metal side rods with means for securing them to posts, top and bottom angle plates, with ends of wire fabric secured thereto, carried by supports projecting upwards from side rods, all as herein set forth. 2nd. In a bedstead, the combination, with the side rods and fixed projections upward from same, of the wire fabric, attached at one end to angle plate secured to such projections, and at the other end to angle plate resting upon loose or sliding bridge pieces carried by side rods, and means for adjusting and fixing position of said bridge pieces, and securing angle plate thereto.

No. 36,429. Wheel. (Roue.)

Anson K. Stone and Gottlieb Miller, both of Pine Island, Minnesota, U.S.A., 21st April, 1891; 5 years.

Claim.—1st. The combination, with the felly and spoke, of a socket for the latter carrying a felly-supporter E', situated at the joint between the felly-sections, fitting the inner side of the felly and having the rigid pin e', provided with shoulders or projections adapted to engage said sections, substantially as set forth. 2nd. In a vehicle-wheel, the combination, with the felly-sections, of the felly-supporters E', situated at the felly-joints and provided with pins e', and a tire fitted around said sections and having means such as rib d, by which the latter are engaged to prevent lateral displacement, whereby the felly-sections act intermediately between said supporters and the tire in a positive manner to keep the tire in line with said supporters, and with the spokes, substantially as set forth.

3rd. The combination, with the spoke and the hub having a mortise, of a spoke-brace and hub-supporter having portions parallel with and engaging the sides of the spoke, arms at an angle thereto adapted to fit the hub legs extending into the mortise, and portions f^2 upon which the end of the spoke is adapted to rest, substantially as set forth. 4th. The combination, with the spoke and mortised hub, of a spoke-brace and hub-supporter having portions f^1 , acting as jaws to hold the spoke arms f , adapted to engage the hub first at their outer ends, and legs f^2 connected by portions f^3 , which engage the end of the spoke, substantially as set forth. 5th. The herein described spoke-brace and hub-supporter, comprising the jaws f^1 , f^2 , f^3 , f^4 , arms f , and horizontal portions f^2 , f^3 , substantially as set forth. 6th. The herein described vehicle wheel, consisting of the combination of the mortised hub, the spoke-braces fitting the mortises thereof, the spokes inserted between and held by the jaws of said braces, the sockets E , fitting the ends of said spokes and carrying the felly-supporter E^1 , the felly and a compressing tire securing all of said parts, substantially as set forth. 7th. The herein described vehicle wheel having the supporter and socket E , E^1 , engaging the felly on the inner side, and the tire D , having the V-shaped rib d , made sinuous, as shown, for engaging the outer side of the felly in such manner, as to prevent splitting or lateral displacement of the latter, as set forth.

No. 36,430. Washing Machine.

(*Machine à blanchir.*)

Record Foundry and Machine Company, (assignees of Semour A. Peters), all of Moncton, New Brunswick, Canada, 21st April, 1891; 5 years.

Claim.—The combination of the cylinder 9, having at the ends cam rings 15, waved or convoluted on the outer edge, and the spring followers or bolts 11, having a projection 13, alternately engaging portions of the cam rings to reciprocate the cylinder while rotating, as set forth.

No. 36,431. Heater for Cars.

(*Calorifère de char.*)

The Safety Car Heating and Lighting Company, City of New York, assignees of Robert Munn Dixon, East Orange, New Jersey, U.S.A., 21st April, 1891; 5 years.

Claim.—1st. In a system of car heating, the combination, of a pipe A, conveying steam from the locomotive or other source, with a series of radiator pipes D^1 , D^{11} , D^{111} , and means, substantially as described, for establishing and shutting off the connection of the pipes A, with successive radiator pipes, substantially as described. 2nd. In a car-heating system, a series of radiating pipes combined with reducing valves p , q , of varying weight, and cut-off valves at one end, and check valves at the other end, substantially as described. 3rd. In a car heating system, a series of radiating pipes combined with collecting pieces H , S , at each end, and with cut-off valves and reducing valves p , q , of varying weight at the inlet, and with check valves at the outlet, substantially as and for the purpose set forth. 4th. A radiator for car-heating, consisting of radiator pipes provided with collecting pieces at each end, the lowermost radiator pipe having a reducing valve at its inlet end, the uppermost pipe having a cut-off valve at its inlet end, and a check valve at its outlet end, the intermediate pipes in the series being provided with reducing and cut-off valves at the inlet end, and check valves at the outlet ends, whereby the number of pipes desired to radiate the heat may be diminished or increased, substantially as described. 5th. In a reducing and shut-off valve for steam radiator pipes, the combination of the shell n , and weighted valve-body p , q , with the stem m , having an eccentric l , and handle F , all arranged so that the weighted valve shall be wholly disconnected from the eccentric unless said eccentric is brought to bear upon it, as specified.

No. 36,432. Hot Air Furnace. (*Calorifère à air.*)

Archibald Brake, Toronto, Ontario, Canada, 21st April, 1891; 5 years.

Claim.—1st. A hot-air-furnace composed of a series of hollow wings arranged around a hollow column, with a closed end supported over the fire-pot with which the bottom end of the wings communicate, substantially as and for the purpose specified. 2nd. A hot-air furnace composed of a series of hollow wings arranged around a hollow column, with a closed end supported over the fire-pot, with which the bottom ends of the wings communicate, in combination with an outer casing arranged to enclose the said wings, substantially as and for the purpose specified. 3rd. A series of hollow wings A, made of sheet steel and cast integral with the column B, and plate F, substantially as and for the purpose specified.

No. 36,433. Plow. (*Charrue.*)

Thomas Tinkler, Stouffville, Ontario, Canada, 21st April, 1891; 5 years.

Claim.—1st. The standard secured vertically adjustable near the front end of the plow beam, and having a clamp screw to secure the same, as specified, a T-head on its lower end adapted to carry a cross-bar therein, and a clamp screw to secure said cross-bar, substantially as and for the purpose set forth. 2nd. The cross-bar adjustably secured in a T-headed standard carried by the plow beam, and having a downward deflection therein to incline the furrow-wheel carried on one extremity of the said cross-bar, substantially as and for the purpose set forth. 3rd. The land wheel journaled on a standard secured vertically adjustable about the centre of the length of the plow beam, substantially as and for the purpose set forth. 4th. In combination, the T-headed standard secured vertically adjustable near the front end of the plow beam, means to secure said standard to the said beam, a clamp screw in said means

to hold said standard in adjustment, the cross-bar carried by the T-head of said standard and having a deflection, as specified, a furrow wheel journaled on said cross bar, and a clamp screw in said T-head on the standard to secure the said cross bar, substantially as and for the purpose set forth. 5th. In combination, the T-headed standard secured to the plow beam, as specified, means to secure said standard to the beam, a clamp screw in said means to hold said standard, the cross-bar carried by the T-head of said standard, as specified, a furrow wheel carried on said cross bar, a clamp screw in said T-head to secure said cross bar and the land wheel carried by a standard on the opposite side of and secured to the plow beam, as specified, substantially as and for the purpose set forth.

No. 36,434. Seat for Locomotive Cabs.

(*Siège de locomotive.*)

Edward M. Stannard, Appleton, Wisconsin, U.S.A., 21st April, 1891; 5 years.

Claim.—1st. A seat or yielding-platform structure comprising a supporting base, a superposed yielding frame or part, a spring on the base, a head-block or support sustained by the spring, and crossed levers fulcrumed to the head-block and coupled at opposite ends to the base and superposed frame. 2nd. A seat or yielding-platform structure comprising a supporting base, a superposed yielding frame or part, a spring on the base, a head-block or support sustained by the spring, crossed levers fulcrumed to the head-block and coupled at opposite ends to the base and superposed frame, and a flexible dust-guard connecting said base and frame. 3rd. A seat or yielding platform structure comprising a supporting-base, a superposed yielding frame or part, a spring on the base, a head-block or support sustained by the spring, and two pairs of crossed levers fulcrumed to the head-block and coupled at opposite ends to the base and superposed frame. 4th. A seat or yielding-platform structure comprising a supporting-base, a superposed yielding frame or part, a spring on the base, a head-block or support sustained by the spring, crossed levers fulcrumed to the head-block and coupled at opposite ends to the base and superposed frame, and guides of the base for said frame. 5th. The combination, in a seat or yielding-platform structure, of a base, a bearing thereon, a spring fitted around said bearing, a head-block having a guide-pin entering the bearing and resting on the spring, and crossed levers fulcrumed to the head-block and coupled at opposite ends to the base and superposed frame, substantially as described. 6th. The combination, in a seat or yielding platform structure, of a supporting-base, a central apertured bearing, a spring and vertical guides on the base, a superposed yielding frame fitted to the guides, a head-block F , resting on the spring and having a stem f , entering the central base-bearing, two pairs of crossed levers G , G , fulcrumed to the head-block, and couplings connecting the opposite ends of the levers to the base and yielding frame, substantially as specified. 7th. In a seat comprising a seat proper and a back, the seat-frame provided with bearings having a half-clutch, combined with the back having forked extremities, and journals adapted to the bearings and having a corresponding half-clutch, and provided also with a stud to which the forked end of the back is adapted, said journals also having an end screw and a nut adapted to said screw and to clamp the clutched back, substantially as described.

No. 36,435. Cut-off Valve. (*Soupape de détente.*)

Christopher R. James, Jersey City, New Jersey, U.S.A., 21st April, 1891; 5 years.

Claim.—1st. The combination, with the slide-valve, of the drop cut-off valves in stationary cases along which the slide valve moves, and connected with the eccentric through the lift and drop mechanism automatically variable as to the dropping by the governor, substantially as described. 2nd. The combination, with the slide valve directly connected with the eccentric rod, of the drop cut-off valves in stationary cases along which the slide valve moves, and connected with the said eccentric through the lift and drop mechanism automatically variable as to the dropping by the governor, substantially as described. 3rd. The combination, with the slide valve directly connected with the eccentric rod, of the drop cut off valves in stationary cases along which the slide valve moves, the rocking beam and lifters also directly connected with the eccentric rod, and the lifter tripping slides automatically variable by the governor, substantially as described. 4th. The combination, with the drop cut off valves in stationary cases along which the slide valve moves, of the rocking beam and lifters connected with the eccentric rod, and the lifter tripping slides on the valve stems connected with the governor through the arms, rock shaft and rods, substantially as described. 5th. The combination, with the steam chest and slide valve including the cylinder ports at both ends, of the cylinder and the slide valve having live steam passages to the cylinder ports, of the balanced piston drop cut off valves in stationary cases seated on the slide valve in the steam chest coincident with said passages respectively, substantially as described. 6th. The combination, with the steam chest and slide valve including the cylinder ports at both ends of the cylinder, and the slide valve having live steam passages to the cylinder ports, and exhaust passages alternately connecting both cylinder ports with the individual exhaust port, of the balanced piston drop cut off valves seated on the slide valve coincident with said live steam passages respectively, substantially as described. 7th. The combination, with the steam chest and slide valve including the cylinder ports at both ends, of the cylinder and the slide valve having the live steam passages to the cylinder ports, of the balanced piston drop cut off valves seated on the slide valve in the steam chest, coincident with the live steam passages respectively, and having the cases coupled together, and with the steam chest by the connecting rod and adjusting screws, substantially as described. 8th. The improved cut off valve consisting of the combined vertical cylindrical case having middle and end inlet openings, bearing face, and two outlet passages through the bearing face, and the duplex-ring pistons, substantially as described. 9th. The im-

proved drop cut off valve, consisting of the combined vertical cylindrical case having middle and end inlet openings, bearing face, two outlet passages through the bearing face, and balancing grooves coincident with the outlet openings and the duplex ring pistons, substantially as described.

No. 36,436. Bark Mill. (*Moulin à écorse.*)

George Thomas McLauthlin, Boston, Massachusetts, U.S.A., 21st April, 1891; 5 years.

Claim.—1st. In a cutting or reducing mill, the combination of a knife-wheel, the working-surface of which is ovate and adapted to receive straight-edged knives with straight-edged knives, substantially as and for the purpose set forth. 2nd. In a cutting or reducing mill, a knife-wheel, the working-surface of which is ovate, in combination with flat flexible straight-edged knives, substantially as and for the purpose set forth. 3rd. In a cutting or reducing mill, the combination of a knife-wheel, the working-surface of which is ovate with cutting-knives, substantially as and for the purpose set forth. 4th. In a cutting or reducing mill, the combination of a knife-wheel, the working-surface of which is ovate and having cutting knives with feed tables, substantially as and for the purpose set forth. 5th. In a cutting or reducing mill, the combination of a knife-wheel, the working-surface of which is ovate and having cutting-knives with fans, substantially as and for the purpose set forth.

No. 36,437. Device for Bending Metal Pipes. (*Machine à courber les tuyaux.*)

Henry M. Brigham, Brooklyn, New York, U.S.A., 21st April, 1891; 5 years.

Claim.—1st. A tapering spiral coil or wire for bending metallic pipe. 2nd. A tapering spiral coil of wire for bending metallic pipe, having the surface of the wire forming the exterior of the coil somewhat flattened. 3rd. A tapering spiral coil for bending metallic pipe, constructed of wire having a flat or plane surface on the side forming the exterior of the coil. 4th. A tapering spiral coil for bending metallic pipe, constructed of wire having a flat or plane surface on the side forming the exterior of the coil, and having the edges of such flat or plane surface rounded off.

No. 36,438. Method of Moulding and Mould for Amber. (*Méthode de moulage et moule pour ambre.*)

Frederick Egge, Bridgeport, Connecticut, U.S.A., 22nd April, 1891; 5 years.

Claim.—1st. The herein-described method of making integral articles from pieces of amber, consisting in molding the pieces into shape under the application of heat and a constant automatic pressure, substantially as set forth. 2nd. The method of molding amber, which consists in heating the molds and amber and synchronously subjecting the same to an automatic and constant pressure, substantially as set forth. 3rd. The method of molding amber, which consists in synchronously applying to the molds and amber heat, and an automatic constant yielding pressure, substantially as set forth. 4th. An apparatus for molding pieces of amber into a single article, consisting of a support whereon the molds are placed and a gravity press having a direct bearing against said molds, substantially as set forth. 5th. In an apparatus for molding amber, the combination, with the moulds and mold box containing the amber, and a suitable support therefor, of means for heating the amber, and means for exerting a constant automatic and uniform pressure against the molds, substantially as set forth. 6th. The method of making amber mouth-pieces for cigars and the like, consisting in compressing the amber around a centrally disposed core, substantially as set forth. 7th. An apparatus for making amber mouth-pieces for cigars and the like, consisting of properly shaped molds containing pieces of amber, a core comprising a plug and a wire centrally disposed longitudinal of the molds, a support for the molds, and means for simultaneously heating the molds and applying thereto a constant automatic and yieldable pressure, substantially as set forth.

No. 36,439. Steering Screw Propeller.

(*Helice de propulsion pour gouverner.*)

Frederick Gideon Grisdale, Port Robinson, Ontario, Canada, 22nd April, 1891; 5 years.

Claim.—The combination, with the stern E, of a vessel of the steering vertical rock shaft F, having a crank F', and journaled parallel to the stern post A, and the propeller shaft C, intersecting said crank, and having a flexible or universal joint G, intervening said crank and stern post, said propeller shaft carrying a screw D, at the end for propelling and steering the vessel, as set forth.

No. 36,440. Metallic Post. (*Poteau métallique.*)

Foster Milliken, New York, State of New York, U.S.A., 22nd April, 1891; 5 years.

Claim.—1st. As an improved article of manufacture, a post consisting of longitudinal flanged segments united at their flanged portions in the manner substantially as specified. 2nd. As an improved article of manufacture, a post consisting of longitudinal flanged segments united at their flanged portions and provided with longitudinal strengthening ribs, as and for the purpose specified. 3rd. As an improved article of manufacture, a post consisting of longitudinal flanged segments united at their flanged portions by tubes,

bolts, or equivalent devices, as and for the purpose specified. 4th. A metallic post, consisting of longitudinal, flanged segments, flanged tie-plates or trusses separating the segments, the flanges of the tie-plates or trusses being secured to the flanges of the segments, substantially as and for the purpose specified. 5th. A metallic post, constructed in sections, the said sections being provided with integral strengthening ribs, as and for the purpose set forth. 6th. In a metallic post, the combination, with opposed segments provided with longitudinal side flanges, of spacing devices located between the opposed flanges of the segments, and bolts, studs, rivets, or their equivalents, connecting the flanges of the segments with the spacing devices, substantially as described. 7th. In a metallic post, the combination, with opposed segments provided with longitudinal side flanges, and longitudinal strengthening ribs, of tie-plates or trusses, essentially U-shaped in cross section separating and spacing the segments, and rivets, bolts or studs connecting the members of the tie-plates or trusses with the flanges of the segments, substantially as and for the purpose specified.

No. 36,441. Pavement. (*Pavé.*)

Finlay Alexander McRae, Montreal, Quebec, Canada, 22nd April, 1891; 5 years.

Claim.—1st. The combination in a pavement, of a number of flags a, each having two adjacent underlying projections, and two overlying united projections on adjacent sides, adapted to engage the whole, substantially as described. 2nd. The combination, in a crossing, of the flags provided with mitred projections adapted to engage with grooves 3, the whole, substantially as described. 3rd. The combination, in a pavement, of the curbs a', a'', and a''', adapted to interlock and having downwardly projecting flanges and openings 3, for the passage of wires or cables, the whole, substantially as described. 4th. The combination, in a pavement of a number of flags a, each having two adjacent overlying mitred projections and two underlying adjacent mitred projections adapted to engage and with hand holes 12, and 13, the whole, substantially as described. 5th. The combination, in a pavement, of a number of flags a, as described, each or any provided as described with grooves 3, substantially as described.

No. 36,442. Hammock. (*Hamac.*)

James John Dicks, Toronto, Ontario, Canada, 22nd April, 1891; 5 years.

Claim.—1st. The combination, with a hammock, of a sun-shade or hood, substantially as and for the purpose specified. 2nd. A stretcher fitted on to the hammock, in combination, with a sun-shade or hood pivoted on the said stretcher, substantially as and for the purpose specified. 3rd. A stretcher A, provided with hooks a, to engage with the hammock B, and a plate C, pivoted on the said stretcher, in combination with a sun-shade or hood D, pivoted on the stretcher, substantially as and for the purpose specified. 4th. A stretcher A, provided with hooks a, to engage with the hammock B, and hooks b, to which a pillow may be connected, a plate C, pivoted on the said stretcher, in combination with a sun-shade or hood D, pivoted on the stretcher A, and provided with tapes or cords E, connected to the hammock, substantially as and for the purpose specified.

No. 36,443. Bread for Birds.

(*Pain pour oiseaux.*)

Bartholomew Cottam, London, Ontario, Canada, 22nd April, 1891; 5 years.

Claim.—A composition of matter, of flax seed, white corn meal, ground cattlefishbone, French millet seed, German millet seed, German rape seed, man seed vegetable, carbon, saffron, cayenne pepper, sugar glucose, honey, and water, in the proportions and for the purpose specified, and also to be known as "bird invigorator and song restorer."

No. 36,444. Box. (*Boîte.*)

James Hills Hartridge, Ryland Road, Middlesex, England, 22nd April, 1891; 5 years.

Claim.—1st. A box having a cup or inverted dome-shaped body or receptacle, the sides of which extend vertically above a rim or bottom piece to form a shoulder for the lid, substantially as described. 2nd. The improved box, consisting of the casing a, inserted body b, extending above said casing and lid d, as set forth.

No. 36,445. Sled for Coasting. (*Traineau.*)

Charles H. Dickson, Portland, Maine, U. S. A., 22nd April, 1891; 5 years.

Claim.—1st. In a sled having the usual supporting-runners, and a supplementary guiding-runner, a platform composed of two sections, one adapted to bear wholly upon the main runners, and the section having one end hinged upon the main part, and the other adapted to bear upon the supplementary guiding-runner, as and for the purposes set forth. 2nd. In a coasting-sled, the combination of the supplementary guiding-runner A, with the rotating standard B, and the hinged platform b, b, all in the manner, and for the purposes set forth.

No. 36,446. Separating Machine for Roller Mills. (*Machine à séparer pour moulins à blé.*)

August Heine, Silver Creek, New York, U.S.A., 22nd April, 1891; 5 years.

Claim.—1st. The combination, with the stationary frame, of an inclined separating screen resting upon suitable supports, and

capable of lengthwise movement thereon, a transverse shaft having a cam whereby a compound rising and falling and upward and backward movement is imparted to the screen, and stops arranged on the screen on the head and tail sides of said cam shaft, and striking against the latter during the forward and backward movement of the screen, substantially as set forth. 2nd. The combination, with the stationary frame, of an inclined separating screen provided with stops having upright slots open frames or brackets secured to the screen, a transverse cam shaft journaled on the frame and passing through said slotted stops, and cams mounted on said shaft and operating against the open frames or brackets, the slotted stops being arranged to strike against the shaft during the forward and backward movement of the screen, substantially as set forth. 3rd. The combination, with the stationary frame, the inclined screen and the actuating shaft provided with cams, of stops which limit the longitudinal movement of the screen, suspension rods which are attached to the screen, and springs or cushions by which the suspension rods are supported on the stationary frame, substantially as set forth. 4th. The combination, with the stationary frame and the inclined screen, a tail support on which the screen rocks, and moves lengthwise an actuating shaft provided with cams arranged over the head portion of the screen open frames or brackets secured to the head portion of the screen and resting on the cams, and cushioned suspension rods connected with the head portion of the screen, substantially as set forth. 5th. The combination, with the stationary frame and the cam shaft, of the separating screen provided on opposite sides of the cam shaft with stops which strike against the shaft during the forward and backward movement of the screen, and cushioned suspension rods connected with the screen and carrying part of its weight while permitting it to move lengthwise, substantially as set forth. 6th. The combination, with the stationary frame and the cam shaft, of the separating screen provided on opposite sides of the cam shaft with stops which strike against the shaft, a socket secured to the stationary frame, a suspension rod connected with the screen, and a cushion or spring applied to said rod and seated in said socket, substantially as set forth. 7th. The combination, with the stationary frame and the cam shaft, of the separating screen provided on both sides of the cam shaft with stops, and a supporting roller journaled in the stationary frame underneath the tail portion of the screen, substantially as set forth. 8th. The combination, with the stationary frame, of an inclined separating screen, a transverse actuating shaft provided with cams, open frames or brackets secured to the screen and extending over the cams, flexible contact pieces secured to the top bars of the open frames or brackets, and yielding cushions interposed between said top bars and the flexible contact pieces, substantially as set forth.

No. 36,447. Electric Signal System for Railways. (*Signal électrique de chemin de fer.*)

Edwin David Graff, New York, State of New York, U.S.A., 22nd April, 1891; 5 years.

Claim.—1st. In a railway signal block system in which the locomotives are provided with bell circuits, the combination of suitable conductors extending continuously throughout the length of the block along the line of the railway, a switch forming a part or continuation of one of said conductors, and means arranged in proximity to one of the rails adapted to be acted upon by one of said locomotives to move said switch to connect with the other of said conductors, so that the locomotive following in the same direction may have its circuit completed through said conductors and switch when said switch is in its abnormal or shifted position while the bell of the locomotive which effected the movement of said switch and which has passed to the succeeding section or block is prevented from being rung by reason of the open condition of one of said conductors in its rear, due to the shifting of said switch, substantially as set forth. 2nd. In a railway signal block system in which the locomotives are provided with bell circuits, the combination of suitable conductors extending continuously throughout the length of the block along the line of the railway, a switch forming a part or continuation of one of said conductors, means arranged within proximity to one of the rails, adapted to be acted upon by one of said locomotives to move said switch to connect with the other of said conductors and break the continuity of the conductor of which it forms a part, and means adapted also to be acted upon by said locomotive to subsequently disconnect said conductors and restore the switch to its initial position, substantially as set forth. 3rd. In a railway signal block system in which the locomotives are provided with bell-circuits, the combination of suitable conductors extending continuously throughout the length of the block along the line of the railway, a series of switches arranged at suitable intervals to divide the road into blocks or sections, said switches forming portions or continuations of one of said conductors, means arranged in proximity to one of the rails and at each of said switches adapted to be successively acted upon by a passing locomotive to connect said conductors through said switches, and means adapted also to be acted upon by said locomotive to subsequently and successively disconnect said conductors, substantially as set forth. 4th. In a railway signal block system in which the locomotives are provided with open bell-circuits, the combination of suitable conductors extending continuously throughout the block along the line of the railway and on the road-bed thereof, said bell-circuits being in electrical connection with said conductors during the time said locomotives are moving as well as when at a standstill, a switch forming a part or a continuation of one of said conductors, a tripping-arm arranged alongside of one of the rails, to be actuated by the passing train, and connections between the tripping-arm and the switch for transmitting the movement of the former to the latter, substantially as set forth. 5th. In a railway signal block system in which the locomotives are provided with bell-circuits, the combination of a suitable conductor extending continuously throughout the length of the block along the line of the railway, a switch forming a part or continuation of said conductor, and adapted to contact with another parallel conductor, a protecting box or casing for said switch, a tripping-arm arranged alongside of one of said rails to be acted upon by the locomotive, and means, substantially as described, connected

with said tripping-arm and extending into said box or casing to actuate said switch as the tripping-arm is actuated by the locomotive, substantially as set forth. 6th. In a railway signal block system in which the locomotives are provided with bell-circuits, the combination of suitable conductors extending lengthwise of the railway, a switch for connecting said conductors, a tripping-arm adapted to be actuated by the train, a rock-shaft connected to said tripping-arm, a sliding-rod connected to said switch, and means, substantially as described, for converting the oscillations of said shaft into reciprocatory movements of said rod, substantially as set forth. 7th. In a railway signal block system in which the locomotives are provided with bell-circuits, the combination of suitable conductors extending lengthwise of the railway, a series of switches arranged at suitable intervals along the road to divide the same into blocks or sections, a series of tripping-arms adapted to be moved by the passing trains, a series of sliding rods connected one to each switch and to each tripping-arm, so that each switch may be moved to connect said conductors, as its tripping-arm is actuated, a catch for holding said rod when the switch has been moved to connect the conductors, a spring for returning said rod, an electric circuit extending lengthwise of the road, and provided at each switch locality with an electro-magnet and armature, connected to the switch operating rod in a manner to release the catch and permit the spring to restore the switch and the tripping-arm to their normal positions when the train has arrived at the next block and has actuated the succeeding tripping-arm there, substantially as set forth. 8th. In a railway signal block system in which the locomotives are provided with bell-circuits, the combination of suitable conductors extending lengthwise of the railway, a series of switches arranged at suitable intervals along the road, to divide the same into blocks or sections, a series of tripping-arms adapted to be moved by passing trains, a sliding rod for each switch, a rock-shaft for each tripping-arm, connections between the rod and the shaft, an electric circuit extending lengthwise of the road and provided at each switch locality with an electro-magnet and armature, and a contact movable with some part of the switch actuating mechanism of each switch for closing the circuit through the magnet at the immediately preceding switch for the purpose of enabling its mechanism to be restored to its normal condition when the train, which actuated it, originally has passed on to the next or succeeding block or section, substantially as set forth. 9th. In a railway signal block system in which the locomotives are provided with bell-circuits, the combination of suitable conductors extending lengthwise of the railway, the switches 22 a id 23, the independent sliding rods 32 and 33, a rock-shaft having a tripping-arm adapted to be actuated by the passing trains and connections between the rock-shaft and the rods 32 and 33, whereby either of the latter may be moved forward to operate its switch according to the direction of movement of the tripping-arm, substantially as set forth. 10th. In a railway signal system substantially as described, the combination, with an electric switch as 22, and means substantially as described actuated by the passing trains, for moving it from one conductor to another, of a tripping-arm located at a suitable distance from said switch, and adapted to be actuated by the passing trains, an electric circuit extending from the switch actuating mechanism to the distant tripping-arm, and a movable contact adapted to close said circuit when the distant tripping-arm has been actuated for the purpose of energizing the electro-magnet at the switch operating mechanism and causing it to start the return of the switch to its normal position, substantially as described. 11th. In a railway signal block system in which the locomotives are provided with bell-circuits, the combination of a suitable conductor extending along the line of the railway and between the rails thereof, a series of switches forming parts or continuations of said conductor and adapted to contact with another parallel conductor a series of protecting boxes or casings for said switches, a series of track instruments and boxes therefor arranged exteriorly of the tracks and opposite the series of switch-boxes, electric circuits connecting said series of track-instruments, a series of tripping-arms arranged alongside of one of the rails and between the switches and the track-instruments, and means substantially as described connected with said tripping-arm and extending between the track-instruments and the switches, substantially as set forth. 12th. In a railway signal block system in which the locomotives are provided with bell-circuits, the combination of suitable conductors extending throughout the length of the block along the line of the railway, a series of switches arranged to be moved by one of said locomotives to connect said conductors, and a series of resistance boxes or coils connected to said conductors, substantially as set forth. 13th. In a railway signal block system, and in combination locomotives provided with open bell-circuits, including each a battery, suitable conductors extending continuously throughout the length of the block along the line of the railway, and a switch forming a part or continuation of one of said conductors, constructed and arranged to be moved by a passing train through intermediate devices to connect both said conductors and complete the bell-circuit of the following train, and leave a broken or open conductor in its rear as it passes on to the next block or section, substantially as set forth. 14th. In a railway signal block system, and in combination, locomotives provided with open bell-circuits, including each a battery, suitable conductors extending continuously throughout the length of the block along the line of the railway, a switch forming a part or continuation of one of said conductors at the end of each block or section, constructed and arranged to be moved by a passing train through intermediate devices to connect said conductors when said train passes to or upon a new block or section, and adapted, by means substantially as described, to be restored to its initial position, when said train passes from or off of said new block or section; whereby one train may make and break the circuit of a train immediately following and may also leave a broken or disconnected conductor in its rear to prevent ringing of its own bell, when the block in advance is clear or unoccupied, substantially as set forth.

No. 36,448. Valve for Preventing Water Waste. (*Soupape pour empêcher le gaspillage de l'eau.*)

Hermann Goodson, Berlin, Germany, 23rd April, 1891; 5 years.

Claim.—1st. In a device for preventing the waste of water, in combination with the main cut-off valve arranged in the main water-way, a secondary valve also arranged in the water-way, and auxiliary water passages connecting said valves, whereby when the pressure of the column of water acts on the primary valve, the secondary valve will be gradually closed, substantially as set forth. 2nd. In a device for preventing the waste of water, in combination with the main cut-off valve arranged in the main water-way, a secondary valve also arranged in the water-way, said valve being arranged on the face of the smaller part of a differential piston and connecting water passages between said main valve and piston, whereby when the pressure of water acts on the primary valve, the secondary valve will be gradually closed, substantially as described. 3rd. In a device for preventing the waste of water, in combination with the main cut-off valve arranged in the main water-way, an auxiliary valve *g*, closed by the closing of the main valve, channels *k, l*, for the passage of water closed by the closing of the valve *g*, a secondary valve *e*, also arranged in the water-way and attached to a piston, said piston being moved to close the valve by the pressure of water in the passages *a, l*. 4th. In a device for preventing the waste of water, in combination with the main cut-off valve arranged in the main water-way, an auxiliary valve *g*, closed by the closing of the main valve, channels *k, l*, for the passage of water closed by the closing of the valve *g*, the size of said passages being adjustable, a secondary valve *e*, also arranged in the water-way and attached to a piston, said piston being moved to close the valve by the pressure of water in the passages *k, l*, substantially as described. 5th. In a device for preventing the waste of water, in combination with the main cut-off valve arranged in the main water-way, an auxiliary valve *g*, closed by the closing of the main valve, channels *k, l*, for the passage of the water closed by the closing of the valve *g*, the size of said channels being adjustable, a secondary valve *e*, also arranged in the water-way and attached to the face of a differential piston, said piston being moved to close the valve by the pressure of water in the passages *a, l*, one of the two parts of the piston being in the form of a membrane, substantially as described.

No. 36,449. Duplex Desk. (*Pupitre double.*)

William Ordway Partridge, Milton, Massachusetts, U. S. A., 23rd April, 1891; 5 years.

Claim.—1st. As a new article of manufacture, a duplex-desk composed of an inner, and an outer desk, the latter adapted to telescope upon the former, each being capable of independent use, substantially as and for the purposes herein set forth. 2nd. As a new article of manufacture, a duplex-desk, consisting of two desks, the inner desk proper provided with a solid top and a series of drawers, and an outer desk also with a top and adapted to telescope the inner one, being vertically adjustable therewith, the two being employed jointly as a single article of furniture, substantially as specified. 3rd. The improvement in furniture consisting of two desks, an inner one provided with a top and drawers, combined with an outer one, the latter adapted to telescope thereupon, and move horizontally to form a single desk, or two independent desks, substantially as herein stated. 4th. In a duplex desk, the combination, with the inner desk, as an entirety, provided with vertical end slots, and the T blocks which travel therein and extend beyond, of an outer desk which rests upon said T blocks, and the counter-weights connected with said blocks to permit the outer desk to telescope upon the inner in vertical paths, substantially as described. 5th. In a duplex desk in which two desks are adapted to telescope, the combination with the inner desk slotted at the ends, the T blocks in said slots, and the weights within said desk and suitably connected with said blocks, of the outer desk which engages with said blocks, and the spring-actuated bolts which lock said blocks to prevent vertical adjustment, all substantially as and for the purposes specified. 6th. In a duplex desk, the combination, with an inner desk, provided with a top and drawers the slotted ends the T blocks, and the counter-weights, of an outer telescoping desk in engagement with said blocks, the toothed rack interiorly upon the outer desk, and the similar locking bolts secured to the inner desk and oppositely movable simultaneously, substantially as set forth and described. 7th. A duplex desk composed of an inner stationary desk slotted at the ends, and with T blocks movable therein and projecting through said slots, combined with an outer telescoping desk in engagement with said blocks, and the horizontal slot aligned with said blocks to permit separation of the two desks for independent use, substantially as herein stated and specified.

No. 36,450. Wheel for Vehicles.

(*Roue de voiture.*)

Henry Birchall Clayson, Upper Norwood, Surrey, England, 23rd April, 1891; 5 years.

Claim.—1st. In a wheel for velocipedes and other vehicles, the combination, with the main rim or felloe of the wheel carrying the spokes, of a hollow rubber tyre, of a rim or hoop located within the said hollow rubber tyre and of a diameter adapting it to bear against the outer or wearing part of the said tyre, and of a series of segmental binders located within the said hollow rubber tyre and adapted by means of screw studs to be drawn down and fixed to the main rim of the wheel, whereby a tension is put on the said hollow rubber tyre and it is firmly secured to the main rim of the wheel, as set forth. 2nd. A tyre for the wheels of velocipedes and other vehicles, consisting essentially of a rubber tube stretched over a rim or hoop located within the said tube and held down and fixed to the main rim or felloe of the wheel by internal binders, as and for the purpose set forth. 3rd. In a wheel for a velocipede or other vehicle, the combination of the hollow rubber tyre A, the rim or hoop B, located within the said tyre and adapted to bear against its outer or wearing part, of the segmental pieces C, C, etc., and of the screw studs c, c, etc., fixed to the segmental pieces C, C, etc., and adapted to stretch the rubber tyre A, and fix it to the main rim D, of the wheel, all combined, arranged, and operating, as and for the purpose set forth.

No. 36,451. Sign. (*Enseigne.*)

Henry A. Bierley, Lexington, Kentucky, U.S.A., 23rd April, 1891: 5 years.

Claim.—In an electric or other light, the combination, with the depending clamping arms secured thereto, of horizontally and angularly adjustable rods connected with said arms, carrying an adjustable transparent plate adapted to receive an advertising sign, substantially as described.

No. 36,452. Seeder. (*Semoir.*)

Thomas J. McBride, Winnipeg, Manitoba, Canada, 23rd April, 1891: 5 years.

Claim.—1st. In a seeding machine, a seed boot having a solid shoe like point adapted to follow in the open trough and a seed outlet above said point. 2nd. In a seeding machine, a seed boot having a solid or shoe like point provided with a concave surface on its rear face and a seed outlet formed in a shoulder of the boot directly above said surface. 3rd. In a seeding machine, the combination, with the trough opening wheel, of the seed boot located directly in the rear of the wheel having a shoe like point provided with a concave surface on its rear face, and a forward extension filling the space between the shoe and the wheel, and a seed outlet in the shoe directly above said concave surface, substantially as described. 4th. In a seeding machine, the combination, with the trough opener, the seed boot and the press wheel of the common pressure bar, the ratchets fixed to the rear frame, the pawls for engaging with the ratchets to secure the bar at any desired position and the levers for operating the same, substantially as described. 5th. In a seeding machine, the combination, with the pivoted drag bar, of the seed boot, mounted thereon, the trough opening wheel mounted on the drag bar in advance of the seed boot, the press wheel yoke pivoted to the seed boot and the press wheel mounted therein, substantially as described. 6th. In a seeding machine, the combination, with the pivoted drags of the trough opening wheel mounted on the drag, the seed boot, and the links pivotally connecting the boot to the drag, whereby the boot may have a vertical movement independent of the drag, substantially as described. 7th. In a seeding machine, the combination, with the main frame of the pivoted drags, the trough opening wheel mounted on the drags directly in advance of the boot, the press wheel yokes provided with opening wheels and pivotally connected with the seed boot, the common pressure bar on the main frame, the devices for adjusting and securing said pressure bar, the rods extending from the press wheel yokes to said bar and the springs encircling the same between the bar and the yoke, substantially as described.

No. 36,453. Steam Boiler. (*Chaudière à vapeur.*)

George Edward Tregurtha, Malden, Massachusetts, U.S.A., 23rd April, 1891; 5 years.

Claim.—1st. In a sectional steam boiler, the combination of two vertical drums, one upon each side of the fire box or grate, two series of U-shaped pipes, the pipes in one series communicating at both ends with one of said vertical drums, and the pipes of the other series communicating at both ends with the other of said vertical drums, both series projecting inward over and nearly to the other side of the grate, so that the pipes in one series shall overlap the pipes in the other series, a horizontal cylindrical steam drum located over the center of the fire box and extending from the front to the rear of the same, and smaller and more flexible horizontal pipes connecting said steam drum directly with the upper end of each of said vertical drums, whereby said vertical drums may expand longitudinally without injury to the connections. 2nd. In a sectional steam boiler, the combination of a grate, two sediment collecting drums arranged one upon each side of the grate and parallel to each other, a steam drum arranged directly over the center of the fire box and parallel with said sediment drums, two series of vertical drums arranged one series above each of said sediment drums, pipes connecting the lower ends of all of said vertical drums to said sediment drums, a series of U-shaped pipes or tubes communicating at both ends with the interior of each of said vertical drums, and extending inward over and nearly to the opposite side of the grate, and small or comparatively flexible pipes connecting the upper ends of all of said vertical drums directly with the interior of said steam drum without the intervention of "manifolds," whereby said vertical drums may expand unequally in the direction of their lengths without injury to the joints or connections.

No. 36,454. Hook for Whiffletrees.

(*Crochet de palonnier.*)

Milo Harris Halcomb, Pierson, Michigan, U.S.A., 23rd April, 1891; 5 years.

Claim.—1st. As an improved article of manufacture, the herein described whiffletree-hook comprising the following parts, a cylinder B, slightly bell-shaped at its outer end, the smaller cylinder C, having its inner end closed, and a longitudinal slot on its upper side the rings D, D, having perforations aligning with the tube of the smaller cylinder, the inner ring D, being integral with both cylinders, and the outer ring integral with the larger cylinder, said cylinders and rings being one piece of cast-iron, the sliding bolt E, provided with a pin projecting through the slot of the smaller cylinder, and having the enlargement F, said enlargement F, being adapted to strike the inner ring D, and limit the outward motion of the sliding bolt, and the coiled spring H, all constructed and combined, as described, and adapted to be applied to the end of the whiffletree, as shown. 2nd. The combination in a whiffletree, of the bar A, cylinder B, slightly bell-shaped at its outer end and adapted to fit the end of the bar A, as shown, smaller cylinder C, in front of said cylinder B, and having its inner end closed, and its upper side

provided with a longitudinal slot, rings D, D, said cylinders and rings being cast in one piece, sliding bolt E, having a pin projecting through the slot of the smaller cylinder, with a thumb-piece r', coiled spring H, having its inner end bearing against the closed end of the smaller cylinder, and its outer end against the sliding bolt, and a wedge G, all arranged, specifically as shown, and combined to cooperate in the manner set forth.

No. 36,455. Driving Mechanism for Organ Bellows. (*Moteur pour soufflets d'orgue.*)

Edward Hotchkiss and John Armour, both of Goderich, Ontario, Canada, 23rd April, 1891; 5 years.

Claim.—1st. In a driving mechanism, the combination, with a shaft connected with and actuated from a spring motor, of crank arms held on the said shaft and arranged in opposite directions, and pitmen connected with the said crank arms, and with the bellows, substantially as shown and described. 2nd. In a driving mechanism for organ bellows, and other light running machines, the combination, with a spring motor, of a shaft actuated from the said spring motor, crank arms held on the said shaft and arranged in opposite directions, and pitmen connected with the said crank arms, and with the bellows of the organ, substantially as shown and described. 3rd. In a driving mechanism for organ bellows, the combination, with a spring motor, of a shaft actuated from the said motor, crank arms held on the said shaft and arranged in opposite directions, pitmen connected with the said crank arms, and with the bellows of the organ, and a stopping and starting mechanism for said spring motor, substantially as shown and described. 4th. In a driving mechanism for organ bellows, the combination, with a spring motor, of a shaft actuated from the said spring motor, crank arms held on the said shaft and arranged in opposite directions, pitmen connected with the said crank arms, and with the bellows of the organ, and mechanism substantially as described, for winding up the spring in the said spring motor, as set forth.

No. 36,456. Cleaner for Drains. (*Nettoyeur d'égout.*)

Napoleon Lacroix and Louis Dubois, both of Montreal, Quebec, Canada, 23rd April, 1891; 5 years.

Résumé.—1o. Dans un appareil pour nettoyer les égouts, les vannes v, v', v¹¹, v¹¹¹, indiquées en profil sur la Fig. 1, telles que décrites, et pour les fins indiquées. 2o. Dans un appareil pour nettoyer les égouts, le moyeu central m, m', indiqué sur la Fig. 1, tel que décrit, et pour les fins indiquées. 3o. Dans un appareil pour nettoyer les égouts, les douelles A, A', A¹¹, A¹¹¹, A¹¹¹¹, et A¹¹¹¹¹, indiquées sur la Fig. 1, telles que décrites, et pour les fins indiquées. 4o. Dans un appareil pour nettoyer les égouts, la combinaison des vannes v, v', v¹¹, et v¹¹¹, du moyeu central m, m', des entretoises p, p', et des douelles A, A', A¹¹, A¹¹¹, A¹¹¹¹, et A¹¹¹¹¹, tels que ci-dessus décrites et pour les fins indiquées.

No. 36,457. Boiler for Hot Water. (*Chaudière de calorifère à eau.*)

T. Alfred de Blois, Montreal, Quebec, Canada, 23rd April, 1891; 5 years.

Résumé.—1o. Dans une chaudière pour le chauffage à l'eau chaude, la section a, percée des deux issues pour l'eau E¹, E², disposées dans des plans horizontaux et sur un même diamètre, perpendiculaire à celui des trous de fumée, tel que décrit et pour les fins indiquées. 2o. Dans une chaudière pour le chauffage à l'eau chaude, la section a, percée d'une seule issue pour la fumée F, disposée également dans un plan horizontal et placée à une extrémité d'un diamètre perpendiculaire à celui des issues de l'eau, et profils F, de façon à ne présenter, à la circulation de l'eau que le minimum d'obstruction, tel que décrit et pour les fins indiquées. 3o. Dans une chaudière pour le chauffage à l'eau chaude, les vides X, X¹, etc., qui établissent la communication entre les trous de fumée de deux sections consécutives, a et b par exemple, tel que décrit et pour les fins indiquées. 4o. Dans une chaudière pour le chauffage à l'eau chaude, la combinaison de deux sections a et b par exemple, donnant un circuit complet pour l'eau et la fumée; pour l'eau E¹, E², E³; pour la fumée, F x F¹, tel que décrit et pour les fins indiquées.

No. 36,458. Boiler for Hot Water. (*Chaudière de calorifère à eau.*)

Jean Baptiste Lalonde, Montreal, Quebec, Canada, 23rd April, 1891; 5 years.

Résumé.—1o. Dans une chaudière pour le chauffage à l'eau chaude, la section a, avec ses deux orifices d'entrée et de sortie de l'eau, en A, et B, situées dans deux plans horizontaux, et juxtaposées toutes deux d'un même côté de la section; chaque section donnant un circuit complet de l'eau, tel que décrit et pour les fins indiquées. 2o. Dans une chaudière pour le chauffage à l'eau chaude, la double grille avec son levier à double effet et le double mouvement de rotation, en sens contraires, des grilles, tel que décrit et pour les fins indiquées.

No. 36,459. Apparatus for the Production of Bi-Sulphate of Lime. (*Appareil pour la production du bi-sulfate de chaux.*)

John English Askwith and Charles Henry Carrier, assignees of William Harmon Howell, all of Ottawa, Ontario, Canada, 23rd April, 1891. 5 years.

Claim.—1st. An apparatus for the production of the bi-sulphite of lime, consisting of a furnace or furnaces for burning the sulphur

or sulphurous ores, pipes to convey the fumes to a cooler, a centrifugal pump to bring milk of lime or magnesia solution from suitable reservoirs into contact with these fumes, and an operating mechanism substantially as set forth. 2nd. In an apparatus for the production of bi-sulphite of lime, the combination with the furnaces A², having the pipe B, of the cooler C, containing the pipes B¹, submerged in water or an equivalent, whereby the fumes arising from the sulphur or its ores may be cooled, substantially as and for the purposes set forth. 3rd. In an apparatus for the production of the bi-sulphite of lime, the combination, with the furnaces A², having the lead pipe B, and the pipes B¹, of the enlarged space O, in the pipe N, to receive the injective nozzle K, and its discharge opening P, substantially as set forth. 4th. In an apparatus for the production of the bi-sulphite of lime, the combination, with the pipes B¹, of the cooler C, of the pipe N, having the space O, the nozzle K, and the valves F, and F¹, as set forth. 5th. In an apparatus for the production of the bi-sulphite of lime, the combination, with the cooler C, having the pipes B¹, and N, of the tanks E, and E¹, substantially as and for the purposes set forth. 6th. In an apparatus for the production of the bi-sulphite of lime, the combination, with the condenser C, the pipes B¹, and N, the valves F, and F¹, and the tanks E, and E¹, of the pipe H, having the valves G, and G¹, the pump L, and the pipe D, all as set forth. 7th. In an apparatus for the production of bi-sulphite of lime, the combination, with the furnaces A², the pipes B, B¹, N, the valves F, F¹, the tanks E, E¹, the valves G, G¹, and the pipe H, of the pump L, the pipe D, and the injection nozzle K, entering the pipe N, in the space O, whereby a continuous flow of the solution may be kept up to obtain any required strength, substantially as hereinbefore shown and described and as and for the purposes set forth.

No. 36,460. Digester for Sulphite. (*Pourrissoir de sulfite.*)

John English Askwith and Charles Henry Carrier, assignees of William Harmon Howell, all of Ottawa, Ontario, Canada, 23rd April, 1891; 5 years.

Claim.—1st. A sulphite digester for the manufacture of cellulose, consisting of a means for containing the liquor during the cooking process, separated from the enclosing shell of steel or iron by a water jacket condensed from the steam supplied into the space between the enclosing and the contained shell, and an operating mechanism, substantially as hereinbefore shown and described and as and for the purposes set forth. 2nd. In a sulphite digester, such as described, the combination, with the boiler L, of the stays N, the stays U, U, and the part or member M, as set forth. 3rd. In a sulphite digester, the combination with the contained shell L, having the stays N, and U, U, and the member M, of the containing shell E, E, having the heads J, K, the drip C, the water gauge K¹, the steam supply pipe V, and valve A, and the steam exhaust pipe X², and an operating mechanism, substantially as hereinbefore set forth. 4th. In a sulphite digester for the manufacture of cellulose, the combination with the shells L, and E, of the pipes V, W, A¹, B¹, C¹, and Z, Z¹, the gauge D¹ and E¹, and the valves B, the thermometer G¹, the safety valve D, all substantially as set forth. 5th. In a sulphite digester for the manufacture of cellulose, the use of a water jacket in the space between the outer and the inner shells whose height may be regulated to suit that of the level of liquor in the inner shell, and whose hydraulic pressure in the space between the shells may counterbalance the hydrostatic pressure of the liquor in the contained shell, while the steam in the space above this level between the shells may exert sufficient pressure upon the water to prevent its turning to vapor under the heat imparted to it to cook the contents of the contained shell, and enough to encounterbalance the vapor pressure in opposition to it within the contained shell above the aforesaid level, substantially as and for the purposes set forth. 6th. The valve A, consisting of the concentrically corrugated disc c, and the containing walls, having the piston rods e, f, and the inlet pipes a, b, substantially as and for the purposes set forth. 7th. The combination in a sulphite digester of the diaphragm valve A, having the inlet pressure pipes a, b, the piston rods e, f, and the disc or diaphragm c, with the rotary valves B, the pipes Z, Z¹, and the shells E, E, and L, whereby the steam pressure in the space between the shells may be kept in equipoise with vapor pressure in the contained shell L, substantially as set forth. 8th. In a sulphite digester, the combination of the false head P, having the ring or body Q, the radial arms R, the terminal segments S, and the clamps T, with the boiler L, and the shell E, E, substantially as and for the purposes set forth. 9th. The combination, with the shell E, E, and L, having the water jacket in the contained space between them, of the trap made up of the parts or members 2, 3, 4, 5, 6, 8, and the inlet orifices 1, and 7, whereby a regulation of the condensation of steam from the supply pipe V, into water may be contained in carrying off the water of condensation automatically in the event of any sudden change of temperature upon the external surface of the shell E, E, causing too great condensation, of steam into water in the interstitial space, substantially as herein shown and described and as set forth.

No. 36,461. Bench Vise. (*Etau d'établi.*)

James Mont Lockey, assignee of Charles Wies, both of Faulton, South Dakota, U. S. A., 23rd April, 1891; 5 years.

Claim.—1st. The combination, substantially as herein described, of the fixed jaw A, having an upright portion a, provided with an opening D, and a base B, provided with a tubular boxing E, the sliding jaw G, having a shank H, fitted to move longitudinally in said opening D, and boxing E, substantially as set forth. 2nd. The combination of the fixed jaw A, the sliding jaw G, having a shank H, arranged to slide in the fixed jaw, and provided on the upper side of such shank with a socket or opening K, the toothed bar J, fitting removably in said socket or opening, and the operating devices arranged to coact with the said toothed bar, all substantially as set forth. 3rd. The combination of the fixed jaw A, the sliding jaw G,

having a toothed bar J, the lever L, pivoted to said fixed jaw, and having an eccentric ring P, fitting on said eccentric, and having a toothed portion Q, by which to engage the tooth bar of the sliding jaw, all substantially as and for the purpose set forth. 4th. The combination of the fixed jaw A, the sliding jaw G, having a toothed bar J, the lever L, pivoted on the fixed jaw and having an eccentric ring P, having a toothed portion Q, movable into and out of engagement with the toothed bar J, a beveled or inclined bearing R, connected with said toothed portion, and a projection or portion S, on the lever arranged to engage said bearing and lift the toothed portion clear of the toothed bar, all substantially as and for the purpose set forth. 5th. The combination of the fixed jaw A, having the tubular boxing E, the sliding jaw G, having its shank H, provided in its upper side with a socket or opening, and having the toothed bar fitted in the said socket or opening K, the lever L, journaled on the fixed jaw and having an eccentric O, the eccentric ring P, fitted to receive the eccentric O, and provided with a toothed portion Q, by which to engage the toothed bar of the sliding jaw, and with an inclined bearing R, and a projection or portion S, supported on the lever and arranged to engage the said bearing, all substantially as and for the purpose set forth. 6th. The improved vise, consisting of the fixed jaw A, having tubular boxing E, and having its upright α , provided with an opening D, the sliding jaw G, having a shank H, movable longitudinally in the said opening and boxing, and having the said shank provided in its upper side with a socket or opening K, the toothed bar J, fitting removably in the said opening, the lever L, having an eccentric O, and provided with a projection or portion S, by which to engage the bearing of the eccentric ring P, and the eccentric ring P, fitting on the eccentric O, of the lever L, and having a toothed portion Q, by which to engage the toothed bar J, of the sliding jaw G, and an inclined or beveled bearing R, for engagement by the arm or portion S, of the lever, all substantially as and for the purpose set forth.

No. 36,462. Steam Flue Cleaner.

(*Nettoyeur de tuyau.*)

William J. Miller and John J. Oliver, assignees of William Doty, all of Chillicothe, Ohio, U. S. A., 23rd April, 1891; 5 years.

Claim.—1st. A steam-jet flue cleaner having a nozzle containing a cylindrical passage-way provided with spirally arranged ribs, extending from one end to the other, whereby the flow of steam is not choked after it enters the nozzle, substantially as described. 2nd. A steam-jet flue cleaner provided with an automatic drip valve for the escape of the water of condensation, substantially as described. 3rd. A steam-jet flue cleaner having a nozzle adapted to give the jet a whirling motion and an automatic drip valve situated at the base of said nozzle, substantially as described. 4th. In a steam-jet flue cleaner, the combination, with the spirally ribbed nozzle A, of the T-union B, and the automatic drip-valve D, located at the lower end of the union, substantially as described. 5th. In a steam-jet flue-cleaner, the combination, with the nozzle A, of the union B, the tubular plug B, tapped into one end of said union, the valve D, adapted to seat against the inner end of the plug, and the spring F, attached to the valve and to the plug, substantially as described.

No. 36,463. Guide for Band Saws.

(*Garde pour scies à ruban.*)

Reuben McChesney and John H. Brearley, both of Philadelphia, Pennsylvania, U. S. A., 23rd April, 1891; 5 years.

Claim.—1st. The combination, with the guide block, of a rotating rear guide wheel supported therefrom and arranged at an inclination of less than a right angle with the saw, of side guides having lower ends extending downward in of the axis of the rotating wheel, and so arranged relatively thereto and the saw that the latter shall be supported sidewise both above the wheel and in front of the same, substantially as described. 2nd. The combination, with the guide block provided with projection N, of side guides, a rotating back guide, and a roller bearing for the latter consisting of the shaft n , n , spherical balls R, and supporting screw bar S, extending into said projection N, substantially as described. 3rd. The combination, with the guide-block provided with projection N, and side guides, of a rotating rear guide for the back of the saw consisting of a wheel constructed in two or more independently rotating sections on a central single bushing, and a roller-bearing for the latter consisting of the shaft n , n , spherical balls R, and supporting screw bar S, extending into said projection N, substantially as described. 4th. The combination, with the guide block, of a rotating rear guide for the back of the saw, consisting of a wheel constructed in two or more independently rotating sections upon a central single bushing, means to support said bushing and wheel at an inclination less than a right angle to the saw and side guides having lower ends extending downward in front of the axis of the rotating wheel, and so arranged relatively thereto and to the saw that the latter will be supported sidewise both above the wheel and in front of the same, substantially as described. 5th. The combination, with the guide block of a rotating rear guide wheel an inclined shaft for the wheel whereby the latter is placed at an angle to the saw and side guides for the saw, substantially as described.

No. 36,464. Washing Machine.

(*Machine à laver.*)

Jonas L. Knoll and Jacob L. Smith, both of Lebanon, Pennsylvania, U. S. A., 23rd April, 1891; 5 years.

Claim.—In a washing-machine, the combination, with a suds box having a scrubber pivoted centrally therein, having a cylindrical rubbing surface formed of slats forming projecting shoulders at the top of the arms of the said scrubber, having pins on their outer sides, the racks having horizontal arms adjustably attached to the said pins, the downward projections in which the slats are secured, the said slats forming shoulders on the under side the pins at the bend of the said arms adapted to slide in grooves in the suds-box, substantially as described.

No. 36,465. Separator for Cream and Butter.

(*Séparateur de la crème et du beurre.*)

Richard Duncan Harris, New York, assignee of Adolphe Wahlin, Stockholm, Sweden, 23rd April, 1891; 5 years.

Claim.—1st. The method herein specified of separating butter from skim milk, consisting in exposing the same to a centrifugal action as the materials pass in succession over annular ledges between one annular trough and another, the skim milk being spread in a thin film upon such annular ledges as the buttery particles accumulate and adhere together, substantially as set forth. 2nd. The combination, with a centrifugal cream separator, of a butter separator connected with the cream separator, and revolving therewith, said butter separator being conical and over the surface of which the butter is caused to pass, substantially as set forth. 3rd. The centrifugal butter separator having an approximately conical form, and a series of annular ledges upon its inner surface, the cream being received at the smaller end of such butter separator, in combination with an annular chamber revolving with the butter separator, there being an opening for the discharge of the butter-milk and butter from the butter separator into the annular chamber, and a discharge opening for the butter-milk substantially as set forth. 4th. The conical centrifugal butter separator over the surface of which the cream is caused to pass outwardly and discharge from the larger end, in combination with a surrounding annular chamber connected to and rotating with the butter separator, and receiving the materials therefrom and provided with a discharge opening for the skim milk, substantially as specified. 5th. A centrifugal butter extractor having internal annular ledges over which the buttery particles are caused to pass in succession as the skim milk is thrown off from the same, in combination with an annular chamber connected to and revolving with the butter separator, and into which the buttery particles and skim milk are received, and a pipe opening at one end near the inner surface of the wall of the annular chamber, and at the other end outside the apparatus for the passage of the skim milk, and means for removing the buttery particles from the inner surface of the annular layer within the annular chamber, substantially as set forth.

No. 36,466. Ratchet Wrench.

(*Clé à érou.*)

George Kempton Turner and William H. Haire, Morristown, Tennessee, U. S. A., 23rd April, 1891; 5 years.

Claim.—1st. In a ratchet wrench, the combination, with a stationary jaw, a movable, opposed jaw, an adjusting screw held to turn in the fixed jaw, and fitted to a threaded opening in the movable jaw, and a stud projected upward from the fixed jaw, of a handle held to revolve around the stud, a cap block secured to the upper end of the stud and provided with a toothed periphery, and a spring-pressed dog pivoted upon the handle, provided with two spurs adapted for engagement with the toothed periphery of the cap block, as and for the purpose specified. 2nd. In a ratchet wrench, the combination, with a head comprising two jaws, a fixed jaw, consisting of a horizontal block section having a stud integral with its upper face, an essentially T-shaped recess formed in its under face and at one end, and a gripping or clamping section extending vertically down from the block section, and a movable jaw, consisting of a horizontal block section adapted to slide in the recess of the corresponding section of the fixed jaw, and a downwardly-extending clamping section, and a screw held to turn in the horizontal section of the fixed jaw, the threaded surface whereof is fitted to the aperture in the movable jaw, of a handle held to loosely turn upon the stud, a cap block secured to the outer end of the stud, provided with a toothed peripheral surface, and a spring-pressed, essentially triangular dog pivoted upon the handle, provided with two spurs adapted for engagement with the toothed surface of the cap block, as and for the purpose specified. 3rd. In a ratchet wrench, the combination, with two jaws, one sliding in the other, an adjusting screw held to loosely turn in one jaw and fitted to a threaded opening in the opposite jaw, a post projected upward from the fixed jaw, and a cap block secured upon the upper end of the post and provided with a toothed peripheral surface, of a handle held to freely turn around the post between the jaws, and the cap block, an essentially triangular dog pivoted upon the handle, provided with two spurs adapted for engagement with the toothed surface of the cap block, and a spring-pressed bolt located in the handle and having a bearing against the dog, as and for the purpose specified.

No. 36,467. Separating Machine.

(*Emotteur.*)

August Heine and Newton Benson Trask, both of Silver Creek, New York, U. S. A., 23rd April, 1891; 5 years.

Claim.—1st. The combination, with the inclined screen and the rotating cams, whereby the screen is actuated, of independently adjustable wedges which support the corners of the screen, and whereby each corner can be raised or lowered, substantially as set forth. 2nd. The combination, with the inclined screen and rotating cams, whereby the screen is actuated of supporting wedges arranged underneath the screen near the corners thereof, and each made independently adjustable lengthwise of the screen, substantially as set forth. 3rd. The combination, with the stationary frame, of an inclined screen-frame provided on opposite sides with a board or plate arranged over the screen frame, flexible arms connecting the screen frame with the stationary frame rotating cams adapted to strike the underside of the plates for jarring the screen, brackets secured to the stationary frame below the screen frame, and wedges or inclined blocks adjustably secured to the stationary frame and arranged between the brackets and the underside of the screen-frame, substantially as set forth. 4th. The combination, with the screen, the cleaner belt or chain and its shaft, and wheels of adjustable bearings each composed of a movable bearing proper M, provided with a longitudinal arm or plate m , and a stationary plate N, on which the bearing M, is adjustable and which is provided with an adjusting screw p , arranged lengthwise of the belt or chain, and

whereby the bearing is moved in the direction in which the belt or chain is tightened, and an adjusting screw *r*, which is arranged at right angles to the belt or chain, and which holds the movable bearing *M*, against the pull of the belt or chain, substantially as set forth.

No. 36,468. Process and Apparatus for Manufacturing Copper Tubes, Sheets, Strips and Wires by Electrolysis. (*Procédé et appareil de fabrication de tubes de cuivre, plaque, feuille et fil par l'électrolyse.*)

Alexander Stanley Elmore, Spring Grove, Hunslet, Leeds, England, 24th April, 1891; 5 years.

Claim.—1st. The herein described process for manufacturing copper tubes by electrolysis, that is to say, preparing mandrils by treatment in baths of cyanide of copper, mounting these mandrils in electrolytic baths charged with acidulated solution of sulphate of copper, and having granulated copper and copper plates arranged as anodes, and the mandrils as cathodes connected to a source of electricity, causing the mandrils to revolve while burnishing tools travel to and fro along their surfaces and finally when the deposit is of the desired thickness, removing the mandrils and their coatings from the baths and subjecting them to the pressure of rollers travelling along their length so as to loosen and release the deposited tubes. 2nd. In applying the process above referred to for electrolytically depositing successive layers of copper on the mandrils above referred to, treating each deposited layer with varnish or oxidation so as to prevent adhesion of the next layer, substantially as described. 3rd. For driving the mandrils in a number of electrolytic baths arranged in two parallel rows the combination of the central shaft *F*, the pulleys *G*, and *H*, and the chain gearing to the mandrils, substantially as described. 4th. For effecting the to and fro traverse of the burnishing tools for a number of electrolytic baths arranged in two parallel rows, the combination of the screw spindle *K*, clutch *L*, reversing pulleys *L'*, tumbling lever *M*, rod *N*, and the collars *n*, *n'*, cross head *O*, its arm *o*, the rod *P*, and cross heads *O'*, and arms *O''*, substantially as described. 5th. For loosening the tubes of deposited metal from the mandrils, the roller machine substantially as described with reference to Figures 4, 5, and 6.

No. 36,469. Carriage for Babies. (*Voiture d'enfant.*)

Archibald Aldridge Allardyce, Toronto, Ontario, Canada, 24th April, 1891; 5 years.

Claim.—1st. The body of a baby carriage divided into two parts *A*, *B*, connected together by the links, *C*, in combination with a running gear of a baby carriage, substantially as and for the purpose specified. 2nd. The body of a baby carriage divided into two parts *A*, *B*, connected together by the links *C*, the portion *B*, supported by the springs *E*, and *I*, carried respectively on the side bars *F*, and cross bars *J*, in combination with the handle *K*, hinged to the side bars *F*, and provided with the hinged brace *L*, arranged to be detachably connected to the side bars *F*, substantially as and for the purpose specified. 3rd. A short axle on which the wheel is journaled, detachably connected to the main axle of the carriage, substantially as and for the purpose specified.

No. 36,470. Electric Railway Train System. (*Système de train de chemin de fer électrique.*)

Charles Joseph Van Depoele, Lynn, Massachusetts, U.S.A., 24th April, 1891; 5 years.

Claim.—1st. An electric railway system comprising a source of current of relatively high potential, and supply conductors carrying said current and extending along the line of way, a moving vehicle provided with a motor generator, means for connecting the continuous current supply circuit and the motor generator, a multiplex local circuit moving with the vehicle and successively receiving currents of reduced tension, and one or more motors for propelling the vehicle and supplied with current from the said local circuit. 2nd. An electric railway system comprising a source of relatively high potential current extending along the line of way, a moving vehicle provided with current collecting devices and a motor generator, a divided local circuit moving with the vehicle and supplied with currents of reduced tension, and one or more motors propelling said vehicle and supplied with current from said local circuit. 3rd. An electric railway system comprising an exposed supply circuit extending along the line of way, a moving vehicle provided with current dividing devices, means for establishing connection between the supply circuit and the current dividing devices, a local circuit comprising a plurality of conductors moving with the vehicle and each separately supplied with current, and one or more multiple current motors connected with the supply circuit and arranged and connected to propel the vehicle. 4th. An electric railway system comprising a suitable source of continuous current, supply conductors extending along the line of travel, a motor car or cars provided with contact devices for establishing connection with the supply conductors, a converter upon the motor car and circuits moving with the converter and supplied therefrom, and connections extending from the said converter circuits to the motor or motors for supplying motive current thereto. 5th. An electric railway system comprising an exposed supply circuit extending along the line of way, a moving vehicle provided with tension reducing and current dividing devices, and means for establishing connection between the supply circuit, and the circuits of the said moving vehicle, a local circuit comprising a plurality of conductors moving with the vehicle and each supplied separately with current from the said current dividing devices, and one or more multiple current

motors connected with the supply circuit and arranged and connected to propel the vehicle. 6th. An electric railway system comprising a continuous current supply along the line of way, a motor-generator energized thereby and carried by the train, said motor-generator producing a number of independent consecutive currents, and suitable circuit conductors for conveying the consecutive currents to the motors on the train, and means for reversing the order of the said consecutive currents and thereby reversing the direction of rotation of the motors. 7th. An electric railway train system comprising a continuous current supply along the line of way, a motor-generator energized thereby and carried by one of the cars of the train, said motor-generator producing a number of independent successive current impulses, multiple current motors and independent conductors supplying currents to the several circuits thereof, and means for regulating the speed of the motor-generator. 8th. An electric railway motor comprising an armature mounted upon the axle to be driven, an annular field magnet system exterior to said armature, an exterior iron casing enclosing and sustaining the field magnet system, and sleeved upon and supported by the axle, and means for limiting the rotary movement of the field magnet system and casing. 9th. In an electric railway motor, the combination, with axles to be driven, of armatures mounted thereon, and adapted to rotate the same, an annular field magnet system exterior thereto, an exterior metallic casing for each motor sustaining the field magnet system and sleeved upon the axle, a rigid frame extending between the motors, and yielding connections between the exterior casings of the motors and the said frame, whereby a limited rotary movement of the casings is permitted.

No. 36,471. Speaking Tube and Earphone. (*Porte-voix et cornet acoustique.*)

Frederick Schluchtner, Brooklyn, New York, U.S.A., 24th April, 1891; 5 years.

Claim.—1st. A speaking tube mouth piece, provided with a branch communicating with its interior, an ear cup, and a connection between the ear cup and the branch, substantially as shown and described. 2nd. A speaking tube mouth piece provided with a branch pipe located at one side, extending outward at an angle therefrom and having a direct communication with the interior, an ear cup, and a flexible connection between the ear cup and the branch, substantially as shown and described. 3rd. A speaking tube mouth piece provided with a branch pipe located at one side, extending outward at an angle therefrom and having a direct communication with the interior, a clamp attached to the branch tube, an ear cup, and a flexible connection between the ear cup and the branch, as and for the purpose set forth.

No. 36,472. Road Cart. (*Désobligeante.*)

Robert McLaughlin, Oshawa, Ontario, Canada, 24th April, 1891; 5 years.

Claim.—1st. In a road cart, a step clipped or otherwise fastened to the axle, and having lugs formed on its top side to receive the shaft, and lugs formed on its bottom side to support the spring, substantially as and for the purpose specified. 2nd. In a road cart, a spring bolted to the axle and designed to flexibly support the iron to which the cart's body is attached, substantially as and for the purpose specified.

No. 36,473. Boiler. (*Chaudière.*)

William Morrison, Toronto, Ontario, Canada, 24th April, 1891; 5 years.

Claim.—1st. A boiler having a water space *A*, formed on three of its sides, the two opposite sides being connected together by tubes *B*, and the side on which no water space is formed having a door *G*, arranged, substantially as and for the purpose specified. 2nd. A boiler having a water space *A*, formed on three of its sides, the two opposite sides being connected together by tubes *B*, and the side on which no water space is formed having a door *G*, in combination with a series of plates *D*, arranged between the tubes *B*, substantially as and for the purpose specified. 3rd. A boiler having a water space *A*, formed on three of its sides, the two opposite sides being connected together by tubes *B*, and the side on which no water space is formed having a door *G*, in combination with a plate *D*, and adjustable damper *E*, provided with a rod *F*, and designed, substantially as and for the purpose specified. 4th. A boiler having a water space formed on three of its sides, the two opposite sides being connected together by tubes *B*, in combination with a hinged door *G*, having a water space formed in it which latter water space is connected to the water space *A*, by a pipe *I*, provided with a suitable coupling, substantially as and for the purpose specified.

No. 36,474. Nut Lock. (*Arrête-écrou.*)

John Gottlieb Wenninger, Lancaster, Pennsylvania, U.S.A., 24th April, 1891; 5 years.

Claim.—1st. The combination, with the nuts, of a locking bar having dependent lips adapted to engage the nuts, and provided with eyes at their lower ends, a lug adapted to be engaged by the said lips, and hold the locking bar in position horizontally, and a pin adapted to engage said eyes, substantially as specified. 2nd. The combination, with the nuts, of a lug *F*, provided with recesses in its vertical sides *A*, locking bar *R*, which rests upon the nuts and is provided with dependent lips *G*, adapted to engage the recesses in the sides of the lug *F*, eyes *H*, formed on the lips *G*, and a locking pin adapted to engage the eyes *H*, substantially as specified.

No. 36,475. Plaster Sheeting. (*Double en plâtre.*)

James Day Baker, and James Morrison, both of Montreal, Quebec, Canada, 24th April, 1891; 5 years.

Claim.—1st. As a new article of manufacture, plaster sheeting

composed of a front part, intermediate canvas on back of same and a plaster backing stiffened with fibre. 2nd. In plaster sheeting, the sections having meeting edges formed of projecting and re-entering curves adapted to lock into each other. 3rd. In plaster sheeting sections having their meeting edges following the lines of the ornamentation on them.

No. 36,476. Twine Making Machine.

(Machine pour faire le cordonnnet.)

Daniel Munro and Walter Herbert Avis, both of Toronto, Ontario, Canada, 24th April, 1891; 5 years.

Claim.—1st. The sleeve secured fixed at one end to the main frame, and having a wheel on its opposite end connected to operate a roller or rollers carried in the revolving frame and drawing the twine, substantially as shown and described. 2nd. In combination, the sleeve secured fixed at one end to the main frame and having a wheel on its opposite end connected to operate a roller or rollers carried in the revolving frame and drawing the twine with said sleeve, the mortice through said shaft, the guide on the frame to engage said mortice, the jointed laying arm carried loosely on said shaft and driven by means, as described, to revolve thereon, the grooved collar on the end engaged by said laying arm, and the grooved collar on the opposite end to operate a stop lever, substantially as shown and described. 3rd. In combination, the sleeve secured fixed at one end to the main frame and having a wheel on its opposite end connected to operate a roller or rollers to draw the twine the hollow shaft revolving within said sleeve, the mortice through said shaft, the guide to engage said mortice in the shaft, and revolve the same, in conjunction with the frame, the pulley on said shaft and driven by interposed mechanism from the wheel on said sleeve, a belt to operate the pulley on the axle of the laying frame, a belt from said pulley on the laying frame to operate the mandrel by means specified, substantially as shown and described. 4th. The inclining curved sector secured to the flier frame and having a slot therein, as a means to direct the guide shank operating therein, substantially as shown and described. 5th. In combination, the inclining curved sector having a slot therein and secured to the flier frame, the guide secured in said slot, the friction wheel having a key therein to engage a channel in the shaft, carrying it, the shaft carrying said friction wheel, the pulley on said shaft driven by interposed mechanism operated by said friction wheel, substantially as shown and described. 6th. In combination, the mandrel journaled in the vibrating frame, the wheel on the end of said mandrel, the friction roller operating against said wheel and having a key therein, the shaft supporting said roller and having a key channel therein and supported in bearings on the vibrating frame, and the pulley on said shaft driven by interposed mechanism from the fixed sleeve, having a wheel thereon, substantially as shown and described. 7th. In combination, the vibrating frame secured journaled in the revolving frame, the connecting rod attached to the revolving frame, the arms supported to vibrate in the revolving frame and having a toothed sector thereon, the rack on the end of the shaft through the rear hollow journal and engaging said sector, the shaft having the rack thereon at one end, and means on its opposite end to engage a cam, as specified, and the cam provided to operate said shaft reciprocally through said hollow journal, substantially as shown and described. 8th. In combination, the revolving frame supported centrally at its ends by hollow journals thereon, the fixed sleeve through one of said journals, the shaft through said fixed sleeve and secured to revolve with the frame, as described, the laying arm carried on the shaft, means to operate said arm from the fixed sleeve, as specified, a grooved collar on each end of said shaft whereby the stop lever is operated, the vibrating frame journaled in the revolving frame, the mandrel operated by proscribed mechanism from the said sleeve, the inclining curved sector to regulate the speed of the mandrel, as described, a pulley on the rear hollow journal to drive the flier frame, and a cam supported to operate the vibrating frame by specified mechanism, substantially as shown and described.

No. 36,477. Sheep Shearing Machine.

(Appareil pour tondre les moutons.)

Patrick Blackie, Redfern, and John Nisbet, Coolabah, both of New South Wales, Australia, 24th April, 1891; 5 years.

Claim.—1st. In a sheep shearing machine, the combination and arrangement, with a comb and a reciprocating cutter, of a main lever having upon its end a diametang in gear with a festinar on the end of a driving spindle, substantially as herein described and explained and as illustrated in the drawing. 2nd. In a sheep shearing machine, the combination and arrangement, with a comb and a reciprocating cutter having a reciprocating or secondary lever of a main or toggle lever having on its end a diametang in gear with a festinar on the end of a driving spindle, substantially as herein described and explained and as illustrated in the drawing. 3rd. In a sheep shearing machine, the combination and arrangement, with a comb and a reciprocating cutter having a main lever such as C, of the tension devices such as those marked A', A'', A''', A'', C', and C'', substantially as herein described and explained and as illustrated in the drawings. 4th. In a sheep shearing machine, the combination and arrangement, with a comb and a reciprocating cutter, having a reciprocating lever of the tension devices consisting of flexible packing, such as c', junk ring such as c'', and nut such as A'', and stop such as c'', substantially as herein described and explained and as illustrated in the drawing. 5th. In a sheep shearing machine, the combination and arrangement, with mechanism for imparting motion to a reciprocating cutter, of a comb having a concave inside or working face, and a cutter having a convex face sitting in the concavity of the comb, substantially as herein described and explained and as illustrated in the drawings. 6th. The combination and arrangement together of the mechanical parts forming complete sheep shearing machines, substantially as herein described and explained and as illustrated respectively in Figures 1, 2, and 3, and Figures 4, 5, and 6, of the drawings.

No. 36,478. Striping Mechanism for Knitting Machines.

(Appareil à barrer pour machines à tricot.)

John Bradley, North Chelmsford, Massachusetts, U.S.A., 25th April, 1891; 5 years.

Claim.—The combination, with a needle cylinder and needles, of a filling wheel adapted to lay a yarn behind certain needles and in front of others, of a plurality of yarn guides and means for throwing said yarn guides into and out of action with relation to the filling wheel and needles, as set forth.

No. 36,479. Heater.

(Calorifère.)

J. F. Pease Furnace Company, Toronto, Ontario, Canada, (assignees of John Fletcher Pease, New York, N.Y., U.S.A.,) 25th April, 1891; 5 years.

Claim.—1st. In a heater, the combination of a combustion chamber A, an outer shell C, a shallow disc-shaped chamber D, of substantially the same diameter as the shell C, and a second disc-shaped chamber d, of lesser diameter, substantially as and for the purpose set forth. 2nd. In a heater, the combination of a combustion chamber A, an outer shell C, a shallow disc-shaped chamber D, flues d', a second chamber d, a third disc-shaped chamber d'', and water passages G, substantially as and for the purpose specified. 3rd. In a heater, the combination of a combustion chamber A, an outer shell C, a series of disc-shaped chambers D, and D', a second series of disc-shaped chambers d, d', d'', water passages E, and water passages G, substantially as and for the purpose set forth. 4th. In a heater, the combination of a combustion chamber A, a pair of disc-shaped chambers d, and D, a water-connection E, sockets I, and movable supports 2, substantially as and for the purpose specified.

No. 36,480. Wash Board.

(Planche à savonner.)

Brandon Manufacturing Company, (assignees of Charles Thomas Brandon), all of Toronto, Ontario, Canada, 25th April, 1891; 5 years.

Claim.—A wash board having a rubbing surface formed by a series of horizontal crimps parallel to each other, the convex surface of each crimp having a series of indentations made in it, the said indentations being arranged so that only those on alternate crimps shall be opposite to each other, the concave surface of each crimp being smooth and even its full length, substantially as and for the purpose specified.

No. 36,481. Furnace.

(Fourneau.)

Henry Petersen, Carl Kromphardt, and Henry Craft, all of Chicago, Illinois, U.S.A., 25th April, 1891; 5 years.

Claim.—1st. In a furnace grate, a series of vertical tubes of polygonal cross section set closely together, and with their tubular connections forming air passages, the upper ends of said tubes being provided with foraminous plates which together with the upper edges of said tubes form the entire grate surface, substantially as described. 2nd. In a furnace grate, a series of flared tubes and tubular supports together forming air passages, said flared tubes having their enlarged ends uppermost, in combination with foraminous plates set in the flared ends of said tubes, and forming the grate surface, substantially as described. 3rd. In a furnace grate, a series of flared tubes of polygonal section forming air passages and having their larger ends uppermost and in close contiguity, in combination with foraminous plates set in the flared ends of said tubes, and having air passages between the edges of said plates and the tube ends, substantially as described. 4th. In a furnace grate, the combination of a series of air tubes traversing the furnace, having openings on their top surfaces in which are affixed flared vertical tubes, having their larger ends uppermost and foraminous plates set in the upper ends of said tubes and forming the grate surface, substantially as described. 5th. In a furnace grate, a series of hollow chambers having foraminous covers, combined with an air-distributing conduit or conduits and air pipes leading from said conduit or conduits to said hollow chambers, substantially as described.

No. 36,482. Telephone.

(Téléphone.)

John W. Hodgson, James P. Prince, both of Chelsea, and Albert H. Spencer, Boston, (assignees of Jerome Prince, Milford), all in Massachusetts, U.S.A., 25th April, 1891; 5 years.

Claim.—1st. In a body or mouth piece for a mechanical telephone, a transmitter composed of glass and adapted to contain the diaphragm substantially as described. 2nd. In a transmitter for mechanical telephones a glass body or mouth piece in contact with a metallic cylinder bearing the diaphragm substantially as described. 3rd. A transmitter for mechanical telephones, comprising a cylindrical glass body, an enclosed cylinder within the body in engagement therewith, and a metallic diaphragm closing one end of said cylinder, its opposite ends resting on glass lugs within said body substantially as described. 4th. In a device of the character described, the combination, with the wooden back plate A, of the glass body B, the metallic cylinder C, provided with the diaphragm D, and the glass lugs E, arranged, substantially as described. 5th. In a transmitter for mechanical telephones, a back plate, a glass case or body secured thereto, and a diaphragm secured to a metallic cylinder within said body, said cylinder being held in engagement with glass lugs on said back plate by the tension of the conducting wire, substantially as described. 6th. In a transmitter for mechanical telephones, a wooden back plate, a cylindrical glass body having an annular attaching flange at one end, its opposite end being curved inward to form a mouth piece, glass lugs on the back plate projecting into said body, a metallic cylinder and a diaphragm secured to one end thereof, all being arranged, substantially as described. 7th. In a transmitter for mechanical telephones, a cylindrical glass body

provided with a mouth piece and secured to a wooden back plate, flexible washers interposed between said body and plate, a metallic cylinder disposed within the body in engagement therewith, a diaphragm closing one end of said cylinder, a button secured to a conducting wire passing through the diaphragm and back plate, and glass lugs on said plate in engagement with the opposite end of said cylinder, substantially as described. 8th. In a mechanical telephone, the plate A, provided with the opening *b*, and glass lugs *k*, in combination with the glass body B, secured to said plate and having the mouth *f*, and flange *d*, the metallic cylinder C, provided with the diaphragm D, having the opening *m*, the button *k*, and wire H, and the flexible washers *i*, interposed between said body and plate, substantially as described.

No. 36,483. Protector for Ships.

(*Protecteur de vaisseaux.*)

Robert Augustus Chesebrough, New York, State of New York, U. S. A., 27th April, 1891; 5 years.

Claim.—As a protection for the bottoms and other parts of ships and other navigable vessels against marine animals and plants, and the corrosive action of sea water, and against rot, a coating of oocerite applied to the parts to be protected, substantially as herein described.

No. 36,484. Dust Pan. (*Porte-ordure.*)

Arnold M. Downing, Kansas City, Missouri, U. S. A., 27th April, 1891; 5 years.

Claim.—1st. An improved dust pan, comprising an inclined bottom, and an inclined trough or receptacle at the rear of the pan, and open at its front side, substantially as set forth. 2nd. An improved dust pan, comprising an inclined bottom having side pieces gradually increasing in height from their front to their rear ends, and provided also with a trough or receptacle located at the rear of the bottom, the ends of said trough being connected to the rear ends of the side pieces of the bottom, and the said trough opening at its front to receive the sweepings from the bottom, substantially as set forth. 3rd. An improved dust pan, comprising an inclined bottom and a trough located at the rear of the bottom, and having a weighted bottom, substantially as set forth. 4th. An improved dust pan comprising an upwardly and rearwardly inclined bottom having a downwardly extending lip or flange on its front edge, side pieces for the bottom gradually increasing in height from their front to their rear ends, a trough or receptacle joined to the rear of the bottom and extending across the same and having the end walls joined to the side walls of the bottom, and a top extending toward the front of the pan, and a weighted bottom piece located in the lower angle of the trough or receptacle, substantially as set forth.

No. 36,485. Hitching Weight for Horses.

(*Poids d'érennoire.*)

Ferdinand Bernier, Montreal, Quebec, Canada, 27th April, 1891; 5 years.

Resume.—1o. La combinaison des pièces B, C, D, E, et les ressorts G, tels que décrits. 2o. La combinaison du poids A, avec les pièces B, C, D, E, et les ressorts G, telle que décrite pour les fins indiquées.

No. 36,486. Machine for Labeling.

(*Machine à étiqueter.*)

Siegmund Leyser Salomon, Brooklyn, New York, U.S.A., 28th April, 1891; 5 years.

Claim.—1st. The combination of a bottle holder having rolling surfaces, a receptacle for labels having an open top, and a traveling paste carrying apron capable of a rising and falling motion for the purpose of pasting the labels in said receptacle, picking them up therefrom and carrying them to a bottle or package in said holder, substantially as herein described. 2nd. The combination of a bottle holder having rolling surfaces, a receptacle for labels having an open top, a traveling paste carrying apron and rollers therefor, and a frame for said rollers arranged to swing to and fro about the axis of one of said rollers towards and from said receptacle, substantially as and for the purpose herein set forth. 3rd. The combination of a bottle holder having rolling surfaces, a receptacle for labels having an open top, a traveling paste carrying apron and rollers therefor, a frame for said rollers arranged to swing to and fro about the axis of one of said rollers towards and from said receptacle, a paste reservoir, a paste receiving roller running in said reservoir and a paste transferring roller situated between said paste receiving roller, and the said apron roller about the axis of which the said frame swings, substantially as herein set forth. 4th. The combination, in a labeling machine, of a label receptacle, a swinging frame and rollers therein and a paste carrying apron on said rollers, a paste reservoir arranged below and adjustable towards and from said apron and a roller in said reservoir for taking up paste therefrom to be deposited on said apron, substantially as and for the purpose herein set forth. 5th. The combination, in a labeling machine, with a paste carrying apron and rollers for carrying the same, and a frame containing the said rollers and apron arranged to swing from the axis of one of said rollers, of a label receptacle and a fixed pivotal support therefor at one end thereof, and a yielding support for the other end of said receptacle, substantially as and for the purpose herein set forth. 6th. The combination, in a labeling machine, with a traveling paste carrying apron, of an adjustable scraper on either side of said apron for removing the paste from a portion of the width of said apron, substantially as herein set forth. 7th. The combination, in a labeling machine, of a label receptacle, a traveling paste carrying apron and a swinging frame for said apron for pasting and picking up labels from said receptacle, and a stripper supported in said frame for stripping the labels from said apron, substantially as herein de-

scribed. 8th. The combination, in a labeling machine, with a label receptacle, and a traveling paste carrying apron and a swinging frame for said apron for pasting and picking up labels from said receptacle, of a shaft supported in said frame and a stripper carried on said shaft adjustable about the axis thereof relatively to the said apron, substantially as herein set forth. 9th. The combination, with a bottle holder and a traveling paste carrying apron, of a label receptacle adjustable laterally to said apron and holder, substantially as and for the purpose herein set forth. 10th. The combination, with the rising and falling paste carrying apron, of a label receptacle consisting of a table, and a series of spring supported pins working through said table, substantially as and for the purpose herein set forth. 11th. The combination, with the rising and falling paste carrying apron, of a receptacle consisting of a table and a series of spring supported pins working through said table, and a stop for retaining one of said pins below the surface of the table, substantially as and for the purpose herein set forth. 12th. The combination of a labeling machine, of a paste carrying apron, a swinging frame and rollers therefor for carrying said apron, a label receptacle and a lever for operating said frame, of a bottle holder consisting of a roller occupying a fixed position and rollers supported in said lever, substantially as herein described.

No. 36,487. Scales for Weighing Bags.

(*Balance pour peser les sacs.*)

Robret Abercrombie, St. Vincent, Grey, Ontario, Canada, 28th April, 1891; 5 years.

Claim.—1st. In a bag holding scale, the holder H, with parts I, frame D, with diagonal holes J, platform E, and adjustable hook F, as shown and described. 2nd. In a bag holding scale, the frame D, having diagonal holes J, platform E, and adjustable hook F, as shown and described.

No. 36,488. Jacket for Making Garment Patterns. (*Corset pour découper les patrons de vêtements.*)

Ellen A. Berry, Boston, and Samuel W. McDaniel, Cambridge, both in Massachusetts, U. S. A., 28th April, 1891; 5 years.

Claim.—A new article of manufacture, consisting of a skeleton jacket of elastic material in its original and minimum size and form, saturated and combined with a wax-like material to give to such jacket the property of plasticity and to enable the same to be molded and fitted, substantially as hereinbefore set forth.

No. 36,489. Tension for Fences.

(*Tirant de cloture.*)

Fletcher Emley, Rome, New York, U.S.A., 28th April, 1891; 5 years.

Claim.—The combination of the casing 7, the pulley journaled therein, and adapted to receive the continuous strands 3, and 4, of a fence, the wheel 10, the rope connected to the wheel and the casing, and the wheel-lock arranged to engage the wheel and consisting of the boards 12, and 13, hinged together, and the wedge-shaped block adapted to spread the boards, substantially as described.

No. 36,490. Conductor for Electricity.

(*Conducteur d'électricité.*)

John Arnold Barrett, Brooklyn, New York, U.S.A., 28th April, 1891; 5 years.

Claim.—1st. In electric cables of that class in which the conductor is surrounded by a non-conducting covering and a sealing or filling material, the combination of an electrical conductor, a fibrous or meshed air-containing covering for the same, a surrounding non-conducting envelope adapted to confine the contained air, and a sealing material applied to the exterior of the envelope. 2nd. In electric cables of that class in which the conductor is surrounded by a non-conducting covering and a sealing or filling material, the combination of two or more electrical conductors each surrounded by a fibrous or meshed air-containing covering, a non-conducting envelope surrounding the group of such wires and adapted to confine the contained air, and a sealing material applied to the exterior of the envelope. 3rd. In electric cables of that class in which the conductor is surrounded by a non-conducting covering and a sealing or filling material, a cable consisting of a group of electrical conductors each of which is surrounded first by a fibrous or meshed air-containing covering, and second by a non-conducting envelope adapted to confine the contained air, and a sealing material applied to the exterior of each one of the groups constituting the cable. 4th. In electric cables of that class in which the conductor is surrounded by a non-conducting covering and a sealing or filling material, a cable composed of separate groups each group containing two or more wires, each wire surrounded by a fibrous or meshed air-containing covering, and each group of wires surrounded by a non-conducting envelope adapted to confine the contained air, and a sealing material applied to the exterior of each group of wires constituting the cable. 5th. In electric cables of that class in which the conductor is surrounded by a non-conducting covering and a sealing or filling material, the combination of a group of electrical conductors each surrounded by a fibrous or meshed air-containing covering, a non-conducting envelope surrounding the group of such wires and adapted to confine the contained air, a sealing material applied to the exterior of the envelope and a surrounding sheath of lead. 6th. In electric cables of that class in which the conductor is surrounded by a non-conducting covering and a sealing or filling material, a cable consisting of a group of electrical conductors, each of which is surrounded, first by a fibrous or meshed air-containing covering, and second by a non-conducting envelope adapted to confine the contained air, a sealing material applied to the exterior of

the envelope of each of the wires constituting the cable, and a surrounding sheath of lead. 7th. In electric cables of that class in which the conductor is surrounded by a non-conducting covering and a sealing or filling material, a cable composed of separate groups each group containing two or more wires, each wire surrounded by a fibrous or meshed air-containing covering, and each group of wires surrounded by a non-conducting envelope adapted to confine the contained air, a sealing material applied to the exterior of the envelope of each group of wires constituting the cable, and a sheath of lead surrounding the core thus constructed.

No. 36,491. Cigar. (*Cigare.*)

Tassé, Wood & Company, (assignees of Albert Redlich), all of Montreal, Quebec, Canada, 28th April, 1891; 5 years.

Claim.—1st. A cigar provided with a tobacco leaf covering its tuck or lighting end, substantially as herein shown and described. 2nd. In a cigar, the leaf covering extending past the tuck or lighting end of the stock and folding over it to form a cap or covering, substantially as herein shown and described.

No. 36,492. Paper Cutting Machine.

(*Machine à trancher le papier.*)

Joseph Spencer, Cornwall, Ontario, Canada, 28th April, 1891; 5 years.

Claim.—1st. In a power driven paper cutting machine, the combination, with the main driving shaft, the rotary cutter, its shaft, the dead knife and means for feeding the paper, of direct contact friction devices receiving prime movement from said driving shaft, means for altering the relative working positions of said friction devices, and means for transmitting their motion to said rotary cutter shaft, as and for the purpose set forth. 2nd. In a power driven paper cutting machine, the combination, with the main driving shaft, the rotary cutter, its shaft, the dead knife and means for feeding the paper, of a friction disc on the end of said driving shaft, a friction roller bearing upon, rotated by and adjustable radially across the face of said disc, and means for carrying and adjusting said roller and for transmitting its motion to the shaft of said rotary cutter knife for the purpose set forth. 3rd. In a power driven paper cutting machine, the combination, with the main driving shaft, the rotary cutter, its shaft, the dead knife and means for feeding the paper of a friction disc on the end of said driving shaft, a friction roller bearing upon, rotated by and adjustable radially across the face of said disc, an adjustable slide with support for same, a spindle carried by such slide on which said roller is mounted, a worm and bearing blocks through which said spindle slides, (the former being feathered upon the spindle) a gear on the end of the rotary cutter shaft in mesh with said worm and means for adjusting said slide, all as and for the purpose set forth.

No. 36,493. Pump for Beer. (*Pompe à bière.*)

John Morehead, Detroit, Michigan, U. S. A., 28th April, 1891; 5 years.

Claim.—1st. In a beer pump, the combination of the tilting chamber supported at one side of the center of gravity, a water supply pipe provided with a pressure regulator and a cut-off valve, an air exit pipe provided with a controlling valve, an air inlet valve to control the admission of air to said chamber, a water discharge valve to control the discharge of water from said chamber, the cut-off valve and the air exit valve arranged to open when the chamber is in normal position, the air inlet valve and the discharge valve arranged to open when the chamber is tilted to discharge its contents, and *vice versa*, substantially as described. 2nd. In a beer pump, the combination of the tilting receiving chamber, a rocking shaft supporting said chamber at one side of the center of gravity and communicating therewith, an inlet water supply pipe communicating with said chamber through said rocking shaft, a cut-off valve to cut off the admission of water into the chamber when it tilts, a pressure regulator located in said supply pipe, an air exit pipe leading from the top of said chamber provided with a valve to prevent back pressure in said pipe, an air inlet and relief valve, and a discharge orifice leading from said chamber provided with a controlling valve, substantially as described. 3rd. In a beer pump the combination of the tilting receiving chamber, a rocking shaft supporting said chamber at one side of the center of gravity and communicating therewith, an inlet water supply pipe communicating with said chamber through said rocking shaft, a cut-off valve to cut off the admission of water into the chamber when it tilts, a pressure regulator located in said supply pipe, an air exit pipe leading from the top of said chamber provided with a valve to prevent back pressure in said pipe, an air inlet and relief valve, and a discharge orifice leading from said chamber provided with a controlling valve, said rocking shaft closed at one end and united at the opposite end to the supply pipe through a stuffing box, substantially as described. 4th. In a beer pump, the combination of the tilting receiving chamber, a rocking shaft supporting said chamber at one side of the center of gravity and communicating therewith, an inlet supply pipe communicating with one end of said shaft, a stuffing box at the union of the supply pipe and rocking shaft, a cut-off valve to control said communication when the chamber tilts, an air exit pipe leading from the top of the chamber provided with a controlling valve, an inlet air pipe located at the top of said chamber provided with a controlling valve, a discharge orifice provided with a controlling valve located on the lower side of the tilted chamber, said rocking shaft journaled in said stuffing box at one end and in a supporting shaft at the opposite extremity, substantially as described. 5th. In a beer pump the combination with a tilting chamber axially supported at one side of the center of gravity of a water supply pipe communicating with said chamber, an air exit pipe leading therefrom, and a pressure regulator located in the water supply pipe, said regulator consisting of a case provided with inlet and outlet arms, a valve to control admission through the inlet arm, a diaphragm engaged with said valve, and a tension device to regulate the pressure upon said diaphragm, substantially as described.

No. 36,494. Balance for Sashes.

(*Contre-poids de croisée.*)

George Cadogan Gardner, Hinsdale, Illinois, U. S. A., 28th April, 1891; 5 years.

Claim.—1st. In a gravity sash balance, the combination of the flat thin metallic suspending band B, with a clip A, provided with a slot through it for attachment of the band, and adapted for connection to the weight or sash, whereby the clip is attached to the band and the sash or weight is suspended from the clip, substantially as described. 2nd. In a gravity sash balance, the combination of the flat thin metallic suspending band B, with a slotted clip A, from which the weight or sash is suspended, and with a fastening for attaching the band to the clip constructed by passing the end of the band through the slot and doubling it back and passing it in the reverse direction through the slot so as to form a loop *b*, and interposing between the sides of the loop, a body adapted to be wedged against the sides or corners of the slot when the loop is contracted so as to clamp and bind the band to the clip under the strain produced by the suspended weight or sash, substantially as described. 3rd. In a gravity sash balance, the combination of the thin flat metallic suspending band B, with a clip A, from which the sash or weight is suspended, having a V-shaped slot through it and with a fastening constructed by passing the end of the band through the slot and doubling it back and passing it in the reverse direction through the slot so as to form a loop or bight *b*, in the band at the wider end of the slot, and folding in a portion of said loop so as to form a loop *b'*, within the loop *b*, whereby any sufficient longitudinal strain upon the band will wedge the metal of the loop *b'*, between the sides of the main loop *b*, in the wider end of the slot and thus bind the band and the clip firmly together, substantially as described.

No. 36,495. Balance for Sashes.

(*Contre-poids de croisée.*)

Richard Morgan Gardner, Chicago, Illinois, U. S. A., 28th April, 1891; 5 years.

Claim.—In a sash balance, the combination of a flat tape or ribbon having a loop formed at one end thereof, with a fastening device therefor, comprising a base piece having a flaring slot, and means for securing said base piece to the window sash, and a loose cooperating wedge for insertion within said loop, substantially as described.

No. 36,496. Vaporizer. (*Evaporateur.*)

Henry P. Roberts, Jamestown, New York, U. S. A., 28th April, 1891; 5 years.

Claim.—1st. A vaporizer, comprising a vessel to contain the liquid one or more wicks held extending into said vessel, and a reticulated casing surrounding the wick and allowing the air free access thereto, as set forth. 2nd. As a new article of manufacture, a vaporizer comprising the reticulated casing end caps for the same, a removable wick support in the casing, and a wick on the exterior of the carrier extending into the liquid vessel, as set forth. 3rd. As an article of manufacture, a vaporizer comprising a vessel to contain the liquid, a wick extending into said vessel and exposed to the air throughout its entire or substantially its entire length, a support for and upon the exterior of which the wick is located, and an outer open casing, substantially as described. 4th. As an article of manufacture, a vaporizer consisting of the rigidly connected end caps, the liquid receptacle being in the lower cap, the hollow wick carrier between and supported by one or both of said caps, and a wick on the exterior of said carrier extending into the liquid receptacle, substantially as described. 5th. In combination, the perforated casing end caps therefor, a hollow wick carrier depending from the upper cap, a wick on the exterior of said carrier extending into the liquid vessel, and a cap for closing the vessel, substantially as described. 6th. In a vaporizer, the combination of the liquid holding vessel, the hollow wick extending therein to a receptacle in the bottom of the vaporizer beneath said wick, the pipe extending down from and draining said receptacle, and the securing rings or brackets for supporting the article for the purpose set forth.

No. 36,497. Lock. (*Serrure.*)

Clarence Mortimer Stiner, New York, State of New York, U. S. A., 29th April, 1891; 5 years.

Claim.—1st. In combination, with a lock holder, a lock which may be embraced by the said holder, but which is removable therefrom, a keeper, and a key adapted to operate said lock to lock the keeper, holder, and lock together, for the purpose described. 2nd. A lock provided with a bolt and with a catch to prevent the movement of the bolt, in combination with a lock holder in which the lock is placed, and a keeper provided with an attachment for releasing the bolt, substantially as described. 3rd. A lock provided with a bolt and with a catch to prevent the movement of the bolt, in combination with a lock holder embracing the lock and provided with an opening, a keeper adapted to pass through or into said opening to become engaged with the lock, and an attachment upon said keeper for releasing the bolt, substantially as described. 4th. A lock, in combination, with a lock holder which embraces the lock, said holder being provided with an opening, and a keeper adapted to pass through or into said opening to become engaged with the lock. 5th. The combination, with a lock and key, of a holder for the lock, a keeper engaging with the lock bolt, to hold the lock, holder, and keeper together, and mechanism operating on the withdrawal of the key from the keeper when it is unlocked to prevent the removal of the key from the lock, as described. 6th. A portable lock constructed to retain or hold the key while the bolt is withdrawn, in combination with the key, a stationary lock holder, and a keeper adapted to be locked to the lock when the bolt is thrown by the turning of the key. 7th. A lock provided with a bolt, and a latch for holding the bolt in its

withdrawn position, in combination with a keeper provided with a releasing device for releasing said bolt and allowing it to be turned when the keeper is brought into position to be locked to the lock. 8th. The combination, with a key, of a lock, a bar to the removal of the key from the lock while the bolt is in the withdrawn position, a catch for holding the bolt in its withdrawn position, and a keeper provided with a device for releasing the bolt when the keeper is brought into position to be locked to the lock.

No. 36,498. Artificial Leg. (*Jambe artificielle.*)

Phillip Chester Porter, Berkley, Massachusetts, U. S. A., 29th April, 1891; 5 years.

Claim.—1st. The improved method hereinbefore described of making artificial legs, the same consisting of making a plaster cast of each individual stump to be fitted, elongating or extending said cast by adding material to its lower end, the said cast and its extension constituting a former, the upper part of which is a fac-simile of the form of the individual stump to be fitted, then fitting a base layer of leather or other suitable flexible material closely to said former, said base layer conforming accurately to all the inequalities of the surface of the former, and then adding one or more inclosing layers of suitable material and interposing glue or cement between each layer, including the base layer and the next, the layers being conformed exactly to the shape of the former before the cement hardens, and finally breaking the former and removing it after the cement has hardened, the said layers constituting a rigid laminated hollow leg, the interior of which accurately conforms to all the inequalities of the said cast made from the individual stump to be fitted, as set forth. 2nd. An artificial leg in which are combined a base layer of leather or other suitable flexible material accurately conformed at its upper portion to the inequalities of a cast of the individual stump to be fitted, and an inclosing layer composed of wooden strips closely fitted and conformed to the exterior of the base layer and united thereto by glue or cement, the grain of said strips extending lengthwise of the leg, as set forth. 3rd. An artificial leg in which are combined a base layer of leather having its upper portion formed to accurately fit a cast of the individual stump to be fitted, a layer of wood strips fitted closely to and glued upon the exterior of the said base layer, the grain of the wood extending longitudinally of the leg, and a wrapping layer composed of strips of fibrous material, as cane, wound about the wood layer and glued thereto, the grain of the fibrous material extending crosswise of the grain of the wood, as set forth. 4th. The improved artificial leg herein described, the same consisting of a base layer of leather having its upper portion formed accurately to fit the inequalities of a cast of the individual stump to be fitted, and a plurality of series of superposed layers inclosing said base layer, each series being composed of a layer of wood, a layer of cane, and a layer of leather connected by glue or cement, the wood layers being composed of strips the grain of which extends lengthwise of the leg, and the cane layers of strips wound upon the wood layers with the grain extending across that of the wood layers, the outer layer of the outer series of layers being of leather, as set forth.

No. 36,499. Feeder for Vapor Stoves.

(*Alimentateur de poêle à vapeur.*)

Charles Mahlon Hollingsworth, Cleveland, Ohio, U. S. A., 29th April, 1891; 5 years.

Claim.—1st. In an oil feeding device for vapor stoves, the combination of a reservoir having an outlet through which the liquid hydrocarbon is discharged, a screw-down valve to said outlet, an arm adjustably secured to the valve stem, and a stop adapted to engage with said arm when the valve has been opened sufficiently to permit the oil to pass through said outlet at the desired rate, substantially as and for the purpose specified. 2nd. In an oil feeding device for vapor stoves, the combination of a reservoir having an outlet through which the liquid hydrocarbon is discharged by gravity, a screw-down valve to said outlet, and an adjustable arm secured to the valve stem with a pivoted stop which falls by gravity to a position to engage with said arm, and which may be swung on its pivot to a position where such engagement is impossible, substantially as and for the purpose specified. 3rd. In an oil feeding device for vapor stoves, the combination of a reservoir having an outlet through which the liquid flows, a screw-down valve adapted to close said outlet, an arm adjustably secured to the valve stem, and a pin secured to said arm with a pivoted hook adapted to fall by gravity to a position where it will engage with said pin, substantially as and for the purpose specified. 4th. In an oil feeding device, the combination of a main reservoir, an L-shaped pipe secured at the side thereof having the upper end of its vertical arm open to the atmosphere, a valve-controlled passage from the main reservoir to the vertical arm of the L-shaped pipe, the substantially-horizontal arm of said pipe having an outlet and a screw-down valve entering the end of said horizontal arm, and adapted to prevent the flow of oil to the said outlet, substantially as and for the purpose specified. 5th. In an oil feeding device, the combination of a main reservoir, a coupling secured to the side thereof, an L-shaped pipe the vertical arm of which is secured to said coupling and is open at its upper end to the atmosphere, the substantially-horizontal arm of said pipe being extended beneath the reservoir and there provided with a valve-controlled outlet port, and a valve-controlled duct in said coupling, adapted to deliver the fluid from the main reservoir to the vertical arm of the L-shaped pipe, substantially as and for the pur-

pose specified. 6th. In an oil feeding device, the combination of a main reservoir, an L-shaped pipe the vertical arm of which is secured at the side thereof and is open at its upper end to the atmosphere, a valve-controlled passage from the main reservoir to said vertical arm, a transparent wall in said vertical arm below said passage, the substantially-horizontal arm having a final outlet and a valve adapted to interrupt the flow of the liquid to said outlet substantially as and for the purpose specified. 7th. In an oil feeding device, the combination of a main reservoir, a supplemental reservoir, and a valve-controlled passage from the main to the supplemental reservoir, said supplemental reservoir having a valve-controlled final outlet and a drip-piece secured to the horizontal arm adjacent to said outlet onto which the liquid flows from said final outlet, and from which it flows drop by drop, substantially as and for the purpose specified.

No. 36,500. Machine for Ornamenting Wood, etc. (*Machine à orner le bois, etc.*)

Henry Seibert, Brooklyn, N. Y. (assignee of Edward W. Alleigh, Chicago, Illinois), U. S. A., 30th April, 1891; 15 years.

Claim.—1st. In a machine for ornamenting wood, the combination of the supporting arm C, D, connected at one end with supporting standards B, B, and adjustable thereon, and the die-supporting standards L, M, connected therewith and depending therefrom, substantially as shown and described. 2nd. In a machine for ornamenting wood, the combination, with the bed-plate A, of the vertical standards B, B, connected therewith at one end thereof, the die-supporting arm C, D, connected at one end with the standards and adjustable thereon, the die-supporting standards L, M, connected with said arm and depending therefrom, a die-shaft O, and means for adjusting one of said standards laterally, substantially as shown and described. 3rd. The combination, in a wood-ornamenting machine, of the bed plate A, provided at one end with vertical standards B, B, a supporting arm C, D, connected to said standards and adjustable thereon, a die R, mounted on a shaft O, provided with supports L, M, at each end connected with said supporting arm, one of said supports being laterally adjustable, whereby dies of different lengths may be employed, substantially as shown and described. 4th. The combination, in a wood-ornamenting machine, of a bed plate A, provided at one end with vertical standards, B, B, a supporting arm C, D, connected with said standards and adjustable thereon, a die R, mounted on a shaft O, provided with supports L, M, at each end, one of said supports being laterally adjustable, whereby dies of different lengths may be employed, substantially as shown and described. 5th. The combination, in a wood ornamenting machine, of a bed plate A, and standards B, B, at one end thereof and connected therewith, a die-supporting arm C, D, vertically adjustable on said standards, a feed-roll G, mounted in the top of said bed plate, and a die R, mounted on a shaft O, supported by standards L, M, connected with and depending from said die-supporting arm, one of said standards being laterally adjustable, substantially as shown and described. 6th. In a machine for imprinting wood, the standards L, and M, notched at their top portions, in combination with the arm C, D, which they engage, the arm L, carrying the fixed screw-rod N, the fixed bolt J, fixed shaft O, and the arm M, provided with bearings to receive the screw-rod N, and shaft O, the screw-rod carrying the jam-nut T, and a clamp-nut S, of the die R, table D¹, and feed-roller G, substantially as described.

No. 36,501. Signal for Railways.

(*Signal de chemin de fer.*)

Frederick Alonzo Humpidge, John Walter Humpidge, both of Dutton, and Edgar Clifford Humpidge, London, all of Ontario, Canada, 30th April, 1891; 5 years.

Claim.—1st. In a pneumatic signalling apparatus for railways, the main levers D, G, constructed and operating substantially as shown and described and for the purpose hereinbefore set forth. 2nd. The combination of the levers D, G, with an air pump C, safety valve L, and an air conducting pipe K, substantially as shown and described, and for the purpose hereinbefore set forth. 3rd. The combination of latch T, escape valve S, stem or rod S¹, pipe K, and cylinder M¹, substantially as shown and described and for the purpose hereinbefore set forth. 4th. The combination of cylinder M¹, air pipe K, piston and rod N, N¹, hollow shaft O, lamp O¹, supporting frame M, hollow rod L², cap or lid P², friction match L³, and friction springs F¹, all arranged and operating substantially as shown and specified and for the purpose hereinbefore set forth. 5th. The combination, with cylinder M, and piston and piston rod N, N¹, of flag arm Q, and whistle R, arranged and operating, substantially as shown, and specified and for the purpose hereinbefore set forth. 6th. The combination with an air pipe a¹, air cylinder a, piston and rod a², a³, and cut-off valves a³, of a bell U, bell crank U¹, and connecting rod U², all arranged and operating, substantially as shown, and specified and for the purpose hereinbefore set forth. 7th. The combination of cylinder M¹, air pipe K, piston rod and piston N, N¹, coil spring P², supporting frame M, rack P, pinion P¹, shaft O, and lamp O¹, all arranged and operating, substantially as shown and specified, and for the purpose hereinbefore set forth. 8th. The combination of a storage reservoir X, for pneumatic pressure A, vacuum chamber X¹, pipes X², X³, and valves X³, X³, and P¹, with the air pump C, pipe K, and cylinder M, all arranged and operating, substantially as shown and specified, and for the purpose hereinbefore set forth.

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

2138. BREITHAAPT LEATHER COMPANY, (assignee), 2nd five years of No. 24,512, from the 17th day of July, 1891. Improvements on Machines for Reducing Tan Bark, 1st April, 1891.
2139. CARL FERDINAND DAHL, 2nd five years of No. 23,823, from the 15th day of April, 1891. Improvement in the Process of obtaining Cellulose or Wood Fibre from Wood, or other Vegetable Substances, and the Preparation of Lye therefor, 3rd of April, 1891.
2140. JOHN T. SHERIDAN and JOSEPH B. SHERIDAN, 2nd five years of No. 23,798, from the 10th day of April, 1891. Improvements in Boiler Tube Cleaners, 3rd April, 1891.
2141. THE D. A. JONES COMPANY, (assignees), 2nd five years of No. 23,751, from the 5th day of April, 1891. Improvements in Beehives, 3rd April, 1891.
2142. WILLIAM JOSEPH COPP, 2nd five years of No. 23,746, from the 5th day of April, 1891. Clip for Fastening the Teeth on Harrows and other Agricultural Implements, 3rd April, 1891.
2143. GARTH & CO., (assignees), 2nd five years of No. 24,919, from the 13th day of September, 1891. Improvements in Heating Apparatus to Heat Public or Private Buildings, etc., 4th April 1891.
2144. MARIE CHARLES ALFRED RUFFIN, 2nd and 3rd five years of No. 31,698, from the 2nd day of July, 1891. Process for Purifying Crude Spirit and Regenerating the Purifying Agent, 4th April, 1891.
2145. JOHN HARRIS BOLLES and JOHN NORMAN SPENCER WILLIAMS, 2nd five years of No. 24,050, from the 15th day of May, 1891. Improvement in Dredgers, 4th April, 1891.
2146. THOMAS GRAY, 2nd five years of No. 20,324, from the 1st day of October, 1891. Improvements in Spring Tooth Harrows, 4th April, 1891.
2147. JOHN McCLOSKEY, 3rd five years of No. 12,607, from the 8th day of April, 1891. Improvements in Threshing and Separating Machines, 6th April, 1891.
2148. WILLIAM F. SHEDD, 2nd five years of No. 23,957, from the 13th day of April, 1891. Improvements in Farm Fences, 8th April, 1891.
2149. CHRISTIAN HEINZERLING, 3rd five years of No. 12,629, from the 13th day of April, 1891. Improvement in the Art or Process of Converting Skins or Hides into Leather, 9th April, 1891.
2150. ALEXANDER ALLEN MURPHY, 2nd five years of No. 23,980, from the 5th day of May, 1891. Improvements in Forms for Displaying Textile Fabrics in Dry Goods Stores and Show Windows, 9th April, 1891.
2151. WILLIAM CHURCHILL, 2nd five years of No. 23,824, from the 15th day of April, 1891. Improvements in Stove Boilers, 10th April, 1891.
2152. FREEBORN FAIRCHILD RAYMOND, 2nd five years of No. 23,919, from the 20th day of April, 1891. Improvements on Sole and Heel Nailing Machines, 11th April, 1891.
2153. FREEBORN FAIRFIELD RAYMOND, 2nd five years of No. 23,925, from the 28th day of April, 1891. Improvements in Heel Nailing Machines, 11th April, 1891.
2154. FREEBORN FAIRFIELD RAYMOND, 2nd five years of No. 23,940, from the 29th day of April, 1891. Improvements on Heel Nailing Machines, 11th April, 1891.
2155. JOHN BELMER ARMSTRONG, 2nd five years of No. 24,014, from the 10th day of April, 1891. Improvements in Buggy and Carriage Gears, 15th April, 1891.
2156. JOHN BELMER ARMSTRONG, 2nd five years of No. 24,015, from the 10th day of May, 1891. Improvements in Bob Sleighs, 15th April, 1891.
2157. SIMONDS ROLLING MACHINE COMPANY, (assignees), 2nd five years of No. 23,855, from the 21st day of April, 1891. Improvements in the Manufacture of Rolled Metal Articles, and in Apparatus therefor, 15th April, 1891.
2158. WILLIAM STEPHENSON, 2nd five years of No. 23,872, from the 22nd day of April, 1891. Improvements in Stoves, 16th April, 1891.
2159. JAMES ORRIN PEARSON, 2nd five years of No. 23,871, from the 22nd day of April, 1891. Improvements in Pokes for Preventing Horses, Cattle and Sheep from Jumping over and Destroying Fences, 21st April, 1891.
2160. ELGIN NATIONAL WATCH COMPANY, (assignees), 2nd five years of No. 23,896, from the 24th day of April, 1891. Improvement in Pinion Polish-ing Machines, 23rd April, 1891.
2161. DOWAIN RICHARDS, JAMES S. REYNOLDS, and JOHN B. LANG, 3rd five years of No. 12,638, from the 26th day of April, 1891. Improvements on Barley Bearders, 23rd April, 1891.
2162. WILLIAM STUART HUNTER and THOMAS FULLER, 3rd five years of No. 12,732, from the 3rd day of May, 1891. Improvements on Stock Cars, 25th April, 1891.
2163. ABINGTON TACK AND MACHINE ASSOCIATION, (assignees), 3rd five years of No. 13,090, from the 12th day of July, 1891. Improvements on the Method of Finishing the Heads of Tacks, Nails and Rivets, 25th April, 1891.
2164. TOBIAS FOX, 2nd five years of No. 24,022, from the 10th day of May, 1891. Improvements in Machines for Harvesting Peas, 27th April, 1891.
2165. WILLIAM MARSHALL WILKINS, 2nd five years of No. 24,483, from the 9th day of July, 1891. Improvements in Reciprocating Saw Mills, 30th April, 1891.
2166. JOSEPH ALEXANDER MUMFORD, 2nd five years of No. 23,989, from the 6th day of May, 1891. Improvements in Steam Boilers, 30th April, 1891.

APRIL LIST OF TRADE MARKS.

Registered at the Department of Agriculture—Copyright and Trade Mark Branch.

3986. DENSHAM & SONS, of London, England. Tea, Coffee and Cocoa, 4th April, 1891.
3987. THOMAS McAVITY & SONS, of St. John, N. B., Machine Belting, 6th April, 1891.
3988. } JOSEPH MIZAEI FORTIER, of Montreal, Que.
3989. } Cigars, 9th April, 1891.
3990. THE GOODYEAR SHOE SEWING MACHINE ASSOCIATION OF CANADA, of Montreal, Que. Boots, shoes, and like articles sewed on the Goodyear Sewing Machine, and known as "Goodyear Welts," 10th April, 1891.
3991. EDWARD WILLIAM BEUTHNER, of Montreal, Que. Textile and Felted Fabrics, and any other class of goods which has been put through the Melissa process, 11th April, 1891.
3992. THE D. MOORE CO L'D., of Hamilton, Ont. General Trade Mark, 15th April, 1891.
3993. ROBERTSON BROTHERS, of Toronto, Ont. Chocolate Candy, 16th April, 1891.
3994. THE DAVIS & LAWRENCE CO., L'D., of Montreal, Que. General Trade Mark, 16th April, 1891.
3995. EDWARD and JOHN BURKE, L'D., of Dublin, Ireland. Dublin Stout, 16th April, 1891.
3996. EDWARD and JOHN BURKE, L'D., of Dublin, Ireland. Irish Whisky, 16th April, 1891.
3997. EDWARD and JOHN BURKE, L'D., of Dublin, Ireland, also doing business as W. LAWSON & CO., at Dundee, Scotland. Liqueur Whisky, 16th April, 1891.
3998. R. WALKER & SONS, of Leicester, England. Improved Shirts and Vests. 17th April, 1891.
3999. GABRIEL SEDLMAYR BRAUEREI ZUM SPATEN, of Munich, Bavaria, Germany. Beer, 17th April, 1891.
4000. CLARK GORDON, of Sherbrooke, Que. A Liniment for the Cure of Rheumatism, Sciatic, Lumbago, Lame Back, Sprains, Bruises, Stiff Joints, etc., 17th April, 1891.
4001. JOHN WILKINS, of Toronto, Ont. Maple Sugar and Syrup, 20th April, 1891.
4002. HENRY L. PIERCE, of Boston, Massachusetts, U.S.A., trading under the firm name of WALTER BAKER & CO. Chocolate and Cocoa, 21st April, 1891.
4003. BRYANT & MAY, L'D., of Fairfield Works, Bow, London, England.
4004. Wax matches or vestas. }
4005. Paraffine matches. } 22nd April, 1891.
4006. Wax matches or vestas. }
4007. Patent safety matches. }
- 4 08. KERR & CO., L'D., of Underwood Mills, Paisley, Scotland. Thread, 23rd April, 1891.
4009. JESSE JOSEPH, of Montreal, Que. All kinds of Essences and Extracts, 23rd April, 1891.
4010. WILLIAM BAXTER MALCOLM, of Toronto, Ont. Sanitary Basin and Trap for Water Closets, 24th April, 1891.
4011. CLARK & CO., of Paisley, Scotland. Thread, 24th April, 1891.
4012. THE GLOBE TOBACCO WORKS COMPANY OF LONDON, L'D., of London, Ont. Tobacco, 27th April, 1891.
4013. GREENLEES BROS., of Glasgow, Scotland. Scotch Whiskey, 27th April, 1891.
4014. } GEORGE BAKER and GEORGE CLODE BAKER, of Oporto, Portugal, trading
4015. } as CLODE & BAKER. Port Wine, 27th April, 1891.
4016. WILLIAM FROST SMITH, of Montreal, Que. Cigars, 27th April, 1891.
4017. JAMES BUCHANAN & CO., of 20 Bucklersbury, London, England, and Glasgow and Leith, Scotland. Whisky, 28th April, 1891.
4018. C. ALFERD CHOUILLOU, de Montréal, Qué. Cognac Fine Champagne, 28 Avril, 1891.
4019. D. RITCHIE & CO., of Montreal, Que. Plug Tobacco. }
4020. Plug Tobacco. } 28th April, 1891.
4021. Plug Tobacco, Cigars and Cigarettes. }
4022. Plug Tobacco and Cigars. }
4023. Tobacco, Cigars and Cigarettes. }
4024. F. CROSBY COMPANY, of New York, N.Y., U.S.A. Medicinal Compounds, 28th April, 1891.

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5877. THE GREAT COLLIERY EXPLOSION AT SPRINGHILL, NOVA SCOTIA, February 21st, 1891. H. A. McKnight, Springhill, N. S., 1st April, 1891.
5878. A SUNSET DREAM, Song, by Edward Oxenford, Music by Aigrette.
5879. CHILDREN'S DREAMS, Song, by Clifton Bingham, Music by Frederick H. Cowan.
5880. FIDDLE DEE DEE, Polka, by Leonard Gautier.
5881. IN ROMANY LAND, Song, by Frederic E. Weatherly, Music by Joseph L. Roeckel.
5882. LITTLE TYCOON, Polka, On Airs from the Opera, by E. Corlett. The Anglo-Canadian Music Publishers' Association, Limited, London, England, 1st April, 1891.
5883. ANDREWS' MERCANTILE PROTECTIVE METHOD. Edwin S. Andrews, Ottawa, Ont., 2nd April, 1891.
5884. CODES DES HUISSIERS, SHERIFS ET CORONERS, par L. E. Pelissier. A. Périard, Montréal, Que., 3 Avril, 1891.
5885. AUSTIN'S MODEL OF PALESTINE. Benjamin Fish Austin, St. Thomas, Ont., 4th April, 1891.
5886. MASKS AND FACES. Song. Words by J. P. Harrington, Music by Geo. Le Brunn.
5887. ANNIE-BODY'S ROONEY. Words by Geo. Dacre, Music by Michael Nolan, Arranged by John S. Baker.
5888. SEARCH THE PAGE OF HISTORY. Words and Music by Arthur West, Arranged by Edmund Forman.
5889. HE WIPE THE TEAR FROM EVERY EYE. Sacred Song. Words by Mrs. Mackinlay, Music by Alexander Lee.
5890. LA SÉRÉNADE ECOSSAISE. Caprice pour le Piano par Henri Roubier. The Anglo-Canadian Music Publishers' Association, Limited, London, England, 8th April, 1891.
5891. STATUE MIRACULEUSE DE SAINTE ANNE DE BEAUPRÉ, (A)
5892. " " (B)
5893. " " (C)
5894. VUE INTERIEURE DE LA BASILIQUE DE SAINTE ANNE DE BEAUPRÉ, (D)
5895. " " (E)
5896. " " (F)
5897. " " (G)
- Jules Ernest Livernois, Québec, Qué., 8 Avril, 1891.
5898. THE COLLINGWOOD GRAND MARCH, by Miss Carrie Jardine, Collingwood, Ont., 9th April, 1891.
5899. DRAWING of a Fish rising out of water, the head being out of the water and having caught in its mouth an artificial fly attached to the end of a line; extending over the body of the fish is a map of the "Quebec and Lake St. John Railway." Samuel Leavitt Swett, Montreal, Que., 9th April, 1891.
5900. AVANT L'ATTAQUE. Marche Militaire par Henri Roubier.
5901. CAPRICE ESPAGNOL, par Paul Beaumont.
5902. CHACONE, par Henri Roubier.
5903. MARY GREY, Song. Words by Clifton Bingham, Music by Hope Temple.
5904. SANG-FROID. Morceau de Salon, par Paul Beaumont. The Anglo-Canadian Music Publishers' Association, Limited, London, England, 9th April, 1891.
5905. A FARMER'S THREE YEARS' EXPERIENCE IN MERCHANDISE. John Calvin Shepherd, Tilsonburg, Ont., 13th April, 1891.
5906. THE HIGH SCHOOL ARITHMETIC, For use in High Schools, Collegiate Institutes and Senior Forms of Public Schools by W. H. Ballard, M. A., A. C. McKay, B. A., and R. A. Thompson, B. A. The Rose Publishing Co., Limited, Toronto, Ont., 13th April, 1891.
5907. SHALL I LOVE IN VAIN? Song. Words by Knight Summers, Music by Oscar Verne.
5908. SANCTA MARIA, Song. Words by A. Horspool, Music by M. Piccolomini. I. Suckling & Sons, Toronto, Ont., 14th April, 1891.
5909. LOVELL'S HISTORIC REPORT OF CENSUS OF MONTREAL, taken in January, 1891. John Lovell, Montreal, Que., 15th April, 1891.

5910. THE BILLS OF EXCHANGE ACT, 1890. (53 Vic. ch. 33), with Notes, etc., A Reference to the English, American and French Decisions, etc., An Appendix containing the French Text of the Act, etc., and An Analytical Index, by Desire Girouard, D. C. L. etc., and Desire H. Girouard, B. A. B. C. L. Joseph Moise Valois, Montréal, Qué., 15 Avril, 1891.
5911. DOCUMENTS ILLUSTRATIVE OF THE CANADIAN CONSTITUTION, Edited with Notes and Appendixes by William Houston, M.A., Librarian to the Ontario Legislature, Toronto, Ont., 17th April, 1891.
5912. DEAR LAND AYONT THE SEA. Words by John Imrie, Music by G. M. Davidson. Imrie & Graham, Toronto, Ont., 18th April, 1891.
5913. VERSES AND VERSIONS by George Murray, B. A., etc., Montreal, Que., 18th April, 1891.
5914. WINE: BAD AND GOOD, by Rev. D. V. Lucas, D. D. William Briggs, (Book Steward of the Methodist Book and Publishing House), Toronto, Ont., 20th April, 1891.
5915. BELL TELEPHONE COMPANY OF CANADA, TORONTO EXCHANGE. SUBSCRIBERS' DIRECTORY, ONTARIO DEPARTMENT, APRIL, 1891. The Bell Telephone Company of Canada, Montreal, Que., 20th April, 1891.
5916. COME GENTLE SLEEP. (Ivanhoe's Song), from "Ivanhoe." Words by Julian Sturgis, Music by Arthur Sullivan. }
5917. HO, JOLLY JENKIN. (The Friar's Song), from "Ivanhoe." Words by Julian Sturgis, Music by Arthur Sullivan. }
Chappell & Co., London, England, 21st April, 1891.
5918. A LIFE FOR A LOVE, by L. T. Meade, (book). }
5919. WHEN THE SHADOWS FLEE AWAY, by "Bernard," (book). }
John Lovell & Son, Montreal, Que., 22nd April, 1891.
5920. ZAMORA WALTZ, by Ernst Hallé. The Anglo-Canadian Music Publishers' Association, Limited, London, England, 22nd April, 1891.
5921. CHANGELESS, Song. Words by Clifton Bingham, Music by H. Trotère. I. Suckling & Sons, Toronto, Ont., 22nd April, 1891.
5922. THE PUBLIC SCHOOL WRITING COURSE, in 7 Parts, viz:—Nos. 1, 2, 3, 4, 5, Boys; 5, Girls, and 7, Business Forms. The Rose Publishing Co., L'd., Toronto, Ont., 23rd April, 1891.
5923. WHISPERED IN THE TWILIGHT, Song. Words and Music by Lindsay Lennox. I. Suckling & Sons, Toronto, Ont., 27th April, 1891.
5924. ROSA CLARE, Song. Words by Dr. Wm. J. Wetmore, Music by Berthold Tours. The Anglo-Canadian Music Publishers' Association, Limited, London, England, 29th April, 1891.
5925. PROCEEDINGS AND TRANSACTIONS OF THE ROYAL SOCIETY OF CANADA FOR THE YEAR 1890. Volume VIII. The Royal Society of Canada, Montreal, Que., 29th April, 1891.

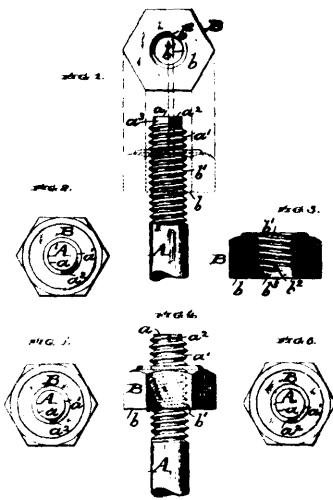
THE CANADIAN PATENT OFFICE RECORD

ILLUSTRATIONS.

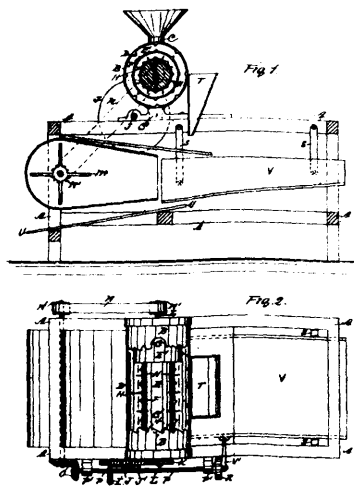
Vol. XIX.

APRIL, 1891.

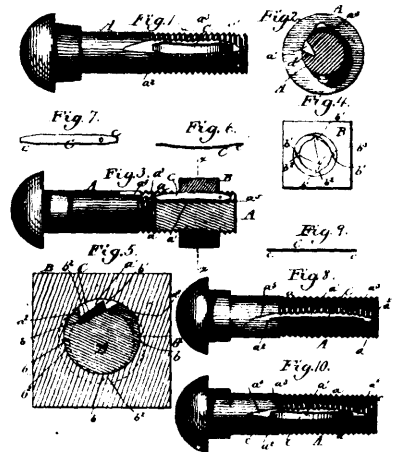
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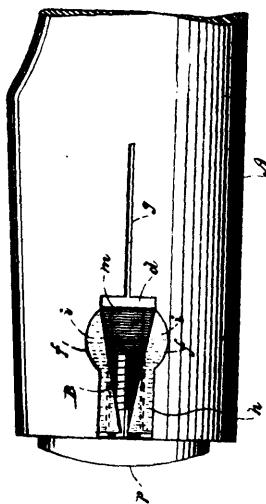
36245 Higbee's Screw Bolt and Nut.



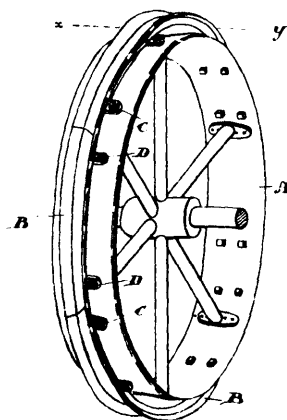
36246 Buss' Mill for Cleaning Grain.



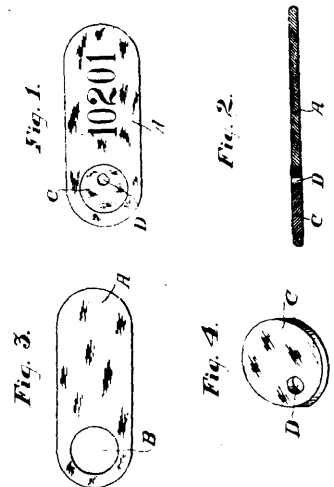
36247 Pollard's Nut Lock.



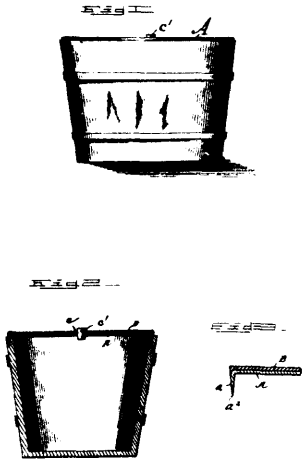
36248 Hall's Axe-helves.



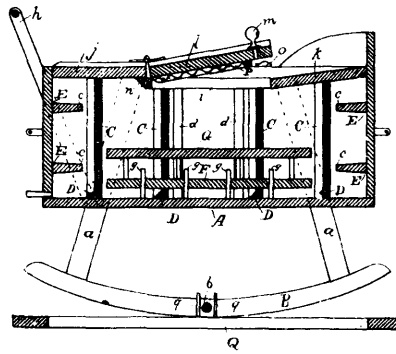
36249 Polton's Pulley.



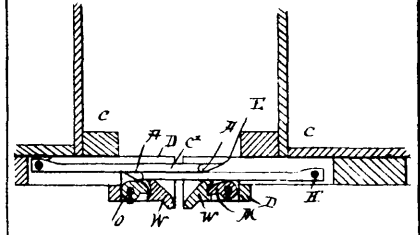
36250 Baumgarten's Tag.



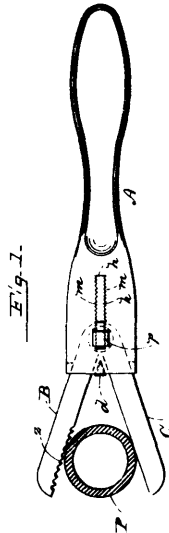
36251 Hendrix's Cover for Packing Tubs.



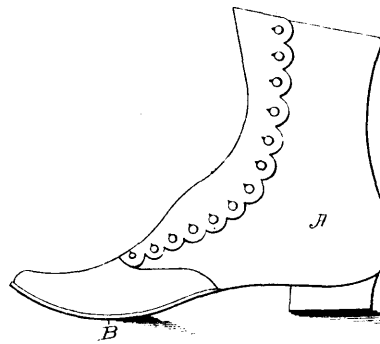
36252 Draper's Washing Machine.



36253 Lankford's Car Coupling.



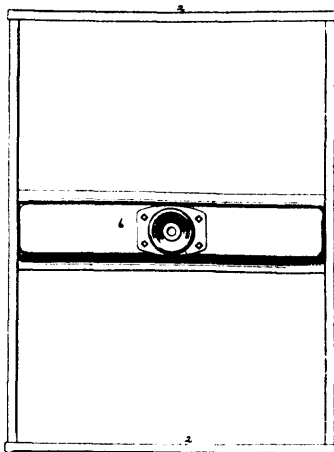
36254 Buzzell's Pipe Wrench.



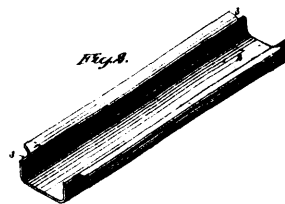
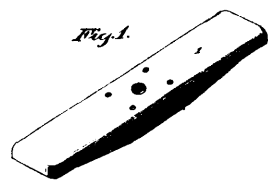
36255 Nagle's Boot and Shoe.



36256 Rice's Window Sash Construction



36257 Hughes' Truck and Connecting Parts for Cars.



36258 Hughes' Bolster Beam.

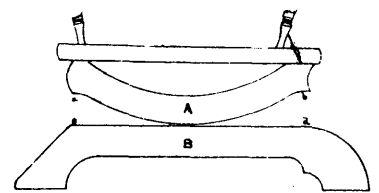


Fig. 1. SIDE ELEVATION.

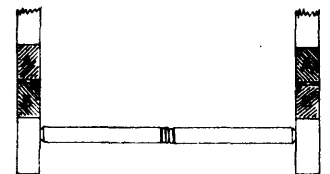
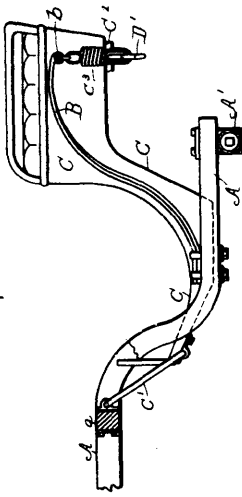


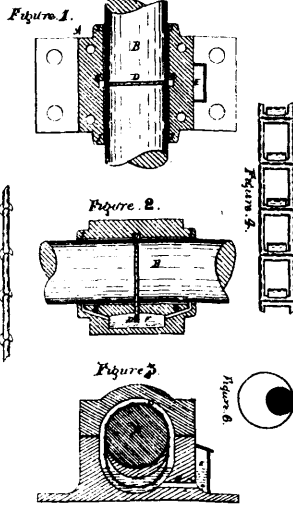
Fig. 2. PART SECTION THROUGH CENTRE.

36259 Lambert's Spring for Platform Rocking Chairs.

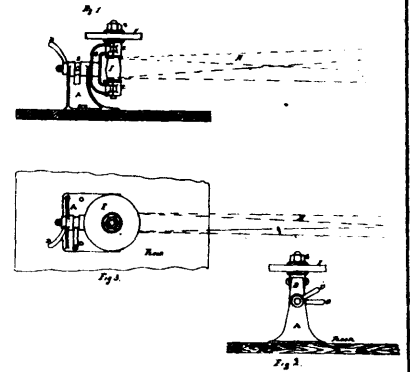
Fig. 1.



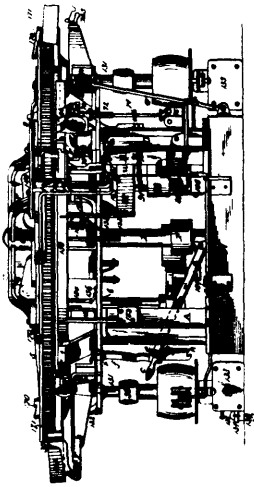
36260 Scott's Road Cart.



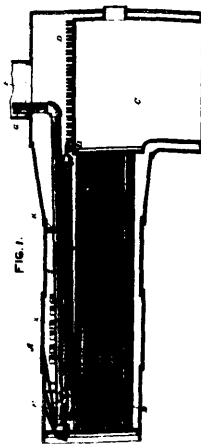
36261 Waterous' Manner of Oiling Journal Boxes.



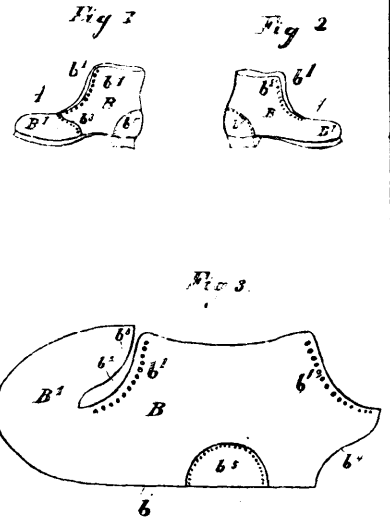
36262 Spellman's Machine for Grinding and Sharpening the Calks of Horse Shoes, without removing the shoe from the Hoof.



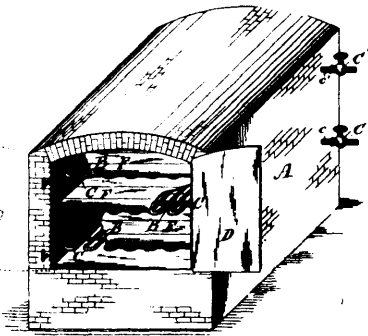
36263 Perkins' Shingle Sawing Machine.



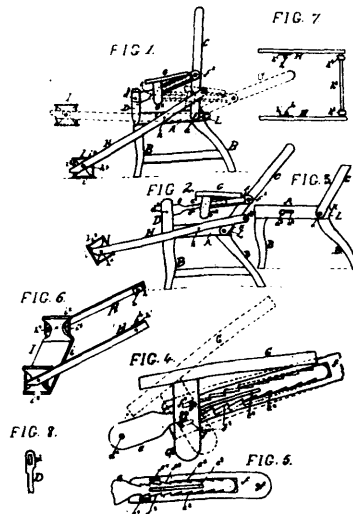
36264 Field's Apparatus for Heating and Purifying Feed Water for Steam Boilers.



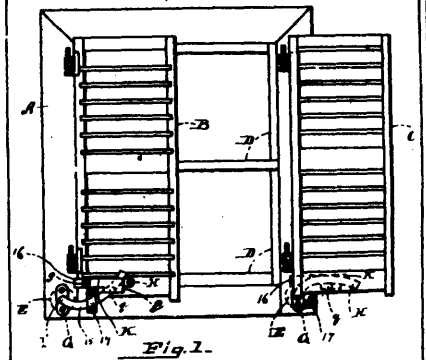
36265 Legge's Boot and Shoe.



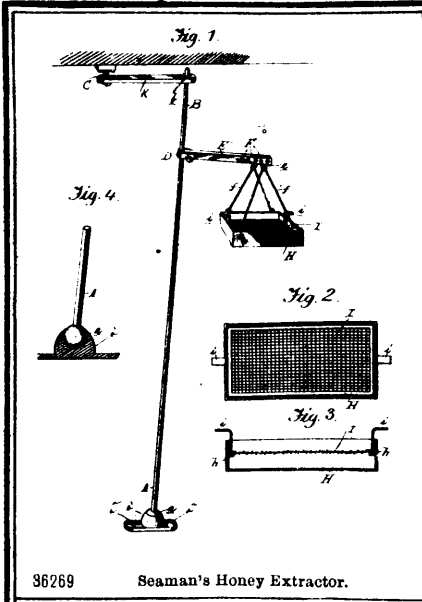
36266 Mousseau's Apparatus for Baking by Steam.



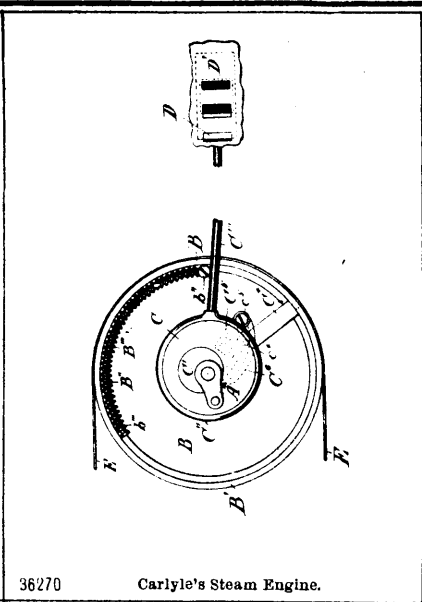
36267 Pew's Reclining Chair.



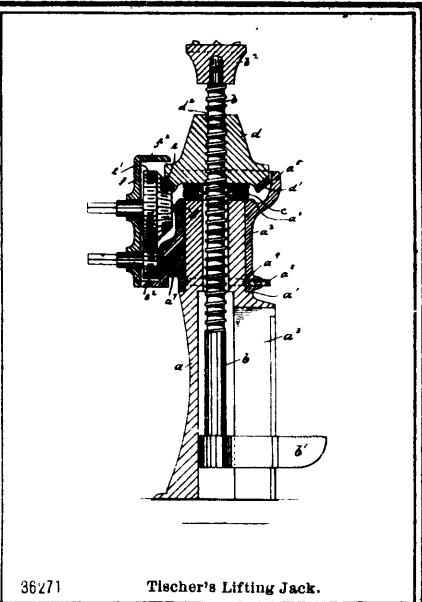
36268 Edges' Window Blind Attachment.



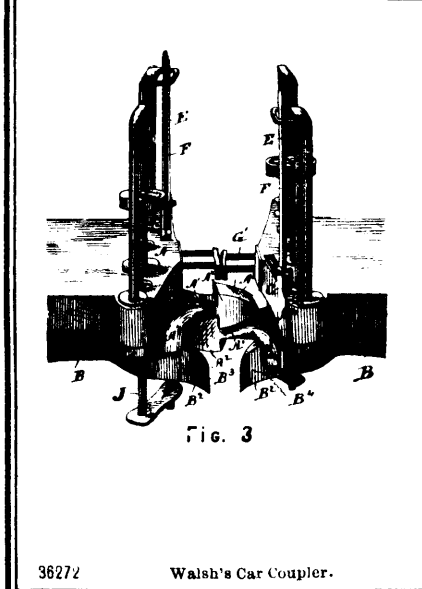
36269 Seaman's Honey Extractor.



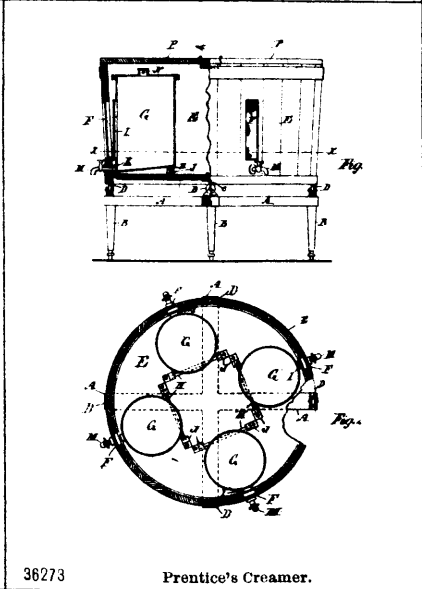
36270 Carlyle's Steam Engine.



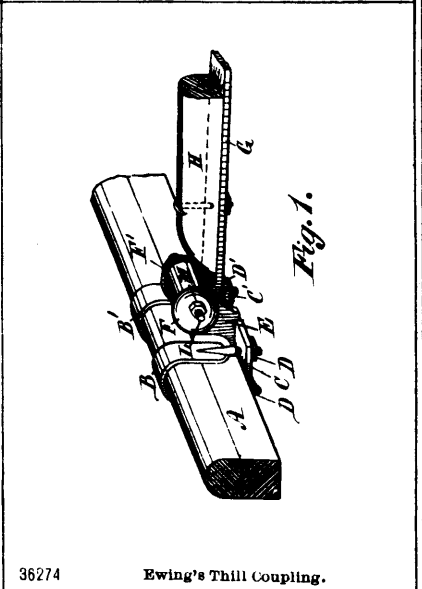
36271 Tlescher's Lifting Jack.



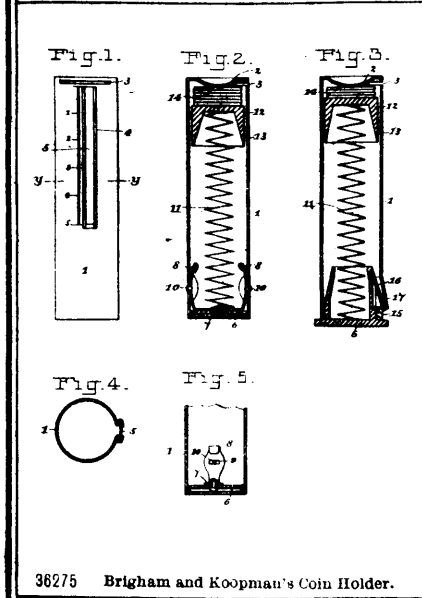
36272 Walsh's Car Coupler.



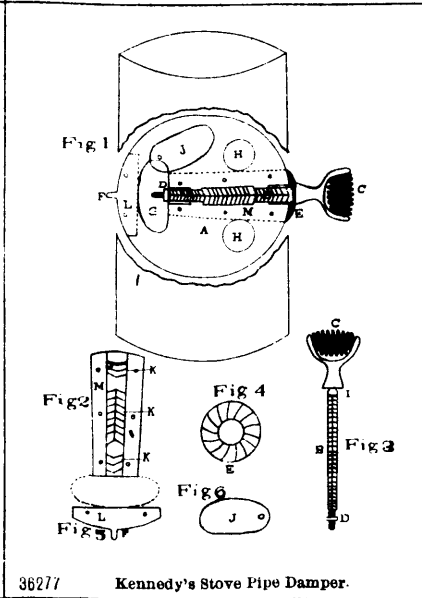
36273 Prentice's Creamer.



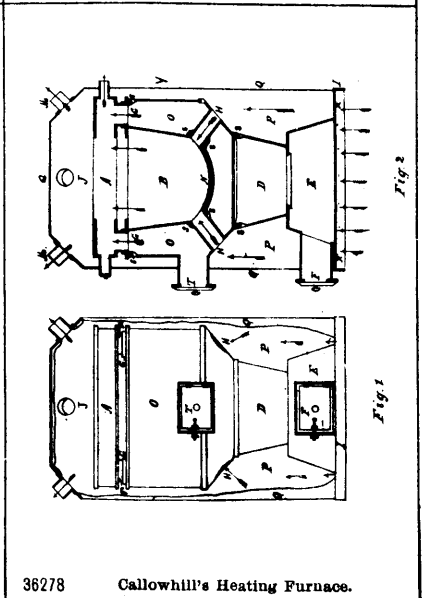
36274 Ewing's Thill Coupling.



36275 Brigham and Koopman's Coin Holder.



36277 Kennedy's Stove Pipe Damper.



36278 Callowhill's Heating Furnace.

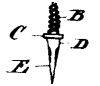
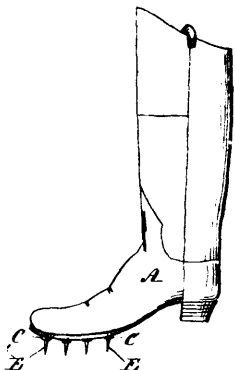
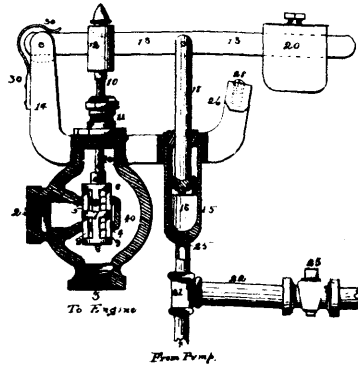


Fig. 2.

Fig. 1.

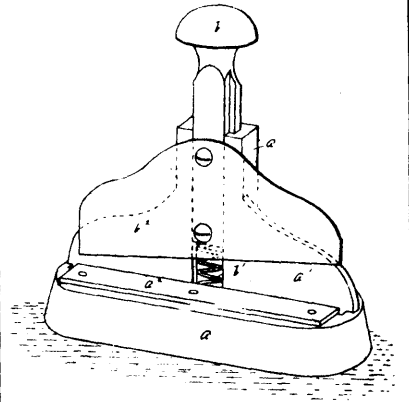
36279

Church's Calk for Shoes.



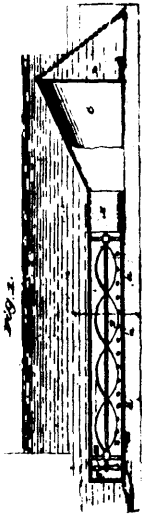
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Johnson's Governor for Steam Pumps.



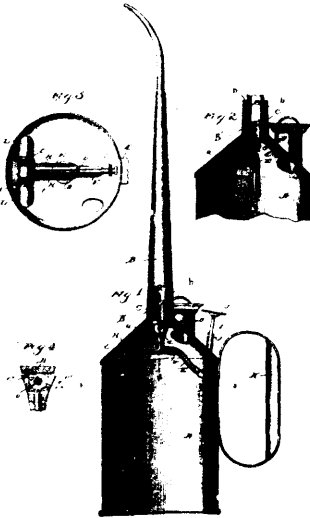
36281

Sleeper's Letter Opener.



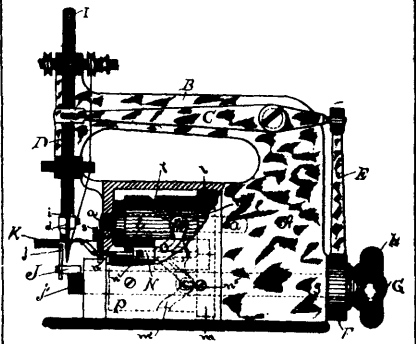
36282

Evans' Channel Cleaner.

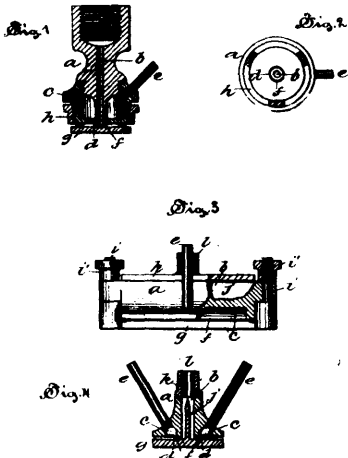


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Rand's Oil Can.

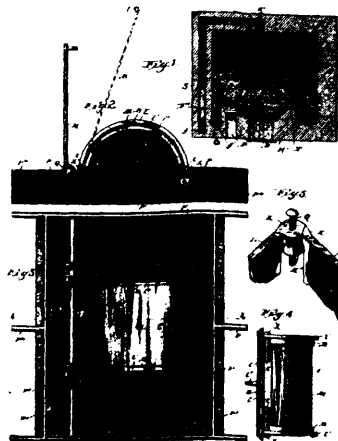


36284 Merrow and Stedman's Crocheting Machine.



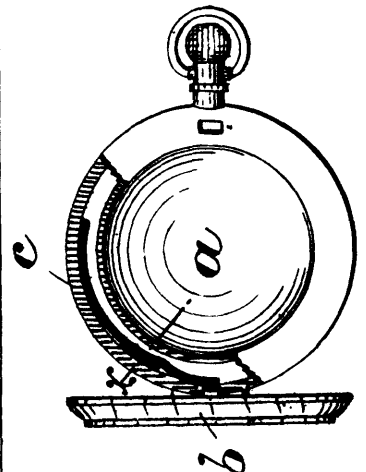
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Birkery and Case's Air Pump.



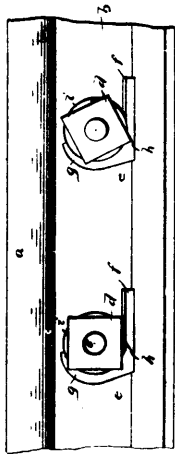
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Hall's Door for Admitting Light to Ovens.

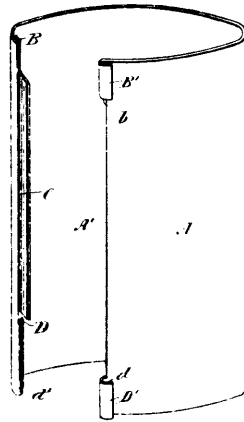


36287

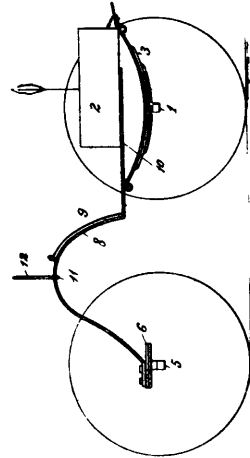
Fleming's Watch Case Spring.



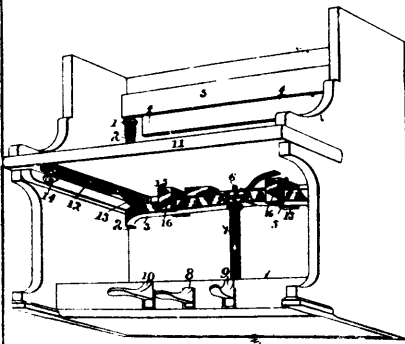
36288 Harrison's Nut Lock.



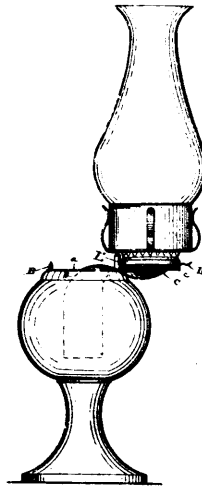
36289 Thom's Stove Pipe.



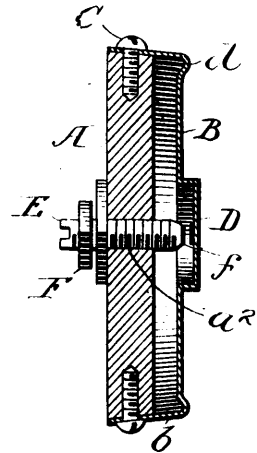
36290 Barlow's Four Wheeled Dog Cart.



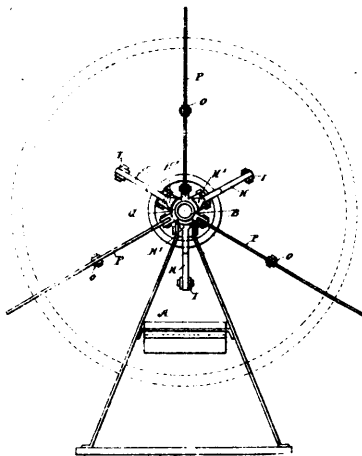
36291 Newcomb's Tone Softener for Pianos.



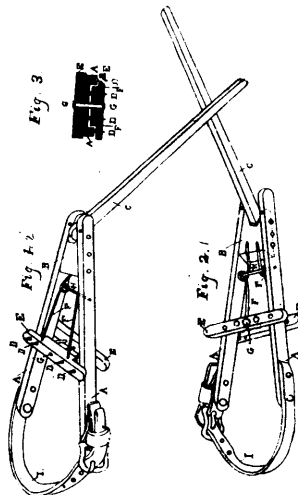
36292 Dow's Filler Collar.



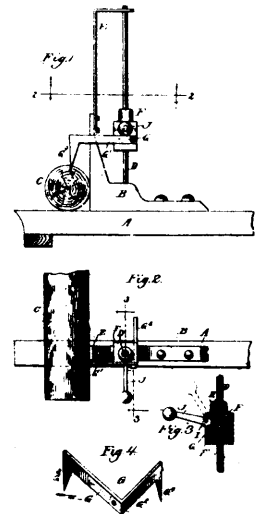
36293 Kohler's Push Button.



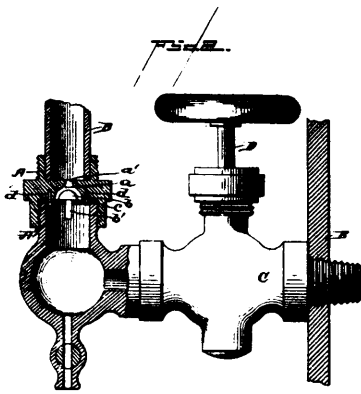
36294 Paquette and Baker's Hub Boring Machine.



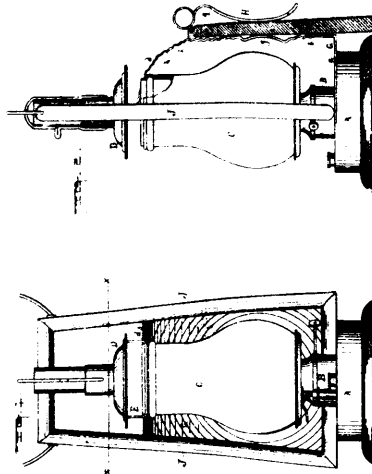
36296 Moore and Byers' Animal Poke.



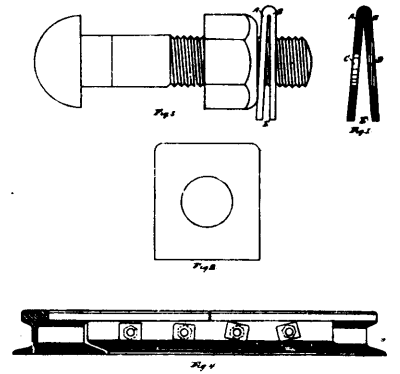
36297 Pinty's Saw Mill Dog.



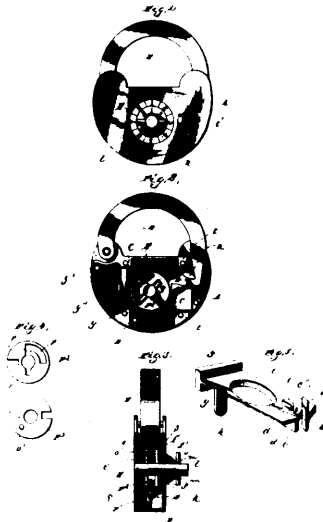
36288 Barolay's Water Gauge.



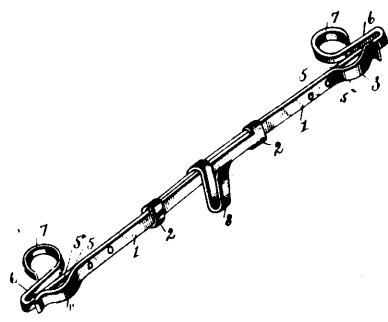
36289 Ham's Lantern.



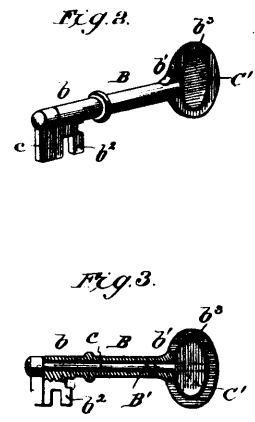
36300 Thomas' Nut Lock.



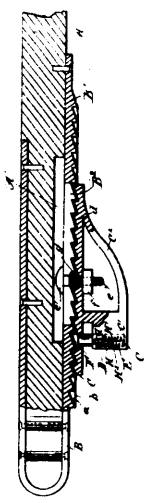
36301 Van Zant's Lock.



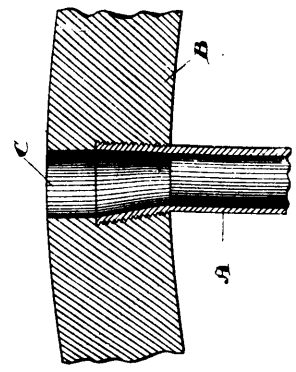
36302 Foster's Napkin Supporter.



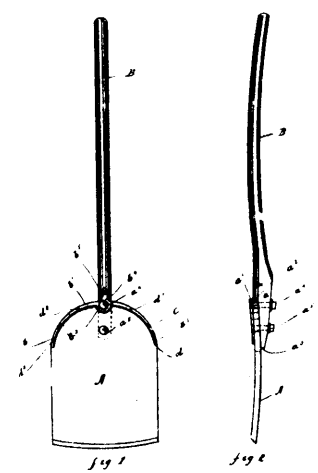
36303 England's Key.



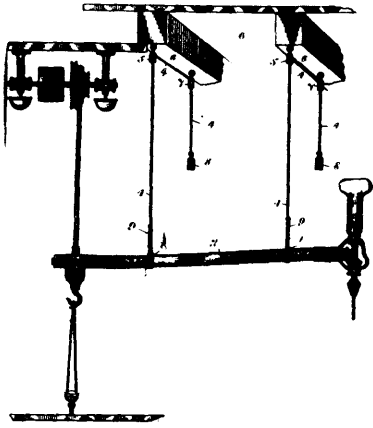
36304 Roberts' Holdback.



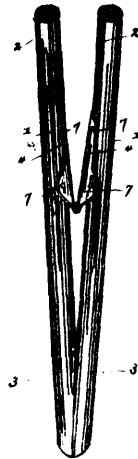
36305 Goldie's Pulley.



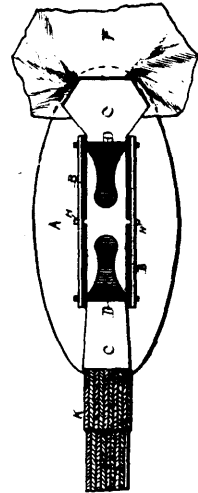
36306 Laffeur and Wilson's Shovel.



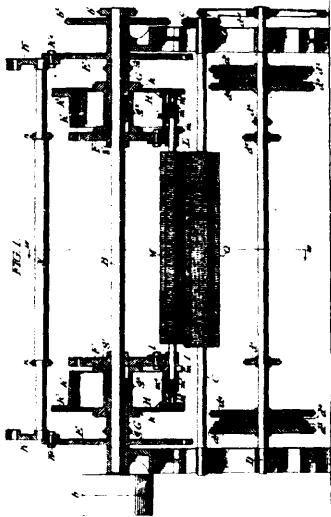
36307 Eagen's Shaft.



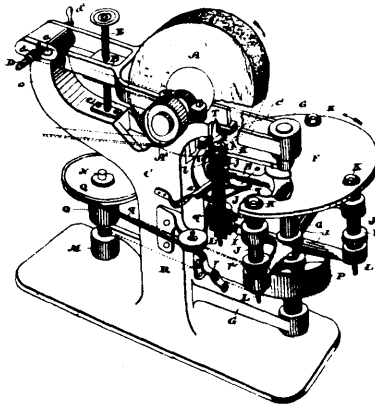
36308 Mitchell's Clothes Tong.



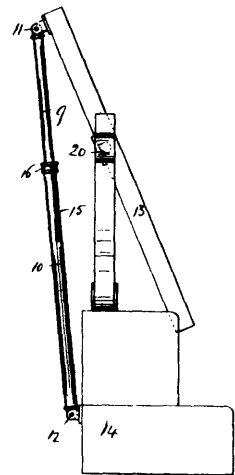
36309 Haughwont's Rubber Dam Holder.



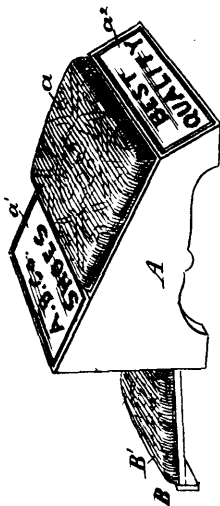
36310 Ott's Cloth Napping Machine.



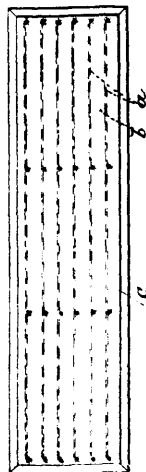
36311 Shantz's Button Polisher.



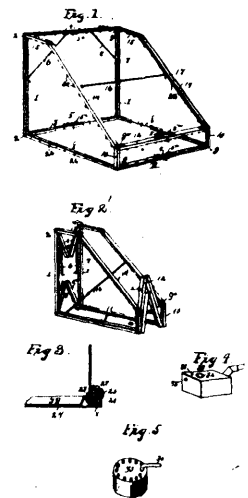
36312 Brigg's Mirror Frame.



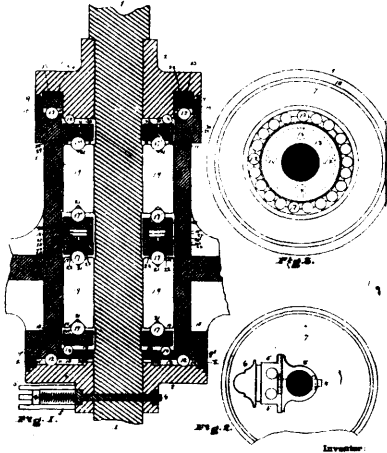
36313 Phillips' Foot Rest.



36314 Coursen's Plaster Slab.



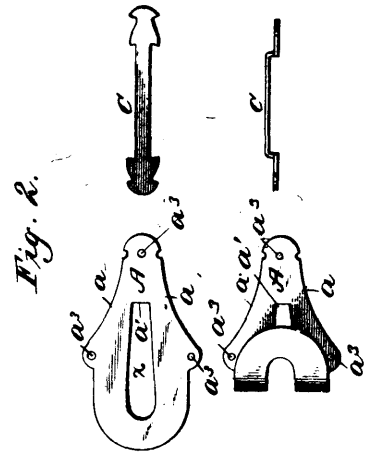
36315 Pehrsson's Bath Tub.



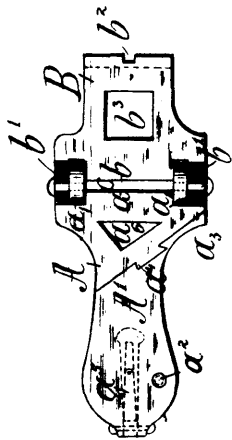
36316 Cooke's Roller Bearings.



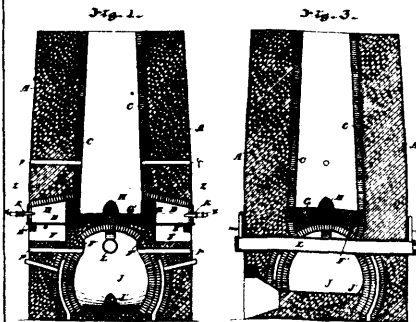
36317 Killinger's Hook.



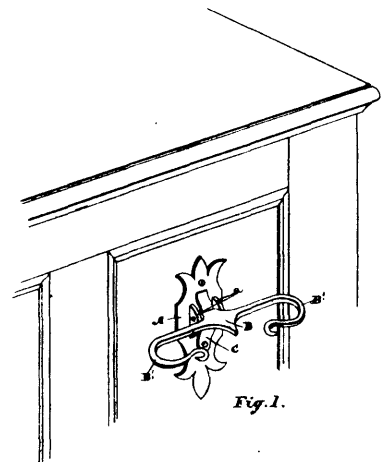
36318 Blum's Trowser Clasp.



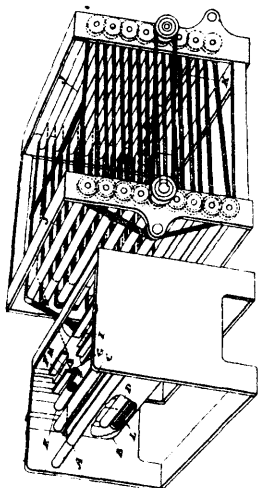
36319 Eulenfeld's Saddle Girth Tightener.



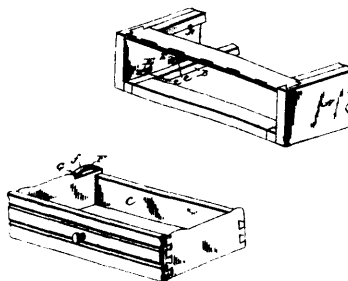
36320 Page's Lime Kiln.



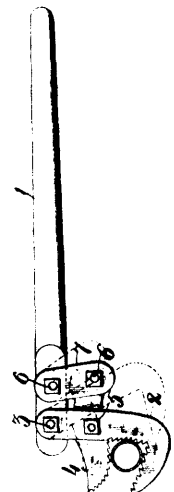
36321 Furnival's Umbrella Holder.



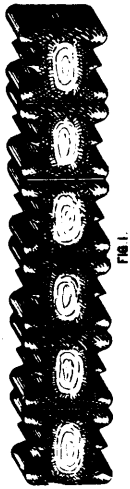
36322 Barnett's Window Shade Painter.



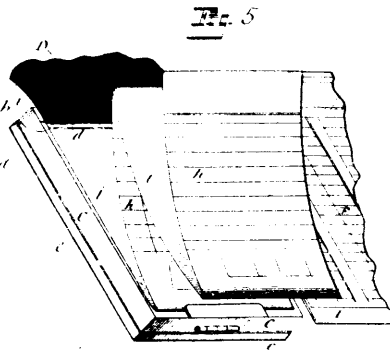
36323 Clapp's Bureau, etc



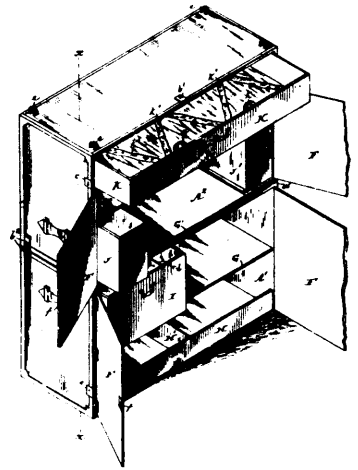
36324 Newdau's Pipe Wrench.



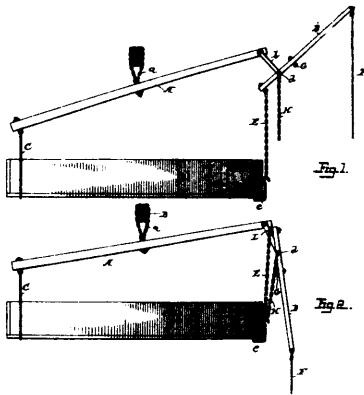
36325 Scott's Soap Moulder.



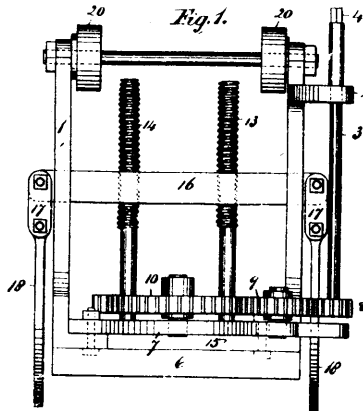
36326 O'Hara's Memorandum Book.



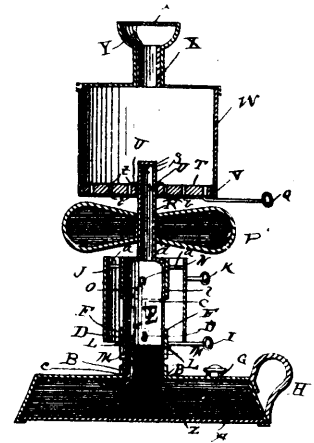
36327 McCormick's Trunk and Wardrobe.



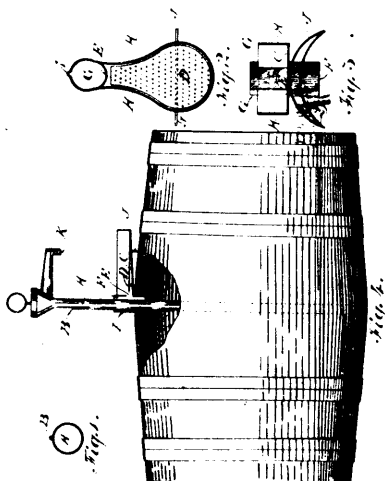
36328 Langford's Wagon body Lifter.



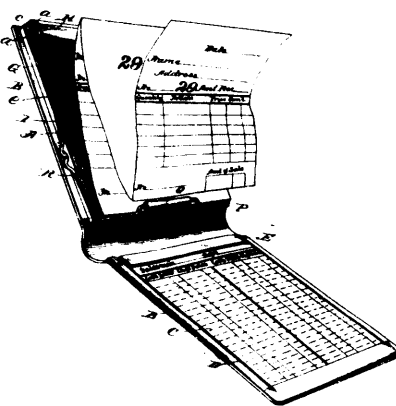
36329 Ruiter's Lifting Jack.



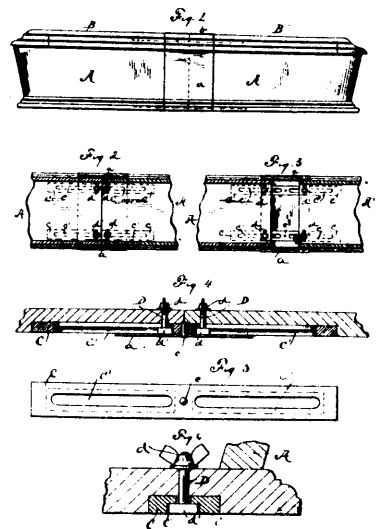
36330 Ingraham's Vapor Burner.



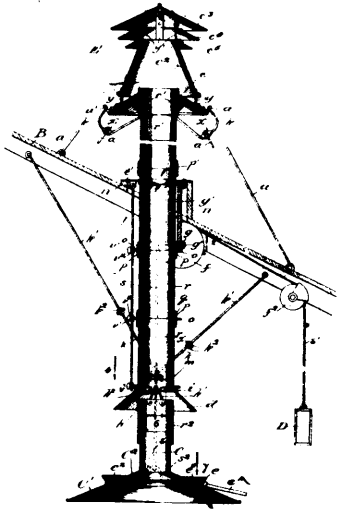
36331 Ayer's Pump.



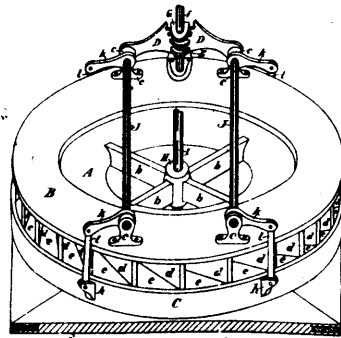
36332 McDonald's Manifold Order Book.



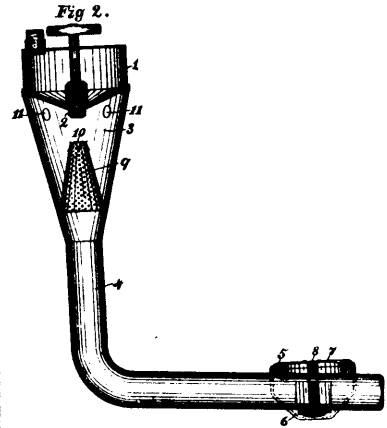
36333 Saxton's Extensible Burial Casket.



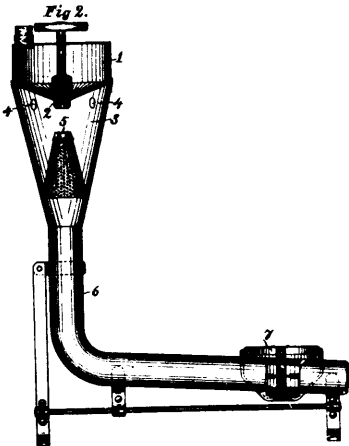
36334 Dickinson's Chimney.



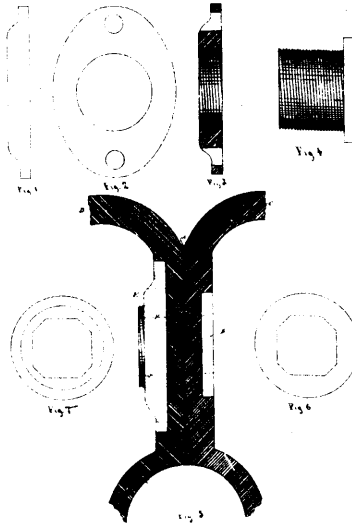
36335 Burrill's Water Wheel.



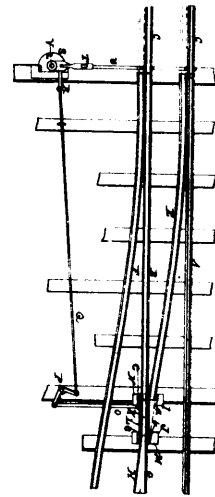
36336 Hollingsworth's Apparatus for Vaporizing Hydrocarbon and Supplying the Vapor to Burners.



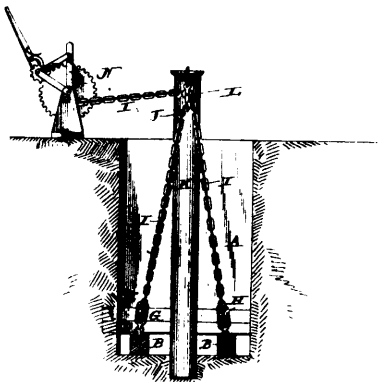
36337 Hollingsworth's Process of Vaporizing Hydro-carbon and Supplying the Vapor to Burners.



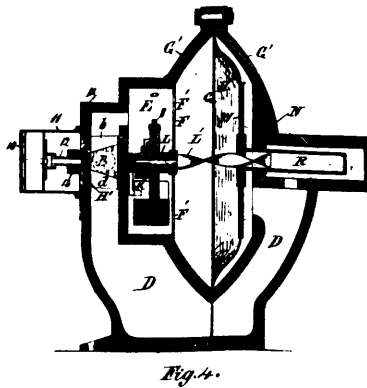
36338 Gate and Orr's Radiator and Boiler Connections.



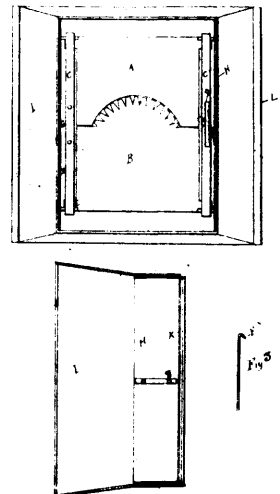
36339 Fisher's Railway Switch.



36340 Sellon's Apparatus for Sinking Well Pipes.



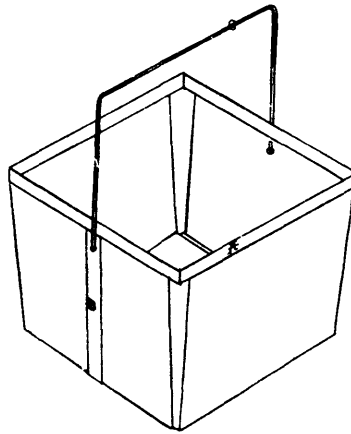
36341 Gurd's Gas and Fluid Meter.



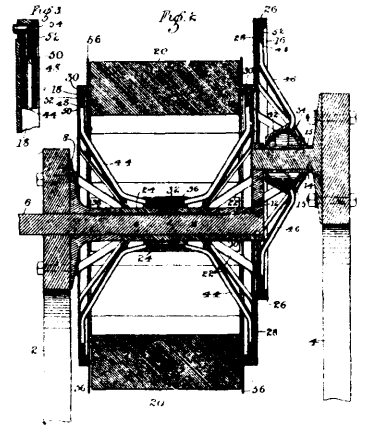
36342 Gray's Photographic Negative Vignetting Attachments.



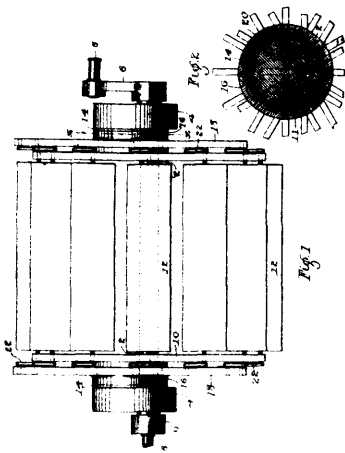
36343 Marsh and Truss' Rotary Propeller.



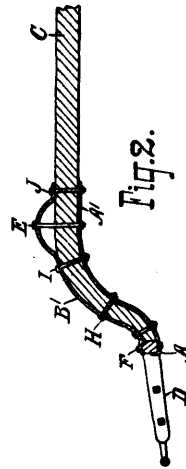
36345 Shipman's Berry Box.



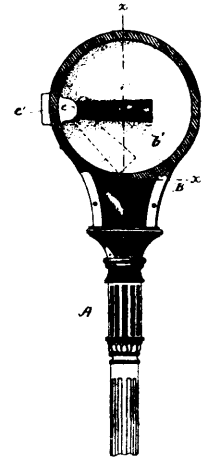
36346 Pirrung's Feathering Paddle Wheel.



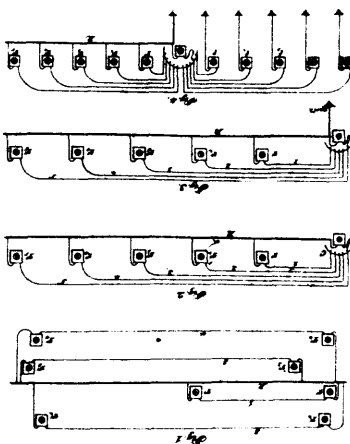
36347 Pirrung's Feathering Paddle Wheel.



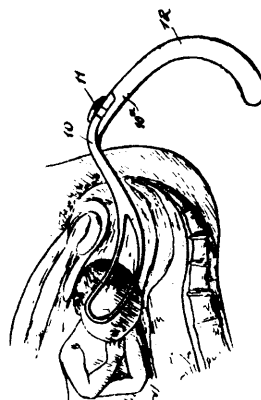
36348 Atkins' Vehicle Fole.



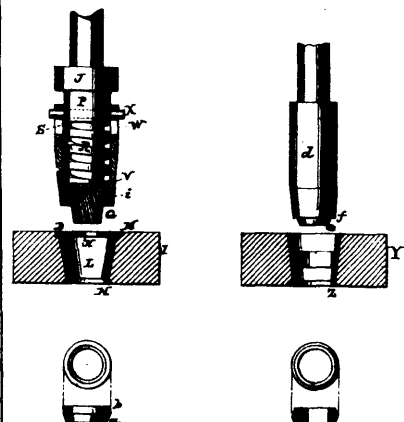
36349 Hall's Railway Signal.



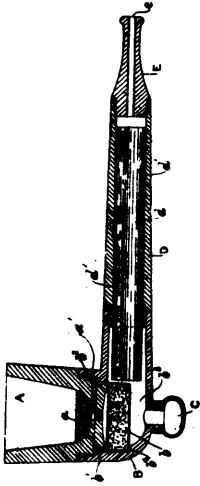
36350 McCluer's Artificial Electric Systems.



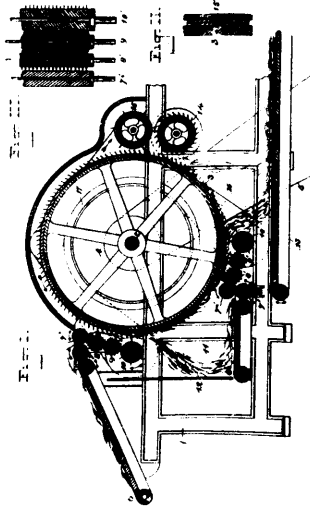
36351 Brown's Obstetrical Forceps.



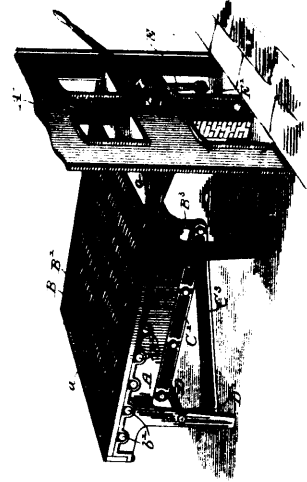
36352 Peckham's Apparatus for Forming Finger Rings.



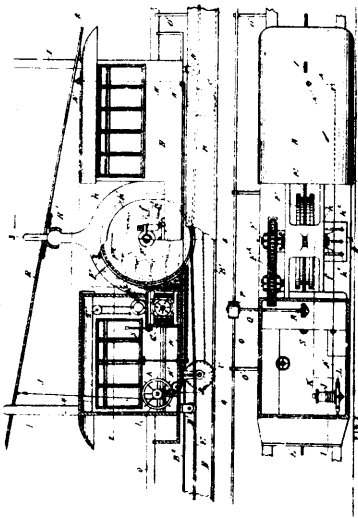
36353 Jones' Pipe.



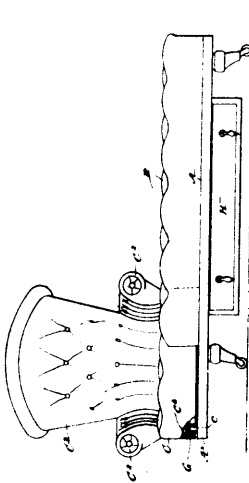
36354 Scott's Fibrillation of Pine Needles.



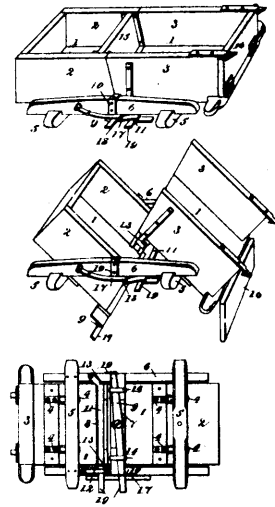
36355 Dorrance's Grate Bar.



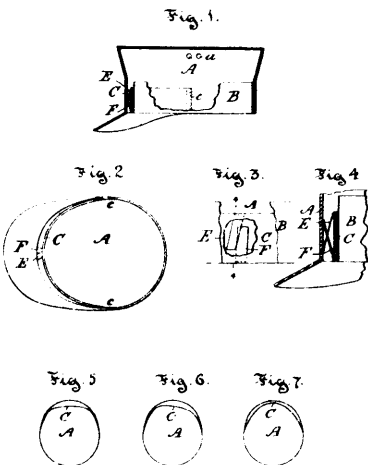
36356 Weaver's Elevated Railroad.



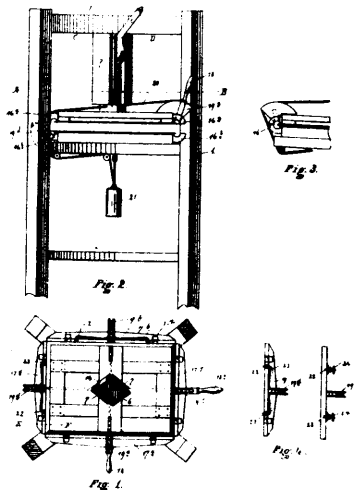
36357 Thomson's Chair and Lounge.



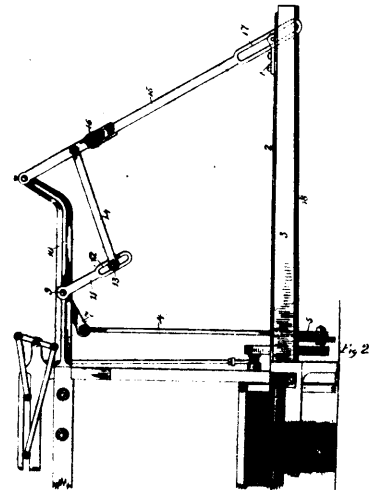
36358 Anderson's Waggon.



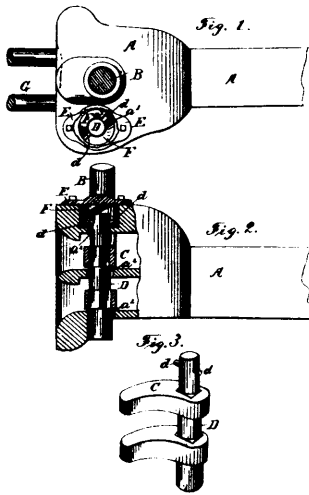
36359 Lapointe's Hat and Cap.



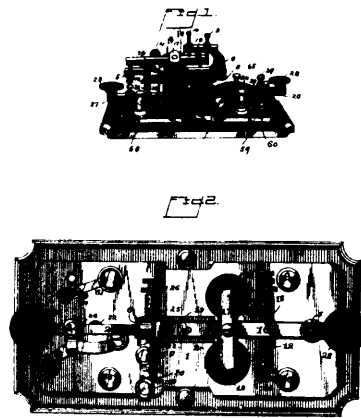
36360 Hastings and Walcott's Sheet Metal Folding Machine.



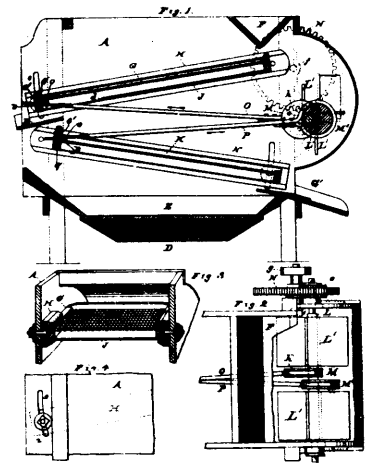
36361 Young and Holyoak's Hair Cloth Loom.



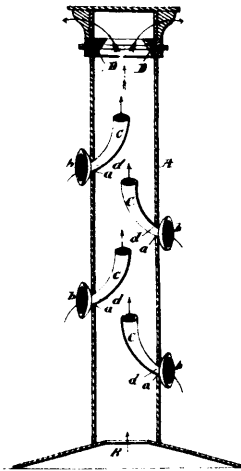
36362 Weeks and Bush's Car Coupler.



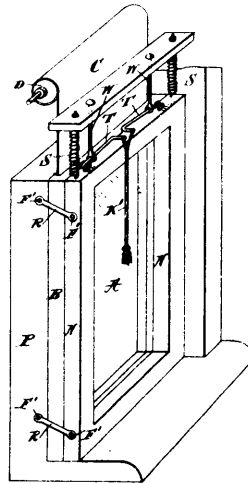
36364 Doggett's Telegraph Key.



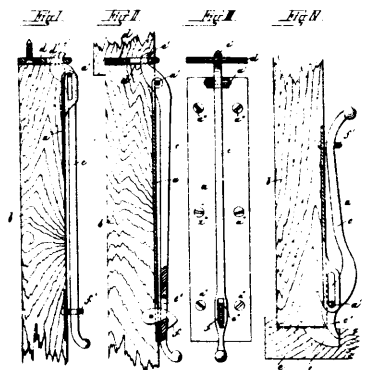
36365 Easton's Flax Seed Separating Machine.



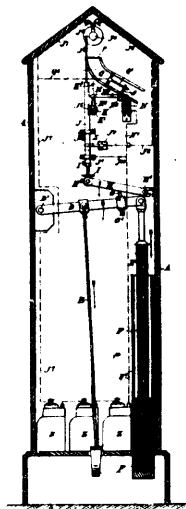
36366 Cottier's Ventilator.



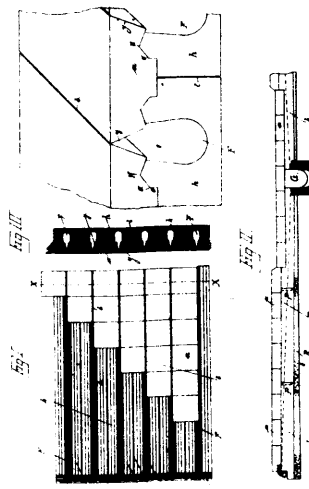
36367 Edwards' Window.



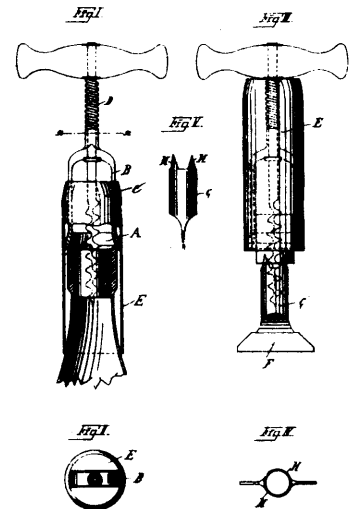
36368 Rademann's Window and Door.



36369 Rutter's Weighing Machine, etc.



36370 Jungbluth's Stable.



36371 Dussynski's Cork Screw.

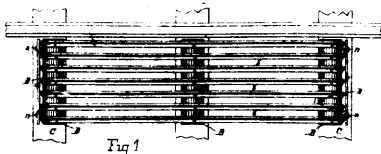


Fig. 1

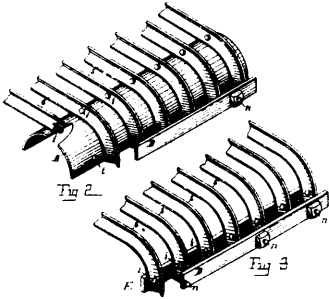
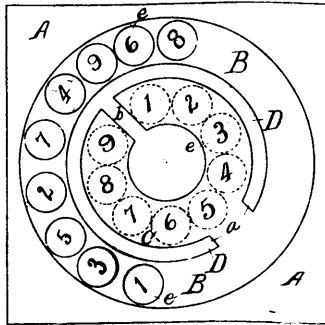


Fig. 2

Fig. 3

36373 Merril's Cattle Guard.



36374 McGrath's Game

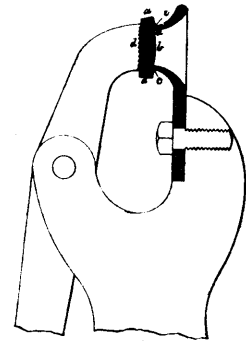


Fig. 6



Fig. 1

Fig. 2

Fig. 3

Fig. 4

Fig. 5

36375 Shantz's Method of Manufacturing Buttons.

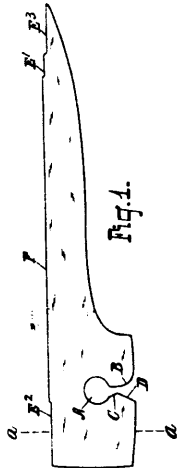
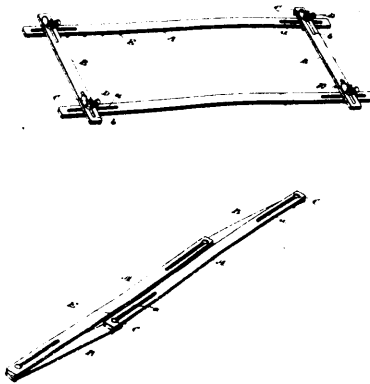
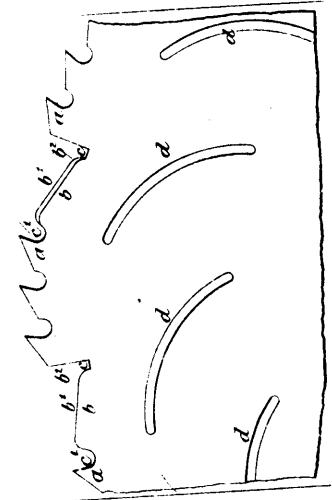


Fig. 1.

36376 Richardson's Saw Set and Gauge.



36377 Merritt's Curtain Stretcher.



36378 Bott's Circular saw.

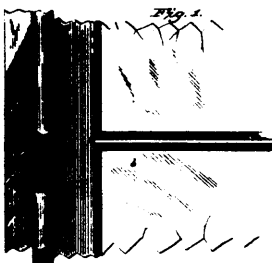
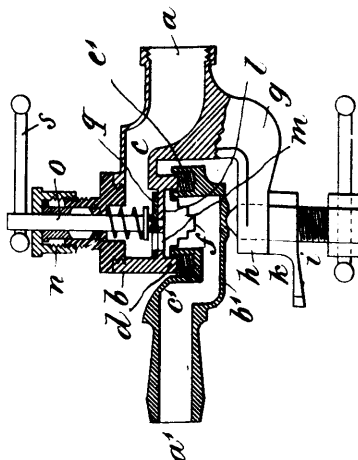


Fig. 2.

Fig. 3.

36379 Brewer's Sash Holder.



36380 Decarie and Lord's Pipe Coupling and Stop Valve.

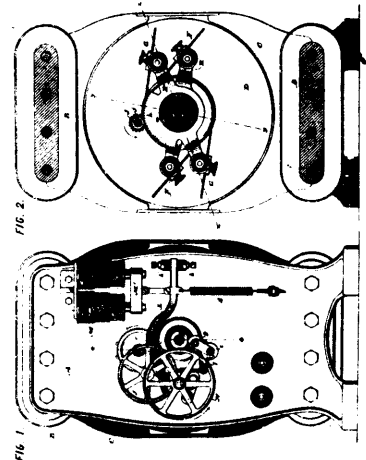
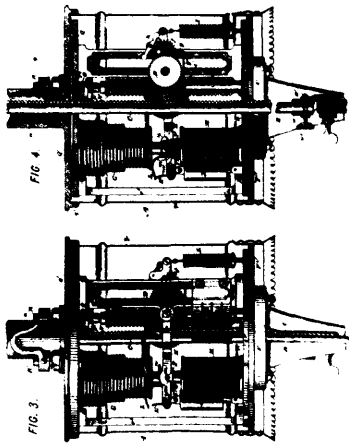


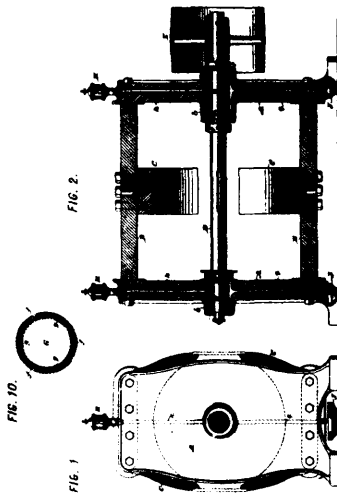
Fig. 2.

Fig. 1.

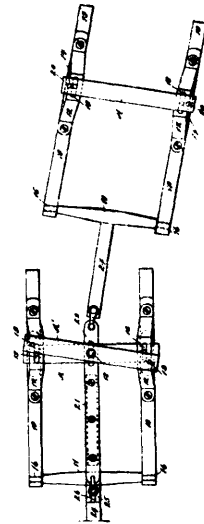
36381 Wood's Dynamo Electric Machine



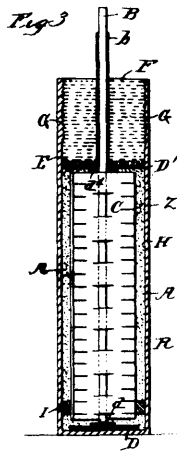
36382 Wood's Electric Arc Lamp.



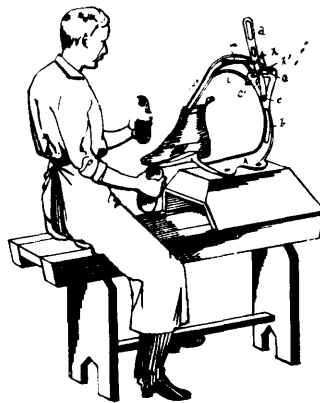
36383 Wood's Journal Bearing.



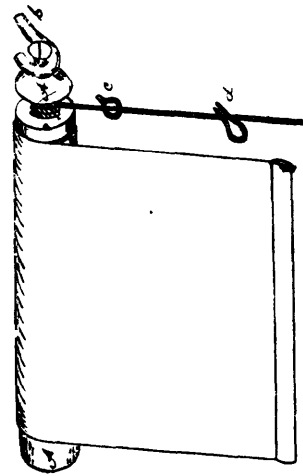
36386 Yenne's Bob Sled



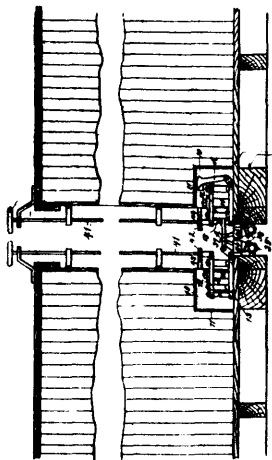
36387 Hathaway and Fink's Galvanic Battery.



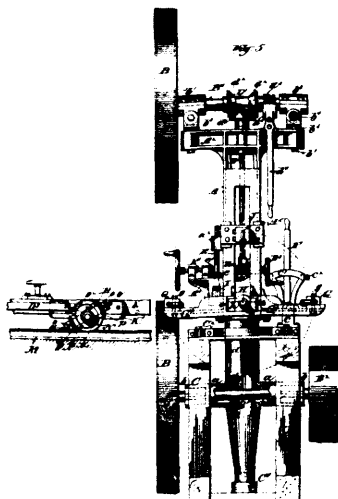
36388 Watts' Boot and Shoe Holder.



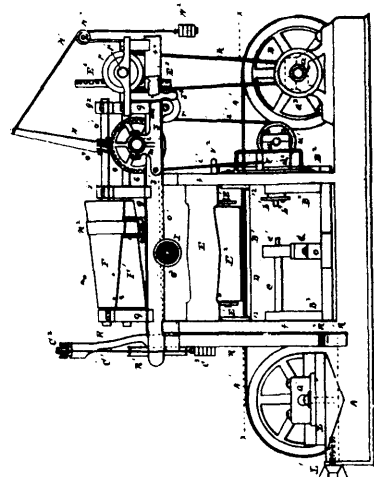
36389 Gillis' Curtain Fixture.



36390 Wheoland's Car Coupler.

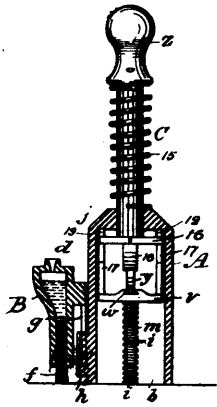


36391 Gowen's Saw Mill.

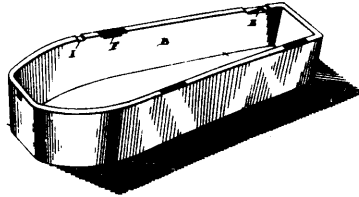
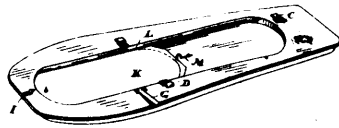


36392 Avery's Band Saw Mill.

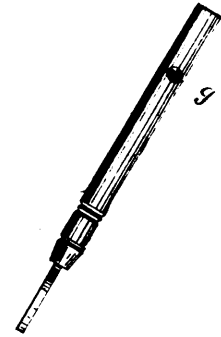
Fig. 4.



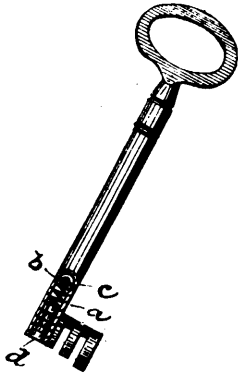
36393 Hamilton's Device for Affixing Postage Stamps



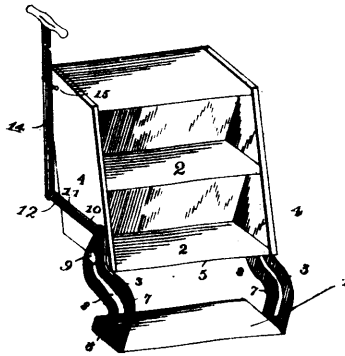
36394 Watson's Means of Securing Coffin Lids.



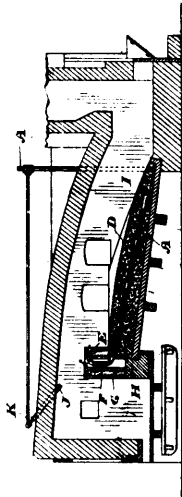
36395 White's Barrel Key.



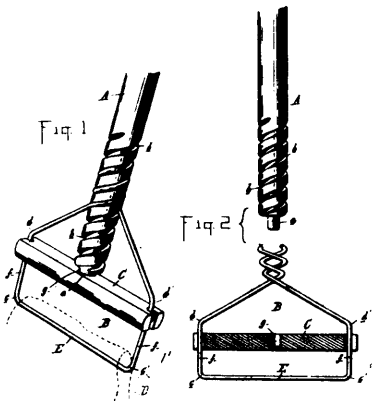
36396 White's Barrel Key.



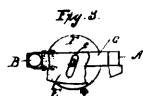
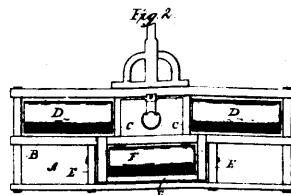
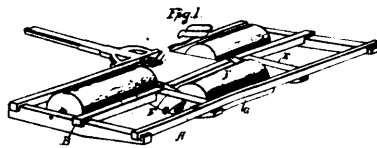
36397 Fashion's Steps for Cars.



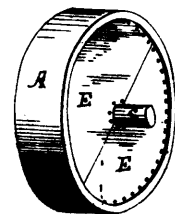
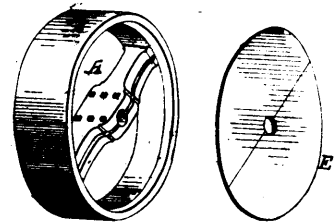
36398 Adams' Smoke Consumer.



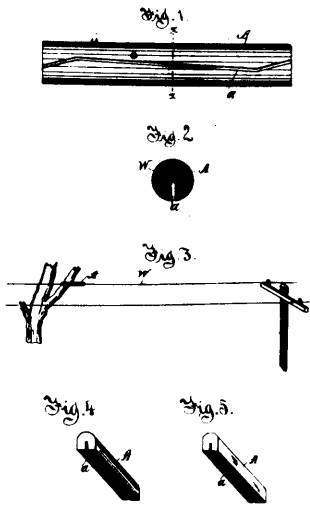
36399 Adams' Mop.



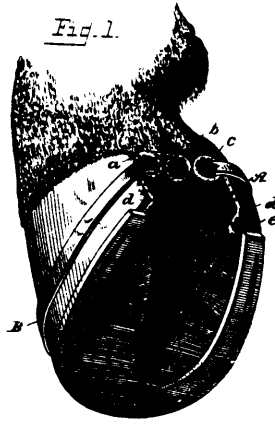
36400 Walker's Land Roller.



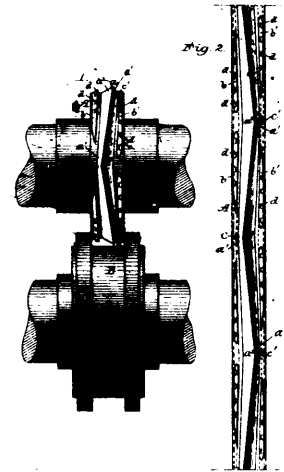
36401 Dodge's Pulley.



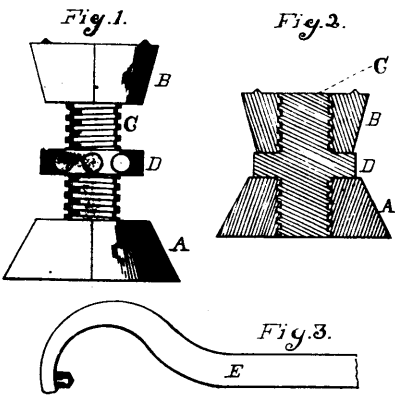
36402 Woodman's Electric Wire Protector.



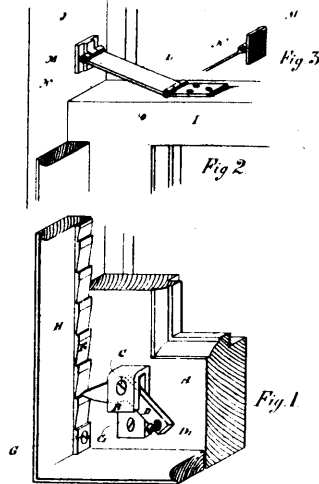
36403 Mackey's Hoof Expander.



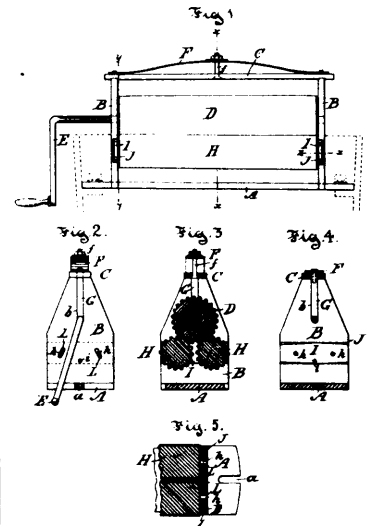
36404 Perkins' Die Roll.



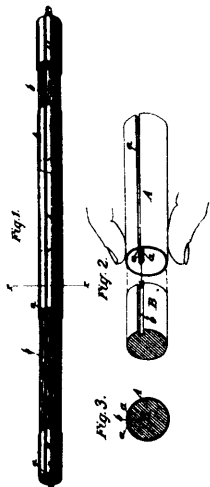
36405 Weed's Billiard Table Leveller.



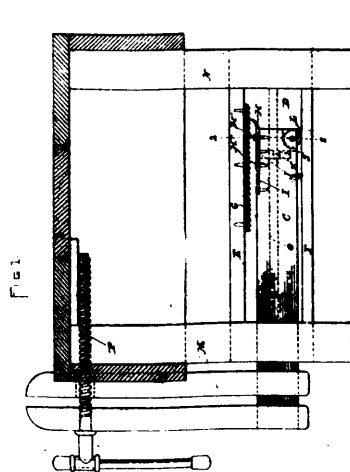
36406 Stephens' Sash Fastener.



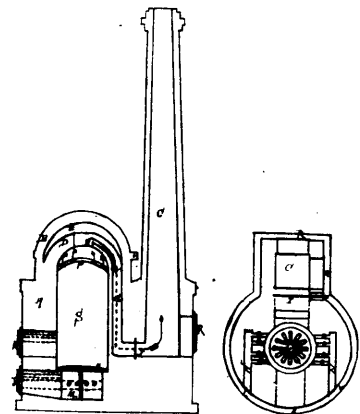
36407 Webster's Washing Machine.



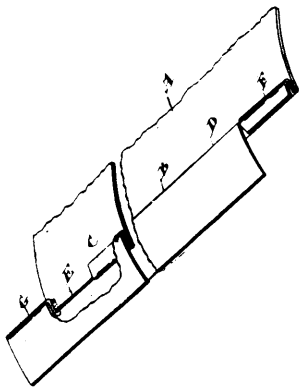
36408 Hartshorn's Shade Roller.



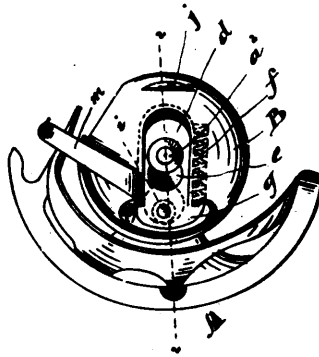
36409 McKenzie's Vise.



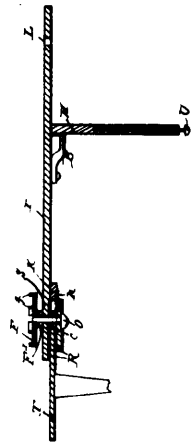
36410 Langlois' Lime Kiln.



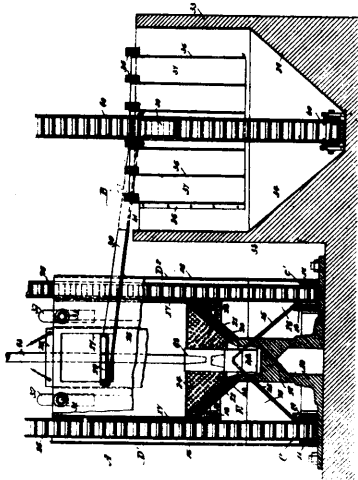
36411 McGolpin's Stove Pipe.



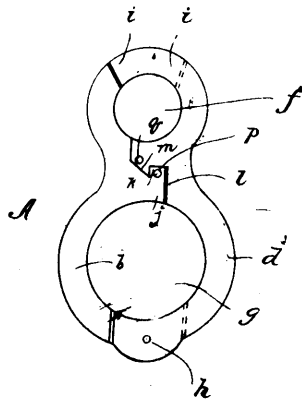
36412 Diehl and Brandt's Sewing Machine Shuttle.



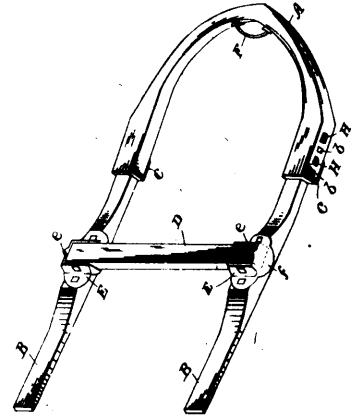
36413 Shepherd and McDavis' Ironing Board.



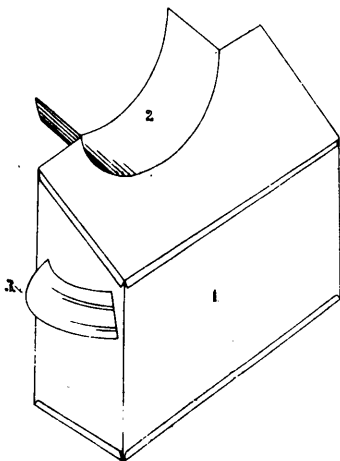
36414 Powers' Apparatus for Separating Asbestos from Crushed Rock.



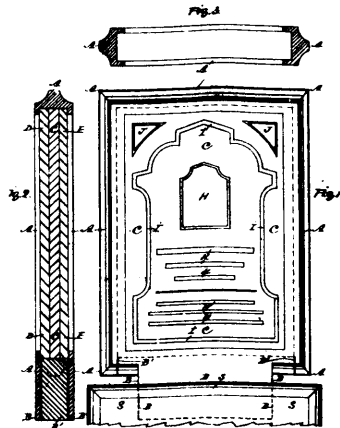
36415 Corwell's Jib Hank.



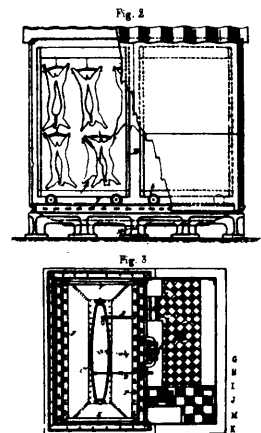
36416 Ackerman's Logging Skid.



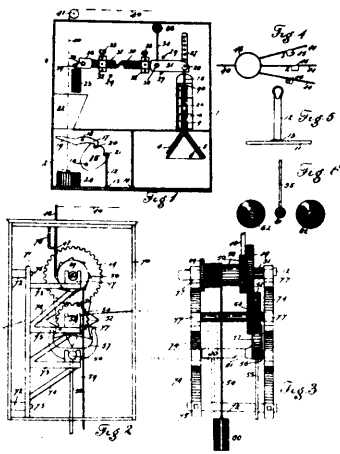
36417 Hart's Soot Catcher.



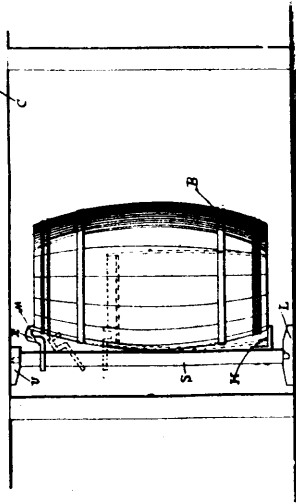
36418 Green's Metallic Plate Glass Monument.



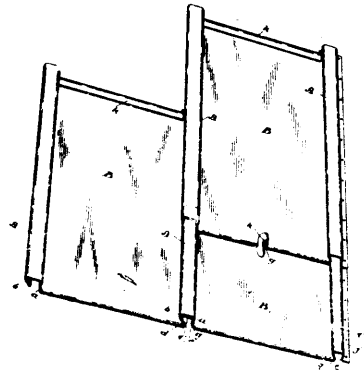
36419 Bachelier's Apparatus for Preserving Organic Substances.



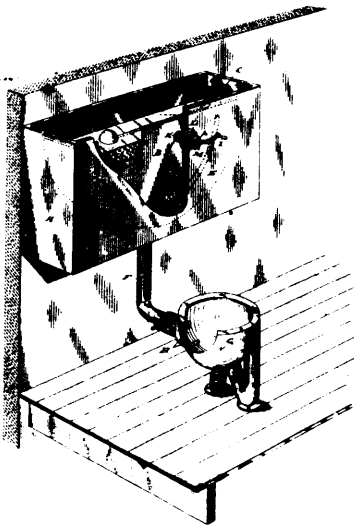
36420 Earles' Fire Alarm.



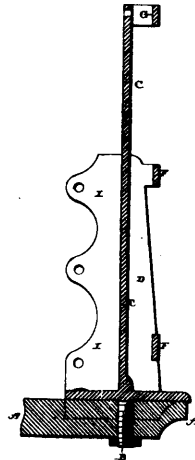
36421 Gamble's Swinging Barrel Support.



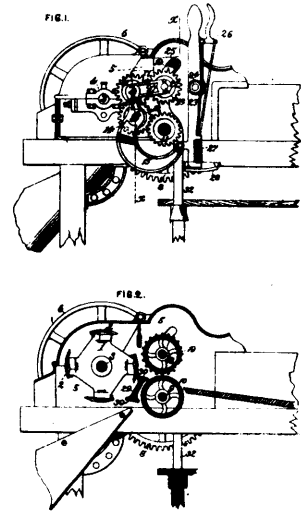
36422 Thorn's Metallic Shingle.



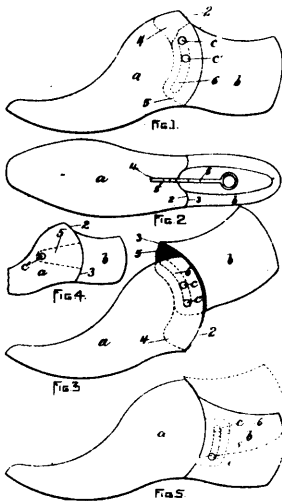
36423 Malcolm's Flushing Tank.



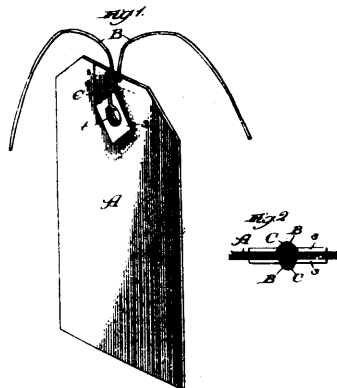
36424 Plecher's Irons for Waggon Beds.



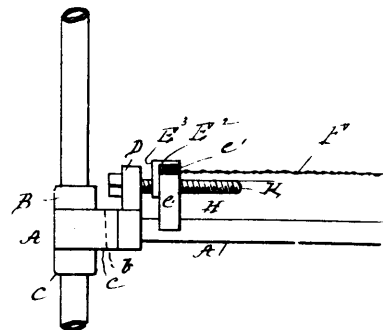
36425 Silver's Feed Cutter.



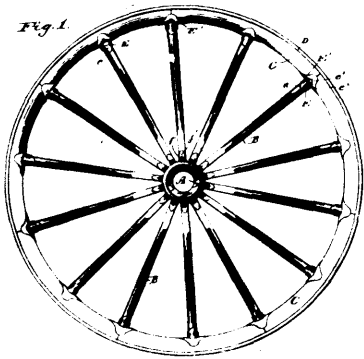
36426 Gordon's Last.



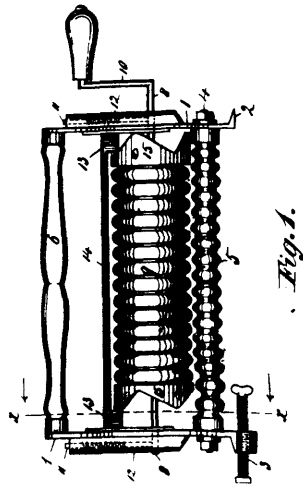
36427 North's Tag.



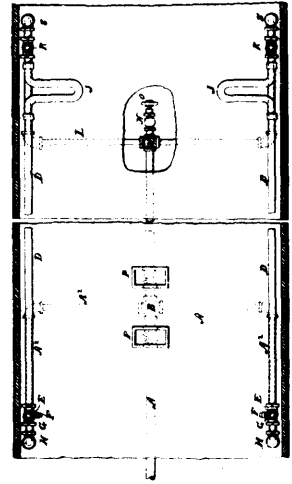
36428 Keyworth's Iron Bedstead.



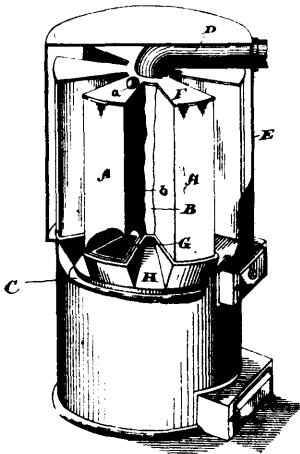
36429 Stone's Wheel.



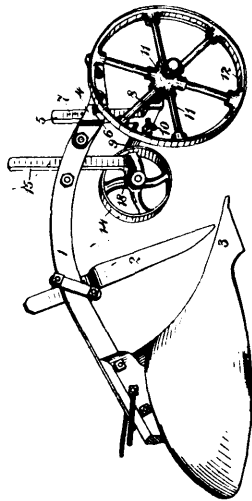
36430 Peters' Washing Machine.



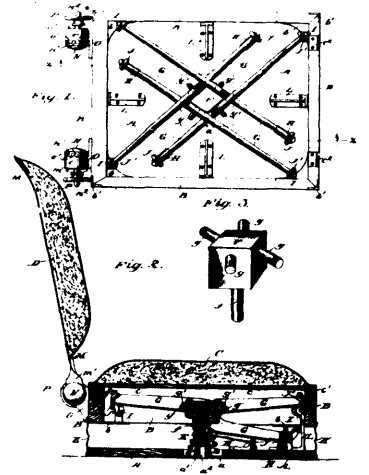
36431 Dixon's Car Heater.



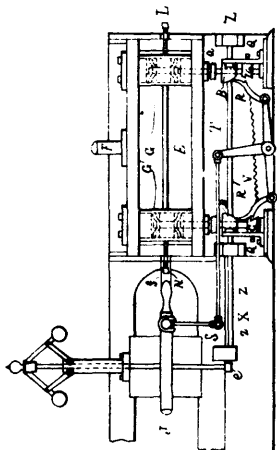
36432 Brake's Hot Air Furnace.



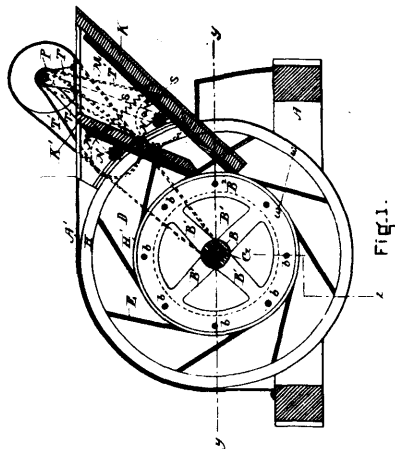
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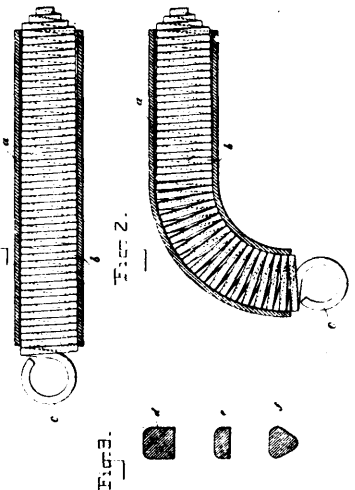
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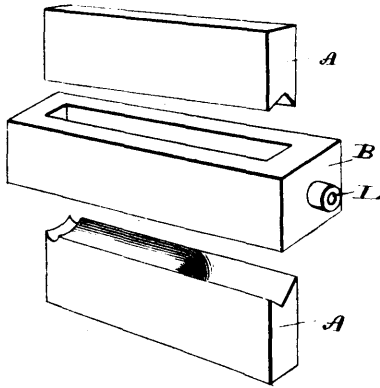
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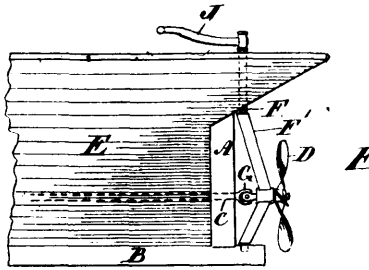
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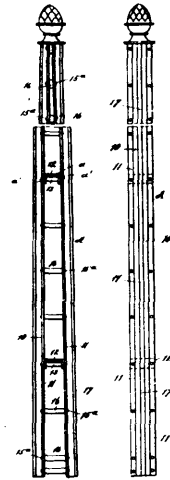
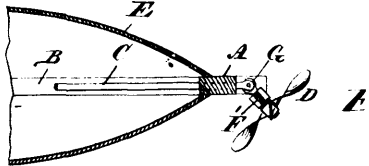
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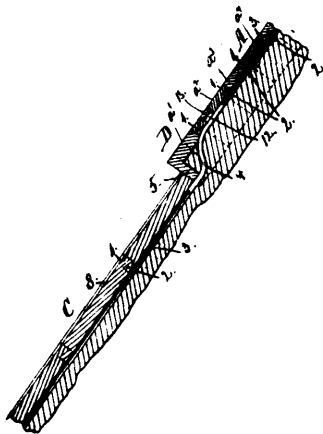
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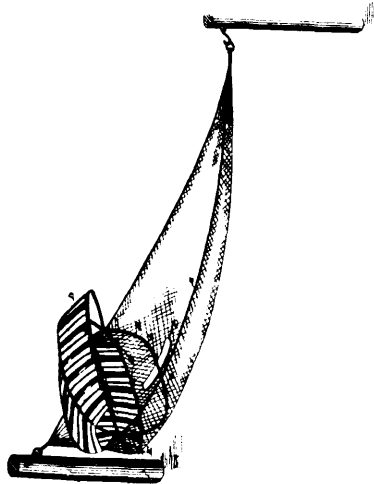
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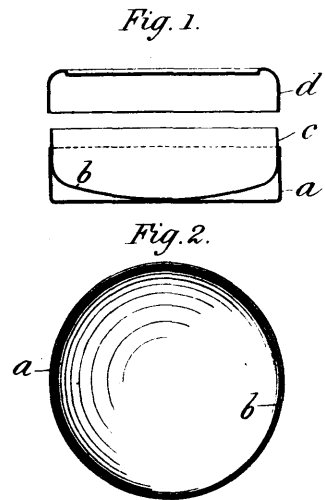
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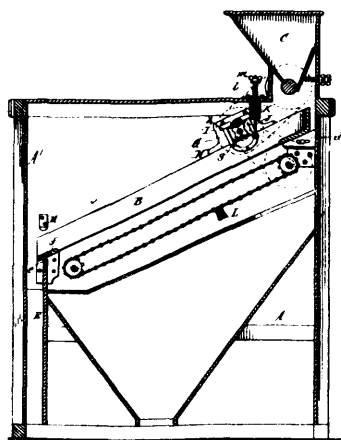
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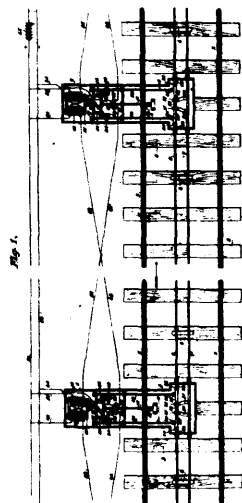
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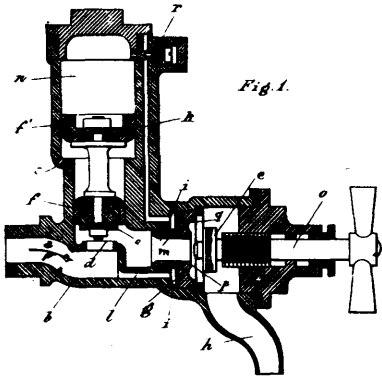
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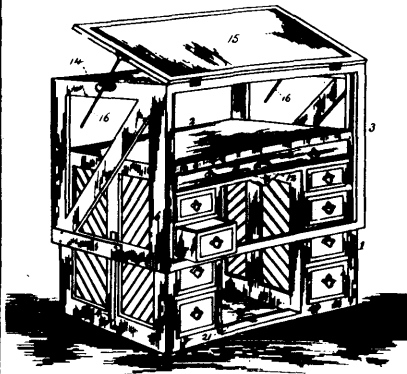
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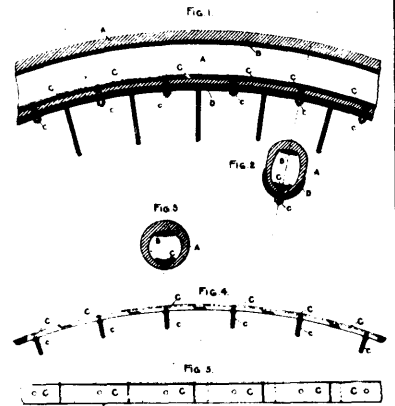
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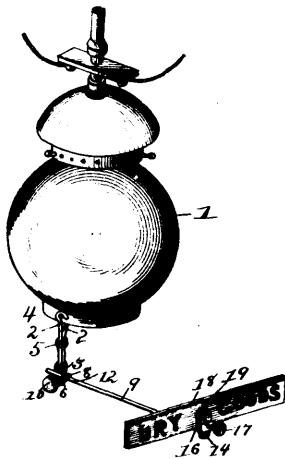
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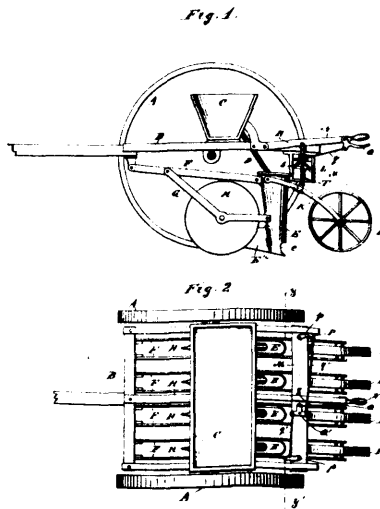
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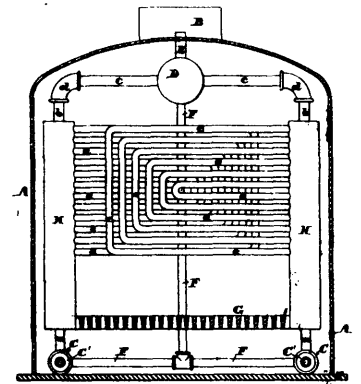
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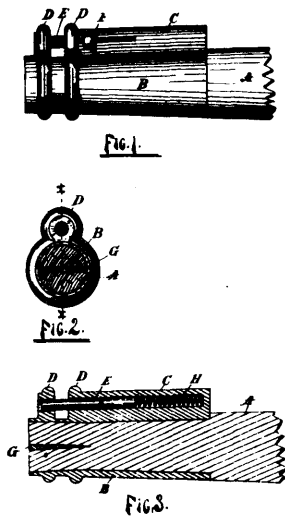
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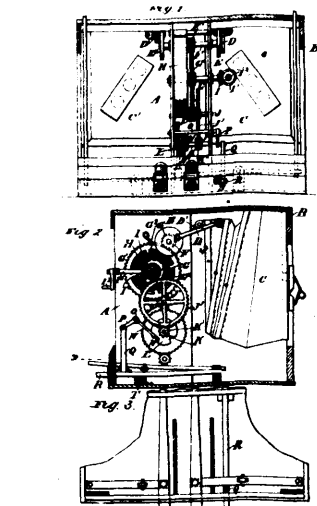
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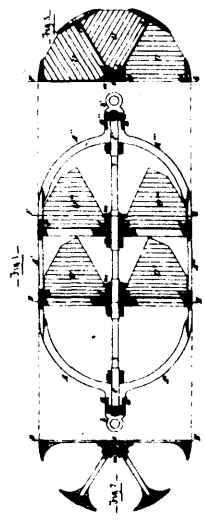
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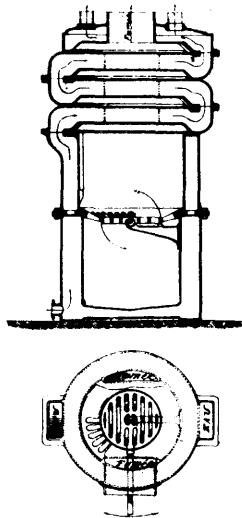
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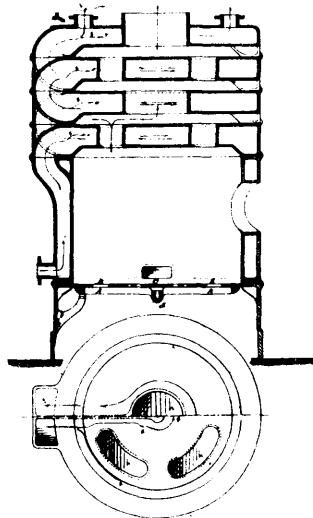
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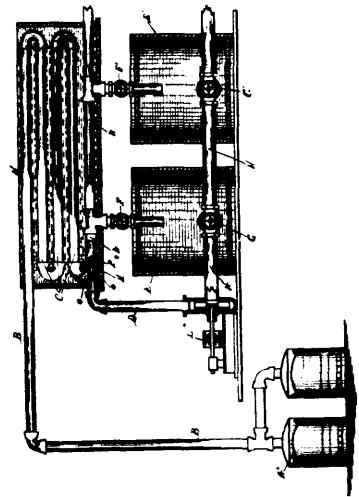
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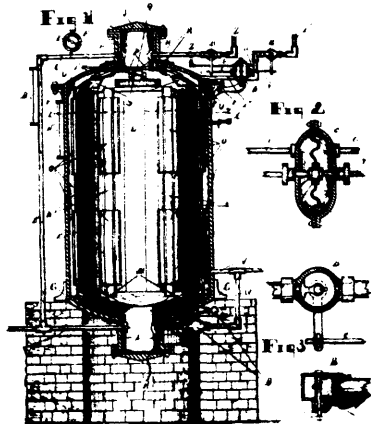
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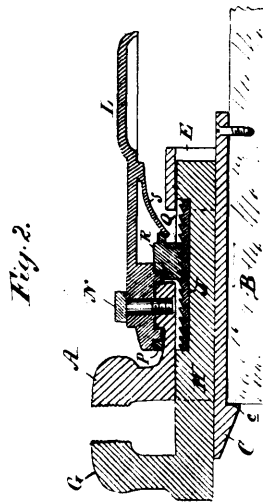
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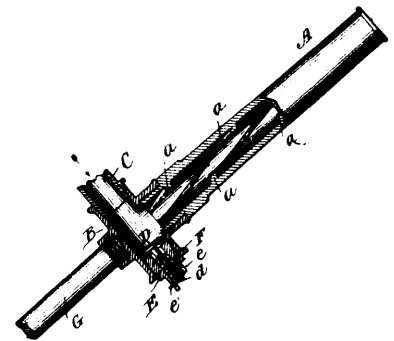
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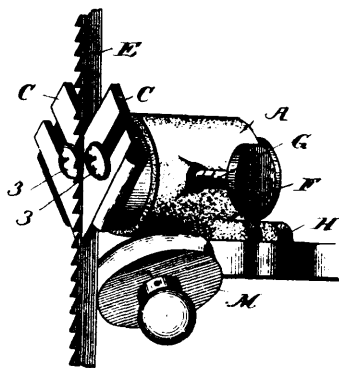
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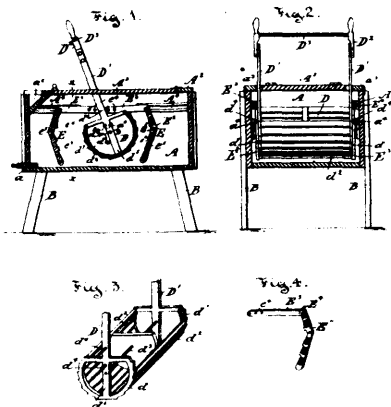
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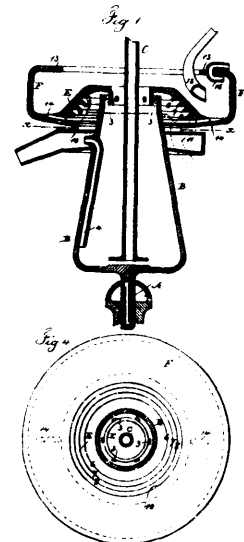
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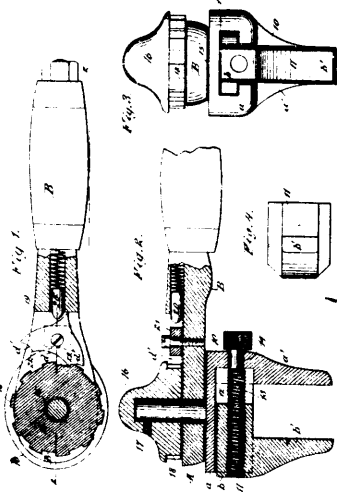
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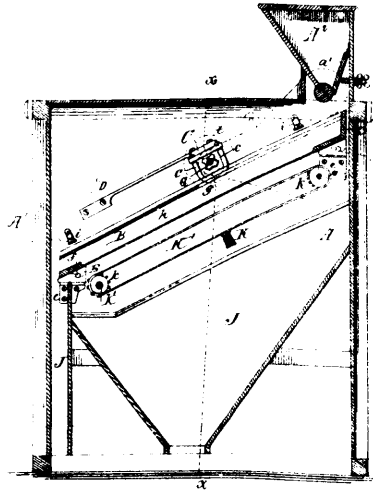
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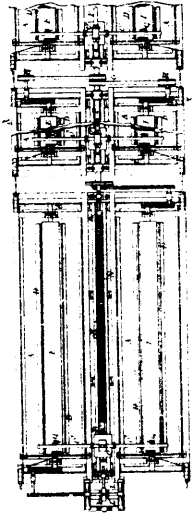
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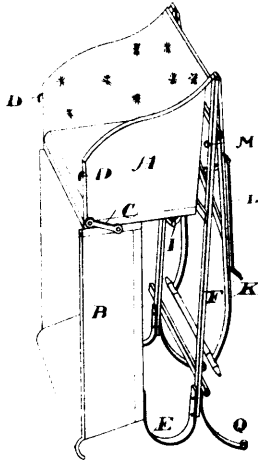
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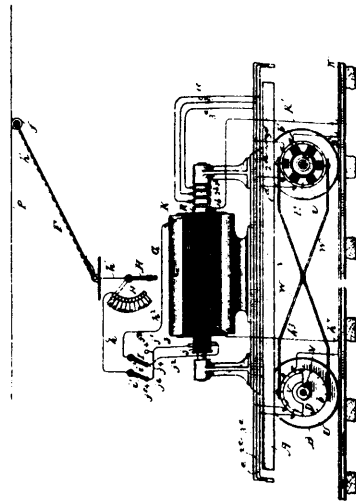
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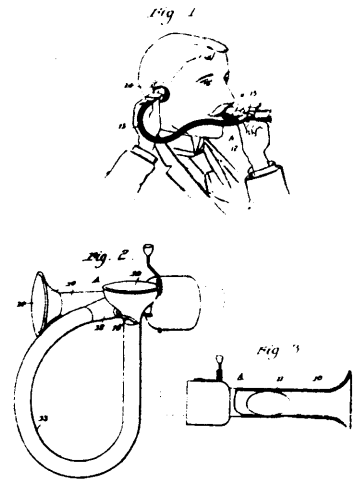
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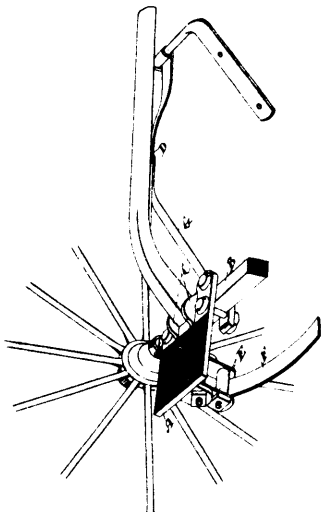
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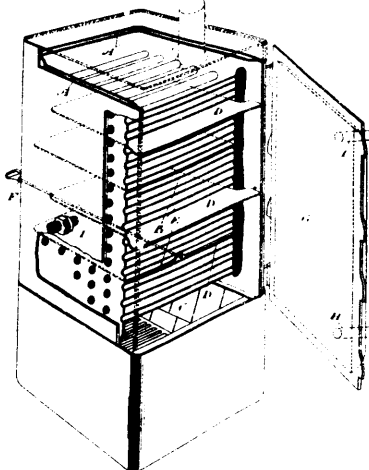
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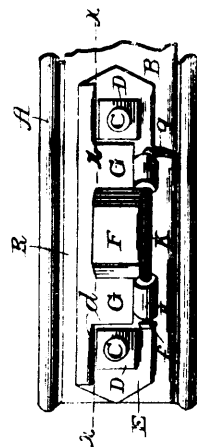
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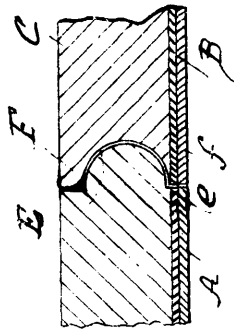
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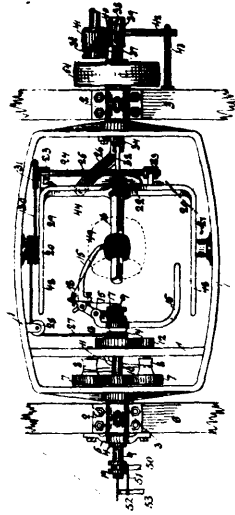
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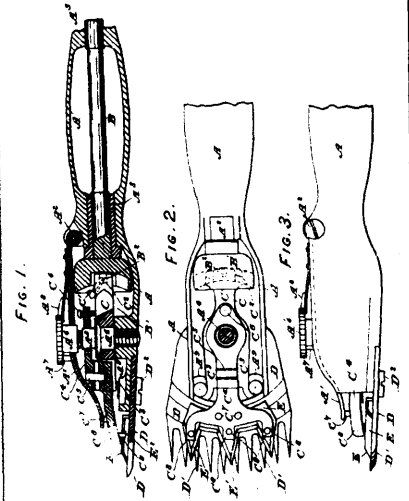
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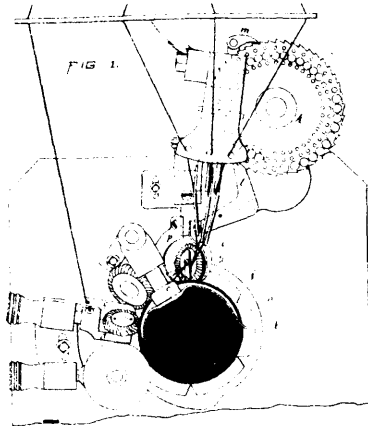
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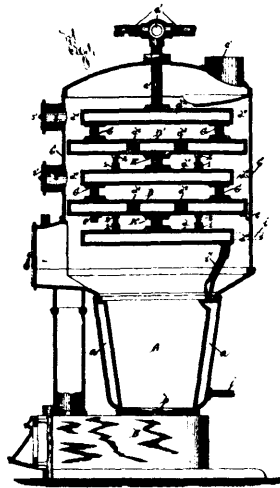
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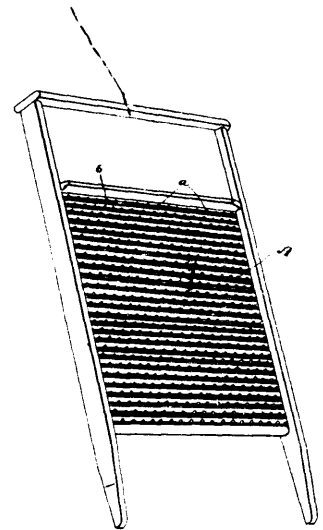
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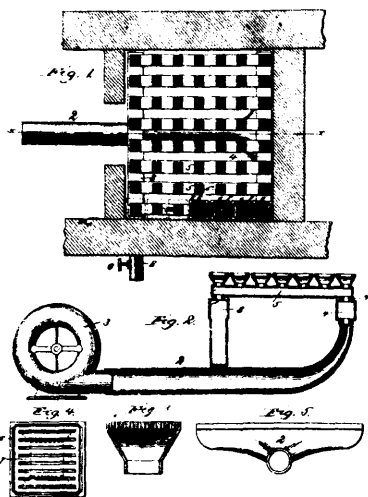
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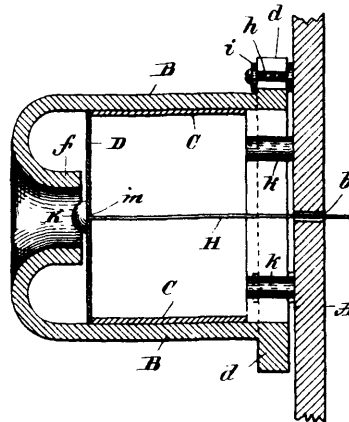
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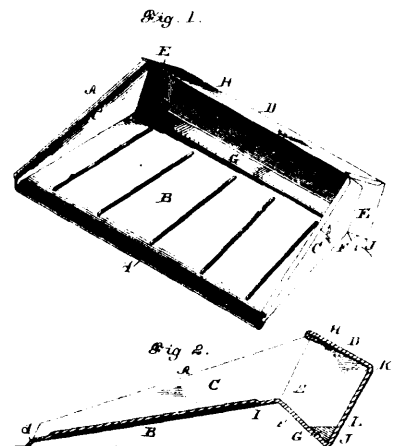
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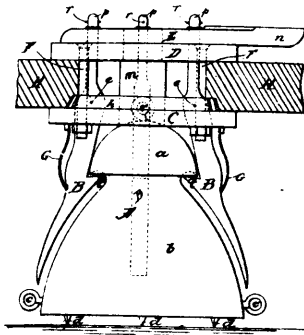
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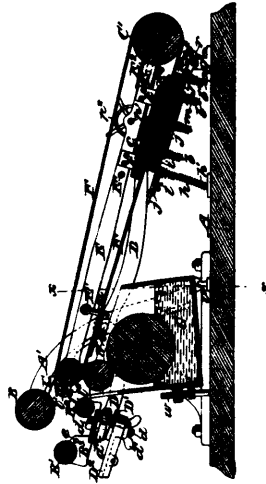
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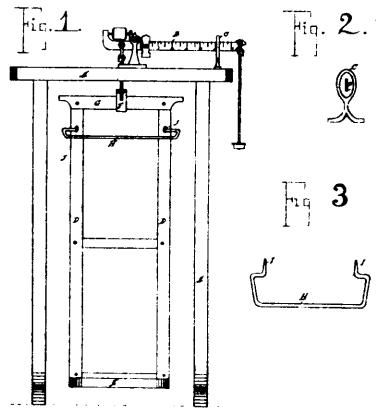
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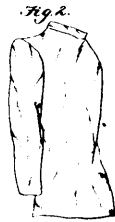
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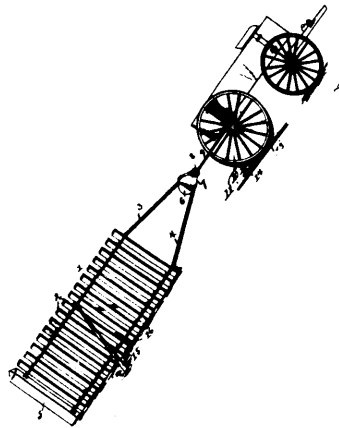
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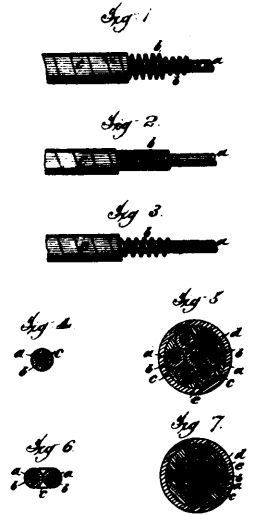
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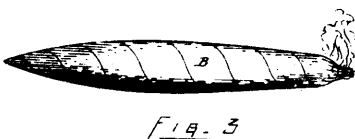
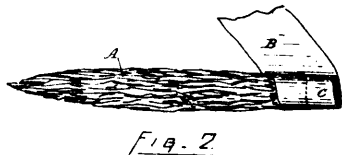
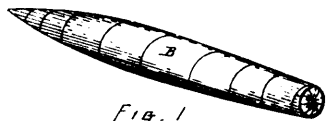
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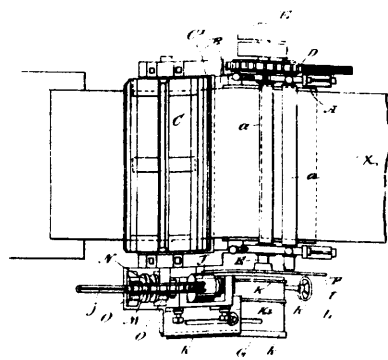
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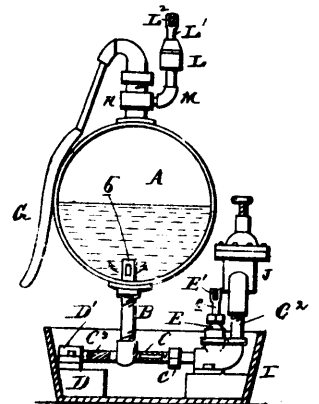
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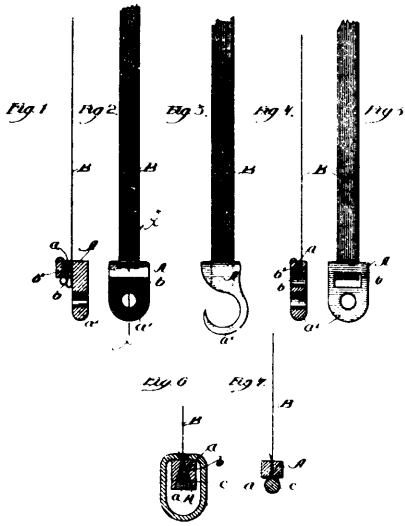
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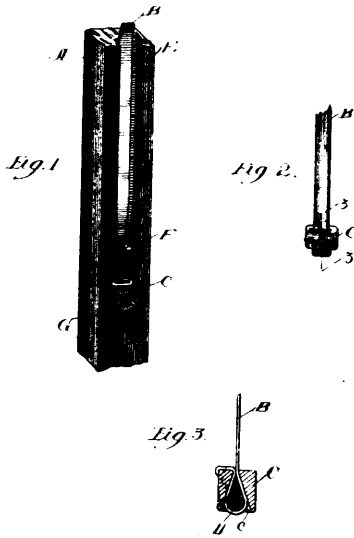
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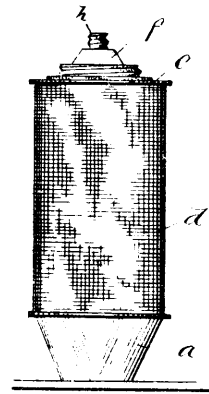
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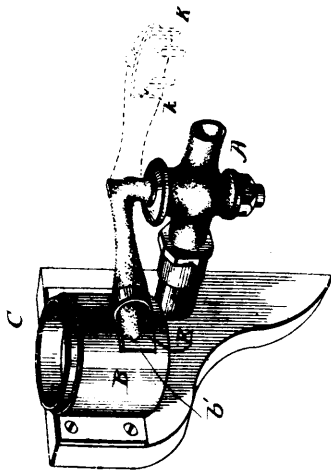
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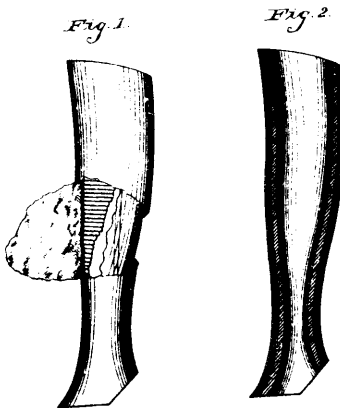
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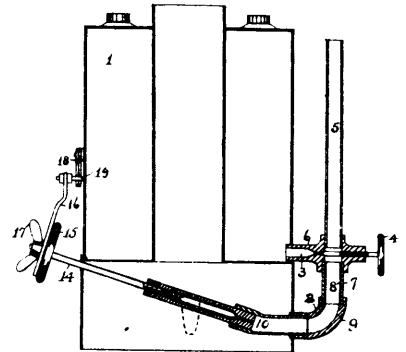
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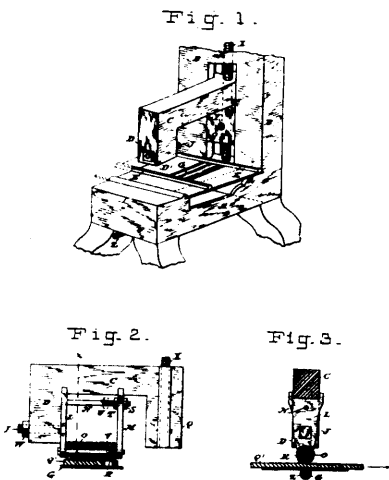
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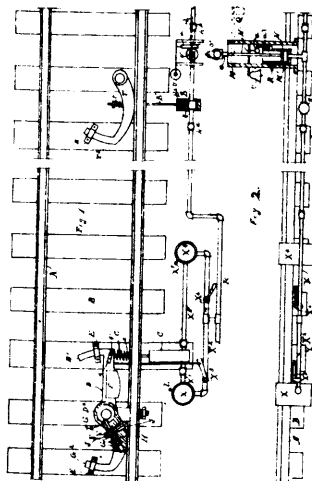
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