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# The Canadian Patent Office

## RECORD

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### 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. 35,908. Device for Conveying Coal, etc. (Transport à charbon.)

Léandre Boudreau, Manchester, New Hampshire, U.S.A., 2nd February, 1891; 5 years.

*Claim.*—1st. In an elevated carrier, the combination, with a rail or track having periodically arranged projecting portions or shoes, of a yoke or hanger having a wheel resting on said rail or track, a frame secured to the lower end of said yoke or hanger, the bucket secured in said frame and provided with a hinged bottom, the upwardly projecting arms *r, s*, secured to said bottom and engaging a movable portion of said frame, and the bent or angular arm *c*<sup>1</sup>, designed to engage said shoe and to operate said movable portion of the frame, substantially as set forth. 2nd. In an elevated carrier, the combination, with the rail or track having periodically arranged projecting portions or shoes, of a yoke or hanger having a wheel resting on said rail or track, a frame secured to the lower end of said yoke or hanger, the bucket secured in said frame and provided with a hinged bottom, the upwardly projecting arms *r, s*, secured to said bottom, the movable bar *t*, of said frame, the lever *w*, connected to said bar, the bent or angular arm *c*<sup>1</sup>, and the block *m*<sup>1</sup> secured thereto and bearing on one end of said lever, substantially as set forth. 3rd. In an elevated carrier, the combination, with a rail or track having periodically arranged plates *u*<sup>2</sup>, provided with hooked ends of a yoke or hanger moving on said rail or track, a frame secured to the lower end thereof, a bucket secured in said frame, having a hook or detent *a*<sup>1</sup>, and a spring-pressed bolt *p*<sup>1</sup>, adapted to be engaged at its lower end by said hook or detent, substantially as set forth. 4th. In an elevated carrier, the combination, with a rail or track having periodically arranged plates *u*<sup>2</sup>, provided with hooked ends, of a yoke or hanger moving on said rail or track, a frame secured to the lower end thereof, a bucket secured in said frame, having a pivoted bottom, a hook or detent secured to said bottom, and a spring-pressed bolt *p*<sup>1</sup>, having a lower hooked end engaged by said hook or detent, substantially as set forth. 5th. In an elevated carrier, the combination, with a rail or track having periodically arranged shoes *e*<sup>1</sup>, and plates *u*<sup>2</sup> provided with hooked ends, of a yoke or hanger moving on said rail or track, a frame secured to the lower end thereof, a bucket secured in said frame, a hook or detent *a*<sup>1</sup>, a spring-pressed bolt *p*<sup>1</sup>, engaged by said hook or detent and the bent or angular arm *c*<sup>1</sup>, which upon contact with shoe *e*<sup>1</sup>, will liberate said spring-pressed bolt and permit the same to fly in the path of said hooked end of plate *u*<sup>2</sup>, substantially as set forth. 6th. In an elevated carrier, the combination, with a bucket and the yoke or frame therefor having stops *f*<sup>2</sup>, of the movable frame *f*, provided with upper rails having divergent ends and stops *l*<sup>1</sup>, the ropes connected to said frame, and the parallel guide-rods, substantially as set forth. 7th. In an elevated carrier, the combination, with a rail or track, of a movable frame mounted thereon and having a wheel *g*, a shoe *e*<sup>2</sup>, above said wheel, the arm or bar to which said shoe is connected, and the governor secured to said arm or bar, substantially as set forth. 8th. In an elevated carrier, the combination, with a rail or track, of a movable frame, a yoke or hanger *b*, a wheel *g*, having its shaft mounted in said yoke or hanger and provided with a bevel gear wheel *e*<sup>2</sup>, a governor having its shaft provided with a bevel pinion *d*<sup>2</sup>, engaging said former pinion, an arm or bar connected at one end to said governor and bearing at its other end in a slot of said yoke or hanger, and a shoe connected thereto and designed to engage said wheel, substantially as set forth. 9th. In an elevated carrier, the combination, with a rail or track, of a movable frame, the yoke or hanger having a wheel *g*, the arm *d*<sup>2</sup>, secured at one end to said yoke or frame, the wheel *d*<sup>3</sup>, carried by said arm, and the arm *d*<sup>4</sup>, bearing on said former arm, substantially as set forth.

#### No. 35,909. Cutter-guard Finger for Raising Lodged Grain. (*Appareil aux souches de lames pour relever le grain couché.*)

Peter Gerard Dunton, Toronto, Ontario, 2nd February, 1891; 5 years.

*Claim.*—1st. A curved finger fixed to and extending in front of the cutter-guard, the said finger being bent backwardly and upwardly from its front end, substantially as and for the purpose specified. 2nd. A curved finger *D*, formed on the end of the plate *B*, and having a recess made at its base to fit onto the cutter-guard finger *A*, substantially as and for the purpose specified.

#### No. 35,910. Sifter. (*Tamis.*)

Burton Henry Cook, Brooklyn, New York, U. S. A., 2nd February, 1891; 5 years.

*Claim.*—1st. In an ash-sifter, a casing and a rotary open-ended sifting drum, the shaft of which is journaled in the end walls of said casing, in combination with a fixed partition at the inlet end of said drum, said partition having an inlet-passage therethrough wholly above the drum-shaft, and a movable sliding partition closing the delivery end of the drum, said fixed and sliding partitions being in close proximity to the respective open ends of the drum when the sifter is in operation, so that no space is left for the passage of cinders between the ends of said drum and said partitions, substantially as set forth. 2nd. In an ash-sifter which is adapted to be used when placed upon an ash-barrel, a casing, and a rotary open-ended sifting-drum, the shaft of which is journaled in the end walls of the casing, in combination, with a movable sliding partition closing the delivery end of the drum, and forming a discharge-chamber between the delivery end of the drum and the end walls of the casing, the walls of said casing being extended downwardly below the drum, thus forming a continuation or pocket to said discharging-chamber, whereby said chamber constitutes a chute for the discharge of the cinders and said movable sliding partition being in close proximity to the delivery end of said drum, so that no passage is left for cinders between them, substantially as set forth. 3rd. In an ash-sifter which is adapted to be used when placed upon an ash-barrel, a casing, and a rotary open-ended sifting-drum the shaft of which is journaled in the end walls of the casing, in combination with a discharging-chamber between the delivery end of the drum and the rear end wall of the casing, said chamber being extended downwardly to form a depending pocket or discharge-chute for the cinders from said drum, a slide closing the lower end of said pocket or chute, and a removable sliding partition covering the delivery end of the drum and separating it from said discharging-chamber, said sliding partition being in close proximity to the delivery end of said drum, so that no cinders can pass between them, substantially as set forth. 4th. In an ash-sifter adapted to be used when placed upon an ash-barrel, a casing, an open-ended sifting-drum, the shaft of which is journaled in the end walls of the casing, a discharging-chamber between the delivery end of the drum and the rear end wall of the casing, said chamber being extended downwardly below the drum to form a depending pocket or discharge-chute for the cinders from said drum, and a slide closing the lower end of said pocket or chute, in combination with a fixed partition closing the inlet end of the drum, said fixed partition having an inlet-opening wholly above the drum-shaft, and a movable sliding partition closing the entire delivery end of said drum and separating it from said discharging-chamber, said sliding partition having a slot straddling the drum-shaft, and both said fixed and sliding partitions being located in close proximity to the respective ends of the drum, so that no space for the passage of cinders is left between the drum and either of said partitions when the sifter is in operation, substantially as set forth. 5th. In an ash-sifter, a casing, and a rotary sifting-drum, said sifting-drum comprising a shaft journaled in the end wall of said casing, two end hoops or rings, a wire-cloth supported on said hoops or rings, and spokes connecting each of said hoops or rings with said shaft, said spokes being bent inwardly, in combination with fixed partitions closing the inlet end of the drum and hav-

ing an inlet-opening wholly above the drum-shaft, and a movable sliding partition closing the delivery end of the drum, both of said partitions being in close proximity with the respective open ends of the drum, substantially as set forth, whereby sufficient space is left between said partitions and said spokes, so that the cinders will not clog the drum.

### No. 35,911. Attachment for Pumps.

(Appareil pour pompes.)

William Wallace Horr, Lansing, Michigan, U.S.A., 2nd February, 1891; 5 years.

*Claim.*—1st. In a pump, the combination, with the handle, of a sliding extension on the handle carrying the fulcrum, whereby the length of the stroke may be adjusted, substantially as described. 2nd. In a pump, the combination, with the handle connected to the plunger rod, of a sliding extension sleeve upon said handle carrying the fulcrum pin and a pivotal support for said fulcrum pin, substantially as described. 3rd. In a pump, the combination, with the handle B, the sliding extension C, the clamping device, such as the set-screw F, and the pivotal fulcrum support consisting of the rods H, pivoted upon the platform, substantially as described. 4th. In a pump, the combination, with the handle B, of the sliding extension C, having the downwardly projecting lugs D, connected by the cross-bar E, of the fulcrum pin G, pivotally secured in said extension, the pivotal fulcrum support H, pivoted at I, upon the platform, substantially as described. 5th. In a pump, the combination, with the handle having an adjustable fulcrum, of the treadle connected with said handle, substantially as described. 6th. In a pump, the combination, with the handle secured at one end to the plunger rod, of a sliding extension on said handle carrying the fulcrum, and a treadle connected to said sliding extension, substantially as described. 7th. In a pump, the combination with its handle, of the treadle lever J, and connecting rod N, of a raised foot support P, substantially as described. 8th. In a pump, the combination, with its handle, of the treadle lever J, the raised foot-support P, beside said treadle lever, the rod N, connecting said treadle and handle, and the springs O, substantially as described. 9th. In a pump, the combination, with the handle, of the sliding extension on said handle carrying the fulcrum, of the pivotal fulcrum support, the treadle lever J, connected to said extension by the rod N, the springs O, and the raised foot-support, the parts being arranged to operate, substantially as and for the purpose described.

### No. 35,912. Spiral Flue. (Cheminée en spirale.)

Thomas Taylor Moore, Kansas City, Missouri, U.S.A., 2nd February, 1891; 5 years.

*Claim.* 1st. A spiral flue, composed of a suitable bar equal in width to the diameter of the chimney, twisted and formed into the shape of a spiral and fitting tightly in the chimney, thereby forming with the chimney walls two flues which convey the smoke from the stove or furnace, substantially as described. 2nd. In a spiral flue, consisting of a spiral plate extending from the center of the chimney to the sides thereof, composed of metal or terra cotta or other suitable material inclosed in pipe B, thus increasing the draft and length of the chambers, thereby obviating the necessity of building tall smoke-stacks, substantially as described. 3rd. A chimney having its upper or projecting portion provided with pipes B, and spiral bar C, thus increasing the length and efficiency of the flue, substantially as described.

### No. 35,913. Lantern. (Lanterne.)

Archibald Woods Paull, Wheeling, West Virginia, U.S.A., 2nd February, 1891; 5 years.

*Claim.*—1st. As an improvement in lanterns, a globe pivotally connected with the body or frame of the lantern, a base, and a lever pivoted at or near the base and connected with the lower portion of the globe, and adapted to raise the globe and move it laterally away from the burner, substantially as and for the purposes described. 2nd. In a tubular lantern, the combination, with a lantern-frame comprising air-tubes, of a globe-frame pivotally connected with the lantern-frame and having a globe-supporting plate, and a rod journaled in the lantern-tubes and connected with the lantern-frame and adapted to raise the globe and to swing it laterally away from the burner between the air-tubes, substantially as and for the purposes described. 3rd. In a tubular lantern, the combination, with a lantern-frame comprising air-tubes, of a globe-frame pivotally connected with the lantern-frame and having a globe-supporting plate, and a rod journaled in the lantern-tubes and connected with the lantern-frame, and adapted to raise the globe and to swing it laterally away from the burner between the air-tubes, said rod having at its end an operating handle, substantially as and for the purposes described. 4th. In a tubular lantern, the combination, with a globe supporting plate, of a rod connected with the plate and journaled in the tubes of the lantern, and having at one of its ends an operating-lever constructed to swing over one of the tubes to form a lock therefor, substantially as and for the purposes described. 5th. The combination, with the base and the side, and central tubes forming the usual lantern-frame, of a globe-frame or holder having its upper end at all times secured to said frame, and its lower end hinged to the lantern-frame to swing laterally out of position, whereby the globe may be shifted to expose the burner without freeing it at either end from the fixed parts of the lantern, substantially as and for the purposes described. 6th. In a tubular lantern, the combination, with the central air-tube, of a plate loosely mounted and adapted to slide and rock thereon, and having depending arms provided at the base with a globe-supporting plate, substantially as and for the purposes described. 7th. In a tubular lantern, the combination, of the side tubes, a central tube, a laterally and vertically movable globe-supporting frame, comprising a plate mounted on the

central tube and vertically movable thereon, depending arms, and a globe rest or plate, and a lever pivoted to the lantern-frame and connected with the globe-supporting frame, and adapted to raise the globe and move it away from the burner laterally relatively to the plane of the air-tubes, substantially as and for the purposes described.

### No. 35,914. Nut Lock. (Arrête-écrou.)

Julius Caesar Richardson, Jamestown, New York, U.S.A., 2nd February, 1891; 5 years.

*Claim.*—1st. A nut having in one of its sides a V-shaped slit extending across the threads of the central perforation, the leaves between which said slit is formed being bent or twisted relatively to each other, substantially as shown and described. 2nd. A nut having a slit parallel with its top, and dividing it into two leaves, said leaves being slightly bent, twisted or turned relatively to each other, substantially as shown and described. 3rd. A nut, consisting of two perforated screw threaded leaves separated by a slit extending part way through the nut, having the two leaves connected along one edge, said leaves being slightly bent, twisted or turned relatively to each other after being screw-threaded, substantially as described.

### No. 35,915. Nut Lock. (Arrête-écrou.)

Joseph Morrison, Windsor, Ontario, Canada, 2nd February, 1891; 5 years.

*Claim.*—1st. The combination, with a bolt having a thread near its head, and another one near its opposite end, of a nut having an extension fitting said thread near the head, and another nut fitting the thread on the opposite end, substantially as described. 2nd. The combination, with a bolt having a thread near its head, and another one near its opposite end, said threads being cut in opposite directions, of a nut having an extension fitting said thread near the head, and another nut fitting the thread on the opposite end, substantially as described.

### No. 35,916. Grate for Stoves. (Grille de poêle.)

Charles Lyman Beers, Scranton, Pennsylvania, and Norman Conklin, Arnold, Mount Morris, New York, both of U.S.A., 2nd February, 1891; 5 years.

*Claim.*—1st. The combination, with the frame, of a journal seated movably longitudinally in the frame and provided with a circumferential groove or shoulder, the grate-bar detachably connected to the inner end of said journal, and a plate detachably connected to the frame and provided with a tongue entering the groove of the journal, substantially as set forth. 2nd. As an improvement in stove-grates, the combination of the fire-box A, the grate sections detachably supported therein, the water-front B, formed with depending fingers  $b^2$  extended below the outer edge of the front grate section, and the detachable brick support D, formed with depending fingers  $d^2$ , adapted to extend below the outer edge of the rear grate-sections, substantially as and for the purpose described. 3rd. The combination, with the frame A, provided with the fork  $a^1$ , and guiding lugs  $a^2$ , at one side, top and supporting lug  $a^3$ , on the opposite side, of the grate-supporting frames C, Cx, seated in said forks and sustained by the lugs, substantially as shown and described. 4th. The combination, with the fire-box A, of the supplemental back D, formed with the top flange  $d$ , substantially as and for the purpose set forth. 5th. In combination, with the grate-bars, the supporting frame C, consisting of a main plate formed with lugs C<sup>1</sup>, C<sup>2</sup> notched in their ends, the supplemental plate C<sup>3</sup> seated in the notches of said lugs, the journals E, E, passing through said plates and grooved circumferentially in their ends, the wire-tie secured to said ends of the journals, and the gears f, f, on the journals, between the plates, as set forth. 6th. In combination, with the grate-bars, the supporting frame Cx, consisting of a main plate, provided with bearings I, I, and lug l, the supplemental plate J, formed with top bearings I<sup>1</sup>, I<sup>2</sup>, ribs i, i, and a notch for the reception of the lug l, the locking pin l<sup>1</sup> passing through the lug, and the lip l<sup>2</sup> on the main plate over the supplemental plate, as set forth. 7th. The improved grate-bar, composed of a polygonal shaft, and the sections o, o, formed separate from each other, and each of said sections of triangular shape and mounted removably on the aforesaid shaft, and disposed with its teeth at angles intermediate of those of the adjacent section, substantially as described and shown.

### No. 35,917. Harvester. (Moissonneuse.)

Abraham Calvert Scarr, and Joseph William Snell, both of Harrisburg, Ontario, Canada, 2nd February, 1891; 5 years.

*Claim.*—1st. The combination, with the driving wheel of a harvester, of an approximately V-shaped guard secured in front of the said wheel, substantially as and for the purpose set forth. 2nd. The combination with the driving wheel of a harvester, of the V-shaped guard turned up at its apex a, the said guard being pivotally secured on the bolts C at the rear, and having its apex suitably supported, substantially as set forth.

### No. 35,918. Extension Ladder. (Echelle à rallonge.)

Marshall M. Marsh and James N. Boothe, both of Conceson, Ontario, Canada, 2nd February, 1891; 5 years.

*Claim.*—1st. The tongue and groove joint, formed by the projecting ends of the rounds H, H, fitting into the grooves G, G, and the clamps D, substantially as and for the purposes hereinbefore set forth. 2nd. In an extension ladder, the gate I, with triple prongs, all substantially as and for the purpose hereinbefore set forth.

**No. 35,919. Wringer for Clothes.***(Essoreuse à linge.)*

Colby Wringer Company, Montpelier, Vermont, assignees of Charles Kingsbury Stinson, Boston, Massachusetts, all of U.S.A., 2nd February, 1891; 5 years.

*Claim.*—1st. In a clothes wringer, the combination of stationary outer jaws, squeeze rollers, a suitably supported clothes board, having cams at each end, movable inner jaws held upon a suitable support and provided with journal bearings and slotted extensions, within which slotted extensions the cams operate. 2nd. In a clothes wringer, the combination of stationary outer jaws, upper and lower squeeze rollers, a cam provided clothes board, movable inner jaws provided with journal bearings, and slotted extensions and a tie device supporting the clothes board, and having its opposite ends held by the outer castings.

**No. 35,920. Circuit and Apparatus for Telephones.** *(Circuit et appareil de téléphone.)*

The Bell Telephone Company of Canada, Montreal, Quebec, Canada, assignees of John Joseph Carty, New York, U.S.A., 2nd February, 1891; 15 years.

*Claim.*—1st. The combination, substantially as hereinbefore described, of a multiple station telephone circuit and telephonic apparatus connected in a multiple arc branch of said circuit at each of the stations thereof. 2nd. A multiple station telephone circuit and a signal receiving apparatus at each and all of the stations connected with said circuit, included in a permanently closed derived circuit bridge or cross-ree thereof. 3rd. The combination, substantially as hereinbefore described, of a metallic telephone circuit, extending between a number of telephone stations, a permanently closed bridge or cross conductor at each station, uniting the two main conductors and including the call bell magnets of said station, a normally open bridge or cross conductor also at each station, including the call sending generator, and means for closing the said generator bridge in multiple arc with the permanent bridge connection of said bell magnets. 4th. The combination, substantially as described herein, of a metallic telephone circuit extending between a number of stations, a permanently closed bridge connection thereof at each station, call bell magnets having a high co-efficient of self-induction included therein, a normally open or discontinuous bridge or cross conductor also at each station, including an electrical transmitting instrument, and adapted, when closed, to unite the two wires of said metallic circuit through the said transmitting instrument, and in multiple arc with the permanent bridge, and a circuit closer arranged to close the said normally open cross conductor in the act of communication. 5th. A metallic telephone circuit, extending by both of its main conductors to a number of telephone stations, a permanently closed or continuous bridge or cross-conductor at each station, uniting the said main conductor's call bell magnets at each station included in said cross conductor, a normally open branch circuit at each station, adapted to unite, when closed, the said main conductors in parallel circuit, with the said closed bell magnet bridge, a telephone included therein, and a circuit closing switch therefor, substantially as described. 6th. A metallic telephone circuit, extending by both of its main conductors to a number of stations, in combination with a permanently closed bridge conductor, uniting the said main conductor's call bell magnets, having a high co-efficient of self-induction included in said permanent bridge, a normally open telephone branch circuit, adapted, when closed, also to form a bridge uniting the said two main conductors, whereby the telephones thereat are connected with said circuit in multiple arc with said bell magnets, and a switch for closing the said normally open telephone branch, substantially as and for the purposes specified. 7th. The combination of a metallic telephone circuit, extending by both of its main conductors to a number of stations, with a permanently closed bell magnet branch united at its terminals with the two main conductors respectively, and two normally open or discontinuous bridge conductors or branch circuits adapted also to unite the said two main conductors in multiple arc with the said permanently closed bell magnet bridge, a call sending generator in one, and a telephone in the other of said normally open branch circuits, and independent circuit-closing devices controlling the said normally open branch circuit. 8th. The combination, substantially as hereinbefore set forth, with a metallic telephone circuit extending by both of its main conductors to a number of stations, of a normally open call generator bridge circuit, adapted, when closed, to unite the two main wires through said generator, a circuit closer therefor, an independent discontinuous telephone bridge circuit adapted, when closed, to unite the said two main wires through the telephones, an independent and automatic circuit closer for said telephone bridge, and a permanently closed bridge uniting the said two main wires, and having in its circuit the call bell magnets, the said magnets constituting a high inductive resistance in parallel circuit with the said generator or telephone bridges, when the said bridges are brought into action for the purposes specified. 9th. A telephone station apparatus, comprising a permanently continuous conductor, uniting the main line terminals of said apparatus, an electro-magnetic call instrument, included in the circuit of said permanent conductor, two normally open or discontinuous branch circuits, also extending between the said terminals, and adapted, when closed, to form additional connections between them in parallel circuit with the said permanent conductor, a call generator included in one, and a telephone included in the other of said normally open branch circuits, means, as indicated for closing the generator branch circuit, and other means for independently closing the telephone branch circuit, substantially as described and for the purposes set forth. 10th. The combination in a metallic circuit station apparatus, of a call bell, having its electro-magnets included in circuit, with a permanently closed or continuous conductor uniting the two line terminals of said apparatus, a call generator for sending signals, included in a normally open or discontinuous conductor or branch circuit also extended between the said terminals, a circuit closer adapted to close the said generator branch in parallel circuit with the permanently closed bell magnet conductor, transmitting and receiving telephones included in an independent normally open or discontinuous con-

ductor or branch circuit also extending between said terminals, and an automatic switch actuated by the removal of the receiving telephone to close the said telephone branch circuit, as a shunt or in parallel with the permanently closed bell magnet branch, substantially as described. 11th. In a metallic circuit station apparatus, the combination of a permanently closed or continuous conductor, uniting the two line terminals of said apparatus, a call bell provided with electro-magnets, having a high co-efficient of self-induction included in said continuous conductor, and adapted thereby to be connected in circuit between the two main wires of a metallic circuit, and to form a bridge therefor, with two normally open or discontinuous branch circuits, included respectively, a call generator and telephones, each being independently provided with a circuit closer, whereby it may be connected with the main line in multiple arc with the bell magnets, substantially as described. 12th. The combination in a telephone station apparatus for metallic multiple station circuits, of terminals adapted respectively to connect with the two conductors of the main metallic circuit, and three branch circuits extending through the apparatus, from one of the said terminals to the other, two of the said branch circuits being normally open and one permanently closed, with a magnet-generator and a circuit closer in one of the said open branch circuits, a telephone and an independent and automatic circuit closer in the other open branch circuit and call-bell, electro-magnets in the permanently closed branch circuit constituting therewith, an electro-magnetic shunt for both generator and telephone branches, when the said branches are closed, substantially as described. 13th. The combination of a metallic multiple station telephone circuit, with an apparatus at each station, of the said circuit containing a normally open branch circuit extending from terminal to terminal of the said apparatus, and telephones included therein and forming part thereof, means actuated by the removal of the telephone from its support for automatically closing the same, and for thereupon forming a closed bridge, including the telephones between the two main line wires, an independent and alternative normally discontinuous branch circuit, a magneto-electric call generator included therein and forming part thereof, and an independent circuit closer for connecting the said generator between the said two main line wires, and a permanently continuous branch circuit, having a high co-efficient of self-induction and forming normally the sole conductive path between the said terminals, and constituting a permanent electro-magnetic shunt for the said generator, and telephone branch circuits respectively, when the said branch circuits are closed, substantially as herein described. 14th. The combination of a metallic multiple station telephone circuit, and at each station an apparatus, including the following instrumentalities, a normally open branch circuit, extending between the said two wires of said metallic circuit, including telephones, and adapted, when closed, to form a bridge through said telephones between said wires, an independent and alternative normally open branch circuit, also extended between the said two main wires, including signal sending devices, and adapted, when closed, to form a bridge uniting said main wires through said signal sending devices, and a closed branch circuit having a high co-efficient of self-induction permanently uniting said main wires and forming normally the sole conductive path at said station between said main wires, and thereby constituting a permanent electro-magnetic shunt for the said telephones, and call-sending appliances, when their branch circuits respectively are closed for operation. 15th. A multiple station telephone circuit, a call bell magnet of relatively high resistance, as specified, at each station, included in a branch circuit, uniting the two sides of said telephone circuit, and a generator of electricity for sending calls at each of said stations, adapted, when operated, to be connected between the two sides of said telephone circuit in multiple arc with the call bell magnet, substantially as described. 16th. A telephone circuit, extending between and connecting a number of stations, a ringer magnet of relatively high resistance, as specified, at each station, included in a branch circuit uniting the two sides of said telephone circuit, a generator of electricity at each station for sending out going calls, adapted, when operated, to be connected in an independent branch circuit, between the two sides of said telephone circuit, in multiple arc with its associated ringer magnet, and a telephone at each station, also adapted, when in operation, to be connected between the two sides of said telephone circuit, substantially as described.

**No. 35,921. Snow Plow.** *(Chasse neige.)*

Elizear Labege, Montmagny, Quebec, Canada, 2nd February, 1891; 5 years.

*Résumé.*—1o. La combinaison dans un chasse neige ou charrieur à neige avec la portion antérieure B, tranchets B, portant les couteaux C et D, des oreilles E montées sur un appareil de traction convenable du boulon d'accouplement P, du charriot A monté sur roues, ayant une projection F, en forme de T, de la charrieur H, la semelle G, la rainure A, la crémaillère L, la roue dentée J, la manivelle J, les oreilles mobiles K, les oeillets L, le bouton M ayant des oeillets m et des douilles n, la tige filetée P la roue à main Q, les supports N et Q, les tiges à coulisseau R, et les tenons r, tels que décrits. 2o. Dans un chasse-neige, la combinaison avec le train B monté sur roues, des couteaux C, c, des tranchets verticaux D, d, et des oreilles E, tels que décrits. 3. Dans un chasse neige, la combinaison avec la charpente ou charriot A, dont la surface supérieure forme un plan incliné de la projection F, en forme de T, la charrieur H la semelle G, ayant la rainure A, les oreilles mobiles K, assujéties à la charrieur H, tels que décrits. 4. Dans une charrieur à neige, la combinaison avec la charrieur H, des oreilles K, oeillets L, boulons M, oeillets m, douilles n, tige filetée à droite et à gauche P, roue a, main Q, tels que décrits.

**No. 35,922. Snow Plow and Ice Chopper.***(Machine à enlever la neige et piocher la glace.)*

Ferdinand B. La Valée, Montreal, Quebec, Canada, 2nd February, 1891; 5 years.

*Résumé.*—1o. Dans un rabôt-à-glace un cylindre raboteur J, J',

pourvu de lames disposées radialement et fonctionnant dans des rainures Y, Y<sup>1</sup>, Y<sup>2</sup>, Y<sup>3</sup>, au moyen de rainures excentriques C, C<sup>1</sup>, C<sup>2</sup>, C<sup>3</sup>, de part et d'autre des lames, tel que montré, et pour les fins indiquées. 20. Dans un traineau la combinaison d'un train de roues dentées coniques C, C<sup>1</sup>, et droites D, D<sup>1</sup>, conduisant au moyen de chaînes sans fin de gail H, H<sup>1</sup>, le cylindre raboteur J, J<sup>1</sup>, disposé obliquement par rapport à la direction du rabot-à-glace, tel que montré et pour les fins indiquées. 30. Dans un rabot-à-glace un cylindre raboteur J, J<sup>1</sup>, disposé obliquement et reposant sur un traineau P, P<sup>1</sup>, tel que décrit et pour les fins indiquées. 40. Dans un rabot-à-glace, une voiture à quatre roues porteuses A, A<sup>1</sup>, A<sup>2</sup>, A<sup>3</sup>, pourvues de bandes destinées à accroître l'adhérence et entraînant des roues dentées B, B<sup>1</sup>, B<sup>2</sup>, et une chaîne de gail U pour les fins indiquées. 50. Dans un rabot-à-glace un des essieux L<sup>1</sup>, muni d'une roue dentée B<sup>1</sup>, une roue folle dentée et conique C, faisant corps avec une roue dentée droite Y, destinée à recevoir une chaîne de gail U, pour la marche au moyen d'un moteur placé sur la voiture au cas où l'adhérence pure et simple serait reconnue insuffisante, cette roue folle étant conduite par un manchon d'embrayage G, tel que décrit et pour les fins indiquées. 60. Dans un rabot-à-glace, la combinaison d'un essieu L<sup>1</sup>, avec le bâti du cylindre raboteur, et l'essieu intermédiaire M, tel que décrit et pour les fins indiquées. 70. Dans une roue à-glace, une ou plusieurs trémières S, distribuant la sciure de bois sur le sentier raboté, tel que décrit et pour les fins indiquées. 80. Dans un rabot-à-glace un double contre K, K, assujéti à un baré articulé sur l'essieu L<sup>1</sup>, tel que décrit et pour les fins indiquées. 90. Dans un rabot-à-glace, une charrue X, X<sup>1</sup>, X<sup>2</sup>, destiné à débayer le sentier en arrière du cylindre raboteur tel que décrit et pour les fins indiquées.

### No. 35,923. Snow-plow. (*Chasse-neige.*)

Ferdinand B. La Vallée, Montreal, Quebec, Canada, 2nd February, 1891; 5 years.

*Résumé.*—10. Dans un traineau-drague-neige, un tablier T articulé en I, garni de dents V, V<sup>1</sup>, V<sup>2</sup>, et reposant sur le sol au moyen de deux potius R, R<sup>1</sup>, tel que décrit et pour les fins indiquées. 20. Dans un traineau-drague-neige, la combinaison du tablier T de la caisse à neige H et du traineau A, A<sup>1</sup>, tel que décrit et pour les fins indiquées. 30. Dans un traineau-drague-neige, la combinaison de la caisse H, du bâti B, de la console A avec son levier N, du pivot P et de son galet, tel que décrit et pour les fins indiquées. 40. Dans un traineau-drague-neige, la combinaison de la caisse-à-neige H, du pivot à galet P et des crics C, C<sup>1</sup>, tel que décrit et pour les fins indiquées. 50. Dans un traineau-drague-neige, le mode de transmission de l'effort moteur sur les crics de droite C, C<sup>1</sup>, à ceux de gauche au moyen d'une transmission par chaîne de gail par arbre et pignon G, tel que décrit et pour les fins indiquées. 60. Dans un traineau-drague-neige, le mode de levage au moyen de verins à vis (2) soulevant directement le pivot à galet P, P<sup>1</sup>, tel que décrit et pour les fins indiquées.

### No. 35,924. Galvanic Battery.

(*Batterie galvanique.*)

William Burnley and Charles Addison Hitchcock, both of North East, and Samuel Arzo Davenport, Erie, all of Pennsylvania, U.S.A., 2nd February, 1891; 5 years.

*Claim.*—1st. The combination in a galvanic battery, of a positive electrode and a negative electrode, with a semi-solid or plastic exciting agent arranged in two layers and filling the space between the positive and negative electrodes, the layer thereof next to and contacting with the negative electrode containing depolarizing agents intermixed therewith, and the layer next to and contacting with the positive electrode not having any depolarizing agent intermixed therewith, substantially as set forth. 2nd. The combination, in a galvanic battery, of a zinc electrode, and a carbon electrode with a semi-solid exciting agent arranged in two layers, and filling the space between the zinc and carbon electrodes, the layer next to and contacting with the carbon electrode being provided with depolarizing agents, and the layer next to and contacting with the zinc electrode being without such depolarizing agents, substantially as set forth.

### No. 35,925. Saw. (*Scie.*)

Dexter Hazard and Frederick O. Clark, both of Marquette, Michigan, U.S.A., 2nd February, 1891; 5 years.

*Claim.*—1st. A saw provided with teeth A, each having its back and face formed on arcs of circles uniting at the point of the teeth, substantially as described. 2nd. A saw provided with teeth A, each having its back and face constructed on the arcs of circles uniting at the point, the face circle continued to constitute the throat, and joining tangentially the curved back of the adjacent tooth, substantially as described. 3rd. A saw having teeth formed integral with the body of the saw, each tooth having its back and face formed on the arcs of circles uniting at the point of the tooth, the circle at the front of the tooth continued to constitute the throat, and joined tangentially with the back of the adjacent tooth, substantially as described.

### No. 35,926. Pump. (*Pompe.*)

Edward Franklin Smith, Corry, Pennsylvania, U.S.A., 2nd February, 1891; 5 years.

*Claim.*—1st. The combination in a rotary pump, of a shell having inlet and outlet openings, and a cylinder mounted in bearings eccentric to the inside of the said shell, having longitudinal grooves therein, with curved buckets mounted upon arms secured to the front sides of the buckets, and pivoted to the cylinder ahead of the buckets, so that the buckets swing thereon inward and outward in

the grooves in the cylinder, substantially as set forth. 2nd. The combination in a swinging bucket adapted to be pivoted to the rotary head or cylinder, of a rotary pump, of a longitudinal bucket adapted to operate in a longitudinal groove or recess in such rotating head or cylinder, with arms secured to the front side of said bucket, and pivoted at their front ends to the cylinder, of such length that when the bucket is opened to its farthest extent, a line drawn from the periphery of the cylinder adjacent to the axis of the arms, to the point of contact of the outside of the bucket, with the inside of the shell of the pump will be substantially at right angles with a radial line drawn from the center of the rotating head or cylinder through the centers of the axis of said arms, substantially as and for the purpose set forth. 3rd. The combination in a rotary pump, of a shell A, having an inlet or suction opening B, and an outlet or discharge opening C, substantially close together as shown, a rotating head or cylinder I, mounted eccentrically in said shell, having longitudinal grooves J, J, and recesses K, K, therein, and bucket stops m, m, located in said recesses K, K, with buckets E, E, mounted on arms L, secured to the front sides thereof, and pivoted to the rotating head or cylinder I, on stud pins or bearings N, in front of the buckets E, E, so that the buckets E, E, swing radially inward and outward in the grooves J, J, and recesses K, K, in the rotating head or cylinder I, substantially as and for the purpose set forth. 4th. The combination in a rotary pump, of a cylinder mounted eccentrically in a pump shell, and buckets having arms pivoted to said cylinder so that said buckets will move inwardly and outwardly, with adjustable cams projecting inwardly from the shell faces of the pump so as to engage with said swinging buckets and force them outward at some point during their traverse around the inside of the pump shell, substantially as set forth. 5th. The combination in a rotary pump, of a cylinder mounted eccentrically in a pump shell, longitudinal slots in the shell of said cylinder, in which the pump buckets operate, with curved buckets having arms thereon extending to and pivoted to said cylinder, and studs in said buckets adapted to engage with the inner surface of the cylinder shell, so as to limit the outward movement of said buckets, substantially as and for the purpose set forth.

### No. 35,927. Chute. (*Auget.*)

James Musgrave and Joseph Percival Clarke, both of Buenos Ayres, Argentine Republic, South America, 2nd February, 1891; 5 years.

*Claim.*—The combination, with cables 10, of chute sections 20, provided with transverse strips 22, and with hooked irons 21, said irons being arranged to engage the cables, substantially as described.

### No. 35,928. Gate (*Barrière.*)

Thomas Edward Coffin, Richmond, Virginia, U.S.A., 2nd February, 1891; 5 years.

*Claim.*—1st. In a gate, the combination of a brace or strut B, pivoted at or near the lower inner corner of the gate, and extending diagonally upward toward its outer upper corner, an adjusting wire or cable C, fastened to the upper inner corner of the gate, and extending over and connected to the free end of the brace, and passing downward and connected to the lower outer part of the gate, and means for adjusting the length of the wire, substantially as described. 2nd. The combination of the gate A, the brace or strut B, the tension wire C, and the adjusting device D, the brace being pivoted to the lower inner corner of the gate, and the wire being fastened at opposite ends to the upper inner corner, and lower outer part of the gate, and passing over and connected to the free upper end of the brace, substantially as described. 3rd. The combination of the gate A, the brace or strut B, composed of two strips, one on either side of the gate, pivoted at the lower ends to the lower inner corner of the gate, and at their upper ends, connected together by a bolt or pin, the double-strand tension-wire C, fastened at one end to the upper inner corner of the gate, and at its opposite end to or near the lower outer corner, and connected also to the free upper end of the brace B, and a tourniquet D, for altering the length of the wire, substantially as described.

### No. 35,929. Combined Air Injector and Exhauster. (*Injecteur et aspirateur combinés.*)

Salzer Reed Earle, Belleville, Ontario, Canada, 2nd February, 1891; 5 years.

*Claim.*—The combination, with a steam generator and furnace, of the tapering tube C, having a flaring mouth at the smaller end, and a swell or enlargement E, at the larger end, a divided or Y-shaped tubular connection G, closing said enlargement peripherally, a suction pipe N, connected to the converging end of said connection G, and a steam pipe P, entering the tube C, between the branches of the connection G, said steam pipe having a series of branches R, each provided with a nozzle S, as set forth.

### No. 35,930. Cuspidor. (*Crachoir.*)

Charles C. Chamberlain, Muskegon, Michigan, U.S.A., 2nd February, 1891; 5 years.

*Claim.*—The circular cuspidor-blank A, having the circular interior base portion a, and the inclined equidistant V-shaped spaces a<sup>2</sup>, extending from the circumference to said base portion, and composed of the adjacent inclined scores a<sup>1</sup>, a<sup>2</sup>, substantially as specified.

**No. 35,931. Store Service Apparatus.***(Appareil de service de magasin.)*

Edward Aloysius Rorke, Brooklyn, New York, U. S. A., 2nd February, 1891; 5 years.

*Claim.*—1st. A store-service railway apparatus, comprising a main track, branch tracks, and switches, with depending arms of different graduated lengths, and a series of carriers with switching-arms of different lengths projecting in advance of the carrier, and arranged in different horizontal planes relatively to the depending switch-arms of different graduated lengths, substantially as shown and described. 2nd. In a store-service railway, a main track 1, and branch tracks 2, 3, consisting of double rails 3', and having the switches 2', and 3', with their hinged ends resting on shelves 4, with shelves 5, and 7, on the main track rails 3', for the support of the swinging end of the switches, and graduated arms 14, and 15, of different lengths depending from the switches, the arm 14, having recesses 14', and 15', and the arm 15, having recesses 14', 15', and 16, substantially as shown and described. 3rd. In a store-service railway, a carrier 8, having flanged wheels 9, a depending arm 11, and arms 12, and 13, with ends 12', and 13', curved in opposite directions from the line of travel, of the carrier of different lengths, and arranged in different horizontal planes, substantially as shown and described. 4th. In a store-service railway, a carrier having flanged wheels to rest on a double-railed track, and a horizontal switching arm suspended from the carrier to be located below the track, projecting forward from the carrier, and curved in a horizontal plane, substantially as shown and described. 5th. In a store-service railway, a carrier having a bracket-arm depending below the track, and switching arms of different graduated lengths arranged in different horizontal planes, and projecting forward of the carrier, substantially as shown and described. 6th. In a store-service railway, a main track, and branch tracks with switches having depending switch-arms of different graduated lengths, and recessed to be operated by switching-arms on the carriers, substantially as shown and described.

**No. 35,932. Holder and Guide for Reins.***(Accroche-guides.)*

Patrick C. Welsh, Olean, New York, U. S. A., 2nd February, 1891; 5 years.

*Claim.*—As a new article of manufacture, the rein-guide, consisting of the two eyes A, A, the yoke B, and the pins C, C, which hold the eyes and yoke together, as set forth.

**No. 35,933. Combined Milk Aerator and Cooler.** *(Garde-lait aérateur.)*

Robert Wherry, Iroquois, Ontario, Canada, 2nd February, 1891; 5 years.

*Claim.*—1st. A milk aerator and cooler, composed of an upper perforated receptacle and inclined flanged chutes terminating in a central perforated junction. 2nd. The combination of perforated receptacle E, and chutes A, A and B, B, having side guards A', A', B', B', end pieces B<sup>2</sup>, B<sup>2</sup>, and perforations G, as and for the purpose set forth.

**No. 35,934. Furnace for Smelting.***(Fourneau pour fondre les métaux.)*

William Wallace Keys, Bridgeport, Connecticut, U. S. A., 2nd February, 1891; 5 years.

*Claim.*—1st. In a smelting furnace, a floor whereon the metal is piled, said floor being inclined toward the pot of the furnace, substantially as set forth. 2nd. In a smelting furnace, having an inclined floor whereon the metal to be melted is piled, burners whereon oil is burned to generate the heat for melting the metal, and dampers, whereby the products of combustion are deflected against the metal, substantially as set forth. 3rd. A smelting furnace, comprising the following features and instrumentalities, a pot wherein the molten metal accumulates, a floor raised above said pot and inclined toward the latter, and on which the metal is piled, doors in the walls of the furnace at the ends of said floor, openings in the front wall of the furnace wherein the oil burners are located, means for supplying oil to said burners, and dampers for regulating a supply of atmospheric oxygen immediately beneath the burners, substantially as set forth. 4th. The inclined floor, having along its top a raised ledge, as shown and set forth. 5th. In a furnace, as described, having oil burners and drip pans located within the front wall, a pocket or space in the immediate rear of said wall, whereby any accidental melting of the burners or pans or accumulation of carbon is prevented from defiling the molten metal, substantially as shown and set forth. 6th. In a furnace for smelting metals by the heat developed from the burning of hydro-carbon oils within burners, the combination with the hearth on which the metal to be melted is piled, of the burners supported within the front wall of the furnace, dampers within said wall for regulating the supply of atmospheric oxygen immediately beneath the burners, and the pocket in the immediate rear of said wall, substantially as set forth. 7th. In a furnace for smelting metals by exposure to the hot products of combustion developed by burning hydro-carbon oils, the combination of the front wall having therein dampers for regulating a supply of oxygen, oil burners located within said wall immediately behind said dampers, an inclined hearth on which the metal to be melted is piled, a pot toward which said hearth leads, and pipes by which oil is constantly supplied to the burners, as set forth.

**No. 35,935. Combined Paper Cutter, Pencil Sharpener and Eraser.** *(Tranche-papier taille-crayon et grattoir combinés.)*

Thomas Haggard Bell, Brampton, Ontario, Canada, 2nd February, 1891; 5 years.

*Claim.*—1st. A knife-blade A, suspended between the two jaws B, substantially as and for the purpose specified. 2nd. A knife-blade A, suspended between the two jaws B, the points *a* and *b* of the said knife projecting below the said jaws, substantially as and for the purpose specified. 3rd. A knife-blade A, suspended between the two jaws B, and having a shank extending above the said jaws and formed to receive and hold the erasing rubber D, substantially as and for the purpose specified. 4th. A knife-blade A, suspended between the two jaws B, the points *a* and *b* of the said knife projecting below the said jaws, a casing C, extending at right angles to the jaws B, and formed to receive the erasing knife E, the shank of the knife-blade A, being formed to receive and hold the erasing rubber D, substantially as and for the purpose specified.

**No. 35,936. Axle Box.** *(Boîte à graisse.)*

John Donnelly, Bermondsey, England, 3rd February, 1891; 15 years.

*Claim.*—1st. The herein described method of manufacturing the shells of axle boxes, which consists in first subjecting a flat plate of the proper form to successive stamping operations between successive pairs of dies, whereby the horn plate grooves are formed between pairs of corrugations, and the middle of the plate is embossed, as described, and then bending the plate on longitudinal and transverse lines, as described, so as to bring it to a box-like shape, and, finally, welding the edges so brought together, as specified. 2nd. In the herein described method of manufacturing the shells of axle boxes, the sequence of operations described, which consists in embossing or stamping the plates as described, bending the same to box form, welding the juxtaposed edges, and finally punching and flanging the axle journal aperture in the back of the box, as specified. 3rd. The herein described method of manufacturing the grease boxes or liners for axle box shells, consisting in first subjecting a flat plate to stamping operations in dies, whereby it is embossed and corrugated, as described, and then bending the plate on longitudinal and transverse lines, as described. 4th. In the manufacture of axle boxes, the combination of a shell and liner, each constructed as described, the liner fitting within, and being welded to the shell to form a grease box, substantially as specified. 5th. The combination of a central clamping die and former block, and of hinged lateral dies and their hydraulic rams for folding the embossed, corrugated and partially bent plate about the former block, substantially as described and illustrated in figure 14 of the drawings.

**No. 35,937. Amalgamator.***(Moulin à amalgamer.)*

Henry Cook, Philadelphia, Pennsylvania, U. S. A., 3rd February 1891; 5 years.

*Claim.*—1st. The combination of the amalgamating cylinder, mechanism for rotating the same, and a cylinder lining of material having an affinity for mercury, said amalgamating lining being restricted to a limited portion of the cylinder at and near the receiving end, whereby the remaining portion of the cylinder is non-amalgamating, and provides an extended surface on which the mercury and amalgam-coated particles from the receiving end of the cylinder are agitated and rolled into balls with the particles collected from the gangue in its passage through the non-amalgamating portion of the cylinder, and before being discharged with the gangue from the cylinder, substantially as specified. 2nd. The combination in an amalgamator, of the horizontal cylinder, mechanism for revolving the same, spiral retarding blades therein, a lining in said cylinder at the receiving end only, of a material having an affinity for mercury, the balance of the cylinder and the retarding blades being of material not having affinity for mercury, whereby the amalgam formed at the receiving end of the cylinder will be rolled into balls and agitated as it passes through the cylinder, with the gangue collecting the precious metals therefrom, and finally passing out of the cylinder with the gangue, substantially as set forth. 3rd. The combination of a mercury well for separating mercury and amalgamated particles of metal from gangue, with an amalgamating cylinder mechanism for rotating the same, spiral retarding blades therein, and a cylinder lining of material having an affinity for mercury, said amalgamating lining being restricted to a limited portion of the cylinder at and near the receiving end, whereby the remaining portion of the cylinder is non-amalgamating, and provides an extended surface on which the mercury and amalgam-coated particles from the receiving end of the cylinder are agitated and rolled into balls, with the particles collected from the gangue in its passage through this non-amalgamating portion of the cylinder, and before being discharged with the gangue from the cylinder and into the mercury well, substantially as specified. 4th. The combination of an amalgamating table inclined, amalgamating plates *m*, *m'* at the end thereof, and a well below said plates to receive the amalgam, said plate *m* being removable for examination and to expose the plate *m'* behind it, substantially as specified.

**No. 35,938. Valve for Air Brakes.***(Soupape de frein atmosphérique.)*

Charles Edward Leeman, and Albert Webster, both of Salida, Colorado, U. S. A., 3rd February, 1891; 5 years.

*Claim.*—1st. In an air brake, an engineers' valve connected with the main reservoir and with the exhaust opening of the triple valve, and constructed to establish a communication between the main reservoir and the auxiliary reservoir through the triple valve, to permit the auxiliary reservoir to be re-charged while the brakes are applied, substantially as described. 2nd. In an air brake, the combination, with the main air reservoir, the auxiliary reservoir, the triple valve, the train pipes and connections between the train pipes and the inlet and exhaust ports of the triple valve, of an engineers' valve comprising a valve body connected with the train pipes and main air reservoir, and a plug fitting in the valve body and provided with a transverse opening, and an opening leading from one side



through the lower end of the same, substantially as and for the purpose set forth. 3rd. In an engineers' valve, the valve body A', provided with opposite pipes F, G, adapted to be connected with the main air reservoir and the train pipes respectively, the pipe G being provided with the extension G<sup>2</sup>, said valve body being also provided with the pipe H, between the pipes F, G, adapted to be connected with the exhaust opening of the triple valve, and the plug B, fitting in the valve body, and provided with the transverse opening I, and with the opening J, leading from one side through the lower end of the same, and having one angular side, substantially as shown and described.

### No. 35,939. Ball of Cord, Twine, etc.

(*Pelote de ficelle, etc.*)

Andrew Calvin Miller, Auburn, New York, U.S.A., 3rd February 1891; 5 years.

*Claim.*—1st. A ball, roll, or spool of cord, the courses or layers of which are tapering or inclined substantially throughout the outer layers thereof diminishing in length, substantially as and for the purpose described. 2nd. A ball or roll of cord, made substantially cylindrical in form, and composed of layers tapering or inclined toward one end of the ball or roll, whereby the outer layers are made to support the inner layers and prevent collapse of the ball and entanglement of the cord, substantially as described. 3rd. A ball or roll of cord, the layers or courses of which taper or are inclined toward one end of the ball or roll, and are made shorter toward said end on the outer surface of the ball or roll, substantially as described. 4th. A ball of cord, or its equivalent, made substantially in the form of a hollow cylinder, and composed of tapering or inclined layers or courses, elongating from the centre or starting point outward and shortening again at the periphery, substantially as and for the purpose described.

### No. 35,940. Protector for Balls of Cord, Twine, etc. (*Dévidoir pour pelotes de ficelle, cordonnet, etc.*)

Andrew Calvin Miller, Auburn, New York, U.S.A., 3rd February; 1891; 5 years.

*Claim.*—1st. The combination, with the ball or roll of cord, of an enclosing wrapper pasted to the outer surface of said ball or roll, substantially as and for the purpose described. 2nd. The combination, with a ball or roll of cord, of the wrapper pasted to the outer surface thereof, and the retaining bands applied outside of said wrapper, substantially as described. 3rd. The ball or roll of cord made in cylindrical form, in combination with the covering wrapper secured thereto, substantially as and for the purpose set forth. 4th. The combination of the ball or roll of cord, the covering wrapper therefor, and the layer of paste interposed between the ball or roll and the wrapper, substantially as and for the purpose specified.

### No. 35,941. Seal Trap for Catch Basins.

(*Trappe pour bassins d'égouts.*)

Thomas Tomlinson, Toronto, Ontario, Canada, 3rd February, 1891; 5 years.

*Claim.*—1st. A seal trap, consisting of a box-shaped frame, having one of its sides B provided with an outward y-projecting flange a', in combination with hood D, fitted with a hooked support d, hinged on the pin b', and connected to the outer face of the side B, and the reflux valve F hinged to the inner face of the said side B, and lying in an oblique position on the valve seat e, substantially as and for the purpose set forth. 2nd. A seal trap, consisting of a rectangular box-shaped frame A, having one of its sides B provided with an outwardly-extending flange a', in which is formed an opening E, and annular flange e surrounding the inner side of the said opening and gradually increasing in width from top to bottom, the bottom of the said flange being sufficiently wider than the top to cause the valve F to always lie in an oblique position, in combination with the hood D, fitted with the hooked support d, hinged on the pin b' connected to the outer face of the side B, and the valve F, pivotally connected to the inner face of the side B, and forming a perfect contact with the seat e, substantially as and for the purpose set forth.

### No. 35,942. Sprinkler for Lawns.

(*Arrosoir pour pelouse.*)

Dennis Almon Hoyt, St. Cloud, Minnesota, U. S. A., 3rd February, 1891; 5 years.

*Claim.*—1st. In a lawn sprinkler, the combination of the stand, the rotating carriage, the spraying apparatus and hose, whose nozzle is supported by said carriage, a water wheel geared to said carriage, and a pipe or tube arranged to conduct a stream of water to drive said wheel, substantially as described. 2nd. In a lawn sprinkler, the combination of the stand, the rotating carriage, a hose whose nozzle is supported by said carriage, a water wheel geared to said carriage, a suitable supply pipe for said water wheel, and a rotary spray apparatus with vanes or paddles capable of motion in the line of the stream from the hose, substantially as described. 3rd. In a lawn sprinkler, the combination of the hose stand, the hose, and a rotating spray apparatus which consists of a number of vanes or paddles capable of motion in the line of the stream from the hose, substantially as described. 4th. In a lawn sprinkler, the combination of the stand, the hose, the rotating carriage, and the guide support for the hose, having a number of holes through which the nozzle of the hose may be inserted so as to vary the direction of the steam issuing therefrom, substantially as described. 5th. In a lawn sprinkler, the combination of the stand, the spraying apparatus, the revolving carriage, the hose having its nozzle adjustably secured to a support mounted on said carriage, and a loose bearing for the hose

at the point of attachment of the same to the stand, whereby the revolutions of the carriage will not twist the hose, substantially as described. 6th. A lawn sprinkler, comprising a tripod frame having bent rods divergent therefrom, a ring secured to said rods and having rollers mounted thereon, a cogged ring or carriage resting upon said rollers, a pinion meshing with said cogged ring, and a water wheel upon the shaft of said pinion, together with a tubular boxing secured in the top plate of the tripod frame, a flexible nozzle coupled to the upper end of said boxing, a hose to the lower end, and a tube inserted in its side, substantially as described. 7th. In a lawn sprinkler, the combination of its frame, a rotary nozzle, and nozzle carrier, and a sprayer consisting of a series of wires united together and located in front of the end of the nozzle and its carrier, substantially as described. 8th. In a lawn sprinkler, the combination of its frame, a rotary nozzle, and nozzle carrier, and a sprayer mounted upon the nozzle carrier and consisting of a series of wires united together and mounted upon a rotatable shaft, and located in front of the end of the nozzle, substantially as described. 9th. In a lawn sprinkler, the combination of the stand, the hose, the revolving carriage, the spraying apparatus, and the removable segmental shield adapted to direct the water downwardly therefrom, substantially as described.

### No. 35,943. Holder for Twine.

(*Porte-cordonnet.*)

August Eugene Vileyn, Detroit, Michigan, U. S. A., 3rd February, 1891; 5 years.

*Claim.*—1st. In a twine-ball holder, the combination, with a receptacle of a bobbin arranged to rotate therein, and composed of a spindle adapted to engage in the eye of the ball, and of a supporting base, substantially as described. 2nd. In a twine-ball holder, a bobbin composed of the following elements, a tapering spindle adapted to engage in the eye of the ball, an enlarged base adapted to support the ball and having its under side slightly convex, and provided with a central boss or bearing upon which the bobbin may rotate, substantially as described. 3rd. In a twine-ball holder, a receptacle having a central aperture therein, and a bobbin arranged to rotate therein, having a tapering spindle adapted to engage in the eye of the ball, an enlarged base adapted to support the ball, and having its under side convex, and provided with a central bearing on which it may rotate, substantially as described.

### No. 35,944. Manufacture of Sheet Metal Signs. (*Fabrication des enseignes de metal en feuille.*)

Richard Alfred Busch, Dresden, Saxony, German Empire, 3rd February, 1891; 5 years.

*Claim.*—A method of producing embossed relief letters, designs, or representations of objects on sheet metal consisting in forming and attaching the different parts of the design to a ground-plate, then executing from the whole a sand or other mold and therefrom producing a casting in a hard metal and thus obtaining a hard and solid punch which is to be used in combination with a matrix made from paste-board or linoleum, for the purpose as described.

### No. 35,945. Link-lifter for Car Coupling.

(*Bras pour atelages de char.*)

Francis Horace Fisher, Lynn, Massachusetts, U. S. A., 4th February, 1891; 5 years.

*Claim.*—1st. The coupling jaw-levers e, f, combined with the railroad-car and intermediate connections, substantially as described. 2nd. In a car-coupler manipulator, the coupling-jaw levers e, f, pivotally combined with a freely-movable supporting mechanism, whereby the levers are permitted movement from the coupling position over the draw-bar to the carrying position against the end face of the car, as set forth.

### No. 35,946. Method of Converting Iron into Steel. (*Mode de conversion du fer en acier.*)

Francis Gordon Bates, Philadelphia, Pennsylvania, U. S. A., 4th February, 1891; 5 years.

*Claim.*—1st. The within described compound for converting iron or low steel into steel of high quality, by the cementation process, said compound consisting of eighty to one hundred parts of carbon, and five to ten parts of cryolite, substantially in the proportions specified. 2nd. The within described compound for converting iron or low steel into steel of high quality, by the cementation process, said compound consisting of powdered carbon cryolite and lime, substantially in the proportions specified. 3rd. The herein described compound for converting iron or low steel into steel of high quality by the cementation process, said compound consisting of powdered carbon cryolite, lime, and rosin or soda, substantially in the proportions specified.

### No. 35,947. Reclining Chair.

(*Fauteuil à bascule.*)

George W. Spurr, New Britain, Connecticut, U.S.A., 4th February, 1891; 5 years.

*Claim.*—1st. The combination in a reclining chair, of a suitable supporting-frame, a seat-frame pivoted thereon and having a back rigidly connected thereto, the pivoted seat D, and back-rest E, and means connecting the seat D, to the supporting-frame, whereby the position of seat D, and back-rest E, are varied in relation to the

frame B, and back C, upon tilting the body of the chair on the supporting-frame, substantially as set forth. 2nd. The combination of a suitable supporting-frame, a seat-frame and back pivoted thereon, the seat D, the back-rest E, hinged to said seat and back, and the straps 4, connected by one end to said seat and by the other end to the supporting-frame, and passing over the front corners of said seat-frame, substantially as described, and for the purpose specified. 3rd. The combination of a suitable supporting-frame, a seat frame pivoted thereon and provided with the rigid back C, and the friction rollers 5, the seat D, the back-rest E, hinged to said seat and back, the straps 4, secured to said seat and passing over said friction-rollers, and devices for adjustably scouring the opposite end of said straps to said supporting-frame, substantially as described, and for the purpose specified. 4th. The combination in a reclining chair, of a suitable supporting-frame, a seat-frame pivoted thereon and having a back rigidly connected thereto, the movable seat D, and back-rest E, and means connecting the seat D, to the supporting-frame, whereby the position of seat D, and back-rest E, are varied in relation to the frame B, and back C, upon tilting the body of the chair on the supporting-frame, and means for locking the chair-body in any position, substantially as set forth.

### No. 35,948. Pole for Vehicles.

(*Timon de voiture.*)

Henry Harrison Lockwood, Olean, New York, U.S.A., 4th February, 1891; 5 years.

*Claim.*—The pole C, consisting of the three strips made in one piece, in combination with the circle-bar, B, and back-bar A, the top strip being above the bottom strip, being below the circle-bar, and against the back bar and the middle strip mortised into both bars, as set forth.

### No. 35,949. Beater for Eggs. (*Verge de cuisine.*)

David Erskine Gellatly, Sudbury, Ontario, Canada, 4th February, 1891; 5 years.

*Claim.*—1st. The combination cylinder A, and the screw conical bottom B, substantially as and for the purposes hereinbefore set forth. 2nd. The combination of the conical bottom B, with the perforated conical dasher C, and with the connection E, E, on shaft D, substantially as and for the purposes hereinbefore set forth.

### No. 35,950. Ink Stand. (*Encrier.*)

George James Fraser, Hamilton, Ontario, Canada, 4th February, 1891; 5 years.

*Claim.*—1st. In an inkstand, a base provided with a recess, a central pivot pin, and a revolvable ink receiver containing ink cells pivoted to the base, and having an ink indicator attached thereto, and an outer cover having a central opening to admit the pillar of the ink receiver when the cover is placed over it, and an opening for the admission of a pen to the ink cells, substantially as specified. 2nd. In an inkstand, the base A, constructed with a recess B, and a pivot pin C, in combination with a revolvable ink receiver E, having ink cells c, more or less, and an indicator pillar b, substantially as and for the purpose specified. 3rd. In an inkstand, the cover F, formed to fit the recess B, without turning, and having a central opening e, and an opening f, for dipping ink, in combination with the revolvable ink receiver E, and base A, substantially as and for the purpose specified. 4th. In an inkstand, the combination of the base A, recess B, pivot pin C, rack D, ink receiver E, with cells c, covered cell c', and indicator and cover F, all constructed, substantially as and for the purpose specified. 5th. In an inkstand, the combination of the base A, recess B, pivot pin C, rack D, ink receiver E, with cells c, covered cell c', indicator b, and cover F, all constructed, substantially as and for the purpose specified.

### No. 35,951. Amalgamating Process.

(*Procédé pour amalgamer.*)

Millard Johnson, William Eddington Field and Joseph Samuel Bee-man, all of Saint Kilda, Victoria, Australia, 4th February, 1891; 5 years.

*Claim.*—1st. The use of an amalgam, composed of mercury and another suitable metal (sodium and potassium excepted) by preference zinc, or cadmium, or magnesium, or a suitable alloy of any one or more metals when introduced into or brought in contact with, immersed in or subjected to the action of suitably acidulated water, or suitable alkaline water, or water containing a suitable salt in solution, which will produce or liberate hydrogen in or from the surface or neighbourhood of our amalgam, for the objects set forth, and substantially as described. 2nd. The use of or addition of particles of another suitable metal (sodium and potassium excepted) by preference zinc, or cadmium, or magnesium, or a suitable alloy of one or more metals to mercury, whilst the same is being used in any form or kind of amalgamating machine, or plates, or pans, or after the mercury, or gold, or silver, amalgam has been taken out of or from such machines, or pans, and any such acid or alkali or salt (or solution thereof) as is herein before described, or any other suitable acid, or alkali, or salt, capable of or having the purpose or effect of liberating or producing hydrogen gas from or on the surface or neighbourhood of the amalgam, on its being immersed in or subject to the action of water when used, for the objects set forth, and substantially as described. 3rd. The use (in the amalgamation of ores or materials by mercury) of any of the before mentioned or any other suitable acids, or alkalis, or salts, in or as a solution used, in combination with mercury and ore, or material flowing over, on, or under, or brought into contact or combination with any suitable plate rifice, or their equivalent, (or any suitable combination of

them) the said plate rifice, or their equivalent, being covered or furnished with our before mentioned amalgam composed of mercury and another suitable metal (sodium and potassium excepted) by preference zinc, or cadmium, or magnesium, or suitable alloy of any one or more metals, for the purpose or effect of producing or liberating hydrogen gas and when used for the objects hereinbefore set forth, and substantially as described. 4th. The mode or manner of regulating the production or liberation of hydrogen gas on, or in, or from the surface or neighbourhood of our amalgam, by the use or means of adding more or less of the before-mentioned suitable acids, or suitable alkalis, or suitable salts, when used for the objects hereinbefore set forth, and substantially as described.

### No. 35,952. Process of Treating Matte and Speiss. (*Procédé de traitement de matte et de speiss.*)

Stephen Henry Emmens, London, England, 5th February, 1891; 5 years.

*Claim.*—1st. The process of treating matte and speiss, consisting in subjecting such material in a finely powdered condition to a series of fractional roastings and lixiviations. 2nd. The process of treating matte and speiss, consisting in subjecting such material in a finely powdered condition to a series of fractional roastings, alternating with a series of lixiviations with water, and sulphuric acid. 3rd. In the process of treating matte and speiss by repeated roastings, and lixiviations, the improvement which consists in removing the last portions of sulphur and arsenic by adding nitric acid to the final solvent. 4th. In the treatment of matte and speiss, by roasting and lixiviation, the method of recovering the copper contents by electrolyzing with a non-cupreous anode, the solution of the crystals obtained from the lixiviation liquids, and then removing any remaining copper from such solution by precipitation with suitable reagents, substantially as hereinbefore specified.

### No. 35,953. Shirt. (*Chemise.*)

Daniel R. Sillesky, Lockport, New York, U.S.A., 6th February, 1891; 5 years.

*Claim.*—1st. In a shirt, the combination, with a body, and reinforce, of a bosom connected at its edges to the body and reinforce by means of a flexible or hinge joint, whereby the edges are made yielding, substantially as set forth. 2nd. In a shirt, the combination with a body and reinforce, of a bosom composed of two or more plies of material, the outer and inner plies being secured to the body and reinforce along lines at different distances from the centre of the bosom, substantially as set forth. 3rd. In a shirt, the combination, with a body and reinforce, of a bosom, the inner ply or plies of which are narrower than the outer ones, and the outer edges of which are thinner than the centre to make the shirt yielding and flexible at this point, producing the effect of a narrow bosom and giving the appearance of a wide one, substantially as set forth. 4th. In a shirt, the combination, with the body and a reinforce secured over the upper portion of the body, of a bosom made of two or more plies, the upper ply or plies being longer and wider than the under ply or plies and secured at their outer edges to the reinforce and body, and the under ply or plies being secured to the inner edges of the body and reinforce at a point within the line of attachment, between the upper ply or plies and the body and reinforce, substantially as set forth. 5th. In a shirt, the combination, with a body, of a bosom, and reinforce secured to the body and bosom and projecting out beyond the edges of the bosom, substantially as set forth. 6th. In a shirt, the combination, with a body, of a bosom and a reinforce made in two pieces stitched together at their lower ends, said reinforce secured to the body and bosom, and projecting beyond the latter on three of its edges, substantially as set forth. 7th. The combination, with a body, of a reinforce secured thereto, and a bosom secured to the body and reinforce along two points on each edge, substantially as set forth. 8th. The combination, with a body and a bosom secured thereto, of a tab having its ends secured over the edges of the bosom, and secured to the lower end of the bosom and to the body of the shirt by one or more rows of stitches, substantially as set forth. 9th. The combination, with a body, a bosom and a reinforce secured to the body and bosom and extending below the lower end of the latter, of a tab made of two or more ply, said tab lapped at its ends over the edges of the bosom, and secured to the lower end of the bosom and to the reinforce and body by one or more rows of stitches, substantially as set forth. 10th. The combination, with a sleeve, and wristband, of a reinforcing band having one edge stitched to the sleeve and the other secured between the plies of the wrist band, substantially as set forth. 11th. The combination, with a sleeve having a binding around the opening in the lower end, and a wristband secured on the lower end of the sleeve, of a reinforcing band having one edge stitched between the ply of the wristband and the other edge stitched to the sleeve, the ends of this band being widened and lapped over the binding adjacent to the wristband and stitched down along its edges to the sleeve and binding, substantially as set forth. 12th. The combination, with a shirt body and neck band, of a reinforcing piece or segment, having one edge secured between the ply of the band and stitched along its edges to the body, substantially as set forth. 13th. The combination, with a shirt body and a binding around the opening in the back of the body, of a neck band and a yoke, the latter extending over the binding at the opening in the back of the shirt, substantially as set forth. 14th. The combination, with a shirt body and neck band, of a loop or strap passed behind a button-hole in the neck band and stitched at the lower end to the body and at the upper end between the ply of the neck-band, substantially as set forth. 15th. The combination, with a shirt body, of a sleeve having its inner end stitched a short distance within the armhole, and a reinforcing band surrounding the sleeve and stitched at its inner edge to the outer edge of the armhole and at its other edge on the sleeve, substantially as set forth. 16th. The combination, with a body and a reinforce cut away beneath the lower end of the outer ply of the bosom, of a bosom composed of two



or more ply of material, the outer ply being broader and longer than the inner ply, the latter being stitched at its outer edge to the inner edges of the body and reinforce, and at the lower ends to the inner edge of the body, and the outer ply stitched at its outer edges to the reinforce and body and its lower end to the edge of the cut-away portion of the reinforce, substantially as set forth.

### No. 35,954. Tie for Horse Tails.

(*Attache pour queues de chevaux.*)

George R. Davis, St. John, New Brunswick, Canada, 6th February, 1891; 5 years.

*Claim.*—As an article of manufacture, a horse tail tie, consisting of a flexible band, having a loop at each end, and a stud B, substantially as and for the purpose hereinbefore set forth.

### No. 35,955. Means for Transmitting Power.

(*Appareil de transmission de la force.*)

Joseph Meier, Newark, New Jersey, U.S.A., 6th February, 1891; 5 years.

*Claim.*—The improved friction wheel or pulley herein described, combining therein a body having a straight peripheral face, a series of plies or layers of leather built upon said flat face and forming an oppositely bevelled body, the first layer being rivetted to the flat face and the succeeding layers being cemented to one another and the whole of said parts being united by bolts which pass through said layers or plies and into the said body from points centrally between the two bevelled faces of leather, substantially as set forth.

### No. 35,956. Pocket Book. (*Portefeuille.*)

Frederick Lieker, New York, State of New York, U. S. A., 6th February, 1891; 5 years.

*Claim.*—1st. A pocket book, composed of an outer case *b*, and of an inner revolving pocket pivoted therein, substantially as specified. 2nd. A pocket book, composed of an outer case *b*, and of a pair of disks pivoted therein and connected along a part of their circumference to constitute an inner pocket, substantially as specified. 3rd. The combination of outer case *b*, with inner revolving pocket *a* pivoted thereto, and with a button *e* on such pocket, substantially as specified.

### No. 35,957. Kiln for Drying.

(*Four à sécher.*)

James Spencer Parmenter, Woodstock, Ontario, 6th February, 1891; 5 years.

*Claim.*—1st. A drying kiln, composed of a building B, heated by any suitable means and provided with a series of vertical pipes A, located on the outside of the building B and communicating with the interior of the said building near its roof and floor, substantially as and for the purpose specified. 2nd. A drying kiln, composed of a building B, heated by any suitable means and provided with a series of vertical pipes A, located on the outside of the building B, and communicating with the interior of the said building, near its roof and floor, each vertical pipe being provided with a regulating damper, substantially as and for the purpose specified. 3rd. A drying kiln, composed of a building B, heated by any suitable means and provided with a series of vertical pipes A, located on the outside of the building B and communicating with the interior of the said building, near its roof and floor, by horizontal extension pipes C and E, made in pairs of substantially corresponding lengths, substantially as and for the purpose specified.

### No. 35,958. Pump for Water.

(*Pompe pour l'eau.*)

Robert H. Dacus and Reuben E. Cole, both of Dardenelle, Arkansas, U.S.A., 7th February, 1891; 5 years.

*Claim.*—1st. The improved aerating attachment for pumps, the same consisting of the cap piece *h*, for a pump cylinder valved tubes *k* and *k'* attached to it laterally, and the pendent vertical tube *s* connected to said tube *k'*, for conducting air down into the water and the opposite upwardly extended air inlet tube *r*, all as shown and described. 2nd. The combination with the vertically-aligned water and air cylinders A and B, their connected pistons *m, o*, and the water inlet and discharge pipes *b'* and *f*, arranged as specified, of the aerating attachment, consisting of the cap-piece *h*, applied to cylinder B, the lateral valved tubes *k, k'*, the air-conducting tube *s*, arranged vertically pendent alongside said cylinders, and the air inlet tube *r*, all as shown and described and adapted to operate as specified.

### No. 35,959. Galley for Printers. (*Gallée.*)

Samuel E. Horne, Louis F. Laing, William W. Ogden and Stephen M. Hay, all of Toronto, Ontario, Canada, 7th February, 1891; 5 years.

*Claim.*—1st. The side stick B, adjustably fitted to the galley A, in combination with the plates C, having slanting slots G to receive the pins F, projecting from the bar E and the plates H fixed to the galley A and having grooves or slots I to receive the pins F, substantially as and for the purpose specified. 2nd. The side stick B, having a tongue *a* to fit into the groove *b*, made in the end of the galley A, and a hole *d* to fit over the pin *e*, projecting from the opposite end of the said galley, the plates C fixed to the side stick B and having grooves or slots G made in them, in combination with the bar E, provided with pins F, to fit into the grooves or slots G, and into grooves or slots I, substantially as and for the purpose specified.

### No. 35,960. Combination Lock.

(*Serrure à combinaison.*)

Maggie G. Morris and Heneretta Morris, Seward, Nebraska, U.S.A., 7th February, 1891; 5 years.

*Claim.*—1st. In a combination lock, the combination of the door having on its rear face the lugs or projections C, on which operate the slots D, of the sliding casing B, said casing having the projection or ear E, the bolt F secured to the same, passing through and adapted to operate in the vertical slot *a*, of the door, said bolt having the button G secured on the forward end thereof, substantially as described. 2nd. The combination of the door, having the casing B, provided with the vertical slots D, adapted to slide on the projections C, of the door, the projection or ear E, of the casing provided with a bolt operating in the slot *a* of the door, said bolt having the button G secured thereon, the elongated opening B' and the connecting slot P, said casing also carrying the pivoted lever I, the forward end of which projects through the opening J, in the casing B, and is then bent upward and outward, and provided on the rear side of the outward portion with the projection L, substantially as described. 3rd. In a combination lock, the door having the revolving disc T, the lug or projection *t*, the barrel portion U of said disc, the spring H surrounding the same, the disc V, with the notch V in its periphery, and washer plate W, securing the disc V, in place, substantially as described. 4th. In a combination lock, the door having disc plate T, provided with letters or figures at intervals around its face, the projections *t*, the barrel portion U, the spring X, the disc plate V, with notch V, in its periphery, the washer plate W, securing the same in place with the disc Y, provided with the hand piece Z for revolving the same, and rearwardly projecting shaft A' passing through opening B' of the disc T, the spring washers C', D' secured on shaft A', the disc E' provided with the notch *e* in its periphery, and held in place by the key F', passing through the shaft A', which key F' is held in place by bolt G', substantially as described. 5th. In a combination lock, the combination and arrangement of a door, having a window therein, said door provided with the discs I and Y, the notched discs V and E, washers W, C' and E', and spring X, with a side casing B, provided with vertical slots D and upstanding portion E, provided with a bolt F, extending through slot *a*, in the door and having a button G thereon, said casing B having the opening B', open slot P, inwardly projecting portion B', projections *s* on inner side of said casing B, the ends of the spring R being on the said projections S, and coiled round projection Q in the rear face of the door, said casing also having the pivoted latch lever I secured therein and adapted to engage with the bevelled latch plate K on the inner wall of the door casing, substantially as described. 6th. The combination of a door, carrying the solid casing B, having pivoted therein the lever I, the spring N bearing against the under edge of the said lever I, the forward end of which lever passes through the slot J in the casing B, and is thence bent upwardly and outwardly and provided with a lug L on its inner face, substantially as described.

### No. 35,961. Method of Producing Chamfers

(*Mode de faire les chanfreins.*)

John Louis Dalot and Joseph Dalot, both of Addison, Maine, U.S.A., 7th February, 1891; 5 years.

*Claim.*—1st. The herein described method of chamfering stones, which consists in placing a number of stones at any desired inclination, filling the upper cavities of the stones with a cement, as plaster of paris, and rubbing the upper covered surfaces of the stones, simultaneously in the same horizontal plane, as and for the purpose specified. 2nd. The herein described method of chamfering stones, which consists in placing a number of stones at an inclination, boxing the said stones, leaving the tops exposed, building up the top surfaces of the grouped stones to a common level, and rubbing the said leveled surfaces simultaneously in the same horizontal plane, substantially as and for the purpose set forth.

### No. 35,962. Hoop for Trusses.

(*Bandage herniaire.*)

David Delano and Douglass Hall, both of Baldwinsville, New York, U.S.A., 7th February, 1891; 5 years.

*Claim.*—1st. The improved truss-hoop, composed of a hoop for compressing the barrel circumferentially, and an extra hoop secured to the top of the compressing hoop for receiving the impingement of the cooper's tool, substantially as set forth. 2nd. A truss-hoop, composed of a compressing hoop, and a pounding hoop secured to the top of said compressing hoop, and disposed with the tied ends of one diametrically opposite the tied ends of the other, as set forth and shown. 3rd. A truss-hoop, composed of a compressing hoop, and a pounding hoop secured to the top of said compressing hoop, and each of said hoops formed with a lock joint, and disposed with said joint diametrically opposite that of the other hoop, substantially as described and shown.

### No. 35,963. Nut Lock. (*Arrêlé-écrou.*)

Edgar Franklin Besse and Walter Elijah Damon, both of Hanson, Massachusetts, U.S.A., 7th February, 1891; 5 years.

*Claim.*—1st. The combination of a bolt, a locking-plate provided with a slot through which said bolt passes, one side of said slot resting against the bolt, and a nut narrower than the slot in said plate, said nut in locked position bearing against said plate at one side of said bolt, and being depressed at the other side into said slot, substantially as described. 2nd. The combination of a bolt, a nut, and a locking-plate provided with a rectangular slot, having a V-shaped notch, said nut at one side of the bolt resting upon said plate, and at the other side being depressed into the slot thereof, one corner of said nut engaging said V-shaped notch, substantially as described.

**No. 35,964. Device for Watering Stock.***(Appareil pour abreuver le bétail.)*

Charles E. Buckley, America Union, and George B. Chapman, Dover Plains, both in New York, U.S.A., 7th February, 1891; 5 years.

*Claim.*—1st. In a device for watering stock, the combination, of a main supply reservoir, a series of receptacles placed at a distance therefrom, and substantially in the same horizontal line, a main distributing pipe connected with the bottom of the reservoir, and a series of pipes extending upward from the distributing pipe and connected with the bottoms of the receptacles, substantially as shown. 2nd. In a device for watering stock, the combination, with a supply reservoir, of a distributing pipe, and two or more receptacles connected with the distributing pipe, each having a check valve to prevent the water from running out, whereby the supply is fed to each receptacle directly from the main reservoir independent of the other receptacles, substantially as shown and described. 3rd. In a device for watering stock, the combination, with a main reservoir, a distributing pipe connected therewith, of a receptacle, an inlet pipe extending into the receptacle above its bottom, and a cover placed over the pipe, having a depending flange for the purpose specified. 4th. In a device for watering stock, the combination, with a main reservoir and a distributing pipe connected therewith, of a receptacle an inlet pipe extending into and above the bottom of the receptacle, having longitudinal grooves, and a cover having a depending flange, and which is placed over the inlet pipe, substantially as shown.

**No. 35,965. Cover for Books.***(Couverture pour livres.)*

Carter & Company, Niagara Falls, New York, (assignees of William Stickney Lamson, Lowell, Massachusetts, U.S.A., assignee of Murray Hickley Spear, London, England), 7th February, 1891; 5 years.

*Claim.*—1st. The combination, with a loose cover for books, pamphlets, catalogues, and the like, having means for securing the book in same, of a re-inforcing or abutting shoulder or ledge, substantially as described. 2nd. The combination, with a loose cover for books, pamphlets, catalogues, and the like, having means for securing the book in same, of a re-inforcing or abutting shoulder or ledge provided with a recess *b*, substantially as described.

**No. 35,966. Nut Lock. (Arrête-écrou.)**

Robert McDonah and Warren N. Croffut, both of Binghamton, New York, U. S. A., 7th February, 1891; 5 years.

*Claim.*—A locking device for nuts, consisting of a lower nut having on its outer face a concave opening, and a following-nut having a convex surface turned from a different center to turn down within the concave opening of the lower nut, and bearing against the side of the lower nut, substantially as shown and described.

**No. 35,967. Transmitter for Sound.***(Transmetteur du son.)*

Robie Blake, Cornish, Maine, U.S.A., 7th February, 1891; 5 years.

*Claim.*—1st. In a sound transmitter, the radially-movable sensitive diaphragm *E*, in combination, with the tube *A*, and the interiorly-movable parts *b*, and *c*, and the offset *C*, all in the manner and for the purposes set forth. 2nd. The sound transmitter, as described, consisting substantially, of the tube *A*, having the offset *C*, mouth piece *D*, and radially movable sensitive diaphragm *E*, substantially as described. 3rd. The sound transmitter, consisting of the tube *A*, having a mouth piece, and a sensitive diaphragm, substantially as described. 4th. The sound transmitter, consisting of the tube *A*, having a mouth piece, and a sensitive diaphragm combined with the movable parts *b*, and *c*.

**No. 35,968. Press for Cider or Wine.***(Pressoir à cidre ou à vin.)*

Emanuel W. Root, Wheatfield, Indiana, U.S.A., 9th February, 1891; 5 years.

*Claim.*—1st. The combination, in a press, of the drum-shaft *L*, arranged longitudinally along the cross-beam of the frame, having the rigid ratchet-wheel, the lever *N*, provided with plates *O*, pivoted to the shaft and arranged on each side of the ratchet-wheel, the dog pivoted to the lever and adapted to engage and operate the ratchet-wheel, the detent pivoted to the side of the frame and provided with a recess and adapted to engage the ratchet-wheel, and the spring-arm adapted to be engaged with and disengaged from said recess of the detent, substantially as described. 2nd. A press having the trough or platform, the side winged platforms on opposite sides thereof, provided with grooves or gutters, and the presser-boards connected together and adapted to move on the side winged platforms and over the trough, whereby one of said presser-boards will be arranged over the trough, while the other is arranged on one of side winged platforms, substantially as described. 3rd. A press having the trough or platform, the side winged platforms on opposite sides thereof, and the presser-boards connected together and adapted to move on the side winged platforms and over the trough, whereby one of said presser-boards will be arranged over the trough, while the other is arranged on one of the side winged platforms, the windlass-shaft arranged under the trough, the rope on said windlass-shaft having its ends attached to the presser-boards, and the guiding-pulleys for said rope, substantially as described.

**No. 35,969. Gate. (Barrière.)**

William Van Nostrand, Dalton, New York, U. S. A., 9th February, 1891; 5 years.

*Claim.*—1st. In combination, with a post *A*, having two sets of depressions *b*, *c*, a gate provided with a cap *B*, pins *d*, *d'*, carried by the cap, and means, substantially such as shown, for actuating the pins. 2nd. In combination, with post *A*, having deep seats *b*, *b'*, and shallow seats *c*, *c'*, a gate having a cap *B*, which is provided, with pins *d*, *d'*, and means, substantially such as shown, for actuating the pins. 3rd. In combination, with post *A*, and a ring or collar *C*, cap *B*, to rest upon the collar and provided with stem *a*, and a gate proper secured to the cap. 4th. In combination, with post *A*, cap *B*, and the gate carried thereby, bracket *D*, pulleys *f*, *f'*, mounted therein, locking-pins *d*, *d'*, to engage the post, and cords or connections *g*, all arranged substantially as shown. 5th. In combination, with post *A*, cap *B*, and the gate carried thereby, bracket *D*, provided with pulleys *f*, pulleys *j*, mounted upon the inner end of the gate proper, locking-pins, cords or connections *g*, extending from the pins about the pulleys *f*, *j*, and a cord or connection *m*, connected with one of the cords *g*, and extending toward the outer end of the gate. 6th. In combination, with a gate proper and its cap *B*, a post provided with a ring or collar *C*, spring-pressed pins or bolts carried by the cap to engage the ring, and means for retracting the pins.

**No. 35,970. Rubber Wringer Rolls.***(Rouleau en caoutchouc pour essoreuses.)*

David Albert Ghent, Burlington, Ontario, Canada, 9th February, 1891; 5 years.

*Claim.*—1st. In a clothes-wringer, the central shaft formed square, and covered with grooved wood casings, with rubber cemented to the outer surface of said casings, vulcanized, and the ends protected with a washer, all constructed, substantially as and for the purpose specified. 2nd. In a clothes-wringer, the combination of the metal square shaft *A*, wood casing *C*, and rubber *E*, substantially as and for the purpose specified. 3rd. In a clothes-wringer, the combination of the shaft *A*, casing *C*, vulcanized rubber *E*, and washer *F*, all constructed substantially as and for the purpose specified.

**No. 35,971. Cement. (Cement.)**

Frank Clement Goodall, Richmond, Surrey, England, 9th February, 1891; 5 years.

*Claim.*—A marine cement, consisting of a combination of asphaltum, ground cork, and boiled or other siccativ oil, which latter has the effect of making the asphaltum elastic, and to reduce the tendency to melt, substantially in the proportions set forth.

**No. 35,972. Turbine. (Turbine.)**

Joseph Florine Le Bel, Victoriaville, Quebec, Canada, 9th February, 1891; 5 years.

*Claim.*—1st. In a turbine, the combination, with a wheel having curved contracted floats, of the guides *K*, the said guides being equal in area at their entrances from the flume to the area of the floats *b*, at *g*, substantially as set forth. 2nd. In a turbine, the combination, with the radial contracted and curved guides *K*, of the gates *L*, *P*, *p*, forks *l*, guide rods *M*, slide rods *N*, thimbles *n*, cylinders *O*, *R*, nuts *o*, *r*, upright rod *Q*, handles *N*<sup>2</sup>, *q*, and stop *T*, substantially as set forth. 3rd. In a turbine, the combination, with the spiral flume, the walls of which are perpendicular, of the guides *K*, the gates *L*, *P*, adapted to be closed or opened independently of each other, substantially as set forth. 4th. In a turbine, the combination, with the wheel *B*, of the tapering shaft *A*, clip *E*, sleeve *e*, bolt and nut *c*, substantially as set forth.

**No. 35,973. Wrench. (Clé à écrou.)**

William Heys Rogers, Kingston, Ontario, Canada, 9th February, 1891; 5 years.

*Claim.*—The combination, with the fixed jaw *A*, having a shank *B*, provided with serrations *C*, of the movable jaw *D* having a throat *E*, provided with serrations *F*, and the wedge *G*, inserted in said throat and against the shank to cause the serrations *C*, and *F*, to engage when the wedge is tightened, as set forth.

**No. 35,974. Snow Skate. (Patin à neige.)**

Pontus H. Conradson, Norwood, Massachusetts, U.S.A., 10th February, 1891; 5 years.

*Claim.*—1st. A snow-skate, having underneath a continuous groove *B*, with parallel edges throughout its length, and gradually shallower toward its ends, and ending flush with the surface of the skate at a distance from each end of the latter. 2nd. A snow-skate, provided underneath with a continuous groove *B*, having abrupt edges *b*<sup>1</sup>, as specified. 3rd. A snow-skate, having its side edges rounded off at *b*, and provided underneath with a continuous groove *B*, having abrupt edges *b*<sup>1</sup>, as set forth. 4th. The combination of a snow-skate, having its side edges rounded underneath at *b*, and narrower above the rounded portion, in combination with the foot-strap *C*, made in two parts secured to the said narrower portion, and connected by the lace *c*, substantially as described. 5th. In combination, with the snow-skate *A*, and the foot-strap *C*, the foot-plate *D*, provided with transverse corrugations *d*. 6th. In combination, with a snow-skate, the brake *E*, provided on its under side with projections or corrugations *F*, and adapted to be attached to the skate, substantially as specified. 7th. In combination, with a snow-skate, the brake *E*, provided on its under side with projections or corrugations *F*, a friction-covering *f*, above the said corrugations and having the rigid end piece *e*, and the hinged end piece *e*<sup>1</sup>, conforming to the edge of the skate, and a spring or strap *e*<sup>2</sup>, connecting the said pieces *e*, *e*<sup>1</sup>,

substantially as specified. 8th. A snow-skate made in two or more detachable sections, substantially as specified. 9th. In a snow-skate made in detachable main sections, the sub-sections interconnected by hinges M, to adapt them for folding together. 10th. A snow-skate made in two main sections, provided with angular end plates J, J', one of the said plates J, having secured to it a bolt K, and the other plate J', having a bore or socket k, and a pin or screw L, to receive and retain the said bolt for securing the two sections together, substantially as specified. 11th. In a skate made in sections, the sub-section made in two parts, having lugs n, and connected by hinges M, in combination with a key or bolt N, for securing the said sub-sections in the unfolded position, substantially as specified. 12th. In combination, with the snow skate A, the foot strap c, and corrugated surface contact of the same with the shoe to prevent slipping of the shoe or skate, substantially as specified. 13th. In combination, with the snow skate A, the foot strap c, having corrugations inside to prevent slipping of the shoe or skate, substantially as described.

### No. 35,975. Piano Forte Pedal and Guard.

(*Pédale et garde de pianoforte.*)

Walther T. Sternberg, New York, U.S.A., 10th February, 1891; 5 years.

*Claim.*—1st. A pedal, having a laterally projecting shoulder or shoulders overlying the instrument next the slot through which the pedal passes, and practically concealing said slot, substantially as described. 2nd. A pedal, made with a horizontally ranging outer or treadle portion, and a comparatively narrow inner stem portion, and provided at the points of junction of said outer and inner portions with laterally projecting shoulder or shoulders next the slot through which the pedal shank passes, said shoulders practically concealing said slot, substantially as described. 3rd. The combination, with the case or lyre of a musical instrument, of a metallic guard plate held to the instrument at its pedal slots, said plate having narrow slots, and the pedals having narrow inner stem portions entering the slots of the guard plate and actuating the tone regulating mechanism of the instrument, and having outer horizontal treadle portions, and provided with shoulders which project over the guard plate and practically conceal its slots, substantially as described. 4th. In pedal and guard devices, the combination, with a slotted musical instrument case or lyre, of pedals A, having outer horizontal treadle portions, and inner narrow fulcrumed stem portions B, operating the tone regulating mechanism of the instrument, said pedals having lateral shoulders a', at the point of junction of its outer and inner portions, and a guard plate fixed to the instrument, and having narrow slots E, receiving the pedal stems, substantially as described.

### No. 35,976. Carbureting Apparatus.

(*Appareil à carburer.*)

George Henry Burrows, Somerville, Massachusetts, U.S.A., 10th February, 1891; 5 years.

*Claim.*—1st. In an air blower for carbureters, the combination of a floating holder, an air inlet pipe opening thereinto, a trompe located in said air inlet pipe, a water supply pipe for the trompe, provided with a regulating valve having an upwardly projecting stem fitted with upper and lower collars, a lever having one end engaging said collars, its other end being weighted, and a connection between said lever and the floating holder, substantially as set forth. 2nd. In an air blower for carbureters, the combination of a floating holder, a trompe, an air inlet pipe opening into said holder and provided with an inclined arm, and a sliding valve adapted to move on said arm, substantially as set forth, said trompe being located in said air inlet pipe, as stated.

### No. 35,977. Valve for Steam Engines.

(*Soupe de machine à vapeur.*)

Charles Vogel, Fort Lee, New Jersey, U.S.A., 10th February, 1891; 5 years.

*Claim.*—1st. The combination, with the cylinder and piston in an engine, of a circular steam chest, having a lateral opening through which steam is supplied, and a circular valve seat having ports therein leading to the cylinder and a central exhaust port, a circular valve covering the exhaust port and having ports and recessed exhaust passages, a spindle for rotating the valve, having a T-head or connection, and passing up from beneath the valve, so that the valve may be removed from the spindle, and a removable cover to the steam chest, substantially as set forth. 2nd. The combination, with the cylinder and piston in an engine of a circular steam chest, having a lateral opening through which steam is supplied, and a circular valve seat having ports therein leading to the cylinder and a central exhaust port, a circular valve covering the exhaust port and having ports and recessed exhaust passages, and a central stem, a spindle for rotating the valve, having a T-head or connection, and passing up from beneath the valve, so that the valve may be removed from the spindle, and a removable cover to the steam chest having a central socket for the valve stem, substantially as set forth. 3rd. The combination, with the cylinders A, B, C, their pistons connecting rods, main shaft and cranks, of a head to the three cylinders having steam ports in it, a steam chest upon such head, having a central exhaust and lateral steam supply, a removable cover to the steam chest, a valve having two steam ports and recessed exhaust passages and covering the central exhaust port, a spindle passing up from below for rotating such valve and gearing for connecting the spindle and the main shaft, so that the valve may revolve one for every two revolutions of the main shaft, substantially as set forth.

### No. 35,978. Combined Caster and Spring Corner Protector for Trunks.

(*Roulette et renfort d'angle de coffre combinés.*)

Samuel Stephen Arnold and Samuel Weylie McKeown, both of Toronto, Ontario, Canada, 10th February, 1891; 5 years.

*Claim.*—1st. The combination, with the corner frame A, having a tubular neck B, of the frusto conical thimble E projecting through said neck, the truncated conical thimble F fitting within said thimble E, and a wire spring or rubber buffer H within the thimble F and projecting therefrom, said thimbles in frictional contact, whereby the thimble E will rotate, as set forth. 2nd. The combination, with the corner frame A, having a tubular neck B, of the frusto-conical thimble E, projecting through said neck, the anti-friction ball G, seated within the thimble, the truncated conical thimble F, bearing on said ball, and the wire spring or rubber buffer H filling the thimble F and projecting from the end thereof, as set forth.

### No. 35,979. Wrench for Pipes.

(*Clé à tuyau.*)

Don Jose Hersey, Providence, Rhode Island, and Henry B. Spitz, Boston, Massachusetts, both of U. S. A., 10th February, 1891; 5 years.

*Claim.*—1st. The combination, in a pipe-wrench, of the housing provided with perforated ears c', d', the toothed jaw C, having a curved rear face c' and a tongue e' pivoted between the perforated lugs e', on the spring-actuated locking lever E, provided on its upper face, intermediate of its ends with ratchet-teeth e, engaging with ratchet-teeth b' on the lower face of the sliding jaw B, and a spring controlled handle D, provided at its inner end with a curved face d', and a nose d'', which force the jaw C inward upon a downward pressure of the handle, substantially as specified. 2nd. The combination, in a pipe-wrench, of the housing A, provided with a rectangular opening a', the sliding jaw B, provided on its lower edge with ratchet teeth b', the locking lever E, fulcrumed between the walls of the housing and provided on its upper edge with ratchet-teeth engaging the ratchet-teeth b', of the sliding jaw B, and held in engagement therewith by the spring F, the toothed jaw C, provided with a tongue e', fulcrumed between the ears c', of the locking lever E, the handle pivoted between the lugs d' of the housing, and the spring G secured to the under face of the handle and bearing against the stop a', formed integral with the housing, substantially as specified.

### No. 35,980. Harrow. (Herse.)

Henry L. Mack, Ellensburg, Washington, U.S.A., 12th February, 1891; 5 years.

*Claim.*—1st. The combination, in a harrow, of the main frame having its side portions provided with perforated ears, toothed carrying bars, and U-shaped clip-bolts engaging said projections and passing through said bars, and secured by nuts, substantially as set forth. 2nd. The combination, in a harrow, of the main frame having its side portions provided with perforated ears, tooth-carrying bars, companion clamp-plates between said bars, harrow-teeth and U-shaped clip bolts engaging the ears of the main frame, passing through both sections of the bars, and secured by nuts to hold said clamp plates between said bars, and also serve as a hinge connection for the same, substantially as set forth.

### No. 35,981. Centrifugal Separator.

(*Séparateur centrifuge.*)

Clemens Von Bechtolsheim, Stockholm, Sweden, 13th February, 1891; 5 years.

*Claim.*—1st. The combination, with the separating bowl or drum, of removable beveled or inclined division rings, and a centering core arranged within said rings, substantially as set forth. 2nd. The combination, with the separating bowl or drum, of removable beveled or inclined division rings, and a centering core composed of a hollow cylinder and radial wings or plates, substantially as set forth. 3rd. The combination, with the separating bowl or drum, of a beveled feed cup resting on the bottom of the bowl, beveled division rings resting on the feed cup, and a centering core arranged within said rings, substantially as set forth. 4th. The combination, with a separating bowl or drum, of a beveled feed-cup resting on the bottom of the bowl, beveled division rings resting on the feed cup, and a top ring provided with a contracted discharge neck, substantially as set forth. 5th. The combination, with a separating bowl or drum, of a beveled feed cup resting on the bottom of the drum, a centering core provided with projections entering the feed cup, beveled division rings resting upon the feed cup and surrounding the core, and a top ring provided with a contracted neck which receives projections on the core, substantially as set forth. 6th. The combination, with a separating bowl or drum, provided on its inner side with ribs or projections, of beveled or inclined division rings resting against said projections, whereby the rings are held away from the inner periphery of the drum, substantially as set forth. 7th. The combination, with the separating drum or bowl, of a discharge pipe rotating with the bowl and having its inlet end arranged in advance of its discharge end, substantially as set forth. 8th. The combination with the separating drum or bowl, of a tapering cover provided with a contracted neck, and a cream notch in said neck, and a skim milk discharge pipe secured to said cover and having its inlet end arranged in advance of its discharge end, substantially as set forth.

**No. 35,982. Car Coupler.** (*Attelage de chars.*)

James F. Powell, Chestnut, Virginia, U.S.A., 14th February, 1891; 5 years.

*Claim.*—In a car coupler, the combination of the bottom and top portions of the draw-head, with a regulating device, consisting of the bow-spring and the U-shaped rod, secured and attached to said spring, so as to control and regulate the up-and-down movement of the coupling link, substantially as described.

**No. 35,983. Spreader for Manure.**

(*Distributeur d'engrais.*)

Daniel Boliver Merrell, Canandaigua, New York, U.S.A., 14th February, 1891; 5 years.

*Claim.*—1st. In a manure spreader, the manure box having an inflexible longitudinally-reciprocating floor, divided lengthwise and sustained in a uniform plane by stationary supports under the floor, and anti-friction rollers interposed between the floor and its supports, substantially as set forth and shown. 2nd. In a manure spreader, the manure box having an inflexible floor divided lengthwise at the centre of its width, and each section reciprocating longitudinally, and sustained in a uniform plane by stationary supports under the floor, anti-friction rollers interposed between the floor and its supports, the end board arranged movably lengthwise of the body, a stationary ratchet extending lengthwise of the body, a ratchet attached lengthwise of the reciprocating floor, and two pawls connected to the aforesaid end board, one of said pawls engaging the ratchet of the floor to move the end-board with the same, and the other pawl engaging the stationary ratchet to prevent retrograde movement of the end-board, substantially as described and shown. 3rd. In combination with the body and driving-shaft, the floor of said body composed of two reciprocating longitudinal inflexible sections sustained in uniform planes during their movement by supports secured to the stationary portion of the body, a strip between said floor sections, secured stationary to the body, two cranks on the driving shaft and pitmen connecting said cranks respectively with the two movable floor sections, as set forth and shown. 4th. In combination, with the body and driving shaft, the floor of said body composed of two reciprocating longitudinal inflexible sections, and a strip between said floor sections secured stationary to the body, two cranks on the driving shaft, pitmen connecting said cranks with the movable floor sections, a longitudinally movable end-board, longitudinal ratchets, respectively on the aforesaid stationary strip, and on the adjacent portion of the movable floor, and pawls connected to the movable end board and adapted to engage alternately the said ratchets, substantially as described and shown. 5th. In combination, with the body and longitudinally-reciprocating inflexible floor, bars rigidly secured to the stationary portion of the body and extending across the same beneath the said floor and rollers interposed between said bars and floor, substantially as set forth. 6th. In combination, with the body, a longitudinally-reciprocating inflexible floor bars secured to the body and extending across the same beneath the floor, rollers interposed between said bars and floor, and stops on the cross bars at opposite sides of the rollers to limit the motion of the latter, substantially as described and shown. 7th. In combination, with the driving-shaft, movable floor and beater, mechanism for transmitting motion from said driving shaft to the floor and beater, and a clutch adapted to throw the beater out of gear independently of the actuating mechanisms of the floor, substantially as described and shown. 8th. In combination, with the driving axle, movable floor and beater, a gear wheel mounted loosely on the axle, a clutch for connecting and releasing said gear wheel to and from the axle, a pinion mounted movably longitudinally on the shaft of the beater, and having an enlarged face meshing with a narrower face of the aforesaid gear wheel, and provided with a circumferentially grooved hub on one side, and with a clutch face on the opposite side, a clutch part secured stationary on the aforesaid shaft, a spring arm secured at one end to the body of the machine, and having its free end engaging the groove of the pinion hub, a flexible coupling connected at opposite ends respectively with the free end of the spring arm and with the aforesaid body, a rod connected to the central portion of the aforesaid coupling, and extended to the front of the machine, and a lever on the latter, connected with the said rod, substantially as described and shown.

**No. 35,984. Staple Driving Machine for Blinds.** (*Chasse-crampe pour jalousies*)

Philibert Morin, Montreal, Quebec, Canada, 14th February, 1891; 5 years.

*Claim.*—1st. In a staple driving machine for blinds, the main driving pulley B, clutch D, gear wheels G, F, H and I, bevel gear wheels J and J', blank bevel wheel J', connecting rods J<sup>2</sup> and J<sup>3</sup>, bell cranks J<sup>4</sup> and J<sup>5</sup>, pieces J<sup>1</sup>, L, O, O', O'', having the slanting shoulder O', Z, J<sup>12</sup>, springs O<sup>6</sup>, z', and w', levers z<sup>1</sup> and j<sup>13</sup>, substantially as described and for the purposes set forth. 2nd. In a staple driving machine for blinds, the piece S, gear wheel G, wheel n<sup>2</sup>, provided with the projecting pieces n<sup>3</sup>, shaft n and holder N, composed of the pieces k<sup>2</sup>, k<sup>2</sup>, having the springs K, substantially as described and for the purposes set forth. 3rd. In a staple driving machine for blinds, the gear wheels G, shaft g, wheel o<sup>6</sup>, pieces o<sup>6</sup> and p, spring g<sup>8</sup>, substantially as described and for the purposes set forth. 4th. In a staple driving machine for blinds, the gear wheel G, shaft g, pieces g<sup>8</sup> and v, the latter having the projection V, spring v<sup>2</sup> and pieces R, R, substantially as described and for the purposes set forth. 5th. In a staple driving machine for blinds, the gear wheel G, shaft g, belt a<sup>4</sup>, pulleys a<sup>10</sup> and a<sup>10</sup>, shaft a<sup>12</sup>, gear wheels a<sup>6</sup> and a<sup>5</sup>, cranks a<sup>7</sup> and a<sup>8</sup>, movable pieces a<sup>1</sup> and a<sup>2</sup>, chutes z<sup>5</sup> and o<sup>8</sup>, and box a, substantially as described and for the purposes set forth. 6th. In a staple driving machine for blinds, the combination of pulley B, clutch D, gear wheels G, F, H and I, bevel gear wheels J and J', blank bevel wheel J', connecting rods J<sup>2</sup> and J<sup>3</sup>, bell cranks J<sup>4</sup> and J<sup>5</sup>, pieces J<sup>1</sup>, L, O, O', O'', having the slanting shoulder O', O', Z, J<sup>12</sup>, springs o<sup>6</sup>, z' and

w', levers z<sup>1</sup> and j<sup>13</sup>, with piece S, wheel n<sup>2</sup>, provided with the projecting pieces n<sup>3</sup>, shaft n and holder N, composed of the pieces k<sup>2</sup>, k<sup>2</sup>, having the springs K, shaft g, wheel o<sup>6</sup>, pieces o<sup>6</sup>, and p, spring g<sup>8</sup>, pieces o<sup>6</sup> and v, spring v<sup>2</sup>, pieces R, R, belts a<sup>14</sup>, pulleys a<sup>10</sup> and a<sup>10</sup>, shaft a<sup>12</sup>, gear wheels a<sup>6</sup> and a<sup>5</sup>, cranks a<sup>7</sup> and a<sup>8</sup>, pieces a<sup>1</sup> and a<sup>2</sup>, chutes z<sup>5</sup> and o<sup>8</sup> and box a, substantially as described and for the purposes set forth.

**No 35,985. Snap Hook.** (*Crochet à ressort.*)

Charles George Lundborg, City of New York, New York, U.S.A., 14th February, 1891; 5 years.

*Claim.*—1st. In a snap hook, the hook proper, in combination with the tongue, one end of which is formed with an elastic convolute and attached rigidly to the hook. 2nd. The snap-hook, having a recess therein, in combination with the pin, of angular section fixed in said recess, and the spring tongue having the convolute end and angular eye closely fitted to the pin, whereby the pin is caused to serve the double purpose of connecting the tongue to the hook and of maintaining the coiled end of the tongue under tension.

**No. 35,986. Scales.** (*Balance.*)

Charles George Lundborg, city of New York, New York, U.S.A., 14th February, 1891; 5 years.

*Claim.*—1st. In a spring scale, the combination of two concentric reversely wound helical springs, a suspending device attached to the upper end of the two springs, a suspending device attached to the lower end of the two springs, an arm or pointer attached to the one suspending device, and a scale attached to the other suspending device. 2nd. In a spring scale, the combination of two co-operating links to limit the extension of the springs, two reversely wound concentric helical springs, each connected firmly to the two links, a scale or indicator attached to one of said links, and an arm or pointer attached to the other. 3rd. In a spring scale, the link A, provided with a suspending device, the link C, the concentric helical springs E and F, both attached rigidly at their upper ends to link A, and at their lower ends to link C, the jacket G attached to the upper link and provided with graduations, and the arm H attached to the lower link, said elements combined, as described and shown. 4th. In a spring scale, the combination of two reversely-wound helical springs, mounted one within the other, and firmly united at their two ends, the one spring of lighter or smaller metal than the other.

**No. 35,987. Potato Digger.**

(*Sacrificateur à patates.*)

Albert Lauritzen and John Frederic Nielson, Gowen, Michigan, U.S.A., 14th February, 1891; 5 years.

*Claim.*—1st. In a potato digger, the combination, with a U-shaped bail, the opposite arms of which are pivoted in a draft-beam and provided with rearwardly curved depending spring teeth, of a hand lever and a rod connecting the hand lever with the lower end of a U-shaped bail, substantially as specified. 2nd. The combination, with the pivotal top rake herein described, and its connecting rod 30, of the hand lever 22 mounted in the opposite bell cranks 21, pivoted to the frame and provided with the bar 25, connected with the connecting bar of the rake, and of opposite pivotally connected adjustable supporting wheels and chains connecting said wheels and bell cranks, whereby by a movement of the lever 22 the wheels and rake are uniformly adjusted, substantially as specified. 3rd. In a potato digger, the combination with the endless chains, each consisting of a series of links, the inner side bars of which are provided with inwardly disposed loops, of a series of transverse connecting bars, the ends of which are bent to form hooks and engage the loops of opposite links, substantially as specified. 4th. The combination, with herein described endless chains, each comprising a series of detachable links, each of which consists of opposite end bars 77 and 77a, the latter reduced, as at 77c, and provided with end shoulders 77d, projecting hook 79, and the end bar connecting side bars 77b, the rear ends of which are cut away, as at 77e, to enable the locking shoulders 77d to pass in the act of connecting the end bar 77a, with the hook 79 of the next adjacent link, the inner side bar of each link being provided with the loop 80 of the connecting bars 81, connected with the loops, substantially as specified. 5th. The combination, with the traction shaft having opposite forwardly disposed hounds, of foot-supports, as 48, mounted on each of the hounds, and adjustable thereon by means of nuts 49, substantially as specified. 6th. The combination, with the beams 1, of opposite plates provided with bearings, arms pivoted in the bearings and terminating in slotted plates and of opposite wheels, the spindles of which are mounted in the slots, substantially as specified. 7th. The combination, with the beams 1, of opposite plates provided with bearings, arms pivoted in the bearings and terminating in slotted plates and on opposite wheels, the spindles of which are mounted in the slots, and of guards, as 45, arranged in front of the bolts, 33, substantially as specified. 8th. In a potato digger, the combination, with a sliding bearing block, provided with a counter-shaft operated by the main driving wheel, of a screen pivotally connected with the sliding block, and of a hand lever connected with the block and adapted to slide the same, substantially as specified. 9th. The combination, with a sliding bearing block, of a counter shaft mounted in the same and adapted to mesh with the master gear of the digger, a shaking screen connected to the block, a lever pivoted in rear of the same, and an adjustable rod connecting the block and lever, substantially as specified. 10th. The combination, with a counter-shaft adapted to be rotated by the ground wheels and provided with a cam of a pivoted arm arranged above the cam and adapted to be thrown thereby, and of a potato screen pivoted at its rear end, and loosely connected near its opposite end with the vibratory arm, substantially as specified. 11th. The combination, with the shaking screen 71, pivoted, as at 70, and its opposite arms having the perforations 84, of the arm 66, pivoted, as at 67, and having the depending arm 63, taking in the perfora-

tions 84, and perforated as at 82, for adjustable connection with the arm 66, and of the counter shaft 54, mounted in the bearing 52 and provided with a cam 69, substantially as specified. 12th. The combination, with the lever 85, pivoted in the block 86, and having the rods 87 connected with the bell crank 88, of the screen 71, the pivoted arms 66, and the connecting rod 68, the arm 66 being loosely connected with the bell crank 88, which is bent, as at 89, for that purpose, substantially as specified. 13th. The beams 1, having the recesses 3, in combination with the ribs 4 and the angle-arms 6 carrying the sides 7, the arms, ribs, and beams being bound together by the bolts 8, and forming the channel 73, for the reception of the sprocket chains, said channel being further provided with the guides 75 and pulleys 74, mounted on binding bolts 67, over which ran the sprocket chains 72, substantially as specified.

### No. 35,988. Improvements in the Art of Building. (*Perfectionnements aux bâtisses.*)

George Fitch, Lenox, Massachusetts, U.S.A., 14th February, 1891: 5 years.

*Claim.*—1st. In a building, the combination, with the floor-joist, provided with longitudinal brace-pieces, of the independent ceiling-joist, also provided with longitudinal braces, and arranged between the floor-joists and projecting slightly below the latter, substantially as described. 2nd. In a building, the combination, with the longitudinally trussed floor-joists, of the independent ceiling-joists arranged between the floor-joists, the floor-joists being isolated by sound-deadening devices, substantially as described.

### No. 35,989. Bridge. (*Pont.*)

Benjamin Bear, Doon, Ontario, Canada, 14th February, 1891: 5 years.

*Claim.*—1st. In a bridge, the top chord constructed of timbers to form an inverted channel, and consisting of a web *c* and flanges *c'*, connected by bolts *c''*, in combination with a non-corrosive sheet metal covering *c'''*, substantially as set forth. 2nd. In a cross beam of a bridge, the combination of the timbers *F*, placed side by side, the bolts *f*, connecting the two pieces laterally, the truss rod *F'* passing through the cap plate *E''*, and under the cross-bar *F''* under the centre of said beam held by the truss rod, the cap plate *E''* overlapping the upper angles of the ends of said beam, and the non-corrosive sheet metal covering *c'''*, substantially as set forth. 3rd. In a bridge, the combination of a cap plate *E''*, having lugs with eyed hubs *e''*, a shoe *E'* standing upon said cap-plate, and having a beveled top to receive the lower end of the truss post, and having eyes to receive an eye-pin, a stirrup *E'''* suspended from an eye-pin passing through the shoe *E'*, and the shanks of which pass through the hubs in the cap-plate, and provided with a cross-bar *e'''*, held on the threaded ends by nuts, an eye-pin *D''* passing through the shoe *E'*, and engaging the stirrup *E'''*, eye-bars *D*, oblique suspension rods *H*, and vertical tie rods *e*, substantially as set forth. 4th. In a bridge, the combination of the abutment shoe *B*, adapted to hold the end of the main beam, and a pin engaging the eye-bars, the strut end of the top chord *C*, butting on the shoe *B*, eye-bars *D*, engaging the pins *D''*, *D'''*, the post *E* upon the shoe *E'*, and supporting the web *c*, of the top chord, the vertical tie-rods *e* at the sides of said post engaging the pin in the shoe *E'*, and passing through the top chord, the pin *D''* in the abutment shoe, engaging the eye-bar *D*, the pin *D'''* in the shoe *E'*, engaging the eye-bars *D*, tie-rods *e*, oblique suspension rods and stirrup *E'''*, the cap plate *E''*, supporting the shoe *E'*, and the cross-beam *F*, held in said stirrup, substantially as set forth. 5th. In a bridge, the combination of the cross-beams *F*, cap plates *E''*, having eyed hubs *e''* and the diagonal braces *G*, having eyed nut *g*, engaging said hubs *e''*, substantially as set forth. 6th. In a bridge, the combination of the top chord *C*, bottom chord formed by the eye-bars *D*, pins *D''* engaging said eye-bars, truss-posts *E'* connecting said chords, tie-rods *e* at the sides of said posts, shoes *E'* carrying said posts and holding the pins *D''*, cap-plates *E''* on the top chords over the posts *E'*, receiving the upper ends of the rods *e* and oblique suspension rods *H*, engaging the pins *D''*, and the cap plate *E''*, substantially as set forth. 7th. In a bridge, the combination of the top chords *C*, posts *E'* supporting said chords, tie-rods *e*, connecting shoes and top-chords, shoes *E'* supporting said posts and holding the pins *D''*, cap plates *E''*, having eyed hubs *e''*, angular eyed hubs *e'* and bolt *T*, the flanged washers *e'* securing the upper ends of the tie-rods *e*, and supporting the tie beams *L*, supported upon the flanged nuts *e'* and held by the bolt *T*, angle braces *I*, and diagonal braces *J* engaging the hubs *e'*, substantially as set forth.

### No. 35,990. Lantern. (*Lanterne.*)

Charles Jesse Higgins, Hallowell, Maine, U. S. A., 14th February, 1891: 5 years.

*Claim.*—1st. The combination, with the lantern frame and the movable globe support, of a hinge and guide which permits the globe support and the globe attached thereto to be tilted or to be raised and lowered at desire, substantially as set forth. 2nd. The combination, with the lantern frame and the movable globe support, of bars or rods secured to the lantern frame and having lateral portions on which the globe support can be tilted, and upright portions on which it can be raised and lowered, substantially as set forth. 3rd. The combination, with the lantern frame and the movable globe support, of a hinge connection which permits the globe support and the globe attached thereto to be tilted, and a back stop against which the upper surface of the globe support rests when tilted, substantially as set forth. 4th. The combination, with the lantern frame and the movable globe support, of a hinge and guide which permits the globe support to be tilted or raised and lowered, and stops formed on the inner side of the lantern frame by which the globe support is locked in its normal and in a raised position, substantially as set forth. 5th. The combination, with the oil pot, an air chamber

secured thereto, tubes connected with the air chamber, and a wick tube attached to the oil pot, of a movable globe supporting plate provided with a downwardly projecting annular bead formed integral with said plate, and a burner cone attached to said plate within said bead, substantially as set forth. 6th. The combination, with the lantern frame and the movable globe support arranged in said frame, of a globe provided at its upper end with a bead having its portions opposite the side parts, of the lantern frame removed or flattened, substantially as set forth. 7th. The combination, with the oil pot having a filler opening, of a float arranged in the oil pot on one side of the filler opening, and provided with an indicator or pointer underneath the filler opening, substantially as set forth. 8th. The combination, with a tubular lantern frame provided with a fixed top of a globe supporting plate capable of moving up and down in the tubular frame, a globe, and a globe frame which is attached to said plate and which holds the globe on said plate independent of the lantern top, substantially as set forth. 9th. The combination, with a tubular lantern frame provided with a top adapted to receive the upper end of the globe when raised, of a globe supporting plate independent of the lantern top capable of moving up and down in the tubular frame, a globe, and a globe frame which is attached to said plate, and which holds the globe with its upper end normally below the lantern top, and raises the upper end of the globe into the lantern top upon raising the globe plate from the burner, substantially as set forth. 10th. The combination, with a tubular lantern frame, provided with a top adapted to receive the upper end of the globe when raised, of a globe supporting plate independent of the lantern top, guides on which the globe plate can be moved up and down in the tubular frame, a globe, and a globe frame which is attached to said plate, and which holds the globe with its upper end normally below the lantern top, and raises the upper end of the globe into the lantern top upon raising the globe plate from the burner, substantially as set forth. 11th. The combination, with a tubular lantern frame, of a movable globe supporting plate, a frame attached to said plate whereby the globe is held on the same, and side guides and rear guides on which the globe plate and frame are moved toward and from the burner, and whereby the globe plate is steadied between the tubes and in rear of the tubes, substantially as set forth. 12th. The combination, with the oil pot having an elongated opening in its top, of a flat wick tube seated in said opening, an air chamber secured to the oil pot and surrounding said elongated opening, air supply passages communicating with said air chamber, and a burner cone surmounting said wick tube and air chamber, substantially as set forth. 13th. In a tubular lantern, the combination, with the oil pot, of an elongated socket attached to the oil pot, and a removable elongated wick tube seated in said socket, whereby the wick tube is kept from turning, substantially as set forth. 14th. In combination, with an oil pot having an elongated opening in its top, an elongated wick tube arranged therein, said wick tube carrying a shaft, and ratchet wheels for raising the wick, an air chamber formed by the top of the oil pot side walls, and the cone with its supporting plate said wheels being inclosed and protected therein, air tubes entering the said air chamber and the globe surmounting the said air chamber, substantially as set forth. 15th. In a tubular lantern, the combination, with the oil pot having an elongated opening in its top, of an elongated wick tube arranged therein, whereby the position of said wick tube is kept in its proper relation with the air tubes, and the other parts of the lantern, an air chamber on top of the oil pot and surrounding said opening, air tubes connected with said air chamber, and a burner cone surmounting said air chamber, substantially as set forth.

### No. 35,991. Clasp and Buckle. (*Agrafe et boucle.*)

Vertex Fastener Company, (assignees of James A. Turnbull), all of Newark, New Jersey, U.S.A., 16th February, 1891: 5 years.

*Claim.*—A fastening device, comprising a tape having a ring or loop secured to one end thereof, and a detachable cross-bar, consisting of a closed link with a cross-bar across its centre in a direction transverse of the tape, and loosely mounted on the tape, the cross-bar adapted to be passed through the ring, or loop and secured, substantially as described.

### No. 35,992. Radiator. (*Serpentin.*)

Edward Gurney, (assignee of Charles Lovey and Charles William Peniston), all of Toronto, Ontario, Canada, 16th February, 1891: 5 years.

*Claim.*—1st. A radiator loop having an elbow formed integral with the said loop, and communicating with a chamber connecting the vertical legs of the said loop, substantially as and for the purpose specified. 2nd. A radiator loop having an elbow formed integral with the said loop, and communicating with a chamber connecting the vertical legs of the said loop, and with a steam or hot water supply pipe, in combination with a valve located within the elbow and arranged so that it may be employed to cut off communication between the supply pipe and loop, substantially as and for the purpose specified. 3rd. Two angular annular recesses formed opposite to each other in the two parts to be jointed together, in combination with a compressible ring placed between and in the said recesses, so that when the two parts are drawn together the edges of the angular annular recesses embed themselves in the compressible ring, substantially as and for the purpose specified. 4th. Two angular annular recesses correspondingly formed opposite to each other in the two parts to be jointed together, a compressible ring placed between and in the said recesses, in combination with bolts made so that they will not revolve when in position, each bolt being provided with a nut bedded on a washer, and designed to draw the parts together, substantially as and for the purpose specified. 5th. Two angular annular recesses correspondingly formed opposite to each other in the two parts to be jointed together, a compressible ring placed between and in the said recesses, and fingers arranged to act as guides for bringing the two parts together, in combination with bolts made so that they will not revolve when in position, each bolt being provided with a nut bedded on a washer and designed to draw the parts together, substantially as and for the purpose specified.



**No. 35,993. Lug for Shafts.***(Oreille de limonière.)*

John Stephen Hurley, (assignee of Eugene Henry Taylor), both of Lynn, Massachusetts, U.S.A., 16th February, 1891; 5 years.

*Claim.*—1st. In a shaft or thill lug, the combination of a main or body section formed to support a shaft or thill, and having an opening for the lateral entrance and egress of the shaft, and an upwardly inclined slot near the lower end of said opening, a swinging section hinged at its upper end to the body section at the upper end of said opening, and adapted to swing outwardly to open the lug, and a yielding locking device on the swinging end of the swinging section provided with an upwardly inclined tongue formed to enter the said slot, the inclination of said slot and tongue being such that the tongue cannot be forced out of the slot by pressure exerted on the swinging section, when the tongue is in the slot, as set forth. 2nd. The combination of the main section provided with a side opening, and with the inclined slot *g*, below said opening, the hinged section adapted to swing outwardly from the main section, the locking lever pivoted to the hinged section at or near its swinging end, and provided with an inclined tongue adapted to enter said slot, and a spring supported by the swinging section and bearing against one end of the locking lever, whereby said tongue is pressed inwardly, as set forth.

**No. 35,994. Machinery for the Manufacture of Peat Fuel.***(Machine pour la fabrication de la tourbe combustible.)*

Patrick Reynolds, of St. Brigide, Quebec, Canada, 16th February, 1891; 5 years.

*Claim.*—1st. In machinery for the manufacture of peat fuel, a finishing press embracing a cylindrical mould, apertured to allow of the entrance of the peat, a temporary resistance block, a rotating and reciprocating plunger, and means for effecting the rotation and reciprocation of same, as and for the purpose set forth. 2nd. In machinery for the manufacture of peat fuel, a finishing press embracing a cylindrical mould apertured to allow of the entrance of the peat, a temporary resistance block, a rotating and reciprocating helical plunger and means for effecting the rotation and reciprocation of same, as and for the purpose set forth.

**No. 35,995. Knitting Machine.***(Machine à tricoter.)*

Richard Irvine Creelman, (assignee of John Sutton), both of Georgetown, Ontario, Canada, 16th February, 1891; 5 years.

*Claim.*—1st. In a knitting-machine, a bare bed-plate having an inner bearing to support the bare cog-ring, in combination with a driving-wheel provided with a crank handle, and supported by an arm extending from the bed-plate, substantially as and for the purpose specified. 2nd. In a knitting-machine, an up-throw cam cast integral with the cog-ring, substantially as and for the purpose specified. 3rd. In a knitting-machine, a drawing-down or stitch-forming cam having a horizontal notch or step formed in its face, substantially as and for the purpose specified. 4th. In a knitting-machine, a drawing-down or stitch-forming cam, the upper edge of the cam being cut away, substantially as and for the purpose specified. 5th. In a knitting-machine, a ribber cam-plate made integral with the ribber-arm, adjusted to and revolving with the cam-cylinder, substantially as and for the purpose specified. 6th. In a knitting-machine, a lug fixed to and projecting from the ribber-arm immediately above a lug formed on the cam-cylinder, in combination with an adjusting screw connected to one lug, and acting against the other, substantially as and for the purpose specified. 7th. An adjusting screw, with figures on its head, in combination, with a ribber-arm and cam cylinder for regulating the relative distance, of needle-cylinder and ribber-needle holder, and raising or lowering the drawing-down or stitch-forming cam, as and for the purpose described. 8th. In a knitting-machine, a take-up arm pivoted on the yarn-stand and connected to a spiral spring fitted onto the yarn-stand supporting rod, and fastened to a sleeve frictionally held upon the said rod, in combination with a lever-lock pivoted on the yarn-stand, one end of the lever extending behind its pivot and across the top of the yarn-stand, the other end projecting in front of the pivot and shaped to extend below the take-up arm, substantially as and for the purpose specified. 9th. In a knitting-machine, a take-up arm pivoted on the yarn-stand and connected to a spiral spring fitted onto the yarn-stand supporting rod, and fastened to a sleeve frictionally held upon the said rod, in combination, with a take-up lock, of a knitting machine for the purpose of taking up slack yarn in reversing the machine, as described. 10th. In a knitting-machine having a yarn-stand and take-up for slack yarn in reversing the machine, a take-up lever-lock having one end extending behind its pivot and across the top of yarn-stand, forming a lock the other end projecting in front of the pivot, forming a lever, for the purpose described. 11th. In a knitting-machine, a ribber-dial having needle-grooves radiating from its centre in substantially parallel pairs. 12th. In a knitting-machine, a ribber-dial having needle-grooves radiating from its centre, in substantially parallel pairs, in combination with a pin or partition placed between each pair of grooves, substantially as and for the purpose specified. 13th. In a knitting-machine, a needle-cylinder having its upper edge bevelled inwardly and downwardly, substantially as and for the purpose specified. 14th. In a knitting-machine, a needle-cylinder or ribber needle-holder or dial, having the mouth of each of the needle-grooves enlarged by an internal annular hole, extending to a point below the hook of the needle when at its lowest point, the groove proper being enlarged externally to a point above the top of the needle when at its lowest point, substantially as and for the purpose specified. 15th. In a knitting-machine, a needle-cylinder having ordinary needle-grooves, and an internal recess formed round its top edge, and extending below the point where the hook of the needle travels downwardly, in combination with a

ring fitted into the recess and having a series of projections to form a partition between each pair of grooves, substantially as and for the purpose specified. 16th. A knitting-machine needle having a portion of its shank bent upwardly towards its hook, forming a loop to allow the yarn to pass to the centre of or below the heel of the needle. 17th. A knitting-machine needle, having a portion of its shank bent upwardly towards its hook, the said extension being made elastic and set to act against the side or sides of the needle-groove, substantially as and for the purpose specified. 18th. A knitting-machine needle, having its heel formed in the shape of an open loop, substantially as and for the purpose specified. 19th. A knitting-machine needle, having the portion of its heel which extends outside of the needle-groove made thicker than the portion within the needle-groove, substantially as and for the purpose specified. 20th. A knitting-machine needle, having the portion of its shank below or above the heel slotted to form an elastic pressure on both walls of cylinder needle-groove, substantially as and for the purpose specified. 21st. A knitting-machine needle, having a portion of its shank below the heel made double, with the double part cut down and set to form an elastic bearing on one wall of cylinder needle-groove, substantially as and for the purpose specified. 22nd. In a circular knitting-machine, mechanism for adjusting the rib needles centrally with machine needles or *vice versa*, in combination with a ribber needle-holder with pairs of needles radiating towards the centre, in substantially parallel pairs, for the purpose of forming a welt or bound-off top which will not unravel in two-and-two rib work, substantially as and for the purpose specified.

**No. 35,996. Gage for Sewing Machines.***(Guide plus pour machines à coudre.)*

David M. Pickett, Dearborn, Michigan, U.S.A., 16th February, 1891; 5 years.

*Claim.* A gage for sewing machines, consisting of a holding piece X, upon which is the fixed holder A, the sliding pieces B, C, having the indicating graduations, and having the forward end of the strip C arranged into a down-turned hook *c'*, and the forward end of the piece B arranged to operate in conjunction with the piece *c'*, as guides in the formation of tucks, substantially as and for the purpose described.

**No. 35,997. Knife. (Couteau.)**

Charles Franklin Bush, Erie, Pennsylvania, U.S.A., 16th February 1891; 5 years.

*Claim.*—In a combined knife and meat saw, the combination of a knife having standards on the back thereof, with a removable and adjustable saw mounted in said standards, substantially as and for the purpose set forth.

**No. 35,998. Looping Instrument.***(Instrument pour faire les ganses.)*

Henri Beaudry, of Montreal, Quebec, Canada, 16th February, 1891; 5 years.

*Claim.*—1st. A looping instrument, in the form of a divided stiletto, the parts of which are pivotally connected to each other. 2nd. In a looping needle, the combination of the stiletto proper A and pivoted jaw B, and means for operating same, all substantially as herein set forth.

**No. 35,999. Fire Escape. (Sauveteur d'incendie.)**

Isaac Mills, Hamilton, Ontario, Canada, 16th February, 1891; 5 years.

*Claim.*—In a fire escape, the combination of the sliding receptacle C, having inner protecting side *C'* and bottom *c''* hinged at I, and so constructed with slides *C'* to slide on a ladder B, by means of the pulley block D, and the metallic cord or chain F, substantially as and for the purpose hereinbefore set forth.

**No. 36,000. Board for Fyles. (Serre-papier.)**

Frederick Roger, Ottawa, Ontario, Canada, 16th February, 1891; 5 years.

*Claim.*—1st. In a file or letter-holder, having an oblique hinge E, on its left-hand corner, as shown. 2nd. A file or letter-holder, comprising a base or under board B, and a cover or top board A, having an oblique hinge C, and attached with a fastener or lacing cord, as shown and described. 3rd. A file or letter-holder, comprising a base or under board B, and a cover or top board A, having an oblique hinge C, protected corners, and attached together by a fastener or lacing cord, as shown and described.

**No. 36,001. Brake for Waggon.***(Frein de wagon.)*

Clarence E. Holley, Fort Fairfield, Maine, U.S.A., 16th February, 1891; 5 years.

*Claim.*—1st. In a waggon brake, the combination of the reciprocating bar, having its rear end connected to the brake beam, and its front end provided with notches in its lower edge, the vertically-disposed lever pivoted at its upper end to the reach of the waggon, and carrying a transverse pin, engaging the notches in the reciprocating rod, and the sliding bar mounted on the under side of the waggon tongue, and having its rear end engaging the lower end of the vertically disposed lever, as set forth. 2nd. In a waggon brake, the combination of the reciprocating rod, the vertically disposed lever pivoted at its upper end to the waggon reach and engaging the front



end of the reciprocating rod, the sliding bar mounted on the under side of the tongue and having its rear end engaging the lower end of the vertical lever, and provided at its front end with a longitudinal slot and a depending pin in rear of said slot, and the securing pin passed through the slot into the tongue, as set forth. 3rd. In a waggon brake, the combination of the reciprocating rod provided at its front end with a lateral pin and transverse notches, the rock shaft provided at its inner end with a segmental plate, having a curved slot engaging the lateral pin on the reciprocating rod, the vertically-disposed lever having a transverse pin engaging the notches in said rod, and the sliding bar having its rear end engaging the lower end of the said lever, as set forth. 4th. The combination of the reciprocating bar, the lever acting thereon, the sliding rod engaging said lever, the rock shaft and the plate at the inner end of said rock-shaft, having a curved slot engaging the lateral pin on the reciprocating bar, as set forth. 5th. The combination of the brake beam N, having the ring or loop M, the reciprocating bar K passing through and adjustably secured in said ring or loop, said bar being made in sections adjustably secured together, the lever G, having keeper L and connected to the front end of said bar, and the sliding rod B attached to said lever, as set forth.

**No. 36,002. Apparatus for Telephone Exchanges.** (*Appareil d'échange de téléphone.*)

The Bell Telephone Company of Canada, Montreal, Quebec, Canada, assignees of John Joseph Carly, New York, State of New York, U.S.A., 17th February, 1891; 5 years.

*Claim.*—1st. In a telephone switching apparatus key-board, two loop plugs united by two flexible conductors, and adapted to serve as a connecting link between the spring jacks of any two circuits, a telephonic apparatus and a condenser, combined with a key controlling the connection of the telephonic apparatus and condenser, with the said flexible conductors, the said key normally maintaining the direct continuity of both conductors, and adapted, when depressed, to introduce a condenser into its circuit of one of the said flexible conductors, and to bridge the telephonic apparatus across from one to the other, as described. 2nd. The coil of a telephone apparatus connected between the strands of a flexible cord, and a branch connection to ground at the centre of said coil, in combination with a metallic circuit, including the strands of said cord in different sides thereof, substantially as and for the purpose specified. 3rd. A pair of loop plugs and their cords for connecting together and testing telephone lines, the strands of said cords including a loop key, said loop key having contacts with different sides of the coil of a telephonic apparatus, said coil being provided with a ground connection at its centre, substantially as and for the purpose specified. 4th. The combination of a pair of loop plugs and their cords for connecting together and testing telephone lines, and a switching device connecting with strands of said cords, said switching device having contacts with different sides of the coils of a telephonic apparatus, said coil being provided with a ground connection at its centre, substantially as and for the purpose specified.

**No. 36,003. Magnetic Meridian Vitapoise.** (*Vitapoise magnétique.*)

The Magnetic Meridian Vitapoise Company, assignees of Thomas H. Hicks, all of Detroit, Michigan, U.S.A., 17th February, 1891; 5 years.

*Claim.*—1st. A magnet, suspended to arrange itself in the earth's magnetic meridian, substantially as and for the purpose set forth. 2nd. A magnet, suspended by a metallic conductor, substantially as and for the purpose set forth. 3rd. In combination, a magnet, a metallic body supporting the magnet, and a metallic conductor to suspend said magnet and its supporting body, substantially as and for the purpose set forth.

**No. 36,004. Rotary Ink Stand.** (*Encrier rotatif.*)

John Francis Garrow and Harry Bailey, both of the city of New York, State of New York, U.S.A., 17th February, 1891; 5 years.

*Claim.*—1st. The ink-stand, constructed substantially as herein described, having a wide base adapted to contain a card receptacle, a single central spindle fixed thereto, and a case revoluble upon the spindle and resting at its outer periphery upon said base to contain and support a series of drawers, and intervening ink and mucilage founts, substantially in the manner and for the purpose herein set forth. 2nd. The combination, in an ink-stand, substantially as described, of a wide base, a revoluble case supported at its outer rim upon said base, a stationary calendar case mounted above the revoluble case, a series of date wheels revoluble within the calendar-case, and a single central spindle fixed to the base and serving as a pivotal axis for the revoluble case and the date-wheels, and as a fixed support for the calendar case, substantially in the manner and for the purpose herein set forth.

**No. 36,005. Tray for Coins.** (*Plateau à monnaie.*)

William Henry Staats, Chicago, Illinois, U.S.A., 17th February, 1891; 5 years.

*Claim.*—A coin tray, provided with a series of independent semi-circular coin-pockets arranged at an angle from a vertical section, substantially as shown and described and for the purpose set forth.

**No. 36,006. Animal Trap.** (*Piège.*)

John Arthur Best and William Thomas Mellon, both of Atlantic City, New Jersey, U.S.A., 17th February 1891; 5 years.

*Claim.*—1st. The combination, with a cage, of a tilting platform having a trigger post thereon, a pendant wicket within the cage, and a latch-dog adapted to lock fast to the wicket when it falls from the trigger-post, substantially as set forth. 2nd. The combination, with an elongated cage, a tipping platform in the cage, and a trigger post on the platform adapted to support a pendant wicket by a loose engagement with its lower edge, of a wicket having a serrated lower edge and a latch lip thereon, a rocking gravity-actuated latch dog adapted to engage the latch lip on the wicket, and a pendant hinged end gate, substantially as set forth. 3rd. The combination, with an elongated rectangular cage constructed of wire strands secured on a base board, which base board is apertured near its front end, a tilting platform supported pivotally from the base board, and a trigger-post on the side edge of the tilting platform near its front end, of an inwardly and downwardly inclined wicket, having its lower edge serrated and provided with a latch lip, and having its upper edge hinged to the top of the cage frame, a gravity-actuated rocking latch-dog adapted to engage the latch lip of the wicket when the wicket falls, and a hinged end gate, substantially as set forth. 4th. The combination, with an elongated rectangular cage, open at one end, and an end gate hinged to said open end and adapted to close said end by gravity and be folded to lie on the cage frame, of an extension plate pivoted to the gate and having one end portion cut into angular form, substantially as set forth. 5th. The combination, with a rectangular, elongated wire cage, a tilting platform in the cage, a trigger-post on the front end of the platform adapted to engage the lower edge of a pendant wicket, so as to hold the wicket up and the front end of the platform depressed when the trap is set, and a wicket hinged by its upper edge to the front top portion of the cage frame, and extending inwardly at an angle and having its lower edge serrated and provided with a latch lip, of a gravity-actuated latch dog adapted to lock fast to the latch lip when the wicket falls, a hinged pendant end gate and a latch for the end gate, substantially as set forth.

**No. 36,007. Composition for Covering and Protecting Surfaces.** (*Composition pour protéger et couvrir les surfaces.*)

Richard Morris, Beechfield, Doncaster, and William Thomas Gent, Mistertow, Notts, both of England, 17th February, 1891, 5 years.

*Claim.*—For covering and protecting surfaces, a composition consisting of or containing any given quantity, by weight of resin, to which is added in the proportion of about two thirds of the amount of such resin-oxide of zinc and gypsum, or plaster-of-paris, in equal parts by weight.

**No. 36,008. Compound for Insulating.** (*Composition isolante.*)

Adolphus Alvard Knudson, Brooklyn, New York, U.S.A., 17th February, 1891; 5 years.

*Claim.*—A composition of matter for coating electric conductors to effect insulation, consisting of about equal parts by weight of carbolic acid, or other substances containing said acid, and shellac, or other resinous gums or substances, combined by heat, or by a solvent, substantially as described.

**No. 36,009. Combined Hame Clip and Tug Loop.** (*Crochet d'attelles et mancelle combinées.*)

Alvin M. Brown and Daniel S. King, both of Hamilton, Ontario, Canada, 17th February, 1891; 5 years.

*Claim.*—1st. In a hame clip, consisting of the revolving bracket with one or more slots across its front portion, embedded, about three fourths of the circle therein rigidly secured to the hame by a suitable hame staple, as fully set forth and described. 2nd. In a hame-clip adapted to be used with the right angle tug-loop, said tug loop so constructed that its front portion conforms to the slot *b*, in the adjustable bracket, as fully set forth and described. 3rd. In a combined adjustable hame clip, consisting of a slotted bracket, and the tug-loop constructed to conform to each other, which obviates the usual rapid wearing away of the wearing surface, as fully set forth and described. 4th. In a combined adjustable hame clip, consisting of the slotted adjustable bracket with the extended pivotal lugs at its upper and lower ends, passing through the eyes of the loops which secure it to the hame, as fully set forth and described.

**No. 36,010. Device for Carrying and Affixing Stamps.** (*Appareil pour contenir les timbres-poste et les poser.*)

Benjamin Franklin Lantz, Taylorville, Illinois, U.S.A., 17th February, 1891; 5 years.

*Claim.*—In a device for carrying and affixing stamps, the combination with a receptacle or casing A, having its lower open end provided with inturned flanges, of a spring-actuated plunger located in said casing, and provided with lower beveled edges, a separate section adapted to fit over the open end of the casing, and provided with a central wall forming a sponge-receptacle beneath the same, a water-proof chamber above the same for embracing the stamp-containing portion, and a cap or cover for closing the lower end of said section at which the sponge is exposed, substantially as set forth.

**No. 36,011. Sifter for Ashes.** (*Crible à cendres.*)

Edward H. Gore, Biddeford, Maine, U.S.A., 17th February, 1891; 5 years.

*Claim.*—1st. The combination, with a suitable housing, of a rotary sieve having a longitudinal opening therein, a shaft passing cent-

rally through the sieve heads and free to turn independently of the sieve, said shaft being journaled in the housing, and a hood having its sides extending down at the ends of the sieve and rigidly attached to said shaft, and adapted to be drawn over said opening by means of said shaft, substantially as and for the purposes set forth. 2nd. The combination, with a rotary sieve, of substantially cylindrical shape loosely mounted on a shaft journaled in a suitable housing, and having a feed opening therein, and a section adjacent to said feed opening of less radial length than the main part, of a hood having its sides extending down at the ends of the sieve, and rigidly attached to said shaft, said hood being adapted to travel over said feed-opening and section, substantially as and for the purposes set forth. 3rd. The combination, with a rotary sieve, of substantially cylindrical shape set on a shaft journaled in a suitable housing, and having at or near each end wedge-shaped projections with sockets therein, of a cover to said housing having spurs on outside thereof, adapted to project through holes in said housing, and into said sockets when said door is open to lock said sieve in a given position, substantially as and for the purposes set forth. 4th. The combination, with a housing having a rotary sieve journaled therein, of an ash-receptacle cover hinged at one end to said housing and having pan supports, substantially as and for the purposes set forth. 5th. The combination, with a suitable housing having a rotary sieve journaled therein, of an ash-receptacle cover hinged at one end to said housing and having swinging pan-supports, substantially as and for the purposes set forth.

### No. 36,012. Washer and Concentrator for Ores. (*Concentrateur de minerai.*)

Carl Lübrig, Dresden, Saxony, German Empire, 17th February, 1891; 5 years.

*Claim.*—1st. In a percussion table, the herein described means of guiding the travelling band by strips of wood attached to its outer surface, and guided in a channel iron above. 2nd. In a percussion table, attaching the feeding boxes, jet pipes, and distributing table edged with fabric to the movable frame, substantially as described. 3rd. The combination of three or more percussion tables, arranged with communicating channels so as to constitute a compound machine for successive treatment of the material without requiring manipulation thereof, substantially as described.

### No. 36,013. Oil for Painting. (*Huile à peinture.*)

Adam Alexandre Wilson, Montreal, Quebec, Canada, 17th February, 191; 5 years.

*Résumé.*—Un nouvel article de manufacture, une huile à peinture composée d'un mélange d'huile animale, d'huile végétale de borax et de "Japan dryer," dans les proportions et de la manière ci-dessus décrites et pour les fins sus-mentionnées.

### No. 36,014. Manufacture of Axle Boxes.

(*Fabrication des boîtes à graisse.*)

John Donnelly, William McLaren and Ambrose Trask, all of London, Eng., 19th February, 1891; 15 years.

*Claim.*—1st. The herein described process of manufacturing axle box shells from a flat plate without weld or join, which consists in submitting the plate to a series of cupping or drawing operations in a series of dies of progressively-decreasing size, whereby the plate is brought by progressive stages first to a box like form with bulged sides at certain points, and then the bulges are formed into corrugations or ribs and intermediate external grooves for the horn plates, and if required internal grooves for dust guard, without drawing metal from any other part of the box or sensibly diminishing the thickness of the metal in the operation of forming said corrugations substantially as described. 2nd. The herein described process of manufacturing axle box shells, which consists in submitting a flat plate to progressive series of cupping and drawing operations in dies, whereby the box like shell is formed with bulged sides which are afterwards formed into corrugations and grooves, as described, and stamping or embossing the top or closed end of the box shell between dies, to form a seat for the spring and bosses for the lid hinge, substantially as specified.

### No. 36,015. Process of Making Artificial Musk. (*Procédé de fabrication de musc artificiel.*)

Albert Baur, Biberach, Germany, 19th February, 1891; 5 years.

*Claim.*—The process of making artificial musk which consists in heating toluoil with butan chloride, bromide or iodide diluting the product, distilling it with steam, treating the vapors between 170°, 200° C, with fuming nitric and sulphuric acid, and crystallizing the result with ammonia or carbonate of ammonium, substantially as specified.

### No. 36,016. Delivery Waggon.

(*Voiture de distribution.*)

Christain See, St. Paul, Minnesota, U. S. A., 19th February, 1891; 5 years.

*Claim.*—1st. In a waggon, the combination of a platform having a recess at the rear end, a step suspended below said recess, and a seat mounted upon a standard upon said step, substantially as described. 2nd. In a waggon, the combination, with the platform having a recess at its rear end, a step suspended beneath said recess, a seat mounted upon said step, and a brake operating lever extending downward adjacent to said step, substantially as described. 3rd. In

a waggon, the combination of the platform having a recess at its rear end, and an open work guard around its outer edge, a step below, and a driver's seat in the rear of said recess, and a rein support arranged centrally upon said platform, substantially as and for the purposes set forth. 4th. In a waggon, the combination of the platform having an open work guard and a recess at its rear end, a step suspended below said recess, a driver's seat supported upon said step within or back of said recess, a rein support arranged centrally upon said platform, and a transverse shelf arranged underneath said platform, immediately in front of the hind wheels, substantially as and for the purposes set forth. 5th. In a waggon of the class described, the combination, with its platform, of an open work guard around the same, a semi-circular recess at the rear end, cushions upon the sides of said recess, a step suspended beneath said recess, a seat mounted upon a standard upon said step, a brake operating lever extending to one side of said recess, and a transverse receptacle suspended underneath said platform in front of the hind wheels, substantially as described. 6th. In a waggon of the class described, the combination, with the rein support or standard, of a strap passed through the same, connecting the bridle bit and the hitching weight, a lifting strap connected to said weight, and means operated by the driver at the rear of the waggon for bringing said lifting strap into engagement with the adjacent waggon wheel, whereby said wheel in its forward movement serves to lift said weight, substantially as and for the purposes set forth. 7th. In a waggon of the class described, the combination, with the hitching weight, of a strap running from said weight to the bridle bit, a lifting strap attached to said weight, devices upon one of the wheels of the waggon adapted to engage said lifting strap, and to pull upon the same to lift said weight, and means operated by the driver for bringing said strap into engagement with said devices, substantially as and for the purposes set forth. 8th. In a waggon of the class described, with the hitching weight having a strap connecting it with the bridle bit of the team and a lifting strap, of supports for said lifting strap underneath the waggon body, a holder supporting the end of said strap adjacent to a wheel of the waggon, devices upon said wheel for engaging said strap, and means operated by the driver for moving said strap holder so as to bring the same into engagement with one of the devices upon said wheel, substantially as described. 9th. In a waggon of the class described, the combination, with a hitching weight and a lifting strap attached to the same, of a said strap, a clutch engaging said strap and holding it in its raised position, means operated by the driver for releasing said clutch, devices upon the waggon wheel, adapted to engage the strap when in suitable position, and to lift the weight, and means operated by the driver for bringing said strap into engagement with said devices, substantially as described. 10th. In a waggon of the class described, the combination, with the hitching weight and its lifting strap, of a clutch upon the waggon body engaging said strap and holding the same in a raised position, means operated by the driver for releasing said clutch, and mechanism operated by the driver engaging said strap and lifting the same, substantially as and for the purposes set forth.

### No. 36,017. Machine for Ditching.

(*Machine à fassoier.*)

Walter Carter and David Mackenzie, both of St. Thomas, and William Albert Ferguson, of Dehli, all in Ontario, Canada, 19th February, 1891; 5 years.

*Claim.*—1st. The combination, with the truck wheels and elevating wheel, of a bowed axle uniting the truck wheels, and a frame vertically adjustable in the bow section in which the elevator wheel is journaled, substantially as described. 2nd. The combination of two truck wheels, a bowed axle uniting the two wheels and connected by braces or rods with the draft, an elevator wheel located in the bow, journaled in the frame and the latter pivoted adjacent to the point of application of the draft, and a bale adapted to travel vertically within the axle bow to which the rear of said frame is elevating wheel, of elevator blades *e*, pivots on said blades, spring arms connected to said pivots, and a trip adapted to raise said blades, whereby the pivots are shifted and blades are held in their raised position by the spring arms, substantially as described. 4th. The combination, with the elevating wheel, of blades, each held in normal position by a spring, said spring adapted also to hold the blade in its discharging position, substantially as described. 5th. The combination, with the elevator wheel, of pivoted blades on its periphery, a strip adapted to raise each blade to discharge its load of earth, and means for acting directly on the edges of said blades for forcing them back to their normal positions, substantially as described. 6th. The combination, with the elevator wheel, of blades pivoted upon arms, a tripping lug *E*, a retracting wheel *G*, and spring rods *H* adapted to hold the blades both in normal and in discharging positions, substantially as described. 7th. The combination, with the plow standard and the straining rods *J*, of the pendulum link *J'*, and means for engaging the team thereto, substantially as described. 8th. The combination, with the plow point and rack bar, of the engaging pinion and a spring for holding the rack to the pinion by a yielding connection, substantially as described. 9th. The combination, with the plow point and an earth channel in continuation thereof, of standards *C*, extending from the channel forward and movably engaged in clips pivoted to the frame, rods *F* pivoted to said standards *C*, extending forward to the draft and rods *K*, pivoted to the said arms *C*, and extending to the uprights of the frame *D*, the construction being such that when the plow point is raised it is thrown back from the wheel, substantially as described.

### No. 36,018. Wad for Guns. (*Bourre de fusil.*)

John Walker Scandland, of Selma, and Bolivar Cooke Converse, Springfield, all in Ohio, U.S.A., 19th February, 1891; 5 years.

*Claim.*—1st. In wads for shot-guns, two wads between the powder and shot, such wads being one or both formed with the contacting

side elevated so as to leave an air space between the two wads, as and for the purpose set forth. 2nd. In wads for shot-guns, a dish-shaped lower wad covering the powder charge, having a concave under surface next the latter, an inclined or rounded upper surface, a wad having a flat surface resting upon the latter and having its upper side concave to form a bed for the shot, substantially as and for the purpose hereinbefore set forth. 3rd. In a shot gun charge for either a cartridge shell or for the gun without the latter, the combined wads between the powder and shot, consisting of a conic frustrum-shaped wad, concave on the under side next the powder, and a wad of plano-concave form resting on said conic frustrum-shaped wad, and having its plane surface next the latter, and its concave surface next the shot, substantially as and for the purpose set forth. 4th. In a powder charge, either fixed or loose, the combination, with a concavo-convex wad, of a wad having a plane surface adapted to abut against or lie upon the convex side of said concavo-convex wad, the concave side of the deposit of burned powder may be carried out of the bore of the gun, substantially as set forth. 5th. In shot gun-wads, the two wads between the powder and shot, the lower wad being concave on its under side or surface, and having its upper side elevated at the centre, and the upper wad being either flat or convex on its under surface, and concave on its upper surface, as set forth. 6th. In a cartridge for shot guns, the two wads interposed between the powder and shot, said wads being formed so as to have an air-space between them, when lying in contact, substantially as and for the purpose set forth.

### No. 36,019. Sewing Machine.

(*Machine à coudre*)

Ernest Charles Lea, Silverdale, Kingston-on-Thames, Surrey, England, 20th February, 1891; 5 years.

*Claim.*—1st. The combination of the convex vertical piece of steel *m*, fixed in a tube or box *l*, herein named the plunger, to slide up or down or to revolve in the cylinder *k*, by the blow from the needle-point, substantially as herein described and according to figures 1, 2, 3 and 4. 2nd. The combination of the spring *j*, or *j'*, and the cam *o*, on the socket *r*, and the shuttle-carrier and arm fixed to the socket and the pivot *s*, substantially as herein described and according to figures 1 and 2. 3rd. The combination of the mechanism geared to be worked by the point of a needle placed vertical, horizontal, or in any other position, substantially as herein described. 4th. The mouth of the convex vertical portion, of the plunger *l* to revolve in the cylinder *k*, for the purpose to prevent the needle point from being injured or otherwise damaged when delivering the blow, substantially as herein described and according to the accompanying drawings. 5th. The combination of pieces of steel *m*, fitted in the plunger *l* and the spring *l'* and *p* plunger *l'*, substantially as herein described and according to figure 5.

### No. 36,020. Water Conductor for Turbines.

(*Conduit d'eau pour turbines.*)

John Graham, Minneapolis, Minnesota, U.S.A., 20th February, 1891; 5 years.

*Claim.*—The combination, with a vertical pipe, having a long and a short leg, a water inlet pipe *J*, connected with said long leg between its ends, and a valved vent *I* in the middle of said vertical pipe, at its top, of a horizontal valve *G*, under the open end of the short leg of said vertical pipe, vertical parallel screw rods *H*, mounted in bearings on the sides of said short leg and carrying a valve *G*, pinions *H'* on the threaded portions of said rods, parallel transverse shafts *H''*, having worms *H'''*, meshing with the pinions *H'*, bevel gears *H''''* on said shafts, an operating shaft *H'''''*, having bevel gears *H''''''*, meshing with the gears *H'''''*, a gate *K* at the lower or discharge end of the long leg of the vertical pipe, and a turbine *F*, into which said long leg discharges, substantially as shown and described for the purpose set forth.

### No. 36,021. Folding Wooden Boat.

(*Canot de bois pliant.*)

George W. Schermerhorn, Philadelphia, Pennsylvania, U.S.A., 20th February, 1891; 5 years.

*Claim.*—1st. The combination in a folding boat, of two flexible boards, the two corresponding lower edges of which are cut to a curve and secured by hinges, a water-proof covering and a prop for distention, the whole adapted to form a sharp bottomed boat when distended, substantially as described. 2nd. The combination in a folding boat, of a bottom formed of two flexible boards, the corresponding edges of which are similarly curved, and the lower curved edges of which are secured together by suitable hinges, the sides formed of flexible boards, the lower edges of which are curved similarly with and hinged to the upper edges of the bottom boards and the flexible water-proof covering, the whole adapted, when distended, to form a double-ended dead rise boat. 3rd. The combination, with a flexible boat, of an out-rigger formed of the parts *I* and *J*, extending across the boat, and the fore and aft parts *G* and *H*, said parts *I* and *J* being attached to the boat by the loops *L* and pins *K*, and said fore and aft parts being secured to said parts *I* and *J* by mortises and pins *k*, substantially as shown and described.

### No. 36,022. Safety Device for Incline Cars.

(*Appareil de sûreté pour chars.*)

William Peach, Allegheny, Pennsylvania, U.S.A., 20th February, 1891; 5 years.

*Claim.*—The herein described safety attachment for incline cars, consisting of the draw-head *b*, capable of moving a limited distance in the direction of its length, and actuated by a suitable spring *i*

and bar *j*, hinged to the frame of the car and provided with downwardly-projecting hooks *m*, adapted to engage with the cross-ties of the track, and a catch *l* arranged beneath the draw-head *b*, in a manner that when the strain is removed from the said draw-head, the hooked bars will drop and engage with the ties of the track, substantially as set forth.

### No. 36,023. Slate Cleaner, Pencil Holder and Pencil Sharpener. (*Eponge pour ardoises porte et taille crayon.*)

John Draper, Whitby, Ontario, 28th February, 1891; 5 years.

*Claim.*—1st. A slate-cleaner, consisting of a bottle *A*, provided with a plug *B*, having a small opening in it protected by the spring cap *C*, one or more wings *D*, designed to hold a sponge, substantially as and for the purpose specified. 2nd. A slate cleaner and pencil-sharpener, consisting of a bottle *A*, provided with a plug *B*, having a small opening in it protected by the spring cap *C*, one or more wings *D*, designed to hold sponges, the pencil-holder *G* and sharpening plate *I* attached to the bottle, substantially as and for the purpose specified.

### No. 36,024. Hoop Machine.

(*Machine à cercles.*)

Alfred Wadsworth, assignee of John B. Dougherty, Warsaw, New York, U.S.A., 20th February, 1891; 5 years.

*Claim.*—1st. In a hoop machine, in combination, with a reciprocating cross-head and slides therefor, a non-rotating tilting shaft, provided with a cutter, pivots for said tilting shaft, and guides for the free end of the shaft, substantially as shown and described. 2nd. In a hoop machine, in combination, with a moving cross-head and slides therefor, a tilting shaft held in bearings on said cross-head, a cutter held by the shaft, a cam to tilt the shaft and actuators for the cam, substantially as described. 3rd. The reciprocating head of a hoop machine and slides therefor, in combination with a shaft held by the head, a vertical cutter for the shaft, a horizontal cutter and a holder for the same secured adjustably to the head, substantially as and for the purpose set forth.

### No. 36,025. Hoop Machine.

(*Machine à cercles.*)

Alfred Wadsworth, assignee of John B. Dougherty, Warsaw, New York, U.S.A., 20th February, 1891; 5 years.

*Claim.*—1st. A machine for cutting hoops, provided with a sliding head, holding a series of rolling cutters mounted on shafts, a part of said shafts being horizontal, and a part inclined to a horizontal, the horizontal shafts and inclined shafts being alternated, substantially as shown. 2nd. A machine for cutting hoop, having a sliding head carrying a series of rolling cutters, the shafts of a part of the cutters being horizontal, and the remainder of the shafts being inclined, the horizontal shafts and inclined shafts being alternated, and adjusting screws for said shafts, substantially as shown and described. 3rd. A hoop machine, having a sliding-head, holding a series of rolling cutters, in combination with a rigid blade or knife held by said sliding-head, the plane of the edge of said knife being tangent to the peripheries of the rolling cutters, substantially as and for the purpose set forth. 4th. A hoop machine, having a sliding head provided with cutters, in combination with a cam on said sliding head, a lever *t* moved by said cam, a carriage having toothed racks, a lifting shaft and pinion for said racks, a pawl carrier and pawl and ratchet on said lifting shaft. 5th. In a hoop machine, a sliding head having a series of rolling cutters, and a rigid blade secured to the sliding head, in combination with a guard roller held by the sliding head, having its axis parallel with the plane of the blade, substantially as shown and for the purpose set forth.

### No. 36,026. Register for Cars.

(*Registre pour chars.*)

Hiram Collins Mapes, Gorham, New York, U.S.A., 21st February, 1891; 5 years.

*Claim.*—The combination, with the roller *l''*, means for rotating the said rollers, and the gong, of the tappet wheel having its arms curving outward and provided with short cross-bars, which curve in their circumferential length, the tappet *I*, and the hammer *l'*, substantially as set forth.

### No. 36,027. Turbine Wheel. (*Turbine*)

John Charles Lansing, Shelbourne, Ontario, Canada, 21st February, 1891; 5 years.

*Claim.*—1st. A turbine, having a wheel contained within the casing, provided with a series of buckets, each bucket of which extends from inside to outside, back from the radial line, passing through the inner end of the bucket in the direction in which the wheel revolves, the top, however, being flared in the opposite direction, substantially as specified. 2nd. A turbine, having a wheel contained within the casing, provided with a series of buckets, each bucket of which extends from inside to outside, back from the radial line, passing through the inner end of the bucket in the direction in which the wheel revolves, the top, however, being flared in the opposite direction, and the bucket being also constructed lengthwise with the upper portion, curved downwardly and outwardly, so as to recede in the same direction in which the wheel revolves, and the lower portion continuing the curve in the opposite direction, the cross-section of the bucket at the top being slightly concave, and the concave and width gradually increased from top to bottom, substantially as and for the purpose specified. 3rd. A turbine, having

a wheel contained within the casing A, provided with a series of buckets (t), in combination with the chutes a, designed to direct the water against the upper portion of the buckets (t), from which it sweeps down and is carried through the wheel, substantially as and for the purpose specified. 4th. A turbine, having a wheel contained within the casing A, provided with a series of buckets (t), in combination with the chutes a and ring-gate D, provided with two-winged gates C, the outer wing e' of which, when being opened or closed, follows the curve of the face d', of the guide B, while the inner end of the inner wing follows the concentric curved face f', of the innermost side of the guide B, the gates being operated substantially as and for the purpose specified. 5th. A turbine, having chutes a, and provided with a ring-gate D, having two-winged gates C operating in conjunction with the guides B, forming part of the casing A, substantially as and for the purpose specified. 6th. In a turbine, a spider e, having a quadrant F, located between the arms f, and a pinion E, to mesh with the said quadrant, the arms of the quadrant being held solid with the ring d, of the ring-gate D, by the lugs g', substantially as and for the purpose specified. 7th. In a turbine, a dome or covering J, held on the shoulder g, and standards K, by the bolts k, and a top L, held on the top ring d, of the casing A by the bolts l, substantially as specified.

### No. 36,028. Lighter for Pockets.

(*Allumoir de poche.*)

Andrew John Fredrikson, Grand Rapids, Michigan, U. S. A., 21st February, 1891; 5 years.

*Claim.*—1st. A strip of combustible material having at intervals along its length and lying within its body tongues having at their free ends particles of material adapted to take fire by friction, and openings beneath said tongues, substantially as described. 2nd. A cylindrical case having an opening in its periphery, a spring covering said opening and having an igniting-point and pressure-fingers, a stop or projection on the periphery of said case, and a strip of combustible material projecting through said opening having at intervals particles of material ignited by frictional contact with said igniting-point and openings engaged by said stop or projection, all substantially as shown and described. 3rd. A cylindrical case having an opening in its periphery, a spring covering said opening, having a point and fingers at its free end, hooks H, engaging holes in said case and secured by a hook near its middle, substantially as described. 4th. A case having openings as C, and C', igniting and pressure devices on said case, and a spring located within said case and having its free end projecting through said opening C', therein, in combination with a strip of combustible material having at intervals particles of material adapted to ignite by friction and openings at corresponding intervals adapted to be engaged by said free end of the spring. 5th. A case having openings as C, and C', a spring covering opening C, and having igniting and pressure fingers at its free end and a spring I, located within said case and having its free end projecting through opening C', therein, in combination with a combustible strip located within said case and having one end projecting through opening C, said strip having at intervals particles of material adapted to ignite by friction, and openings engaged by the projecting ends of spring I, all substantially as shown and described. 6th. A cylindrical case having openings C, and C', a spring D, covering opening C, and having a friction or igniting device at its free end, and a strip of combustible material having at intervals particles of material adapted to ignite by friction, and openings at corresponding intervals, in combination with a spring located within said case having one end projecting through the opening therein and engaging said spring D, and its other end projecting through opening C', and engaging the openings in said combustible strip, all substantially as shown and described. 7th. A case having an opening as C, therein, and a strip of combustible material located within said case having one end projecting through said opening therein formed at intervals with openings and provided at corresponding intervals with particles of material adapted to ignite by friction in combination with a spring covering said opening in the case and having at its free end an igniting-finger, and pressure-fingers on opposite sides of said igniting finger, and a stop projecting from said case and adapted to engage said openings in combustible strip, substantially as shown and described. 8th. A cylindrical case having a slit in its periphery, a spring covering said slit and provided with pressure-fingers and friction point, a spring-stop projecting from the periphery of said case, a continuous strip of combustible material having at intervals tongues with openings underneath the same, and particles of material adapted to take fire by friction attached to said tongues, substantially as described.

### No. 36,029. Machine for Bolting Flour.

(*Blutoir.*)

Henry John Fox Rose, Winnipeg, Manitoba, Canada, 21st February, 1891; 5 years.

*Claim.*—1st. In a bolting reel the combination of the rapid forced feed of stock in a distinct stream or streams and the constant unbroken contact of the same with an unobstructed continuous silk surface the full length of the reel as described and specified. 2nd. The combination of a hollow body formed of ribs in the ordinary way with the head and tail pieces of considerably larger diameter than the said body and the spiral segments intermediate between the head and tail pieces secured continuously together and to the ribs forming the body as hereinbefore set forth. 3rd. The combination of a hollow body with head and tail pieces of larger diameter than the body, the spiral segments secure to each other and to the ribs by angle irons or other convenient methods, with the edges rounded to form a close and continuous support for the silk covering and the lifting spouts or lifters connected with the silk covering and the tail end to discharge the stock, all as described and set forth. 4th. The combination of the rounded ends of the ribs C, passing into or through the holes in the head piece D, the nuts a, the screws b, and the plates d, all as described and for the purpose specified.

### No. 36,030. Fire Escape. (*Sauveteur d'incendie.*)

Hamberry Wilson, Zanesville, Ohio, U. S. A., 21st February, 1891; 5 years.

*Claim.*—1st. In a fire escape, the divided case, the shaft having the star wheel and pulley rigidly connected thereto and the bearing for the shaft formed in the case to support the shaft at each end, and also having a central support and the friction blocks carried by the star wheel, substantially as set forth. 2nd. In a fire escape, the divided case having the bearing therein for the rotatable shaft with the central division plate provided with a bearing in line with those in the case, substantially as set forth. 3rd. In a fire escape, the case having the star wheel, an I brake blocks mounted in one part thereof, and the guide pulley and guide block in the opposite part with an eye formed with the case and located substantially centrally with the shaft of the star wheel and pulleys, substantially as set forth. 4th. In a fire escape, the divided case and the central division plate each having a portion of the suspension bearing formed therewith, and having the eye extending through them, substantially as set forth.

### No. 36,031. Sharpener for Skates.

(*Appareil pour affiler les patins.*)

Ira Jay Merrill, Winthrop, Iowa, U. S. A., 21st February, 1891; 5 years.

*Claim.*—The combination, with the file, having beveled ends, with a round hole or aperture at each end of a case formed of a single piece of spring metal bent to form a body portion, of a cross-section so responding with that of the file with the edges of the material extended substantially parallel with each other at right angles to the body of the case and adapted to clamp the skate blade and the retaining hooks D, and E, on the ends of the body of the case and adapted to loosely engage the apertures in the ends of the file, whereby the file may be revolved on the hooks, one of said hooks being adjustable, substantially as and for the purpose specified.

### No. 36,032. Press for Hay. (*Presse à foin.*)

Uldarique Gibeault, St. Isidore Junction, Quebec, Canada, 23rd February, 1891; 5 years.

*Claim.*—1st. In a hay press, the lever g, chain h, lever m, angle lever g, and weight a', substantially as described and for the purposes set forth. 2nd. In a hay press, the gear wheels B', and p, the latter having projections p', shaft L, loose drum o, provided with groove z, and radial arms A', substantially as described and for the purposes set forth. 3rd. In a hay press, the lever F', chains D', and E', counter weight J', levers R', and O', and piston N', substantially as described and for the purposes set forth. 4th. In a hay press, the ketch f', bracket u', lever h', provided with attaching pieces g', and j', piece p<sup>111</sup>, weight n', bracket n', chain g<sup>111</sup>, and lever a, substantially as described and for the purposes set forth. 5th. In a hay press, the wheel W, or its equivalent, the screw V, levers Z, Z, fulcrum at a, a, and bar d, substantially as described and for the purposes set forth. 6th. In a hay press, the piece a<sup>111</sup>, spring c<sup>111</sup>, frame d<sup>111</sup>, and whiffletree e<sup>111</sup>, substantially as described and for the purposes set forth. 7th. In a hay press, the method of using the horse power in its horizontal position, substantially as described and for the purposes set forth. 8th. In a hay press, the combination of the horse power B, with its levers g, and n<sup>111</sup>, chain t, pulleys V<sup>111</sup>, and W<sup>111</sup>, pieces x<sup>111</sup>, and p<sup>11111</sup>, friction brake h<sup>1111</sup>, and connecting sleeve P, with the hay press O, having its chains h, D', and g<sup>111</sup>, and E', levers m, E', h, Z, Z, and g, weights a', J', and a', gear wheels B', and p', shaft L, loose drum o, piston N', ketch f', brackets u', and n<sup>111</sup>, wheel W, screw V, piece a<sup>111</sup>, spring c<sup>111</sup>, frame d<sup>111</sup>, and whiffletree e<sup>111</sup>, substantially as described and for the purposes set forth.

### No. 36,033. Carbureter. (*Carburateur.*)

George Hargreaves, James Pardee Scranton, and Edward Williams Porter, all of Detroit, Michigan, U. S. A., 23rd February, 1891; 5 years.

*Claim.*—1st. In an apparatus for manufacturing carbureted air, the combination with an air pump and motor automatically controlled in their operation by the pressure of the air, of a feed device driven by a suitable connection with the air pump, and of valves for said feed device, all so controlled by positive mechanical connection with the air pump, substantially as described. 2nd. In an apparatus for carbureting air, the combination with the air pump and motor automatically controlled by the pressure of the air, of the carburetor into which the air is delivered from the air pump, a feed pipe connected to said carburetor to feed oil into it, and a valve in said feed pipe adapted to control the delivery of oil into said carburetor, said feed valve being controlled by positive mechanical connection, substantially as described. 3rd. In an apparatus for carbureting air, the combination with the air pump and motor automatically controlled by the pressure of the air in the carburetor, of a carburetor into which the air is delivered by said air pump, a feed pump for feeding oil into said carburetor, and of pump valves controlled by positive mechanical connection with the air compressor, substantially as described. 4th. In an apparatus for carbureting air, the combination with the air pump and motor automatically controlled in their action by the pressure of air in the carburetor into which the air is delivered from said air pump, two single acting pump cylinders arranged to feed oil alternately into said inlet and outlet valve of said pump cylinders being controlled by positive mechanical connection with the air pump, substantially as described. 5th. In an apparatus for carbureting air, the combination with the air pump and motor automatically controlled by the pressure of air in the carburetor, a carburetor into which air is delivered from said air pump, two single acting feed pumps for feeding oil alternately into said carburetor and provided with valves controlled by positive

mechanical connection with the air pump, an oil reservoir connected to the feed pumps, a supplementary air pump connected into the top of said reservoir, and a dissoluble drive connection between said pump, and the winding mechanism of the motor, substantially as described. 6th. In an apparatus for carbureting air, the combination of an air pump and actuating motor automatically controlled by the pressure of the air in the carburetor, a carburetor from which the carbureted air is directly supplied to the burners, and an oil feeding device consisting of a suitable pump actuated by the motor under the control of the air pump, inlet and outlet connections from said pump communicating respectively with a supply tank and with the carburetor, induction and eduction valves in said pump connections also actuated by the motor under the control of the air pump, and a supply tank from which the oil is automatically supplied to the feed pump by compressed air on top of the oil in the supply tank, substantially as described. 7th. In an apparatus for carbureting air, the combination with a carburetor, of compressed air and oil feeding devices connecting into the bottom and top of said carburetor respectively, of a motor adapted to intermittently operate said device under the control of the pressure of air in the carburetor, and a supply tank for such feeding device in which the oil is maintained under an air pressure by an independent air compressing device, substantially as described. 8th. In an apparatus for carbureting air, a carburetor consisting of a cylindrical casing, a vertical series of perforated conical disks fitted within said casing alternately reversed, and alternately perforated in the center and near the edge, and of an aperture or raised flange formed around the edge of such disks having their perforations near the edge, substantially as described. 9th. In an apparatus for carbureting air, the combination with the carburetor, of the rotary air compressor and its motor, the winding drum of said motor journaled in line with the shaft of said air compressor and having a ratchet and pawl connection therewith, the winding crank on the shaft of the winding drum, the two single acting pumps, an induction and eduction chamber communicating with a supply tank and with the carburetor respectively and also communicating with the induction and eduction ports of the pumps through intermediate connections controlled by induction and eduction valves, a shaft driven by intermediate gearing with the shaft of the winding drum and provided with two adjustable cranks for actuating the pumps and with cams or their equivalents for actuating the valves of said pumps, and a supply tank provided with an independent air compressor for forcing air into the top of the tank all arranged to operate, substantially as described.

### No. 36,034. Accumulator for Electricity.

(*Accumulateur électrique.*)

Gustave Adolphe Drolet, Montreal, Quebec, Canada, 23rd February, 1891; 5 years.

*Résumé.*—10. Une batterie accumulative dont les cadres des éléments sont composés de charbon ou plomb, tel que décrit pour les fins sus-mentionnées et disposées horizontalement. 20. Dans une batterie accumulative avec cadres de charbon une pâte de matières active de sels organiques de plomb ou leur équivalent et d'huile siccatrice végétale ou son équivalent dans les proportions et tel que décrit pour les fins sus-mentionnées et perforées. 30. Dans une batterie accumulative un bain de formation composé de solution saturée de sulfate alcalin 1 partie acide-sulfurique au soufre F parties eau douce 13 parties dans les proportions décrites pour les fins sus-mentionnées. 40. Dans une batterie accumulative le remplacement du bain de sulfates alcalins par de l'eau acidulée dans les proportions décrites et l'action du courant tel et pour les fins sus-mentionnées. 50. Dans une batterie accumulative le procédé d'éviter l'alteration tel que décrit et pour les fins sus-mentionnées.

### No. 36,035. Method of Burning Liquid Fuel.

(*Foyer à combustible liquide.*)

Harvey Klapp Frazier and Warren Mar Abbott, both of Boston, Massachusetts, U.S.A., 23rd February, 1891; 5 years.

*Claim.*—1st. The improved method of utilizing liquid fuel, the same consisting in mingling therewith a chemical solution consisting of nitrate of soda, sal nitre, salt, and water in the proportion hereinbefore stated, and burning the mixture either in the form of spray in the presence of air or in the form of gas or vapor produced by the disintegration of said materials in an externally heated retort, as set forth. 2nd. The compound, consisting of hydro-carbon oil, nitrate of soda, sal nitre, salt, and water, commingled substantially in the proportions, in the manner, and for the purpose set forth.

### No. 36,036. Trap for Rats. (*Ratière.*)

George James Frost and George Dickson, both of Toronto, Ontario, Canada, 23rd February, 1891; 5 years.

*Claim.*—A wire rat-trap, with only one movable or hinged jaw, operated by a spiral spring, wound round the cross-pieces of the frame-work, as described in the specification.

### No. 36,037. Ladder. (*Echelle.*)

David L. Osborn, David G. Blair and Emerson S. Northup, all of Kansas City, Missouri, U.S.A., 23rd February, 1891; 5 years.

*Claim.*—1st. In an aerial ladder, a frame-work mounted upon a suitable wheeled truck, consisting of the fixed or stationary parallel side bars, the lateral extensions or ears *b, b*, thereof and cylindrical bars journaled thereon, the hand wheel *M*, the said bar being provided with right and left-hand screw threads, substantially as described. 2nd. In an aerial ladder, the combination of the frame-work *B*, mounted on a suitably wheeled truck of a frame work *N*,

provided with the laterally-extending ears *n*, connected by the cylindrical bar *O*, through the medium of the frames *Q*, pivoted together at their middle, and pivotally engaging and enclosing at their upper and lower ends respectively the depending and upwardly extending ears *p* and *z*, of the collars *P* and *S*, engaging the rod *O* and the worm bar *L* respectively, substantially as described. 3rd. In an aerial ladder, the combination, with a frame *N*, connecting with a stationary frame *B*, through the medium of the pivotal frames *I*, engaging collars *P* and *S*, adapted to travel upon longitudinal side bars *b* and *n*, provided at its rear end with the transverse worm bar *T*, of a pivotal frame *A'*, substantially as described. 4th. In an aerial ladder, the combination of the frame *A'*, consisting of the ears *B'*, therefor, pivotally engaging and enclosing the forward ends of said bars, of frames *N*, the cross bar *Y* and the longitudinal slots *V'*, in the inner bars *Z*, substantially as described. 5th. In an aerial ladder, the combination, with the frame work carrying the extension ladder, and adapted to be inclined forwardly by means of frame *W*, constructed on the lazy tong principle through the impulse derived from the worm bar *T*, substantially as described. 6th. In an aerial ladder, the mechanism for throwing or inclining the ladder to either side desired by the pivotal frames *Q*, adapted, when operated by hand wheel *M*, to vertically expand on the lazy tong principle, substantially as and for the purpose set forth. 7th. In an aerial ladder, the mechanism for throwing or inclining the ladder, both vertically and to either side by the operation of the pivotal frame *W*, and the pivotal frame *Q*, on the opposite side to the direction the ladder is desired to assume, substantially as described. 8th. The combination of a series of frames pivoted together on the lazy tong principle, having pivotally engaged between their upper and lower ends the collars adapted to travel towards or from each other, according to the direction in which the actuating or worm bar revolves, substantially as described. 9th. In an aerial ladder, the combination with the stationary frame *B*, of the frame *N*, adjustable by means of the pivotal frame *Q*, the frames *A'*, connected at its forward end and carrying the ladder, constructed on the lazy tong principle, substantially as and for the purpose set forth. 10th. 10th. The combination, with a truck mounted upon wheels, with an aerial ladder, consisting of the frames forming the three parallel and adjacent ladders *K*, *L*, and *M*, the bars thereof composed of the bars joined together on the lazy tong principle and having the rounds or bars thereof connecting said frames, substantially as described. 11th. In an aerial ladder, the combination of the side frames composed of bars joined together on the lazy tong principle, having rounds or bars thereof connecting said frames with chair secured thereon, substantially as and for the purpose set forth. 12th. In an aerial ladder, the combination of a supporting frame and a worm bar actuated by a hand wheel, and meshing cogs with a cross-bar connecting the lower end of rear frame of ladders *L*, substantially as described. 13th. In an aerial ladder, the combination with a cross-bar actuated by a worm bar and hand-wheel of a ladder constructed on the lazy tong principle, substantially as described. 14th. In an aerial ladder, the combination, with a chair having slots in the side bars, of the cross-bar or rear arm, of upper ladders *E'* and *M'* adapted to slide in said slot and the permanent pivotal cross-bar *Y*, connecting the forward lever arms in horizontal alignment with said slots, substantially as described. 15th. In an aerial ladder, the combination with a cross bar, having cylindrical ends, of a rear or actuating pair of curved arms, provided with slots, the direction of which is parallel with the direction of said curved arms, said slots engaging on cylindrical ends of cross-bar as the ladder is elevated or lowered, substantially as described. 16th. In an aerial ladder, the chair at the upper end, the platform thereof, the trap door hinged in the opening of said platform, and the railing or guard erected above said platform and provided with a hinged bar or gate, substantially as and for the purpose set forth.

### No. 36,038. Combination Tool.

(*Outil à combinaison.*)

The Keystone Manufacturing Company, assignees of Charles Henry Myers, all of Buffalo, New York, U.S.A., 23rd February, 1891; 5 years.

*Claim.*—1st. A wrench, having an aperture in its head, and provided with sliding jaws, in combination with a tool-holder having flattened sides with which said jaws engage, and a cylindrical shank projecting through the head of the wrench. 2nd. A wrench, having an aperture in its head, and provided with sliding jaws, in combination with a tool-holder having flattened sides, and shoulders with which said jaws engage, a cylindrical shank projecting through the head of the wrench, and a sleeve engaging said shank. 3rd. A wrench, having an aperture in its head, and provided with sliding jaws, in combination with a tool-holder passing through the head of the wrench, and having flattened sides with which said jaws engage, a cylindrical screw-threaded shank, and an internally screw-threaded feed sleeve or nut.

### No. 36,039. Wrench for Nuts and Pipes.

(*Clé à écrou et à tuyau.*)

William Bailey Townsend, Selina Jones and Solomon George McGill, all of Toronto, Ontario, Canada, assignees of James Harvey Craig, Denver, Colorado, U.S.A., 23rd February, 1891; 5 years.

*Claim.*—1st. A combined nut and pipe wrench, having a stationary upper jaw and an adjustable lower jaw, having a groove running on a tongue formed on the main portion, the said jaw being connected by a clevis to the main portion, which clevis is supported by a spring and has a dog within its upper end to engage with ratchet teeth formed on the back of the main portion of the wrench, substantially as and for the purpose specified. 2nd. A combined nut and pipe wrench, having a stationary upper jaw and a concave recess formed below the upper jaw, in combination with an adjustable lower jaw having the outer portion of the upper end extending slightly upwardly, and the inner portion of the upper end slightly concaved, substantially as and for the purpose specified. 3rd. A



combined nut and pipe wrench, having a stationary upper jaw, and a concave recess formed below the upper jaw, in combination with an adjustable lower jaw having a cap slipped on to the outwardly tapered top end of it, the top of the cap having teeth formed on it, substantially as specified.

### No. 36,040. Electrical Cable.

(*Câble électrique.*)

The Bell Telephone Company, Montreal, Quebec, Canada, assignees of John C. Reilly, Brooklyn, New York, U.S.A., 23rd February, 1891; 5 years.

*Claim.*—The method, herein described, of constructing electric cable, which consists in insulating a series of conductors, arranging them in concentric rows, applying a suitable sheathing, dividing them into a series of longitudinal sections, arbitrarily designating the terminals of each conductor of each section in regular succession with consecutive numerals, and then connecting each conductor of one section to a conductor of the next succeeding section by the formula  $c, b$ , unless and until  $c, b$  exceeds  $m$ , when  $n$  is substituted for  $c$ , substantially as described.

### No. 36,041. Wire Frame. (*Cadre métallique.*)

R. E. Dietz Company, New York, State of New York, U.S.A., assignee of Charles Lyman Betts, of New York, aforesaid, 23rd February, 1891; 5 years.

*Claim.*—1st. The combination with a wire ring, constructed with undercut overlapping end portions, whereby the end portions are interlocked against longitudinal movement on each other, of a sleeve or clasp which embraces the overlapping ends, and whereby the latter are firmly secured together without solder, substantially as set forth. 2nd. The combination, with a wire ring constructed with undercut overlapping end portions, of an upright wire arranged adjacent to the overlapping end portions, and a clip provided with sleeves which embrace the overlapping ends of the ring, and with sleeves which embrace the upright wire, substantially as set forth.

### No. 36,042. Trimmer for Sewing Machines.

(*Machine à garniture pour machines à coudre.*)

Joseph Simpson, assignee of Daniel Maus, both of Toronto, Ontario, Canada, 23rd February, 1891; 5 years.

*Claim.*—In a sewing machine, a rotary trimming disc, circular in form, and having a series of sharpened teeth or serrations extending around the entire periphery of the disc, the said disc being arranged to revolve at a much more rapid rate than that in which the cloth is fed into the machine, as specified.

### No. 36,043. Manganese Bronzes and Alloys.

(*Alliages de bronze et de manganèse.*)

Alfred Hutchinson Cowles and Eugene Hutchinson Cowles, both of Cleveland, Ohio, U.S.A., 25th February, 1891; 5 years.

*Claim.*—1st. The process, which consists in forming alloys of manganese and adding a small percentage of aluminium to such alloys, as herein described, prior to casting, as set forth. 2nd. The process, which consists in forming alloys of manganese and adding from a trace to five per centum of aluminium to such alloys to increase their strength, elasticity and facility of casting, and diminish their tendency to corrosion, and to add to their silver-like lustre and whiteness, substantially as set forth.

### No. 36,044. Stiffener for Boot and Shoe Soles. (*Shank en acier pour chaussures.*)

Edmond Jacques, Montreal, Quebec, Canada, 25th February, 1891; 5 years.

*Resume.*—Le procédé d'employer le shank en acier dans les chaussures à simple semelle ou dites retournées, tel que cidessus décrit et pour les fins indiquées.

### No. 36,045. Heating Apparatus for Railway Cars. (*Appareil de chauffage des chars.*)

Charles Millard Pratt, assignee of Edwin Adebort Leland, both of Brooklyn, New York, U.S.A., 25th February, 1891; 5 years.

*Claim.*—1st. A railway car heater, consisting of an external jacket, having at its lower end a cap containing a water inlet, and at its upper end a cap containing a central hot-water outlet to communicate with the car radiators, a cylinder located within the jacket and arranged to provide a surrounding water space between it and the interior of the external jacket, a series of tubes extending through the interior cylinder for the upward flow of the water, a steam inlet pipe entering the lower cap of the jacket, and extending upward into the interior cylinder, and a condensed steam outlet pipe also entering through the lower cap of the jacket and provided with a perforated pipe rising within the interior cylinder for the escape of the condensed steam, substantially as described. 2nd. A railway car heater, consisting of an external jacket, having at its lower end a cap containing a central water-inlet, and at its upper end a cap containing a central hot-water outlet to communicate with the car-radiators, a cylinder located within the jacket, between the upper and lower caps, and arranged to provide a surrounding water space between it and the external jacket, a series of tubes extending through the interior cylinder for the upward flow of the water, a steam inlet pipe passing through the lower cap of the jacket and rising upwardly within the interior cylinder to deliver the steam at

or near the centre thereof, and a condensed steam outlet pipe, also extending through the lower cap of the jacket, and having a perforated pipe or extension rising upwardly within the interior cylinder for the escape of the condensed steam, substantially as described. 3rd. A railway car heater, consisting of an external jacket, provided at its lower end with a water inlet, and at its upper end with a hot water outlet to communicate with the car-radiators, a cylinder arranged within the jacket and provided with a series of tubes for the upward flow of the water, a steam-pipe section having right and left-hand screw-threads engaging the lower end of the interior cylinder and the lower head of the external jacket, a steam delivery pipe connected with the screw-threaded steam pipe section and rising within the interior cylinder to deliver the steam at or near the center thereof, and a condensed steam pipe section having right and left screw-threads engaging the lower end of the cylinder and the lower head of the external jacket, and provided with a perforated pipe or extension rising within the interior cylinder at a point opposite the steam inlet pipe section for the escape of the condensed steam, substantially as described.

### No. 36,046. Ballot Box. (*Boîte à scrutin.*)

George Adolphus Cline and William Trimble, both of Toronto, Ontario, Canada, 25th February, 1891; 5 years.

*Claim.*—1st. In a ballot-box, a lever for locking the voting mechanism, actuated by the key-rods, substantially as and for the purpose set forth. 2nd. In a ballot-box, a lever for locking the voting mechanism, provided with apertures and actuated by the key-rods passing through the said apertures, substantially as and for the purpose set forth. 3rd. In a ballot-box, a lever for locking the voting mechanism, provided with apertures, fitted with pivoted latches, and actuated by the key-rods passing through the said apertures, substantially as and for the purpose set forth. 4th. In a ballot-box, a lever for locking the voting mechanism, made in sections and sliding in suitable guides, each section being provided with an aperture, fitted with a pivoted latch, key-rods passing through said aperture and actuating said lever, substantially as and for the purpose set forth. 5th. In a ballot-box, a lever for locking the voting mechanism, made in sections, sliding in suitable guides, provided with apertures and actuated by key-rods passing through said apertures, substantially as and for the purpose set forth. 6th. In a ballot-box, a pawl operating lever W, consisting of a series of sections  $W^1$ , sliding in guides  $D^1$ , having apertures fitted with outwardly working pivoted latches  $E^1$ , provided with a returning spring  $F^1$ , key-rods G, passing through the said apertures, and actuating said pawl operating lever, substantially as and for the purpose set forth. 7th. In a ballot-box, a pawl operating lever W, consisting of a series of sections  $W^2$ , having apertures through which pass the key-rods G, the centre of the apertures being eccentric to the centre of the key-rods, the said key-rods actuating the said lever, substantially as and for the purpose set forth. 8th. In a ballot-box, a key-rod, having hinged to its inner end a pawl, fitted with a series of prongs to correspond to the number and engage with the indicating numeral wheels, and suitable mechanism for operating pawl actuating lever W, substantially as and for the purpose set forth. 9th. In a ballot-box, a key rod, fitted with a dog for operating the numeral wheels, and suitable mechanism for operating pawl actuating lever W, substantially as and for the purpose set forth. 10th. In a ballot box, a key-rod having pivotally connected to its inner end, a pawl, to engage with the ratchet teeth formed on the side face of the numeral wheels, guides  $i$ , cams  $i^1$ , lock  $l$ , and grooves  $g^1$ , substantially as and for the purpose set forth. 11th. In a ballot-box, a key-rod, fitted with a pawl, pivotally connected to its inner end, guides  $i$ ,  $i^1$ , and cams  $i^1$ , keeper  $l$ , guides  $i$ ,  $i^1$ , moveable collars and cushioning washer, substantially as and for the purpose set forth. 12th. In a ballot-box, a key-rod, fitted with a pawl pivotally connected to its inner end guides  $i$ ,  $i^1$ , cam  $i^1$ , lock  $l$ , a moveable collar  $L$ , fitted with a set screw  $P$ , a second moveable collar  $L^1$ , fitted with a set screw  $P^1$ , cushioning washer  $M$ , grooves  $g$ ,  $g^1$ , recoil spring  $M^1$ , and button  $g^1$ , substantially as and for the purpose set forth. 13th. In a ballot-box, a ratchet wheel, having cut on its periphery a suitable number of teeth, and provided on one of its faces, with a stop, to engage with one end of the trip-block, the opposite end of the trip-block engaging with a locking bar F, substantially as and for the purpose set forth. 14th. In a ballot-box, a releasing lever, having cut in one of its edges a number of niches, to engage with and correspond to the number of bolts  $N^1$ , and operated by the releasing key-rod, substantially as and for the purpose set forth. 15th. In a ballot-box, a releasing lever having cut in one of its edges a series of niches and fitted on its upper face with a U-shaped pin, operating the pawl releasing lever  $n$ , substantially as and for the purpose set forth. 16th. In a ballot-box, a releasing lever having cut in one of its edges a series of niches, fitted on its upper face with a U-shaped pin operating the pawl releasing lever  $n$ , and fitted on its lower edge with a downwardly extending pin, engaging with the trip end of the recoil pawl  $C^1$ , substantially as and for the purpose set forth. 17th. The combination of the ratchet wheel C, fitted on its upper face with a stop D, the pawl  $C^1$ ,  $C^1$ , trip-block E, and locking bar F, substantially as and for the purpose set forth. 18th. In a ballot-box, an indicating register consisting of a suitable number of numeral wheels provided on their side faces with ratchet teeth, the ratchet tooth opposite the two on the units wheel being four times the depth of the remaining teeth on the said wheel and the depth of the ratchet tooth opposite the two on the ten's wheel being twice the depth of the remaining teeth on the said wheel, so that on every revolution of the units wheel, the prong and pawl opposite the ratchet teeth on the said wheel may drop into the increased depth and move the units and ten's wheels one space together, and on every revolution of the ten's wheel the prongs opposite the ratchet teeth on the units and ten's wheel, may drop into the increased depth and move the units, ten's and hundred's wheel forward one stop together, substantially as and for the purpose set forth. 19th. In a ballot-box, the numeral wheels in the indicating register, having counter sunk bearings provided with a pin to engage with an outwardly projecting pin on the periphery of the spindle, for the purpose of returning the said numeral wheels back



to nought, substantially as and for the purpose set forth. 20th. In a ballot-box, a general indicating register consisting of a series of numeral wheels, operated by a lever actuated by the key-rods, substantially as and for the purpose set forth. 21st. The combination of the key-rods, having pivoted to their inner ends pawls  $\theta^1$ , the numeral wheels, pawl operating levers  $W$ , the pawl  $C^1$ , ratchet wheel  $C$ , trip-block  $E$ , and locking bar  $F$ , substantially as and for the purpose set forth. 22nd. The combination of the key-rods  $G$ , the pawl  $C^1$ , numeral wheels, cams  $\beta$ , pawl operating lever  $W$ , the pawl  $C^1$ , the recoil pawl  $C^1$ , ratchet wheel  $C$ , the stop  $D$ , trip-block  $E$ , and locking bar  $F$ , substantially as and for the purpose set forth. 23rd. The combination of the key-rod  $K$ , fitted on its outer end with an enlarged head or button and on its inner end with a pawl  $G^1$ , the guides  $t$ , guide slots  $\beta$ , formed in a side bar  $A^1$ , the recoil spring  $M^1$ , with the side bars  $A$ ,  $A^1$ , grooves  $g$ ,  $g^1$ , and locking bar  $F$ , substantially as and for the purpose set forth. 24th. The combination of the key-rods  $G$ , guides  $t$ ,  $t^1$ , bolts  $N^1$ , with the releasing lever  $F^1$ , having niches cut in one of its edges, substantially as and for the purpose set forth. 25th. The combination of the key-rods  $G$ , guides  $t$ , locking bolts  $N^1$ , releasing lever  $F^1$ , cross bar  $K^1$ , and locking bar  $F$ , substantially as and for the purpose set forth. 26th. The combination of the key-rods  $G$ , grooves  $g$ ,  $g^1$ , guides  $t$ ,  $t^1$ , locking bolts  $N^1$ , releasing lever  $F^1$ , key-rod  $N$ , cross bar  $K^1$ , and locking bar  $F$ , substantially as and for the purpose set forth. 27th. The combination of the key-rods  $G$ , pawls  $C^1$ , pawl operating lever  $W$ , the pawl  $C^1$ , ratchet wheel  $C$ , stop  $D$ , trip-block  $E$ , locking bar  $F$ , cross bar  $K^1$ , and releasing lever  $F^1$ , substantially as and for the purpose set forth. 28th. In a ballot-box, the key-rods provided with a groove serving as a keeper for the locking bolts, substantially as and for the purpose set forth. 29th. In a ballot-box, the releasing lever  $F^1$ , provided with a U-shaped pin  $N$ , one of which  $O^1$ , engages with the outwardly extending arm  $I^1$  of the pawl releasing lever  $a$ , in combination with a pawl releasing lever  $n$ , the pawl  $C^1$ , and ratchet wheel  $C$ , substantially as and for the purpose set forth. 30th. In a ballot-box, releasing lever  $F^1$ , provided with notches on one of its edges engaging with the bolts  $N^1$ , operated by the key-rod  $N^1$ , and returned to place by the action of a spring bearing against the end opposite to that engaging with the key-rod  $N^1$ , substantially as and for the purpose set forth. 31st. In a ballot-box, a combination of the key-rod  $G$ , cam  $\beta$ , lock  $L$ , pawl operating lever  $W$ , consisting of a series of sections, provided with apertures through which the said key-rods pass, the said apertures being eccentric to the centre of the key-rods, and so arranged that two keys cannot be pressed in together without the said sections binding upon the pressure is removed from one or both the said key-rods, substantially as and for the purpose set forth. 32nd. In a ballot-box, the frame of the machine consisting of two side bars  $A^1$ , end bar  $a$ , and the intermediate bar  $a^1$ , the bed-plate  $B$ , connected to the open end  $a^1$ , of the said end bars and having journaled therein the lower end of the ratchet spindle  $b$ , whilst the opposite end is journaled in a cross bar  $b^1$ , extending outwardly from and secured to the side bar  $A^1$ , in combination with the locking bar  $F$ , sliding in guide plates  $M^1$ , secured to the inner face of the side bar  $A$ , the pawl operating lever  $W$ , sliding in guides  $D$ , secured to the inner face of the side bar  $A^1$ , the ratchet wheel  $C$ , the stop  $D$ , trip-block  $E$ , niche  $f$ , cut in the upper edge of the locking bar  $F$ , into which engages the end  $C^1$  of the trip-block  $E$ , notches  $f^1$ , cut in the lower edge of the said locking bar, and through which passes the key-rods  $G$ , the key-rods  $G$ , fitted with grooves  $g$ ,  $g^1$ , and into which engage the said locking bar, substantially as and for the purpose set forth.

### No. 36,047. Ring for Cutting Twine and Thread. (*Anneau pour couper la ficelle.*)

George Eddie Tripp, Chelsea, Massachusetts, U.S.A., 26th February, 1891; 5 years.

*Claim.*—As an improved article of manufacture, a twine cutter consisting of the open ring  $A$ , of a tapering width in a downward direction, and having its rear edge rolled over at  $d$ , to form a guard, and the blade-like cutter  $B$ , having approximately V-shaped cutting edges  $c$ ,  $c$ , and secured to the broadest part of the ring with its cutting edges in the same plane as the axis of the ring, as specified.

### No. 36,048. Brake for Railways.

(*Frein de chemin de fer.*)

Joseph James Swithin List, Rockdale, New South Wales, Australia, 26th February, 1891; 5 years.

*Claim.*—1st. An improved automatic continuous railway brake, consisting of brake rods, brake blocks, and other well known parts and essentially of an auxiliary reservoir, connected by means of a back pressure valve with a train (pressure supply) pipe from a main reservoir and compound cylinders, the respective areas of which range in ratio from one to two, to one, to not less than two, and the smaller of which is adapted to receive pressure from said auxiliary reservoir while the pressure in the larger is regulated, and controlled by means of said train pipe and its connection, substantially as herein described and explained. 2nd. An improved automatic continuous railway brake, consisting of the combination and arrangement with the brake blocks, and under-carriage of a railway vehicle, and with a continuous supply pipe having connections, regulators, etc., of the compound cylinder, the auxiliary reservoir, and the back pressure valve, substantially as herein described and explained, and as illustrated in the drawings. 3rd. In an improved automatic continuous railway brake of the class set forth, the combination and arrangement with an auxiliary reservoir such as  $A$ , and train pipe such as  $E$ , of the back pressure valve constructed and operating as explained and as marked  $D^1$ , to  $D^9$ , substantially as herein described and explained and as illustrated in the drawings.

### No. 36,049. Apparatus for the Manufacture of Hollow Glass Articles. (*Appareil pour la fabrication de la verrerie creuse.*)

Howard Maltravers Ashley, Ferrybridge, York, England, 26th February, 1891; 5 years.

*Claim.*—1st. The rocking frame  $D$ , carrying the padding plate  $E$ , and finishing mould  $F$ , in combination with the treadle and levers for operating them. 2nd. The modified arrangement of the rocking frame, in which the movement of the mould  $F$ , is effected by a piston subject to fluid pressure in a cylinder  $D^1$ , carried by the rocking frame  $D$ . 3rd. In the upper part  $c$ , of each moulding apparatus, the cylinder  $c^1$ , having its piston connected to the halves  $c$ , of the parison mould. 4th. The modified arrangement according to which the working of the parison mould is effected by the aid of a single stationary cylinder  $c^2$ . 5th. The combination of the taper punch  $p^1$ , the segments  $p^2$ , the screw sleeve  $p^3$ , with screwed hollow boss  $p^4$ . 6th. The combination of the treadle  $N$ , and its lever, the wedge ended rod  $n$  and the spring jaws  $n^1$ , with the halves  $c^1$  of the neck-mould. 7th. The greasing apparatus, consisting of the treadle  $g$ , and its lever, the rack roll  $g^1$ , pinion  $g^2$ , and brush  $g^3$ , and their mountings, in combination with the inclined bracket  $g$ , and the apparatus for operating the neck mould.

### No. 36,050. Plate for Batteries.

(*Plaque de batteries.*)

Justus Bulkley Entz and William Alfred Phillips, both of Brooklyn, New York, U.S.A., 26th February, 1891; 5 years.

*Claim.*—1st. As an article of manufacture, the wire core covered with a braid or net-work of finer wire, and adapted for use in a battery element, as described. 2nd. As an article of manufacture adapted for use as a battery element, the flexible copper wire covered with a braid or net-work of finer wire, and having a metallic oxide embedded in the net-work, as described. 3rd. As an article of manufacture adapted for use as a battery element, a flexible wire having a metallic oxide applied thereto, as a paste or cement, and a sheathing of insulating textile material, as described. 4th. A secondary-battery element, consisting of a core or support, and a surrounding woven or braided wire net-work for holding the active material in place. 5th. A secondary-battery element, consisting of a solid flexible wire core, a net-work of finer wire around the core and an active material embedded in the meshes of the net-work as set forth. 6th. A battery element consisting of the wire core, the surrounding net-work of finer wire, the active material embedded therein, and the sheathing of insulating textile material. 7th. A battery element consisting of the copper-wire core, the surrounding net-work of finer copper wire, the copper oxide embedded therein, and the sheathing of insulating textile material, substantially as described. 8th. A battery plate, consisting of the flexible wire core, and surrounding wire net-work bent into parallel loops to form a grid or mat, and a suitable active material secured to said plate by being embedded in the net-work, as described. 9th. A battery-plate consisting of a wire having a metallic net-work surrounding it, active material embedded in the meshes of said net-work, and a sheathing of insulating porous material. 10th. A support or frame for the active material of a battery, consisting of a net-work of wire in the form of a cylinder or tube, having oxide of copper embedded in its meshes. 11th. A support or frame for the active material of a battery, consisting of a net-work of wire in the form of a cylinder or tube, having oxide of copper embedded in its meshes. 12th. An electrode for a secondary battery, consisting of a tube or cylinder made of woven wire, said tube containing the active material.

### No. 36,051. Machine for Folding and Seaming the Side Edges of Sheet Metal Vessels. (*Machine à agraffer et souder les feuilles de métal pour les cotés des vaisseaux.*)

Francois Augustine Walsh, Milwaukee, Wisconsin, U.S.A., 26th February, 1891; 5 years.

*Claim.*—1st. The combination of a reciprocating slide, dies carried thereby, a plunger reciprocative in the slide, dies carried by the plunger in opposition to those first named, and a stop for limiting the travel of the plunger, substantially as set forth. 2nd. The combination of reciprocative dies, a plunger provided with dies opposed to those first named, and a horn opposed to the plunger, substantially as set forth. 3rd. The combination of a pair of opposing dies, a groove adjacent to one of the dies for the reception of a sliding material, and suitable means for engaging and disengaging said dies, substantially as set forth. 4th. The combination of a pair of opposing dies, a reservoir for sealing material, a conduit leading from the reservoir to a point adjacent to one of the dies, and suitable means for engaging and disengaging said dies, substantially as set forth. 5th. The combination of a pair of opposing dies, a reservoir for sealing material, a conduit leading from the reservoir to a point adjacent to one of the dies, a regulator for controlling the flow of said material, and suitable means for engaging and disengaging said dies, substantially as set forth. 6th. The combination of a pair of opposing dies, a reservoir for sealing material, a conduit leading from the reservoir to a point adjacent to one of the dies, suitable means for keeping the sealing material in a melted state, and a reciprocating mechanism for engaging and disengaging said dies, substantially as set forth. 7th. The combination of a reciprocative slide provided with dies, a spring-controlled plunger carrying dies opposed to those on the slide, and a stop for limiting the travel of the plunger, substantially as set forth. 8th. The combination of a reciprocative slide, provided with a slot, dies fitted thereto and a plunger normally supported by the dies and provided with shoulders in the form of dies opposed to those carried by the slide, a horn arranged in the path of the plunger, and a compressing surface in opposition to the horn,

substantially as set forth. 9th. The combination of a reciprocative slide, provided with a slot, and recessed on each side of the slot, dies fitted in the recesses and projected into said slot, a plunger normally supported by the dies and provided with shoulders in the form of dies opposed to those carried by the slide, gauge-plates fitted to the plunger, and a stop for limiting the travel of said plunger, substantially as set forth. 10th. The combination of reciprocative dies, a plunger provided with dies opposed to those first-named, a horn opposed to the plunger, and spring-controlled gauge pins arranged in the horn, substantially as set forth. 11th. The combination of reciprocative dies, a plunger provided with dies opposed to those first named, gauge plates fitted to the plunger, a horn opposed to said plunger, and spring-controlled gauge pins arranged in the horn, substantially as set forth. 12th. In a machine for folding single edges of metal sheets, preparatory to an interlocking and closing down of opposing folds, a die-point having one face thereof normally at right angles to a sheet to be operated upon and the opposite face of said point beveled in a direction acute to the plane of said sheet, a die-groove corresponding in shape to and in register with the die-point, and suitable means for engaging said point and groove against the sheet, the latter being free to incline toward the non-beveled faces of the die-point and groove when the engagement takes place, whereby a fold is formed parallel to said non-beveled faces of the die-point and groove and at an acute angle to the body of said sheet, substantially as set forth. 13th. In a machine for separately folding and closing down of opposing folds, two die-points arranged in opposite directions to a sheet in position to be operated upon and two die-grooves in register with said points, one face of each point and groove normally at right angles to the sheet and the opposite face beveled in a direction acute to the plane of said sheet, and suitable means for engaging both points and opposing grooves against the sheet whereby right and left folds are simultaneously formed parallel to the non-beveled faces of the points and grooves and at acute angles to the body of said sheet, the latter being free to incline toward said non-beveled faces when the engagement takes place, substantially as set forth.

### No. 36,052. Construction of Pipe Tongs, Wrenches, etc. (*Fabrication des clés à tuyaux, etc.*)

Clarence Verner Greenamyer, San Francisco, California, U.S.A., 27th February, 1891; 5 years.

*Claim.*—1st. The combination of a handle portion, having a double curved head or part with smooth gripping faces, and a swinging hook or jaw having a bifurcated shank adjustably pivoted to the head, as described, for operation, as set forth. 2nd. In combination of a handle portion, having a double curved head or part with smooth gripping faces, and a swinging jaw formed of a double hook, having an adjustable bit inserted between the hooks at or near the ends, as described, for operation, as set forth. 3rd. The clamp bar H, and the rod H', with loop or stirrup and nut for working the rod, in combination with the wrench or similar tool, as described, for operation, as set forth.

### No. 36,053. Truss. (*Bandage herniaire.*)

Peter Yost, Pittston, Pennsylvania, U.S.A., 27th February, 1891; 5 years.

*Claim.*—1st. In a uterine supporter or analogous surgical device, a body band, provided at its ends with buckles having a series of diverging slots, and a pad provided with a series of studs or buttons to be engaged by the slots and adjustably support the pad in place, substantially as described. 2nd. In a uterine supporter, a body-band, a U-shaped pad, a U-shaped strengthening steel within the pad and provided with an eye projecting through the pad, and a uterine supporter swivelled in the eye, substantially as described. 3rd. In a uterine supporter, a pad, a rod swivelled to said pad and provided with a perforated metallic disk, and a supplemental padded disk formed out of leather and provided with a single central aperture, the same being adapted to be seated in said perforated disk, substantially as described.

### No. 36,054. Truss. (*Bandage herniaire.*)

Peter Yost, Pittston, Pennsylvania, U.S.A., 27th February, 1891; 5 years.

*Claim.*—1st. In a truss, a pad and scrotum-supporting sections connected to said pad by springs secured to the pad, substantially as described. 2nd. In a truss, a pad, scrotum-supporting sections, consisting of two separate curved plates suitably covered, and springs connecting said sections with said pad, substantially as described. 3rd. In a truss, a pad, scrotum-supporting sections, consisting of two separate curved plates, suitably covered and provided with eyelets on one edge, through which lacing connects the two sections, and springs connecting the said sections with said pad, substantially as described. 4th. In a truss, a pad and scrotum-supporting sections, adjustably secured to each other, attached to said pad, substantially as described.

### No. 36,055. Tea Pot, Coffee Pot, etc.

(*Théière, cafetière, etc.*)

Robert Peter Moncrieff and John Mitchell Moncrieff, both of South Shields, Durham, England, 27th February, 1891; 5 years.

*Claim.*—1st. The application of a syphon or syphon action to teapots, coffee-pots, and other similar receptacles, from which an intermittent flow of liquid is required, the syphon being started by displacement and stopped by creating a partial vacuum in the receptacle, substantially in the manner and for the purpose hereinbefore described and illustrated in the accompanying drawing. 2nd. Our improved syphon teapot, coffee-pot, or other similar receptacle, constructed so that the spout or pourer forms the discharging leg of the syphon, substantially as described and illustrated.

### No. 36,056. Gate for Wire Fences.

(*Barrière pour clôture en fil de fer.*)

Ard D. Neff, Petersburg, Pennsylvania, U.S.A., 27th February, 1891; 5 years.

*Claim.*—1st. The herein described gate, the same composed of tubes seated in sockets at their meeting ends, the vertical arms of said sockets being externally screw-threaded, barbed wires seated in grooves around the outer faces of said sockets, and extending along the top and bottom of the gate, and nuts upon said screw-threaded arms embracing said barbed wires, as and for the purpose set forth. 2nd. The herein described gate, the same composed of tubes seated in sockets at their meeting ends, the diagonally-opposite sockets having inwardly-projecting lugs, a cup-shaped piece C, pivoted in a slot in one of said lugs, and a diagonal brace rod seated at one end in said cup-shaped piece and screwed at its other end into the other lug, as and for the purpose set forth. 3rd. The combination, with the gate having the vertical tube *t*, of the two-part hinge connection comprising members H, A, detachably connected at their outer ends and one of them carrying an eye *e*, for the purpose set forth, the inner ends of said members, having the perforated ears E, and the bolt *e* passing therethrough, substantially as described. 4th. The combination, with the gate, having the vertical tube *t*, of the two-part hinge connection, the same comprising a curved member H, having a vertical notch V, near its outer end and a perforated ear E at its inner end, an oppositely curved member A, having an eye V at its outer end and a perforated ear E at its inner end, the body thereof passing through said notch, and a bolt *e* passing through said perforated ears, the whole constructed and operating substantially as and for the purpose set forth.

### No. 36,057. Apparatus for Flushing Water Closets. (*Cuvette de latrine.*)

The Elmendorf Water Closet Apparatus Co., and Albert Elmendorf, all of London, Connecticut, U.S.A., 27th February, 1891; 5 years.

*Claim.*—1st. The combination with a stand-pipe, having a ventilating chamber communicating therewith, and a ventilating pipe connecting said chamber with the bowl, of a supply valve located in the stand-pipe, a flushing valve also in the stand-pipe, and a ventilating valve in the ventilating chamber, the flushing valve and ventilating valve being connected for joint operation, substantially as described. 2nd. The combination, with the stand-pipe of a water closet flushing apparatus, of a flushing valve located inside said stand-pipe, an independent supply valve located in said stand-pipe, the float and the rod also arranged within said stand-pipe, and connecting said float with the supply valve for automatically opening and closing the latter, substantially as described. 3rd. The combination, in a water-closet flushing apparatus of the stand-pipe, the flushing valve interposed between the bowl and said stand-pipe, the independent water supply valve, the rod connecting said float and valve, and the ventilating valve arranged to act on said rod for causing the latter to open the supply-valve, substantially as described. 4th. The combination in a water closet, of a stand-pipe having a ventilating extension and a ventilating valve therein, a ventilating pipe connecting the bowl with said stand-pipe, the flushing valve and the independent supply valve connected with said stand-pipe, the float for actuating said supply valve and the ventilating valve connected to and operated simultaneously with the flushing valve, substantially as described. 5th. The combination, with the flushing stand-pipe, of the combined water-supply coupling valve and valve-seat made in two parts K and M, the chamber part K containing the valve seat *k*, and screwing into the stand-pipe and the part M, having the valve *m*, screwing into the part K, within said stand-pipe, and provided with the lever for actuating it, located within the stand-pipe, the float, and the rod connecting said lever and float, for actuating the supply-valve, substantially as described.

### No. 36,058. Leveller for Billiard Tables, etc. (*Niveau pour tables de billiard.*)

Charles Richards, Swansea, Glamorgan, Wales, 23th February, 1891; 5 years.

*Claim.*—1st. In the legs of tables for billiards or other purposes, the use of a sliding vertical core, with horizontal wedges, with or without a shoe, as herein explained and set forth. 2nd. In the legs of tables for billiard or other purposes, the use of an adjustable shoe or socket with horizontal wedges, as herein described and set forth.

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

2074. JOHN SIMMON ARMSTRONG, 2nd five years of No. 23,335, from the 3rd day of February, 1891. Improvements in the Forms of Building Materials, 2nd February, 1891.
2075. MASSEY MANUFACTURING CO. (assignee), 2nd five years of No. 23,412, from the 13th day of February, 1891. Improvements in Mechanism for Supporting the Reel of a Harvesting Machine, 4th February, 1891.
2076. WILLIAM SMITH, 2nd five years of No. 23,422, from the 13th day of February, 1891. Improvements in Tailors' and Dressmakers' Squares, 6th February, 1891.
2077. CHARLES MACKEY TAYLOR and ANTHONY PERCIVAL TURNER, 2nd five years of No. 23,381, from the 8th day of February, 1891. Improvements in Bottle Stoppers, 6th February, 1891.
2078. ALPHA RUBBER COMPANY (assignee), 2nd five years of No. 23,363, from the 8th day of February, 1891. Improvements in Syringes, 6th February, 1891.
2079. METAL ROOFING COMPANY (assignee), 2nd five years of No. 23,484, from the 24th day of February, 1891. Improvements in Metal Shingles, or Roofing Plates, 10th February, 1891.
2080. THOMAS F. DWYER, 2nd five years of No. 23,433, from the 16th day of February, 1891. Compound for use as a Linnient for Rheumatism, etc., 10th February, 1891.
2081. THOMAS STERY HUNT and JAMES DOUGLAS, 3rd five years of No. 12,577, from the 4th day of April, 1891. Improvements in the Art of Extracting Copper from its Ores, 11th February, 1891.
2082. WILLIAM JOSEPH COPP, 2nd 5 years of No. 23,511, from the 27th day of February, 1891. Improvements in Fire Place Grates, 12th February, 1891.
2083. EUGENE BALCER, 2nd five years of No. 23,637, from the 24th day of March, 1891. Improvements in the Manufacture of Moccasins, 12th February, 1891.
2084. ALEXANDER ANDERSON, 2nd five years of No. 23,411, from the 13th day of February, 1891. Improved Non-Interfering Street Box for Fire Alarm Telegraph Systems, 12th February, 1891.
2085. HARRISON ARMS, 2nd five years of No. 23,447, from the 18th day of February, 1891. Improvements in Stock Cars, 16th February, 1891.
2086. HARRISON ARMS, 2nd five years of No. 23,448, from the 18th day of February, 1891. Improvement in Stock Cars, 16th February, 1891.
2087. HARRISON ARMS, 2nd five years of No. 23,462, from the 19th day of February, 1891. Improvement in Stock Cars, 16th February, 1891.
2088. JOE VINCENT MEIGS, 2nd five years of No. 23,638, from the 26th day of March, 1891. Improvements in Railways, 16th February, 1891.
2089. PETER ROBERTSON, 2nd five years of No. 23,491, from the 25th day of February, 1891. Improvements in Nut Locks, 16th February, 1891.
2090. HALSEY HEALEY MONROE, 2nd five years of No. 23,429, from the 16th day of February, 1891. Improvements in Rotary Harrows, 16th February, 1891.
2091. HALSEY HEALEY MONROE, 2nd five years of No. 23,466, from the 22nd day of February, 1891. Improvements in Seeders, 16th February, 1891.
2092. KNOX ROCK BLASTING COMPANY (assignee), 2nd and 3rd five years of No. 23,627, from the 24th day of March, 1891. Improvements in the Art or Process of Quarrying Rock, 17th February, 1891.
2093. MILWAUKEE HARVESTER COMPANY (assignee), 2nd five years of No. 23,874, from the 22nd day of April, 1891. Improvements on Grain Binders, 18th February, 1891.
2094. MILWAUKEE HARVESTER COMPANY (assignee), 2nd five years of No. 23,907, from the 27th day of April, 1891. Improvements on Grain Binders, 18th February, 1891.
2095. MILWAUKEE HARVESTER COMPANY (assignee), 2nd five years of No. 23,914, from the 28th day of April, 1891. Improvements on Grain Binder Tying Machines, 18th February, 1891.
2096. BURN LANTERN COMPANY (assignee), 2nd five years of No. 23,475, from the 22nd day of February, 1891. Improvements in Tubular Lanterns, 18th February, 1891.
2097. THOMAS COWAN, and JOHN BALLANTINE, 3rd five years of No. 12,420, from the 26th day of February, 1891. Improvements in Moulding Machines, 19th February 1891.
2098. NOXON BROTHERS MANUFACTURING COMPANY (assignee) 2nd five years of No. 23,679, from the 29th day of March, 1891. Improvements in Harvester Binders, 20th February, 1891.
2099. CARTER & COMPANY (assignee), 2nd five years of No. 23,476, from the 23rd day of February, 1891. Improvements in Sale Books, 23rd February, 1891.
2100. WILLIAM PETER BETTENDORF, 2nd and 3rd five years of No. 23,518, from the 2nd day of March, 1891. Improvements in wheels, 23rd February, 1891.
2101. JOSEPH WHITELEY, 2nd five years of No. 23,595, from the 13th day of March, 1891. Improvements on Treads, Steps, Mats, Matting, Flooring and other Wearing Surfaces, 24th February, 1891.
2102. SAMUEL BAUM, 2nd five years of No. 23,504, from the 27th day of February, 1891. Improvements on Sleds, 26th February, 1891.
2103. GEORGE WILLIAM DRYDEN, 2nd five years of No. 23,519, from the 2nd day of March, 1891. Improvements in Grinding Mills, 27th February, 1891.
2104. GABRIEL C. FOWLIE, 2nd five years of No. 23,570, from the 9th day of March, 1891. Improvements in the Manufacture of Artificial Stone, 27th March, 1891.
2105. HECTOR McQUARRY, 2nd five years of No. 23,676, from the 27th day of March, 1891. Improvements in Axle Gages, 27th February, 1891.
2106. SOLOMAN VERMILYEA and HANNAH M. VERMILYEA, 3rd five years of No. 12,436, from the 1st day of March, 1891. Improvements in Corsets, 28th February, 1891.
2107. FRANK STACEY OAKES and SANFORD FREDERICK BURGER, 2nd five years of No. 23,526, from the 2nd day of March, 1891. Improvements in Milk Cans, 28th February, 1891.

## FEBRUARY LIST OF TRADE MARKS.

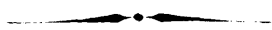
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3930. J. F. LEFEBVRE, of Montreal, Que., Cigars, 2nd February, 1891.
3931. } ALEXANDER GORDON, of Detroit, Michigan, U.S.A., and  
 3932. } HARRIS RAYNOLDS, of Windsor, Ont., trading  
 3933. } at said Windsor as GORDON & RAYNOLDS.  
 3934. } Cigars, 2nd February, 1891.
3935. ELIZA POWELL, of Toronto, Ont., Medicine, 2nd February, 1891.
3936. JULIUS GARST, of Worcester, Massachusetts, U.S.A., Anodyne and Nervine Pills, 3rd February, 1891.
3937. MACHAFFIE & ELVIDGE, of Cornwall, Ont., A Medicinal Preparation for the cure of Catarrh, 3rd February, 1891.
3938. H. PAXTON BAIRD, of Woodstock, Carleton Co., N.B., Baird's Balsam of Horehound, 3rd February, 1891.
3939. JAMES J. MATCHETT, of Brooklyn, New York, U.S.A., General Trade Mark, 4th February, 1891.
3940. WILLIAM B. SLAYTER, Halifax, N.S., Fish, Meats, Vegetables and Fruits, prepared and preserved by means of the Chebueto Preserver, 4th February, 1891.
3941. JOHN DICKINSON & COMPANY, L'D., of 65 Old Bailey, London, England, Paper (except paper hangings) and Stationery, 4th February, 1891.
3942. JOHN MADDOCKS, of Bradford, Yorkshire, England, Cotton, Linen, Hemp and Silk piece goods, Cloths and Stuff of Wool, Worsted or Hair, and Articles of Clothing, 4th February, 1891.
3943. CREELMAN BROTHERS, of Georgetown, Halton Co., Ont., Knitting Machines, 4th February, 1891.
3944. LOUIS RICHARD BARIDON, of Montreal, Que., A Cough Mixture, 6th February, 1891.
3945. HENRY MORGAN & CO., of Montreal, Que., A Sign to distinguish Registrants' place of business, 9th February, 1891.
3946. } KERRY, WATSON & CO., of Montreal, Que., A Medicinal Preparation,  
 3947. } 9th February, 1891.
3948. JOHN UNDERWOOD & CO., of New York, N.Y., U.S.A., General Trade Mark, 12th February, 1891.
3949. } MITCHELL & CO., OF BELFAST, L'TD., of 82, 84 and 86, Tomb  
 3950. } Street, Belfast, Ireland, and Glasgow, Scotland,  
 3951. } Fermented Liquors and Spirits including Whiskey,  
 3952. } 12th February, 1891.
3953. ALFRED B. JENKINS AND CHARLES JENKINS, of Orange, New Jersey, and Boston, Massachusetts, respectively, doing business as co-partners in New York, N.Y., in said Boston and elsewhere, U.S.A., under the firm name, JENKINS BROTHERS, General Trade Mark, 12th February, 1891.
3954. CLEVELAND BAKING POWDER CO., of New York, N.Y., U.S.A., Baking Powder, 12th February, 1891.
3955. THE IMPERIAL GRANUM CO., of New Haven, Connecticut, U.S.A., Certain Proprietary Foods, 13th February, 1891.
3956. J. F. LEFEBVRE, of Montreal, Que., Cigars, 20th February, 1891.
3957. THE BOSSHARDT & WILSON CO., of Philadelphia, Pennsylvania, U.S.A., General Trade Mark, 21st February, 1891.
3958. D. RITCHIE & CO., of Montreal, Que., Cigarettes and Tobaccos, 24th February, 1891.
3959. THE MONTREAL BREWING CO., of Montreal, Que., Ale and Porter, 26th February, 1891.
3960. WILLIAM FROST SMITH, of Montreal, Que., Cigars, 27th February, 1891.

# COPYRIGHTS.

Entered during the month of February at the Department of Agriculture—Copyright and  
Trade Mark Branch.

5794. WHEELING. A Bicycle Parade. For the piano, by R. S. Peniston. I. Suckling & Sons, Toronto, Ont., 2nd February, 1891.
5795. IF I LOVE JESUS? Words by L. A. Morrison. Music by J. E. Lanceley. Llewellyn Abraham Morrison, Toronto, Ont., 3rd February, 1891.
5796. KATIE CONNOR. Words and Music by Harry Dacre. Arranged by John S. Baker. The Anglo-Canadian Music Publishers' Association, L.L., London, England, 4th February, 1891.
5797. A FEW PERTINENT QUESTIONS ON THE SUBJECT OF GOOD BREAD MAKING. (pamphlet). Fleischmann & Co., Toronto, Ont., 4th February, 1891.
5798. LIFE'S HIGHWAY. Words and Music by Felix McGlennon. Arranged by John S. Baker. The Anglo-Canadian Music Publishers' Association, L.L., London, England, 6th February, 1891.
5799. ERE THE LAMPS ARE LIT. Words by J. P. Harrington. Music by Geo. Le Brunn. }  
5800. HE WAS HER ONLY SON. Words by George Bruce and Felix McGlennon, }  
5801. THE CLANG OF THE FORGE. Words by Henry Vaughan. Music by }  
5802. REMEMBER. Words by R. S. Hichens. Music by Stanley Forbes. The }  
Anglo Canadian Music Publishers' Association, L.L., London, }  
England, 7th February, 1891.
5803. TORONTO OLD AND NEW, by G. Mercer Adam. (book). The Mail Printing Co., Toronto, Ont., 7th February, 1891.
5804. TORONTO DIRECTORY 1891. Mights' Directory Co., Toronto, Ont., 9th February, 1891.
5805. CANADIAN PRESBYTERIAN MISSION FIELDS: HOME AND FOREIGN, to be published in the "Knox College Monthly" in Toronto. (Temporary Copyright). Daniel T. McAinsh, Toronto, Ont., 10th February, 1891.
5806. RULES FOR THE POLITICAL PUZZLE, WHO WINS? Wm. Bryce, Toronto, Ont., 12th February 1891.
5807. BABY'S RECORD. (booklet). The Mail Printing Co., Toronto, Ont., 12th February, 1891.
5808. THE MICROCOSMIC MONTHLY, FEBRUARY, 1891. The Simpson Publishing Co., Toronto, Ont., 12th February, 1891.
5809. A DOUBLE KNOT, by George Manville Fenn. (book). John Lovell & Son, Montreal, Que., 13th February, 1891.
5810. BRYCE'S FLIP TENNIS RULES. Wm. Bryce, Toronto, Ont., 14th February, 1891.
5811. A MANUAL ON THE TAXATION OF COSTS IN THE HIGH COURT OF JUSTICE, by Charles Howard Widdifield. Carswell & Co., Toronto, Ont., 14th February, 1891.
5812. THE COUNTY COURT MANUAL, being a collection of the Statutes relating to the PRACTICE, PROCEDURE AND JURISDICTION OF THE COUNTY COURTS OF NOVA SCOTIA, with Notes etc., by George Burgay, Q. C. Carswell & Co., Toronto, Ont., 14th February, 1891.
5813. LETTER RETURN STAMPS. (book). Alexander Stewart and Harry Gay, Toronto, Ont., 16th February, 1891.
5814. CANADIANS IN THE IMPERIAL NAVAL AND MILITARY SERVICE ABROAD, by J. Hampden Burnham, M. A. Williamson & Co., Toronto, Ont., 17th February, 1891.
5815. L'INDEX DES MAISONS A LOUER ET A VENDRE DANS LA VILLE DE MONTREAL, No. 1, 14 FEVRIER, 1891. Ecrement & Cie., Montreal, Que., 17 Fevrier, 1891.
5816. SONGS AND MISCELLANEOUS POEMS, by John Imrie. Imrie & Graham, Toronto, Ont., 18th February, 1891.
5817. VIRGIL'S AENEID, BOOK I. Edited with Introductory Notices, Notes and Complete Vocabulary, by John Henderson, M. A., New Edition. The Copp, Clark Co., L'd., Toronto, Ont., 18th February, 1891.
5818. WRITING BOOK FOR PUBLIC SCHOOLS. Prepared under the direction of J. Coyle Brown. Public School Inspector, Peterborough, Ont., 19th February, 1891.

5819. OJISTOH. (The Star). Polka, by Juliette d'Erveux Smith. }  
5820. SOMETIME, SOMEWHERE. Sacred Song, by R. S. Ambrose. }  
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5821. CENTENNIAL OF CANADIAN METHODISM. (book). Wm. Briggs, Book  
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Ont., 20th February, 1891.
5822. THE MERCHANTS' PROTECTIVE ASSOCIATION BOOK OF LETTER FORMS.  
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5823. OLIVER GOLDSMITH, by Wm. Black. MacMillan & Co., London, England, 23rd  
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5824. GUIDE PRATIQUE DE L'ENSILAGE A L'USAGE DES PRATICIENS, par J. C.  
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5825. THE INDEX OF CURRENT EVENTS, 1890. (book). Henry Dalby, Montreal,  
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5826. THE CANADIAN QUEEN, February Number, 1891. The Queen Publishing Co.,  
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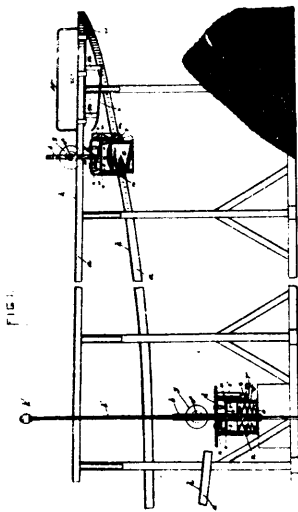
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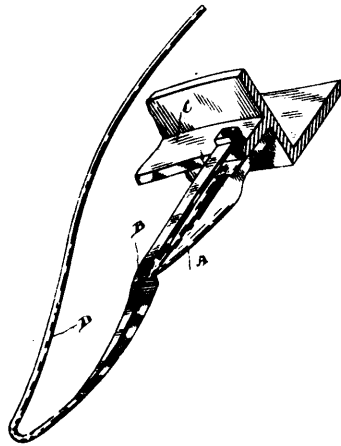
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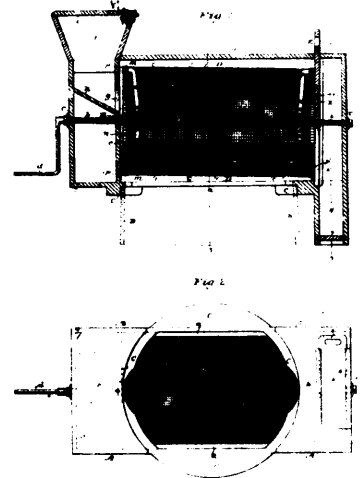
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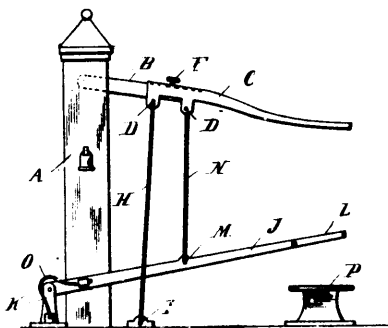
35808 Boudreau's Coal Conveyor, etc.



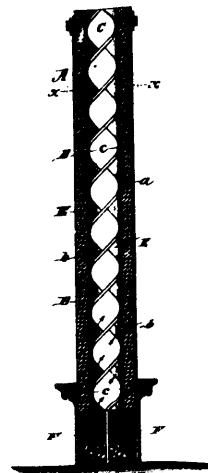
35809 Dunton's Attachment to Cutter Guard to raise Lodged Grain.



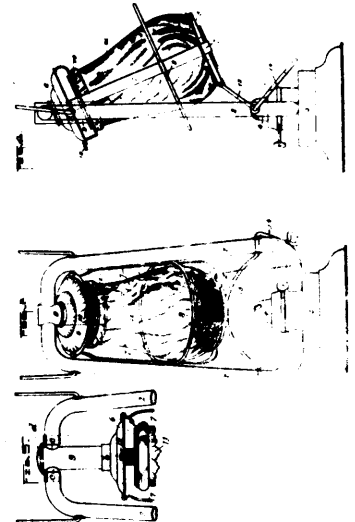
35910 Cook's Rotary Sifter.



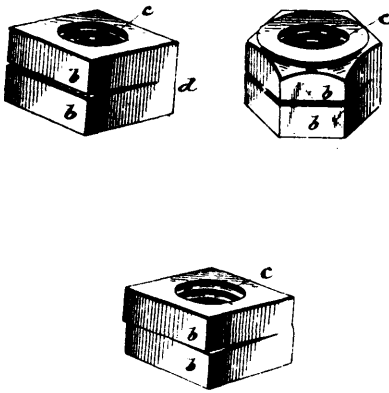
35911 Holr's Pump Attachment.



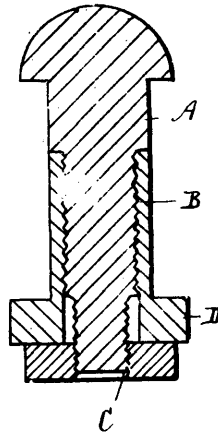
35912 Moore's Spiral Smoke Heating and Ventilating Flue.



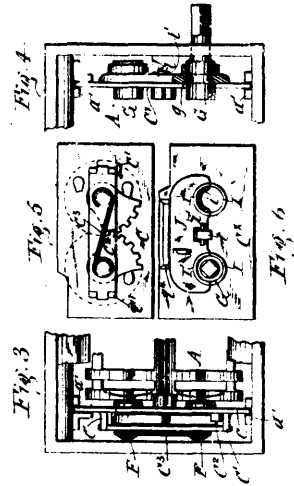
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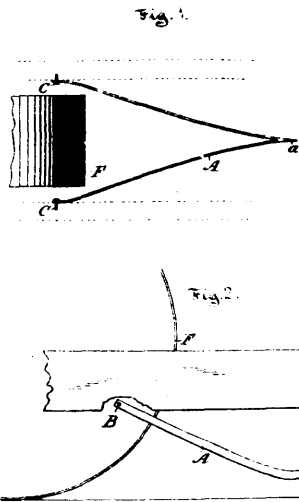
35914 Richardson's Nut Lock



35915 Morrison's Nut Lock.



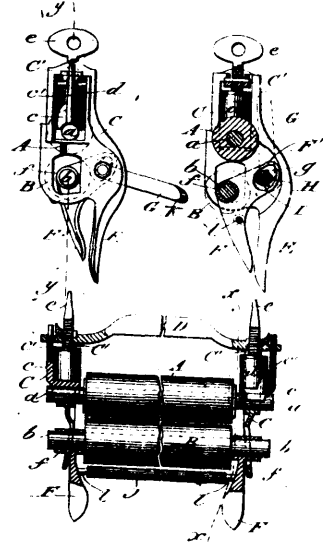
35916 Beers and Arnold's Stove Grate.



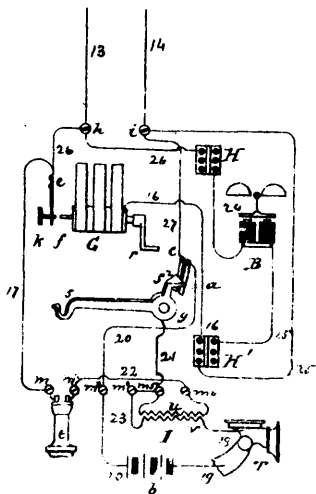
35917 Scarr's Harvester.



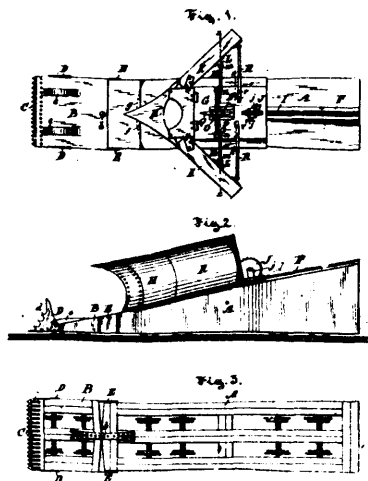
35918 Marsh and Boothe's Extension Ladder.



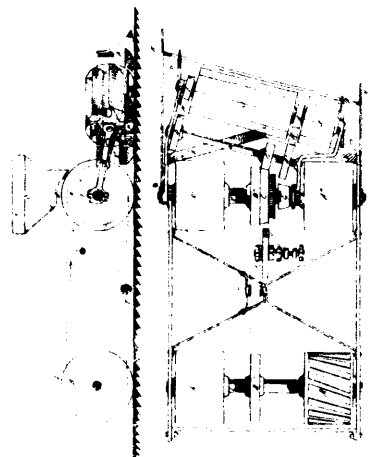
35919 Stinson's Clothes Wringer.



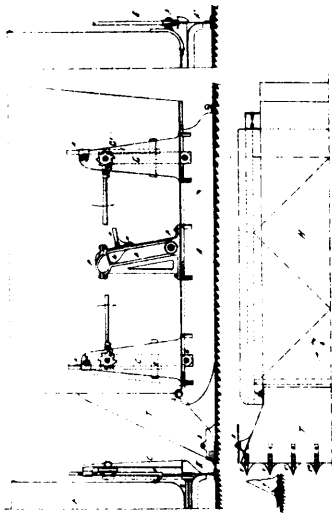
35920 Carty's Telephonic Circuits and Apparatus.



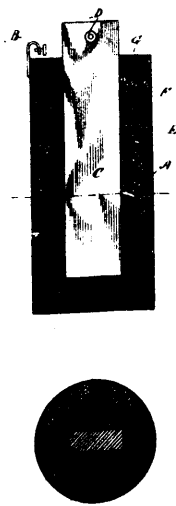
35921 Laberge's Snow Plow.



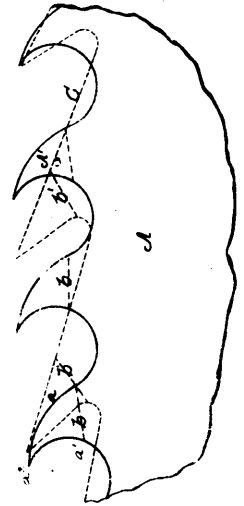
35922 La Vallee's Machine for Removing Ice and Snow from Sidewalks.



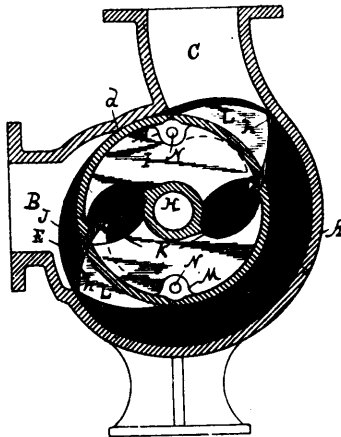
35923 La Vallée's Machine for Removing Ice and Snow from Sidewalks.



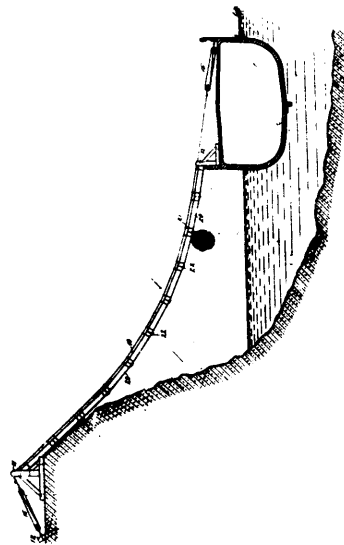
35924 Burnbey, Hitchcock and Davenport's Galvanic Battery.



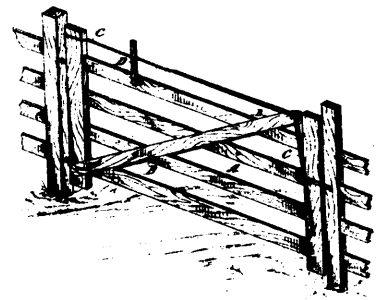
35925 Hazard's Saw.



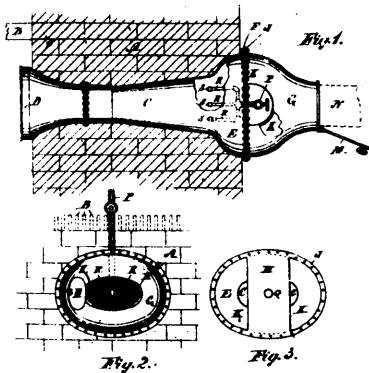
35926 Smith's Rotary Pump.



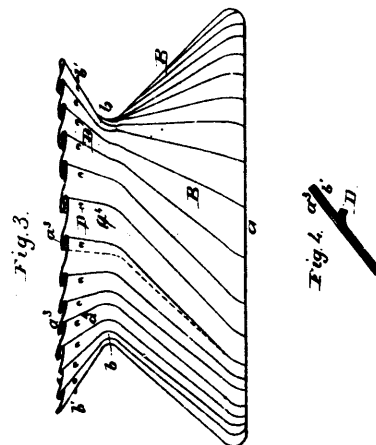
35927 Musgrave & Clarke's Portable Chute.



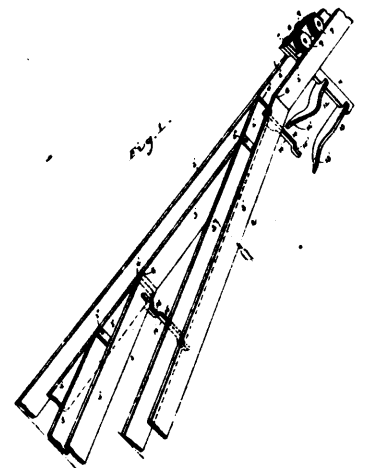
35928 Coffin's Gate.



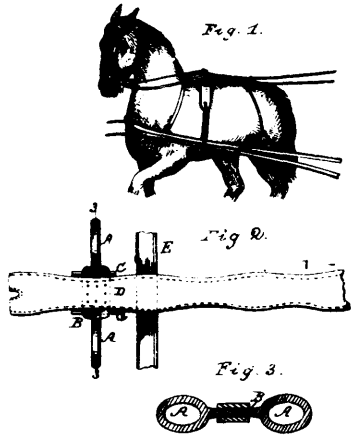
35929 Earle's Air Injector and Exhauster.



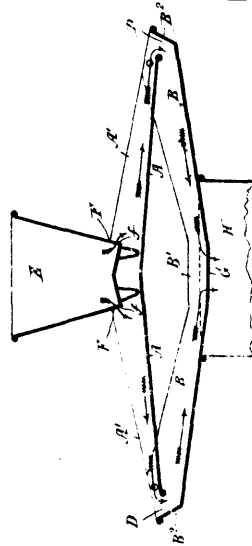
35930 Chamberlain's Cuspidor.



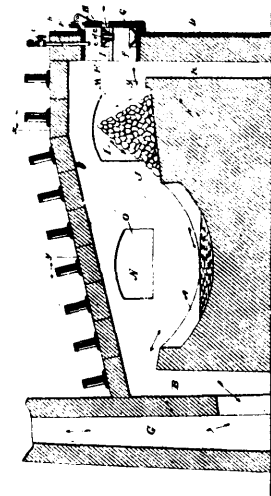
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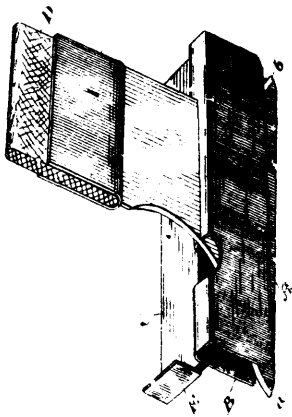
35932 Weist's Line Holder.



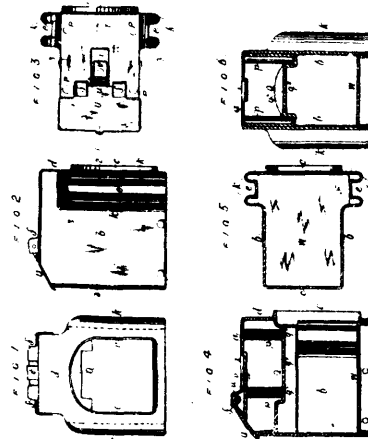
35933 Wherry's Milk Aerator and Cooler.



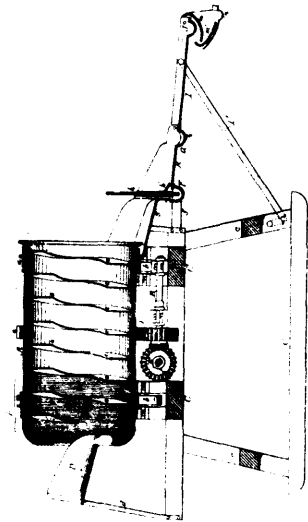
35934 Keys' Smelting Furnace.



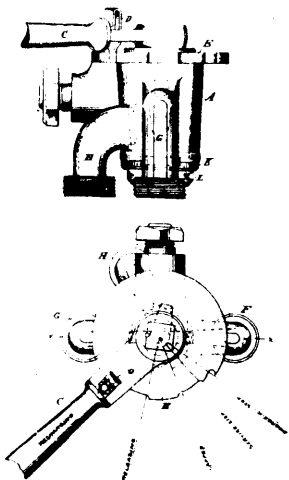
35935 Bell's Paper Cutter, Pencil Sharpener and Eraser.



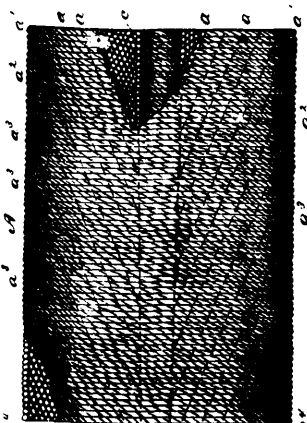
35936 Donnelly's Axle Box.



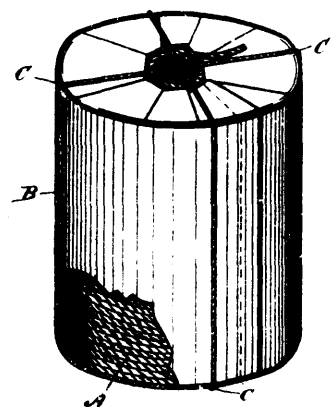
35937 Cook's Amalgamator



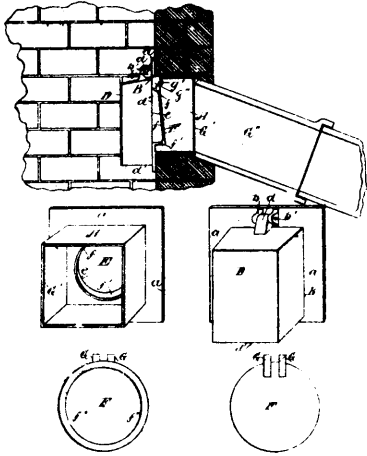
35938 Leeman & Jones' Engineers' Valve.



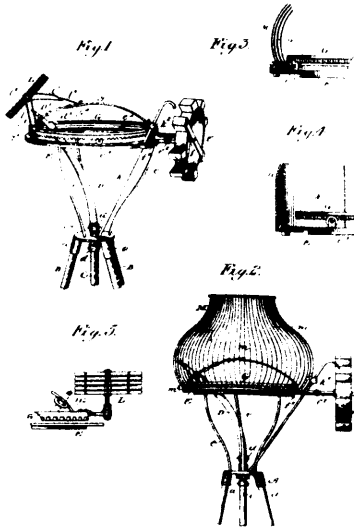
35939 Miller's Cord, etc



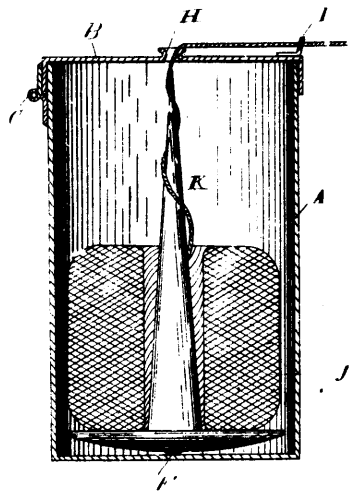
35940 Miller's Protector for Balls of Cord.



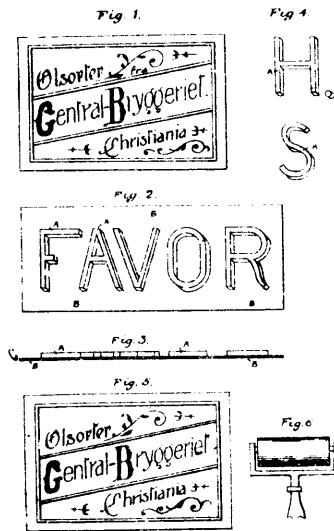
35941 Tomlinson's Trap for Catch Basin.



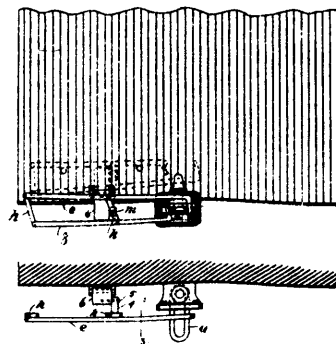
35942 Hoyt's Lawn Sprinkler.



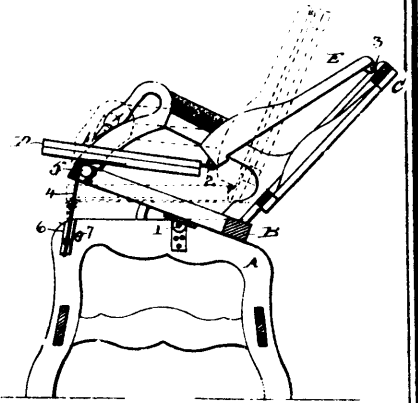
35943 Viley's Twine Holder.



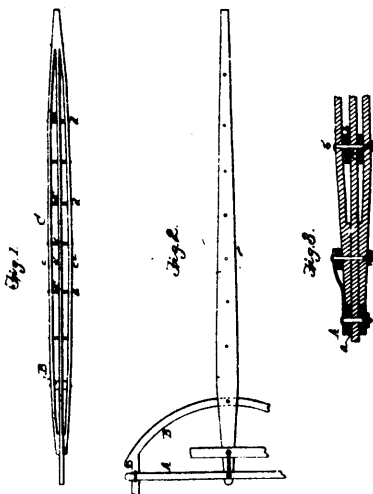
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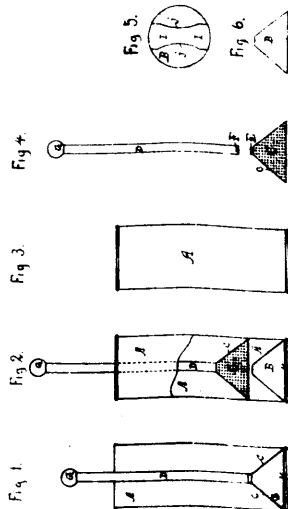
35945 Fisher's Lifter for Car Couplings.



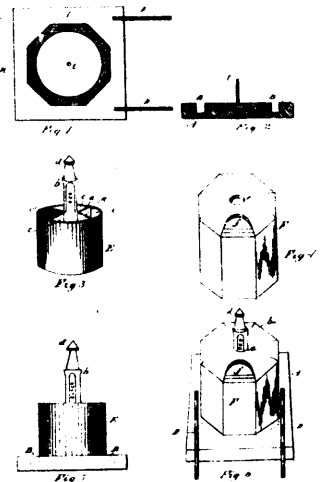
35947 Spurr's Reclining Chair.



35948 Lockwood's Vehicle Pole.

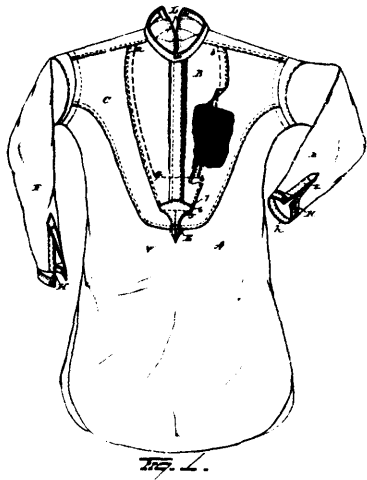


35949 Gellatly's Egg Beater.

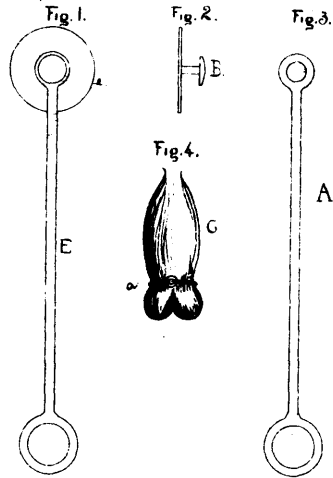


35950 Fraser's Ink Stand.

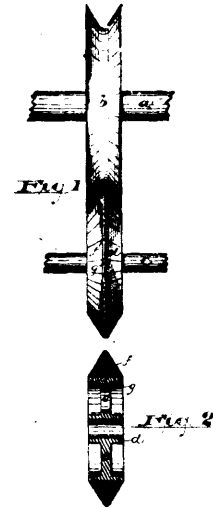




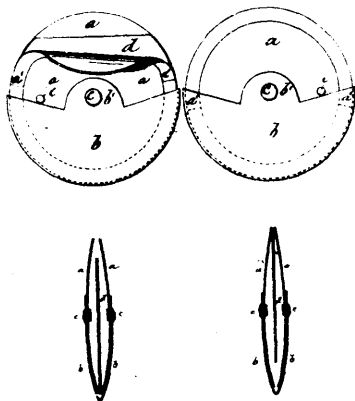
35953 Sillesky's Shirt.



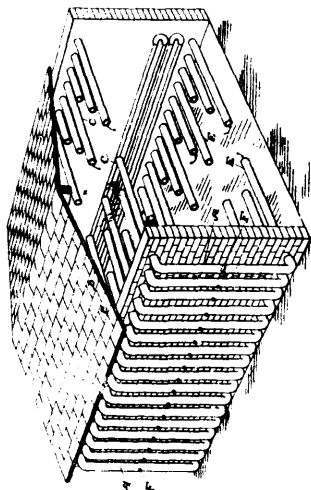
35954 Davis' Horse Tail Ties.



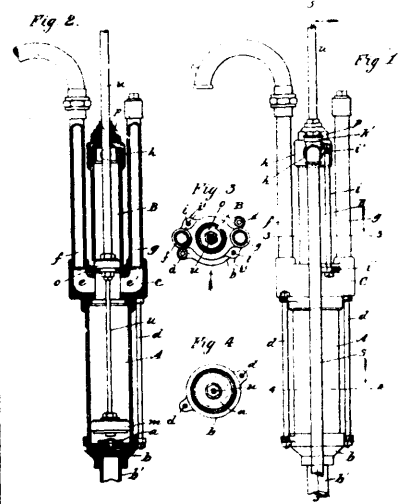
35955 Meier's Means for Transmitting Power.



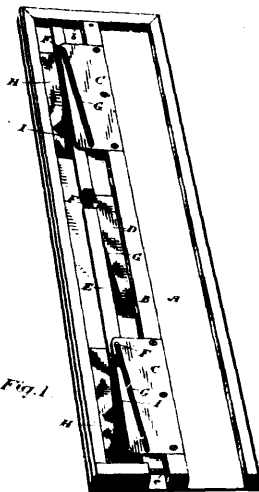
35956 Lieber's Pocket Book.



35957 Parmenter's Drying Kiln.



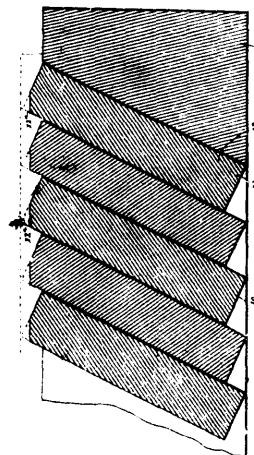
35958 Dacus' Pump



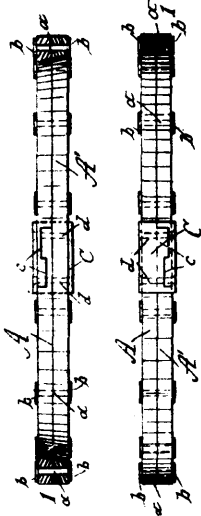
35959 Horne's Printers' Galley.



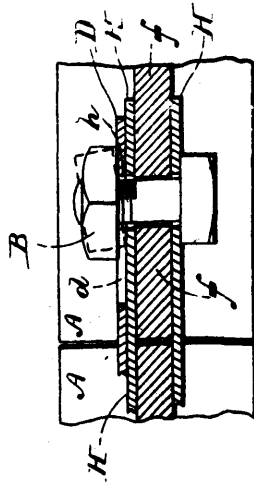
35960 Morris' Combination Lock.



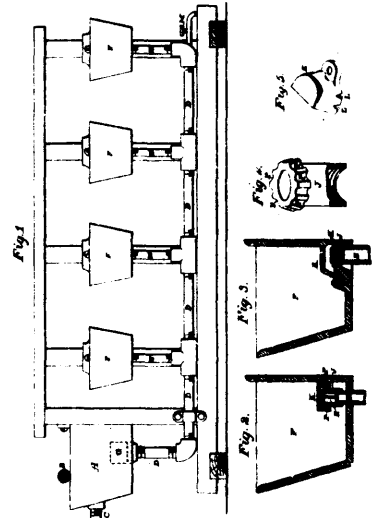
35961 Dalot's Method of producing Chamfers.



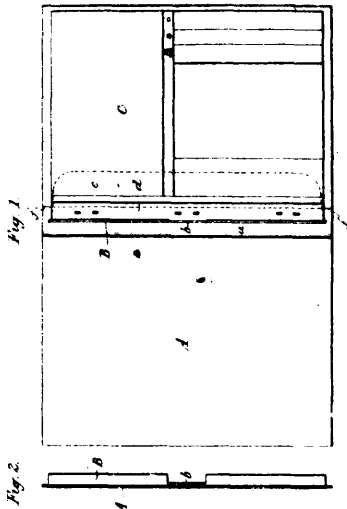
35962 Delano & Hall's Truss Hoop.



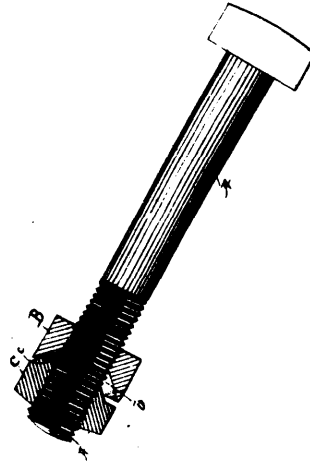
35963 Besse & Damon's Nut Lock.



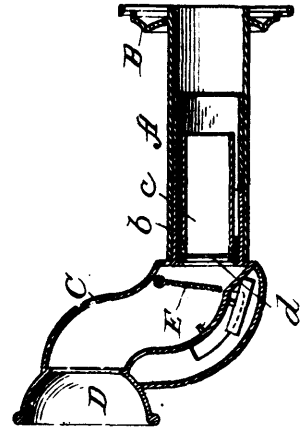
35964 Buckley's Device for Watering Stock.



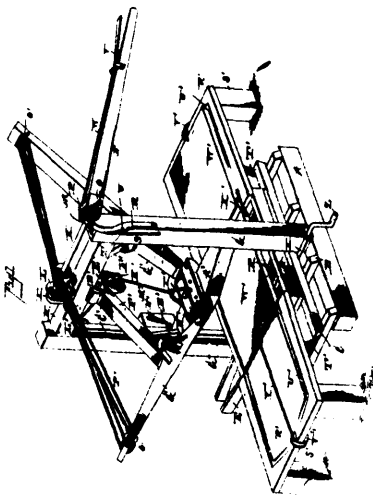
35965 Spear's Covering for Books.



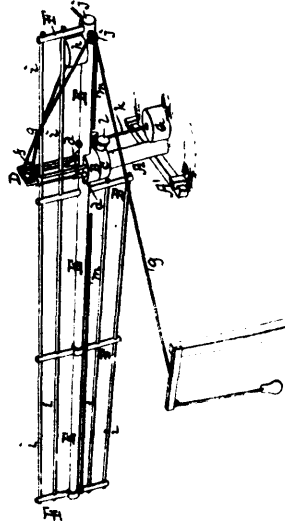
35966 McDonah's Nut Lock.



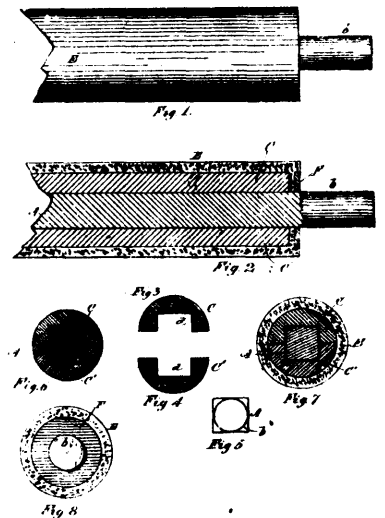
35967 Blake's Sound Transmitter.



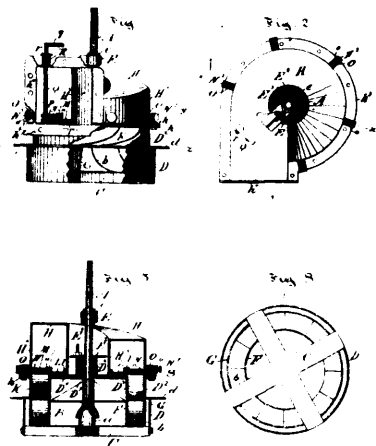
35968 Root's Cider or Wine Press.



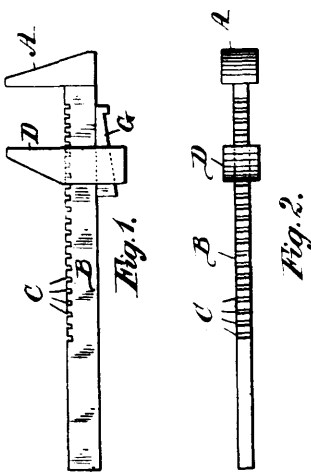
35969 Van Nostrand's Gate.



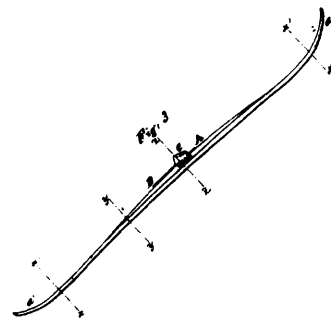
35970 Ghent's Rubber Wringer Roll.



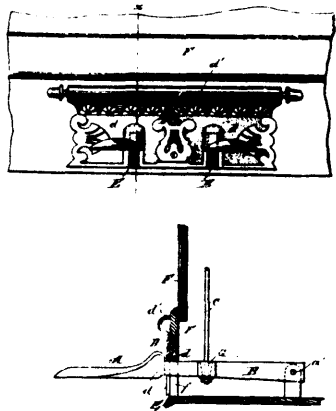
35972 Le Bel's Turbine.



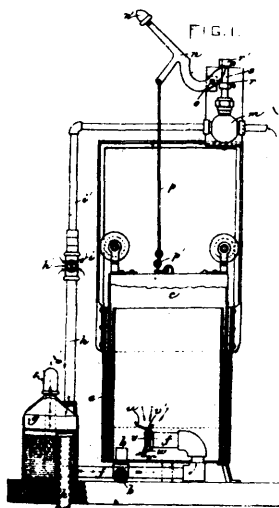
35973 Roger's Wrench.



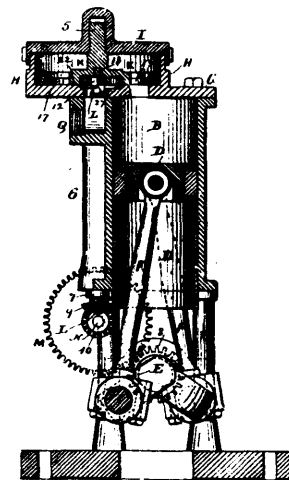
35974 Conradson's Snow Skate.



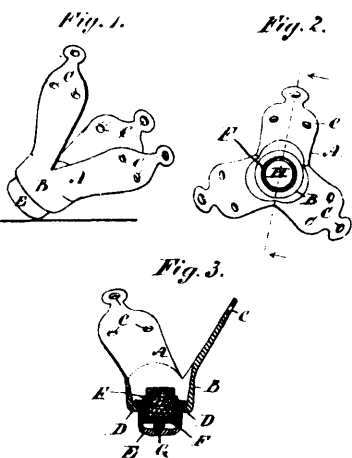
35975 Sternberg's Piano Forte Pedal and Guard.



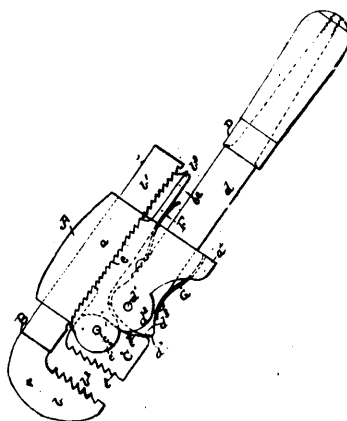
35976 Burrow's Carbureting Apparatus.



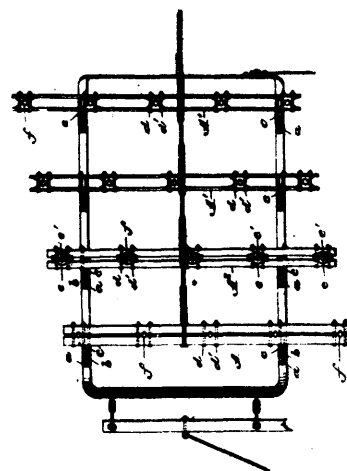
35977 Vogel's Valve.



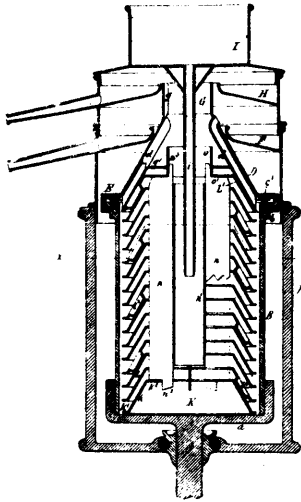
35978 Arnold's Caster and Corner Protector for Trunks.



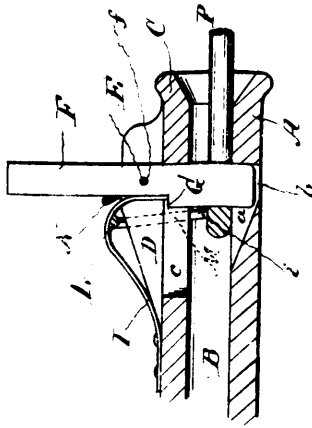
35979 Hersey's Pipe Wrench.



35980 Mack's Harrow.



35981 Bechtolsheim's Centrifugal Separator.



35982 Powell's Car Coupler.

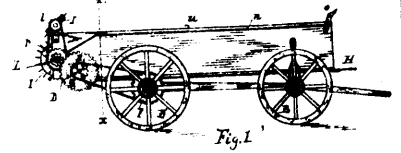


Fig. 1

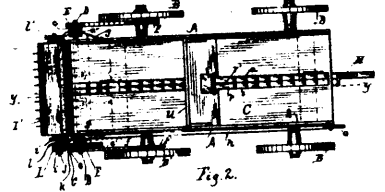


Fig. 2

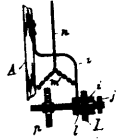
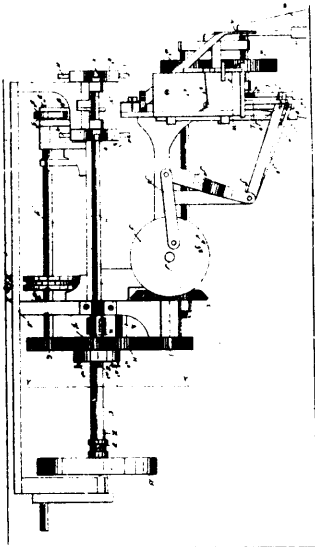
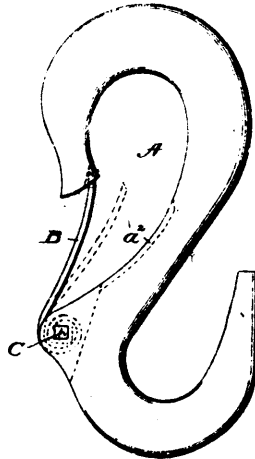


Fig. 3

35983 Merrell's Manure Spreader.



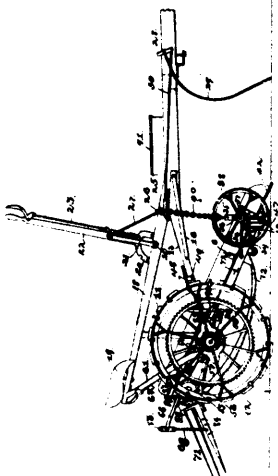
35984 Morin's Staple Driving Machine.



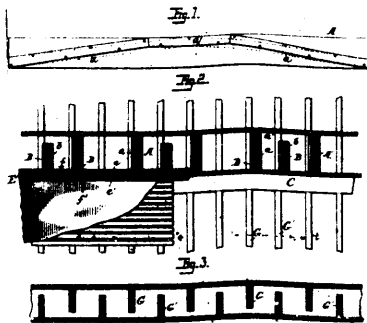
35985 Lundborg's Snap Hook.



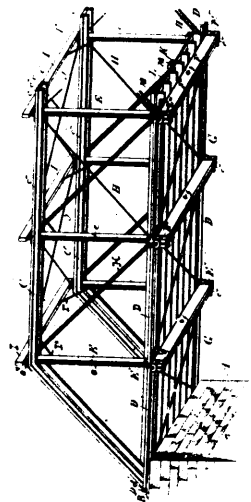
35986 Lundborg's Spring Scale.



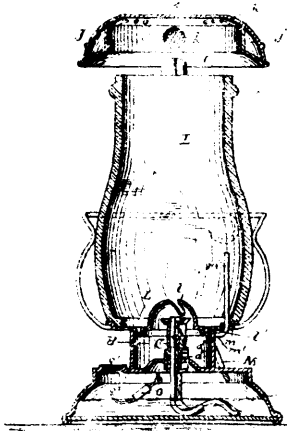
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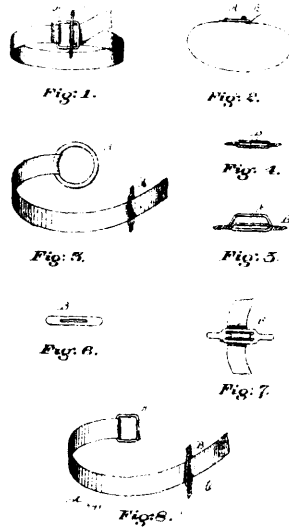
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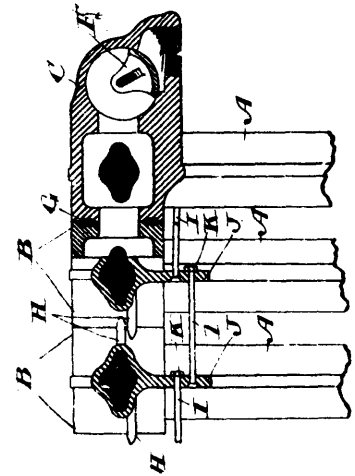
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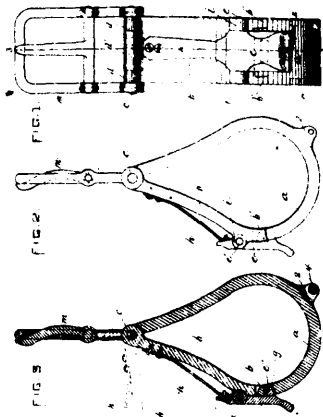
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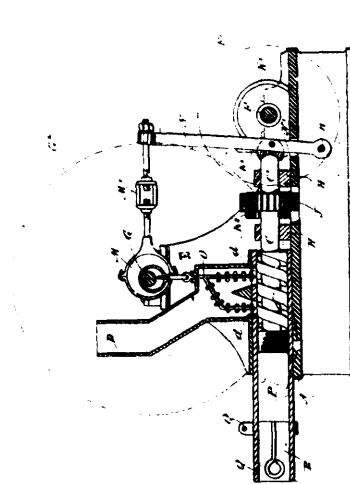
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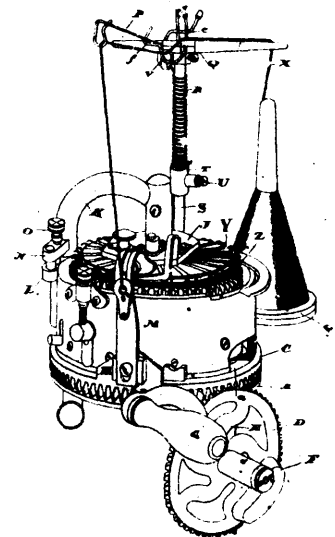
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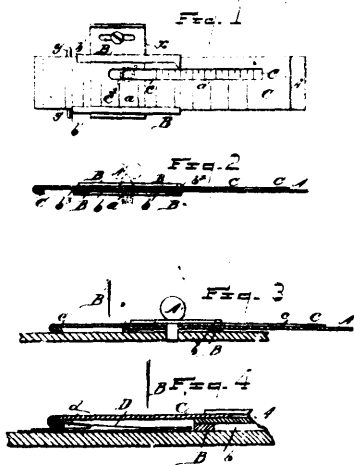
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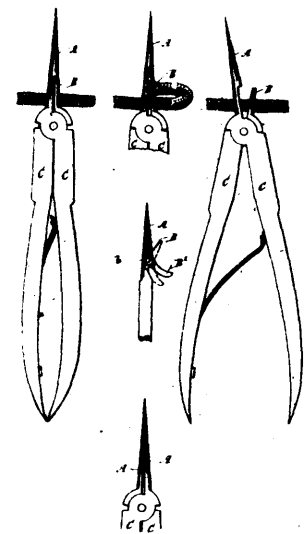
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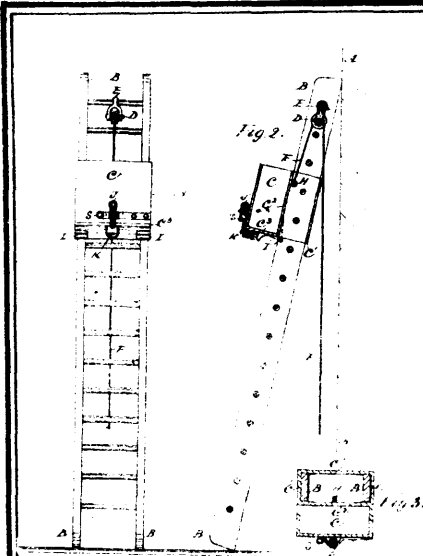
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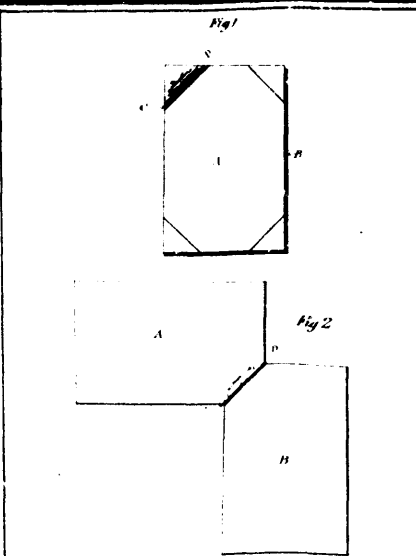
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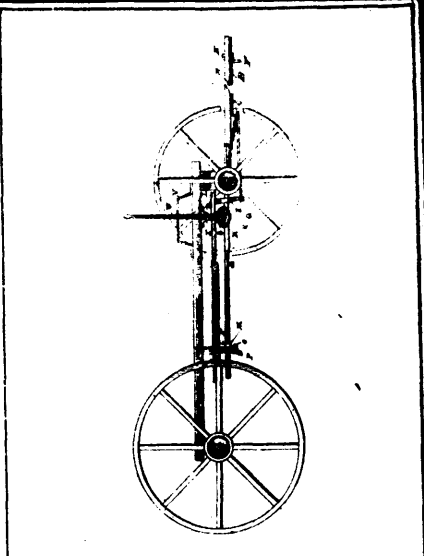
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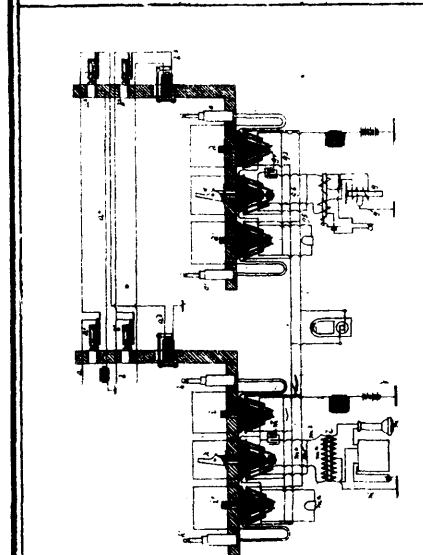
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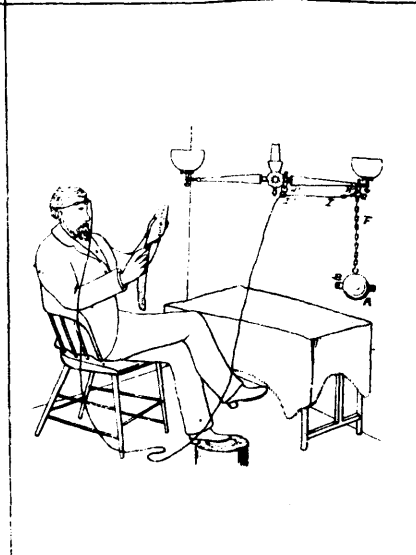
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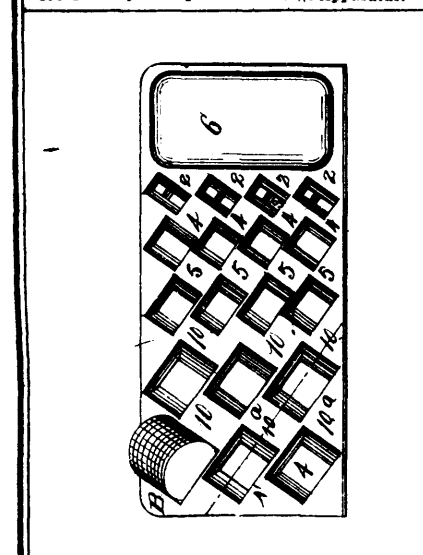
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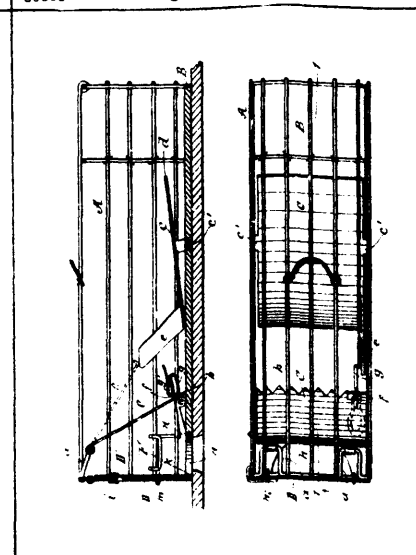
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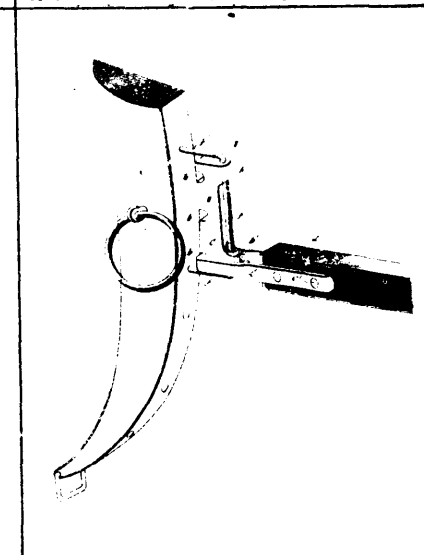
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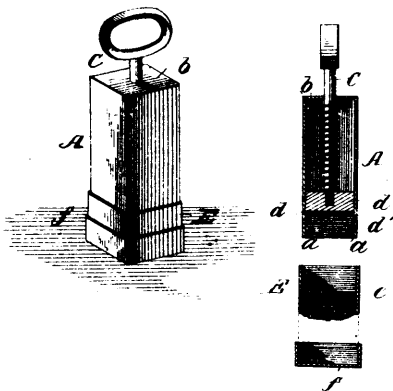


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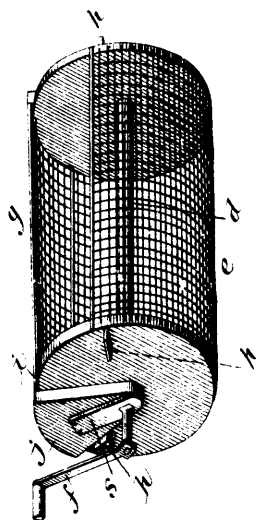


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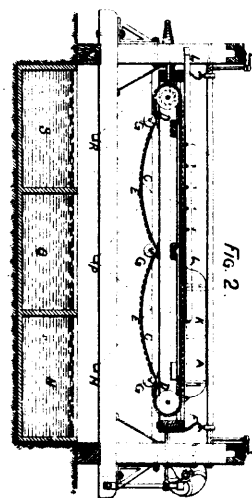




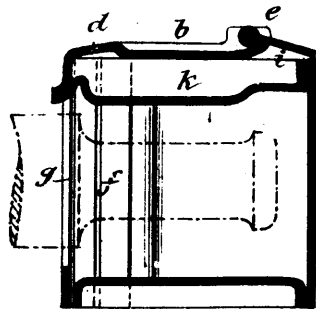
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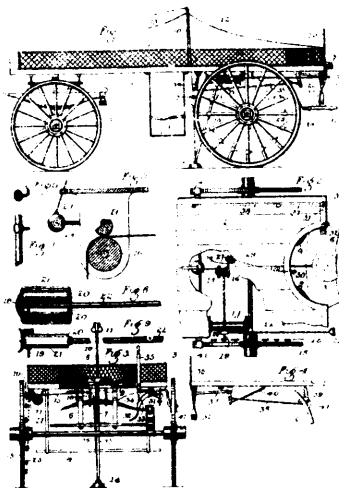
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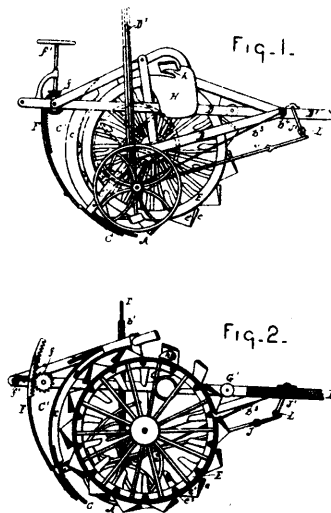
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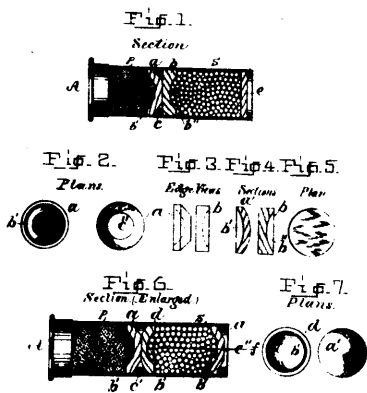
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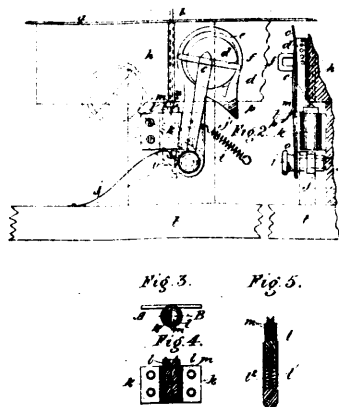
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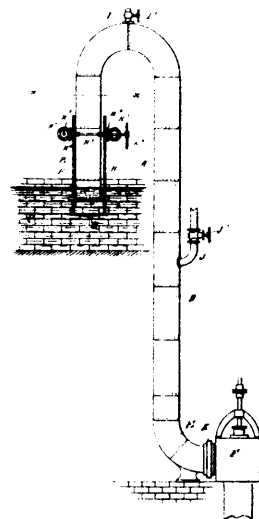
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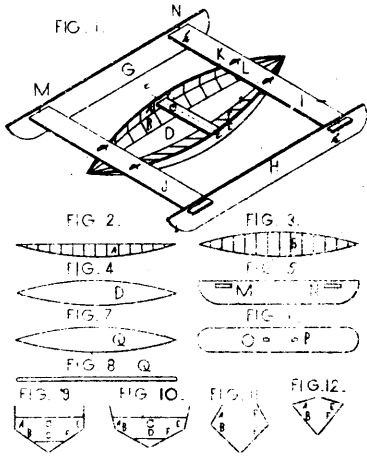
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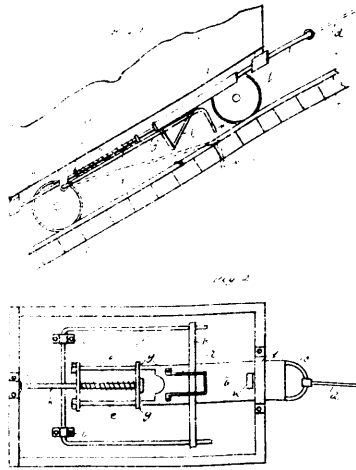
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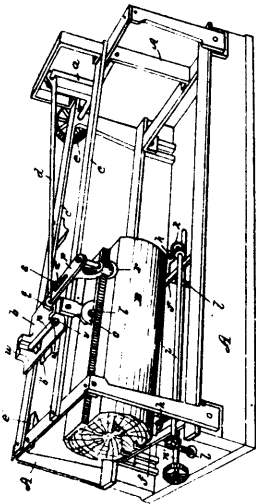
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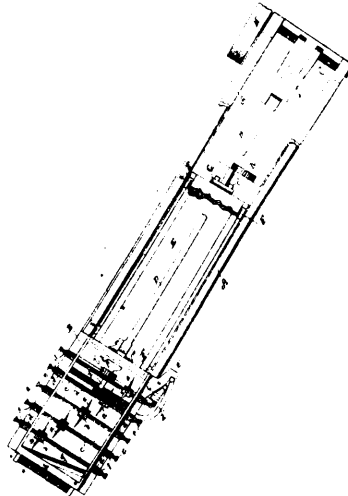
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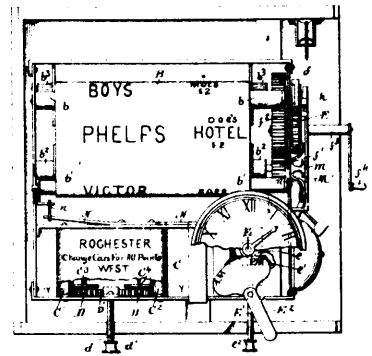
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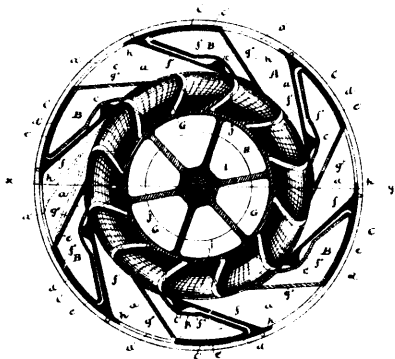
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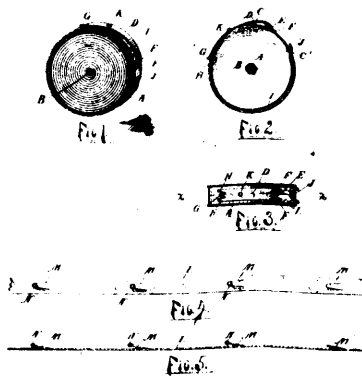
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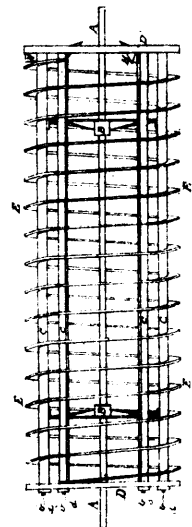
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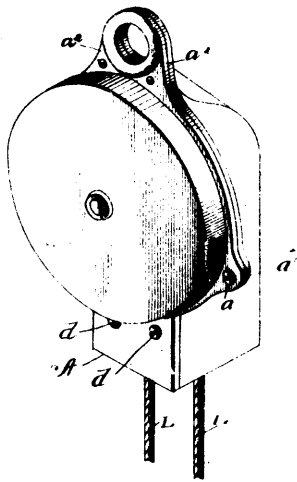
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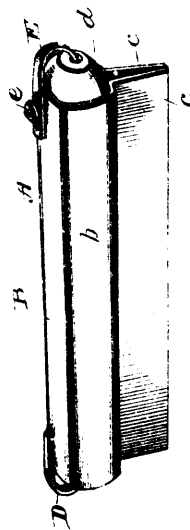
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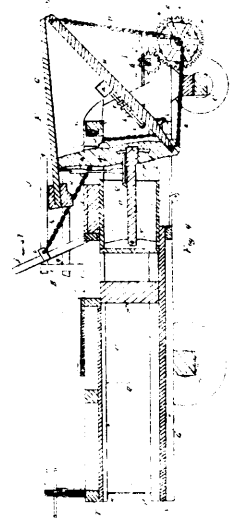
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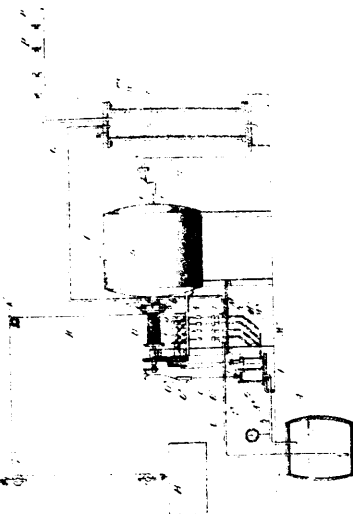
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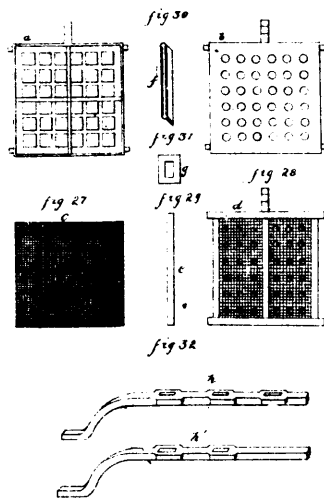
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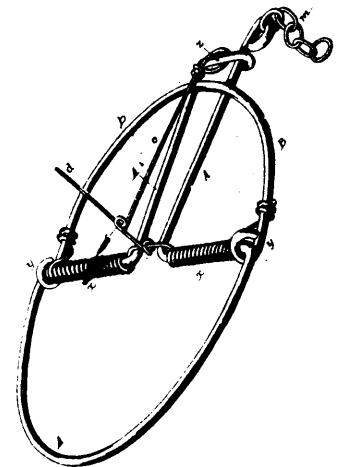
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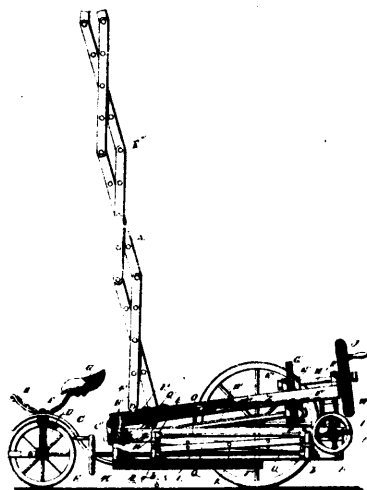
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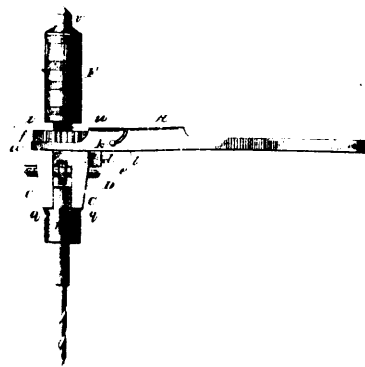
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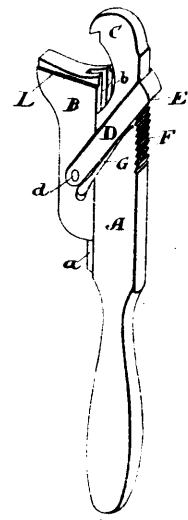
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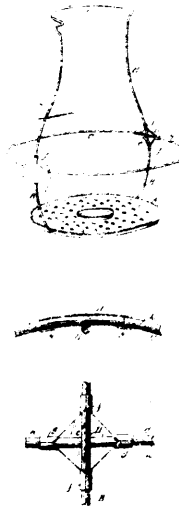
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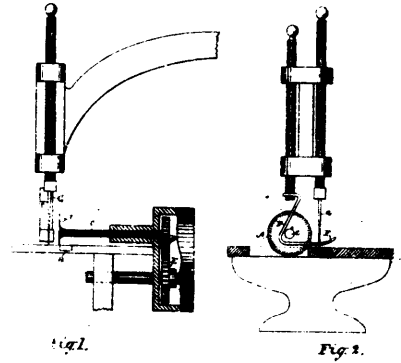
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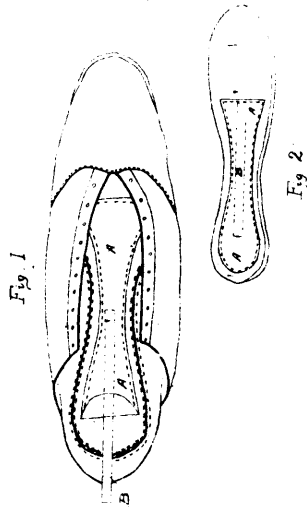
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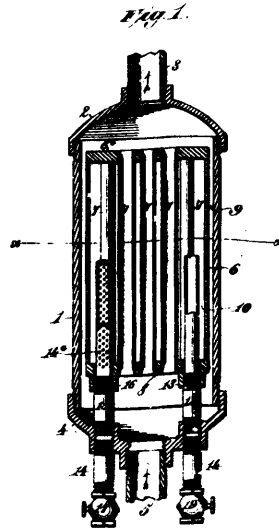
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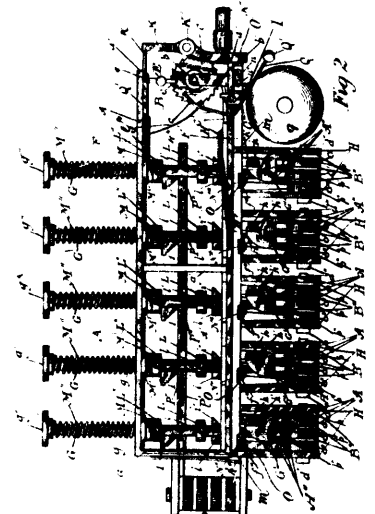
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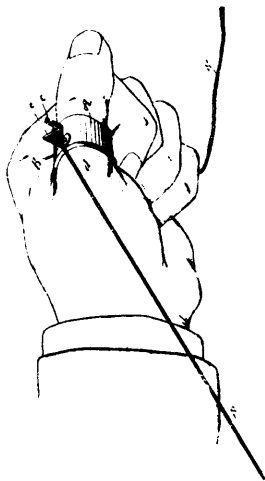
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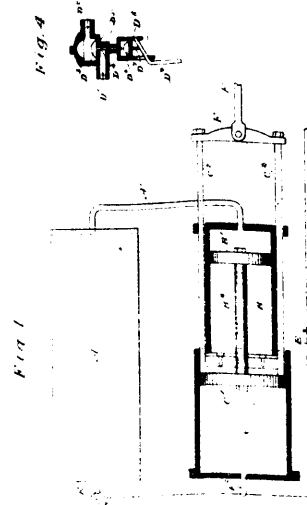
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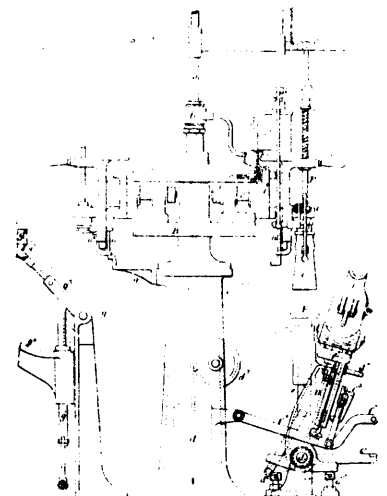
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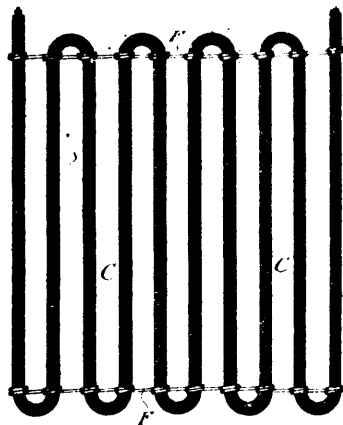
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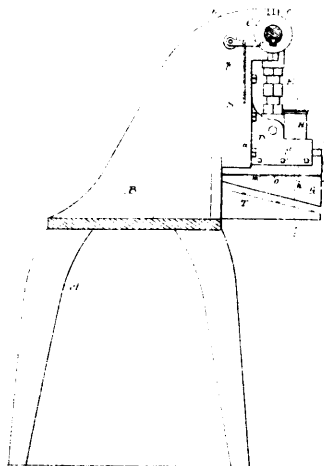
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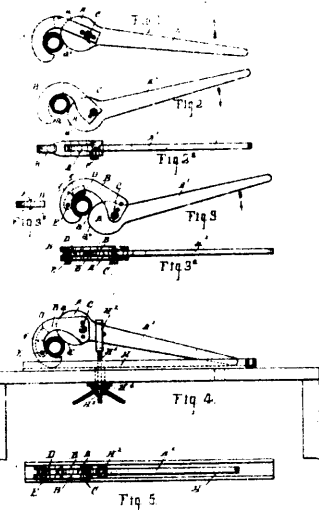
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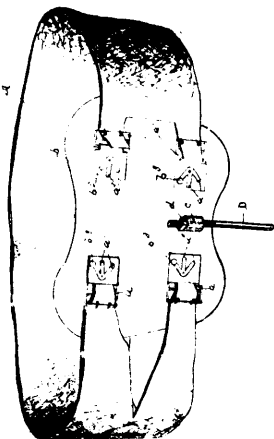
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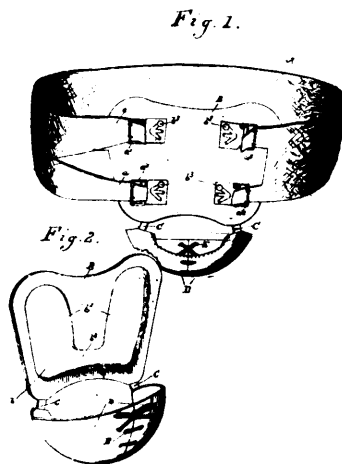
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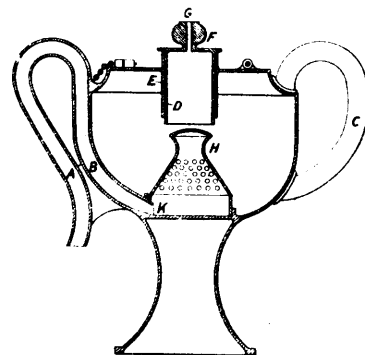
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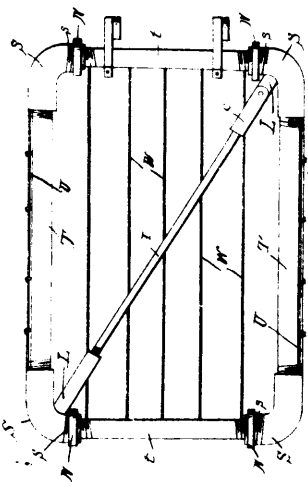
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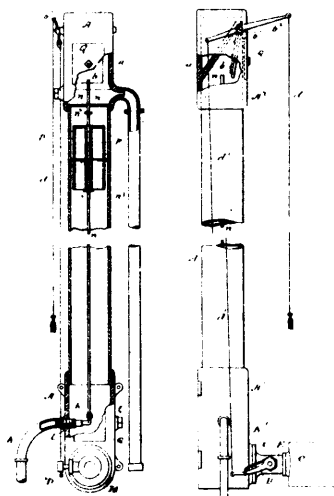
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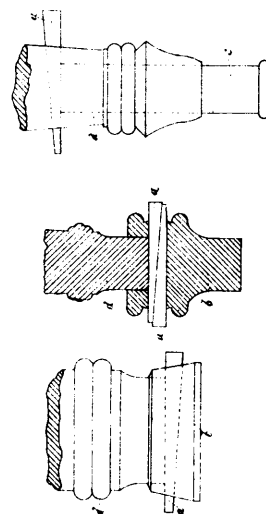
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