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perforations corresponding to, and adapted to receive said lugs and having its front edge resting against said arm, substantially as set forth. 3rd. The combination, with a standard provided with threaded recesses, substantially as described, forming a bearing, a cylinder removably secured to said standard, and a follower located in the cylinder, of a screw for driving the follower disposed in said bearing and removable therefrom, in the manner set forth. 4th. The combination of a standard provided with a screw threaded bearing, and with upwardly projecting lugs, a cylinder provided with coincident perforations adapted to receive said lugs, a follower disposed in the cylinder and provided with a socket and a screw disposed in said bearing and having its inner end removably seated in said socket, substantially as set forth. 5th. The combination, with a standard a cylinder secured thereto, and a plunger disposed in said cylinder, of a screw provided with a thread, substantially as described, said screw being disposed in a correspondingly threaded bearing in the standard and having its end engaging the follower, substantially as set forth. 6th. The combination, with a standard provided with a screw threaded bearing, a cylinder secured to said standard, and a follower located in said cylinder, of a screw disposed in said bearing and having its inner end engaging the follower, said screw being provided with a crank arm at its outer end formed integral therewith having a handle disposed thereon, substantially as set forth. 7th. The combination, with a standard provided with a screw threaded bearing, a cylinder secured to said standard and having a follower disposed therein, of a screw disposed in said bearing and having its inner end engaging the follower, a crank arm at the outer end of the screw provided with a circumferential groove, and a handle disposed on said crank arm provided with a pin engaging said groove, substantially as set forth. 8th. In a press of the class described, a cylinder formed of sheet metal having a screw thread rolled outwardly thereon, whereby the diameter of said cylinder is not reduced by said thread. 9th. In a press of the class described, the combination, with a cylinder provided at one end with a screw thread, substantially as described, of a ring adapted for the reception of a flanged plate having one or more openings and provided with a corresponding screw thread, for the purpose set forth. 10th. In a press of the class described, the combination, with a cylinder provided at one end with a screw thread, of a ring adapted for the reception of a flanged plate having one or more openings, and provided with a corresponding screw thread and with inwardly projecting adjusting lugs, substantially as set forth. 11th. In a press of the class described, the combination, with a cylinder, of a ring adapted to be removably secured in one end thereof, and an outwardly flanged plate having one or more openings and adapted to be disposed upon the inner end of said ring, substantially as set forth. 12th. In a press of the class described, the combination, with a cylinder and a ring adapted to be removably secured thereto at one end, of an outwardly flanged plate disposed on the inner end of said ring and provided with an outwardly projecting centrally disposed tube, substantially as set forth. 13th. In a press of the class described, the combination, with a cylinder provided at one end with a screw thread, substantially as described, of a circular plate having a peripheral flange, said plate and flange being cut away at one side, and the end of the latter bent inwardly, whereby said plates may be screwed upon the screw threaded end of the cylinder, as set forth. 14th. In a press of the class described, the combination, with a cylinder, of a transverse plate secured interiorly at the bottom thereof, substantially as and for the purpose set forth.

**No. 34,602. Construction of Automatic Ventilators and Foul Air Exhausters.** (*Construction des ventilateurs et des aspirateurs de l'air vicié.*)

John H. Hunt, Hamilton, Ont., 2nd July, 1890; 5 years.

*Claim.*—1st. The combination of the inner and outer cylinders, in connection with foul air passages B, B, B, and fresh air passages A, A, substantially as and for the purpose hereinbefore set forth. 2nd. The combination of the power wheels and driving screw letters W and S, substantially as and for the purpose hereinbefore set forth. 3rd. The combination of the two fresh air passages with wire screens A, together with the spiral springs and slides letters D and C, substantially as and for the purpose hereinbefore set forth.

**No. 34,603. Process of Vulcanizing Wood.** (*Procédé de vulcanisation du bois.*)

Wallace C. Andrews, New York, N.Y., U.S., 2nd July, 1890; 5 years.

*Claim.*—The method of vulcanizing wood, which consists in, first placing the same in a closed receptacle, under high pressure of an aeriform fluid, at ordinary temperature or without heat sufficient to boil the sap, and then, while retaining pressure highly heating the contents, substantially as described.

**No. 34,604. Car Brake and Starter.** (*Frein et impulseur de char.*)

Josiah Ross, Buffalo, N.Y., U.S., 2nd July, 1890; 5 years.

*Claim.*—1st. The combination, with the car axle, of an actuating spring and differential gears, whereby the ends of the spring are rotated in the same direction with differential speed in winding the spring, substantially as set forth. 2nd. The combination, with the car axle and a counter shaft, of a retarding spring mounted on said shaft, differential gears, whereby the ends of the spring are rotated in the same direction, a detent, whereby one end of the spring can be held against backward movement, and a clutch, whereby the locked end of the spring can be disengaged from the car axle, substantially as set forth. 3rd. The combination, with the car axle, and a counter shaft, of a rotary spring casing mounted on said shaft, gears connecting said casing with the axle, a rotary hub mounted on said shaft and provided with a ratchet rim, a retarding spring secured with its ends to said casing and to said hub, a clutch sleeve mounted

on said shaft and adapted to engage with said hub, and gears connecting said clutch sleeve with the axle, substantially as set forth. 4th. The combination, with the car axle and a counter shaft, of a rotary spring casing mounted on said shaft, gears connecting said casing with the axle, a rotary hub provided with a ratchet rim and mounted on said axle, a spring secured with its ends to said casing and hub, a clutch sleeve mounted on said shaft, gears connecting said sleeve with the axle, a shifting lever connected with the clutch sleeve, and a detent pawl engaging with the ratchet rim and connected with the shifting lever, substantially as set forth. 5th. The combination, with the car axle and a counter shaft, of a rotary spring casing mounted on said shaft, gears connecting said casing with the axle, a rotary hub provided with a ratchet rim and mounted on said axle, a spring secured with its ends to said casing and hub, a clutch sleeve mounted on said shaft, gears connecting said sleeve with the axle, a shifting lever connected with the clutch sleeve, a detent pawl engaging with the ratchet rim, and a spring interposed between said pawl and the shifting lever, substantially as set forth. 6th. The combination, with the car axle, the counter shaft and its supporting frame, of journal boxes movable lengthwise of the counter shaft in the supporting frame, a spring casing, spring and clutch mounted on the counter shaft, connecting gear wheels mounted respectively on the axle and on the counter shaft, and mechanism, whereby the counter shaft can be moved lengthwise for engaging and disengaging said gear wheels, substantially as set forth. 7th. The combination, with the car axle, the counter shaft and its supporting frame, of journal boxes movable lengthwise of the counter shaft in the supporting frame, automatic locking bolts attached to the frame and engaging with said boxes, a spring mechanism mounted on the counter shaft, connecting gears mounted on the axle and on the counter shaft, a shifting lever engaging with said spring mechanism, and a stop on the counter shaft against which the shifting lever is engaged by an excessive movement for moving the countershaft, and the spring mechanism mounted thereon out of gear with the wheels on the axle, substantially as set forth. 8th. The combination, with the car body, the axles and their journal boxes, of supporting frame secured to said boxes, a counter-shaft journaled in said frame, a spring mechanism mounted on said counter shaft, connecting gears mounted on the axle and on the counter shaft, a flexible longitudinal rock shaft, having its outer portion attached to the car body, and its inner portion to the supporting frame, an actuating arm connecting the inner portion of the rock shaft with the spring mechanism and a hand lever secured to the outer portion of said rock shaft, substantially as set forth.

**No. 34,605. Illuminating Gas Burner.** (*Bec à gaz d'éclairage.*)

William Taylor, Manchester, Eng., 2nd July, 1890; 5 years.

*Claim.*—1st. A device for use in connection with, and adapted to be applied to, gas burners of the kind hereinbefore referred to, for the purposes specified, constructed of greater diameter internally than the burner to which they are intended to be applied, and provided with parts or portions which give the tube flexible portions circumferentially or at a point or points, or made of such a figure, or constructed in such a manner as to render them flexible when applied, also, such a device, when constructed as set forth, with reference to the drawings. 2nd. The device for use in connection with and adapted to be applied to gas burners of the type hereinbefore referred to, for the purposes specified, a ledge or projections c adapted to hold the device b in position on the burner a, as set forth.

**No. 34,606. Process of Annealing Metals.** (*Procédé pour recuire les métaux.*)

Horace K. Jones, Hartford, Conn., U.S., 2nd July, 1890; 5 years.

*Claim.*—1st. The method of annealing metals, which consists in heating the metal and allowing it to cool under pressure of a non-oxidizing gas, which pressure is maintained during the cooling and heating operation within the closed annealing chamber by an open connection with the gas supply, allowing free movement of said gas to and from the gas supply, substantially as described and for the purpose specified. 2nd. The method of annealing metals, which consists in placing the metal in a suitable vessel, expelling the air therefrom by the introduction of gas, then closing the vent and placing the vessel and its contents in a furnace where it is subjected to heat, then removing the vessel with its contents from the furnace to cool, and maintaining throughout the heating and cooling a constant pressure of gas within the vessel, substantially as described and for the purpose specified.

**No. 34,607. Photographic Camera.** (*Chambre photographique.*)

Charles Whitney, Chicago, Ill., U.S., 2nd July, 1890; 5 years.

*Claim.*—1st. A photograph camera, in the form of an opera-glass, field glass, book, box, or the like small and readily portable article, and provided with negative plate material in the form of flexible sensitized ribbon, and with means herein described for controlling the said ribbon, substantially as described. 2nd. A photograph camera in the form of an opera-glass, field-glass, book, box, or the like small and readily portable article, and provided with negative plate material in the form of a continuous flexible sensitized ribbon, perforated at intervals and numbered, and means for controlling the ribbon, substantially as described. 3rd. A photograph camera, in the form of an opera-glass, field-glass, book, box or the like small and readily portable article, containing a triangular compartment having the lens at its apex, and provided in its base with an aperture for plate exposure, substantially as described. 4th. A photograph camera in the form of an opera-glass, field-glass, book, box, or the like small and readily portable article, containing a central triangular compartment, having the lens at its apex and open at its base, and dividing the interior of the article into three equal

partments, the central of which serves to make the exposure through it, and the lateral ones, respectively, for storing the plates before and after their exposure, substantially as described. 5th. A photograph camera in the form of an opera-glass, field-glass, book, box, or the like small and readily portable article, containing a central triangular compartment, having the lens at its apex and open at its base, and dividing the interior of the article into three compartments, the central of which serves to make the exposure through it, and the lateral ones containing, respectively, a roll of flexible sensitized negative ribbon, and a delivery friction roller, to which the end of the ribbon is passed around the base of the triangular compartment, substantially as described. 6th. In a photograph camera, a shutter provided with means for actuating it by a single operation, both to set and trip, substantially as described. 7th. In a photograph camera, employing negative plates in the form of flexible sensitized ribbon, a colored glass peep-hole in the case, through which to permit the position of the negative plates to be located, substantially as described. 8th. In a photograph camera, having all its parts confined in a compact case in size rendering it readily portable, a slotted tube in the case at one side of the lens, for confining the roll of sensitized flexible negative ribbon, and a winding roller at the opposite side of the lens upon which to secure the free end of the ribbon passed across the lens, and unwind it from the roll, substantially as described. 9th. A photograph camera, having its containing case of a diminutive size rendering it readily portable and formed with telescoping frames, substantially as described. 10th. A photograph camera, having its containing case of a diminutive size, rendering it readily portable, and containing the severed or unsevered plates formed of flexible sensitized ribbon, and a friction feed-roller for manipulating the said plates, substantially as described. 11th. In a photograph camera of a kind described, whereby it is formed compactly in diminutive size, rendering it readily portable, the combination, with the negative plate, flexible ribbon contained therein, and means for manipulating it, of cutting mechanism for severing a plate from the ribbon after exposure, substantially as described. 12th. In a photograph camera of a kind described, whereby it is formed compactly in diminutive size, rendering it readily portable, the combination, with the negative plate, flexible ribbon contained therein, means for manipulating it, and the triangular frame, of a spool for the free end of the roll of ribbon, having a fastener connected with the spool by a link, substantially as described. 13th. In a photograph camera, in the form of an opera-glass, field-glass, book, box, or the like small and readily portable article, the combination, with the containing case of a roll of negative ribbon, the triangular frame, a friction feed roller, and a receptacle for the plates of the ribbon after exposure, substantially as described. 14th. A photograph camera, formed with an opera or field-glass, having the outside telescopic cylinders forming spools for supporting and operating the flexible negative ribbon, substantially as described. 15th. A photograph camera, formed with an opera or field-glass, with the outside telescopic cylinders affording spools for supporting and operating flexible negative ribbon, and containing the triangular frame open at its base and having the lens at its apex, and provided with shutter mechanism actuated to perform all its functions through a single pressure on its spring controlling rod, substantially as described.

### No. 34,608. Umbrella Frame.

(*Monture de parapluie.*)

James H. Sprague, Norwalk, Ohio, U.S., 2nd July, 1890; 5 years.

*Claim.*—The combination of the rib, having a longitudinal groove, the wire 4, provided at a point intermediate of its ends with a loop or eye 5, and having the ends fitted in the groove and secured therein, the brace having a longitudinal groove and the wire 10, having an eye or loop 9 formed at its end and engaging the eye or loop 5, the body of the wire 10 being fitted and secured in the longitudinal groove of the brace at the end thereof, substantially as described.

### No. 34,609. Gas Lamp. (*Lampe à gaz.*)

Daniel R. Gardner, Glasgow, Scotland, 2nd July, 1890; 5 years.

*Claim.*—1st. For gas lights, enclosed in globes, obtaining a quick and highly heated atmosphere around the flame, substantially in the manner and for the purposes hereinbefore described. 2nd. For gas lights, enclosed in globes, the cover D, with ventilator *d*, damper *d'*, and non-conducting strips or faces *E*, or any other modification of the said parts, all substantially as and for the purposes hereinbefore described and shown in the accompanying drawings. 3rd. For gas lights, enclosed in globes, the cover D for use as a reflector, substantially in the manner as hereinbefore described.

### No. 34,610. Machine for Making Chocolate Wafers. (*Machine à faire les pastilles de chocolat.*)

Otto E. Bassman, Toronto, Ont., 2nd July, 1890; 5 years.

*Claim.*—1st. A chocolate wafer machine, composed of a suitable platform, to which is hinged one end of a hopper, having a removable conically perforated bottom supported on a marginal bearing, secured to the said platform, provided with suitable brackets as guides along the sides of said hopper, substantially as shown and described. 2nd. In a chocolate wafer machine, the hopper hinged at the rear to a ledge around the inner lower edge to support said bottom, a handle on its front, and said hopper guided between suitable brackets along its sides and secured to the said platform supporting a plate beneath said hopper, substantially as shown and described.

### No. 34,611. Drainage and Sewerage System.

(*Système de drainage et d'égout.*)

William Hallock, Middletown, N.Y., U.S. 3rd July, 1890; 5 years.

*Claim.*—1st. The drainage, sewerage, or water supply system

herein described, the same consisting of a succession of man-holes whose bottoms are on the same level, with connecting pipes placed on the same level grade, the whole system being trapped by a single trap, which is formed by placing the discharge pipe of the last man-hole above the level grade of the connecting pipes, substantially as set forth. 2nd. The drainage, sewerage or water supply system herein described, the same consisting of a succession of man-holes with connecting pipes, the system being trapped by a single trap formed by placing the discharge pipe of the last man-hole above the level of the other connecting pipe, one or more of the connecting pipes being elevated between the man-holes which it connects, substantially as described.

### No. 34,612. Mail Pouch. (*Valise à lettres.*)

Butler Edgar, Lloyd T. Rohrbach and John Haas, Sunbury, Penn., U.S., 3rd July, 1890; 5 years.

*Claim.*—1st. In a mail pouch, the interior flap B having the segments H, J and I, and the apron A' secured to said flap, in combination with the exterior flap C having the strengthening segments c and c' secured thereto, and the apron G secured to the rear wall of the pouch within its mouth and adapted to engage with the apron A' on the flap B, all substantially as described. 2nd. In a mail pouch, the flap B having the segments H and J folded around the sides of the pouch and secured to its rear wall, the segment I filling the space between the segments H and J, and likewise secured to the rear wall of the pouch, and the apron A' secured to the outer edge of the flap B, in combination with the flap C secured to the rear wall of the pouch and strengthened by the segments c and c', the staple D whose open ends are riveted to the front side of the flap B, and the tap holder E secured to the front of the pouch by the button F and adapted to engage the said staple, whereby the pouch is securely locked, all substantially as and for the purposes set forth.

### No. 34,613. Brace. (*Bretelle.*)

The American Brace Company (assignee of Jacob Schwartz), Montreal, Que., 3rd July, 1890; 5 years.

*Claim.*—1st. In braces or suspenders, the shoulder straps crossed and secured together and detachable at both ends from the ends of the trousers. 2nd. The combination, in braces, of the shoulder straps proper having covered buttons or projections on their outer faces, and loops secured on the ends of the end pieces and interlocking with such buttons, as and for the purposes set forth.

### No. 34,614. Railroad Cross Tie.

(*Traverse de chemin de fer.*)

William H. Bagley and William W. Seley, Waco, Texas, U.S., 3rd July, 1890; 5 years.

*Claim.*—1st. The herein described improved railroad tie or sleeper having removable end caps, and provided with overhanging ears or short arms, substantially as described. 2nd. The herein described railroad tie or sleeper, having removable end caps enclosing the ends of said tie or sleeper, and the blocks secured by said caps, substantially as set forth. 3rd. The herein described improved metallic railroad tie, having overhanging ears or short arms, and the removable end caps also provided with ears or short arms, substantially as set forth. 4th. The herein described improved metallic railroad tie, having overhanging ears or short arms, the apertured partitions, the end caps also having ears to short arms, the apertured blocks and the nutted bolt. 5th. A railroad tie, having opposite overhanging ears in each side at its ends, and the gauge wedges designed to fit between each of such ears and the flange of the rail, substantially as set forth. 6th. As an improvement in railroad ties having overhanging ears, the gauge wedges, having each a groove on its upper side, and a lower flange, as set forth, such wedges being fitted between said ears and the flange of the rail, as stated. 7th. A railroad tie, having the overhanging ears to engage with the rail and locking slots, and the removable end caps having overhanging ears to engage with the rails and hooked extensions to engage with the slots, substantially as set forth. 8th. A railroad tie, having overhanging ears to engage with the rail, the anchor lugs herein described and the locking slots, in combination with the removable end caps having overhanging ears to engage with the rail, and hooked extensions to engage with the slots, substantially as set forth.

### No. 34,615. Tool for Stone Dressing Machines. (*Outil pour les machines à tailler les pierres.*)

The Canadian Granite Company, (assignee of George H. Bowie), Ottawa, Ont., 3rd July, 1890; 5 years.

*Claim.*—1st. A cutting tool for stone dressing machines, consisting of a conical head having a central eye, and means for securing it upon a spindle and having upon its conical surface a series of bored hubs equidistant from each other, and which have a lateral slant or inclination sloping from the base or large end of the head towards the smaller end, in the direction opposite to that in which the head is intended to rotate, said hubs projecting a little beyond each end or face of the head, and each receiving and holding rotatively the stem of a rotary cutting tool with conical cutting head, the shoulder of which bears against the facing of the hub at the small end of the head, substantially as set forth. 2nd. In a cutting tool for stone dressing machines, the combination of a conical head A, having an eye *a*, and means for securing it upon a rotary spindle, a series of bored hubs B disposed equidistant from each other upon the surface of the cone and integrally formed therewith, and having a lateral slant or inclination from the larger to the smaller end of the head in the direction opposite to that in which the head is intended to rotate, and each adapted to receive the stem of a rotary cutting tool, the rotary cutting tools C having their stems inserted in the hubs B

and held therein rotatively by the washer C<sup>1</sup> and lock nuts C<sup>11</sup>, substantially as set forth. 3rd. A cutting tool for stone dressing machines, consisting of a head A having a central eye a, and means for securing it upon a rotary spindle, said head perforated by a series of journal bearings b disposed circularly and equidistantly around the eye a, and passing longitudinally through said head in a conical and laterally slanting direction, inclining from the larger circle of said bearings towards the smaller circle in the direction opposite to that in which the head is intended to rotate, said journal bearings being each provided with a facing at each end of the head at a right angle to the bore, and adapted to receive and hold rotatively the stem c<sup>11</sup> of a conical cutting tool C, substantially as set forth.

### No. 34,616. Lightning Rod. (*Paratonnerre.*)

Théodore Lefebvre dit Boulanger, Québec, Qué., 3rd July, 1890; 5 years.

*Résumé.*—1o. La combinaison de la demi-sphère avec la flèche et que forme un tout, tel que ci-dessus décrit. 2o. La combinaison de la seconde demi-sphère dans laquelle sont introduits les torons du câble et qui doit se tarauder et s'ajuster à la première demi-sphère, tel que ci-dessus décrit et pour les fins indiquées.

### No. 34,617. Machinery for Forming Blank Bars and afterwards to be bent into, and used for Horse and Mule Shoes. (*Machine à faire les barres en ébauche, puis les plier et les employer pour des fers à cheval et à mule.*)

John D. Billings, New York, N. Y., George A. Loring, Ingham, George H. Washburn and Irving E. Williams, Boston, Mass., U.S., 4th July, 1890; 5 years.

*Claim.*—1st. Consisting of a movable die-plate D, shown in Fig. 9, to take the place of a roller, for the purpose and substantially as described. 2nd. The movable die-plate D, with the raised elevations a, the webs I, I, and guide plate j, substantially and for the purpose described. 3rd. The movable die-plate D, raised elevations a, the webs I, I, and guide plate j, rack E and pinion F, the roller K upon which the die-plate D moves, substantially as and for the purpose described. 4th. The movable die-plate D, raised elevations a, webs I, I, and guide plate j, rack E and pinion F, the roller K, the shaft G and pinions H and I, the frame J which supports the guide plate j and the driving pulley L, for the purpose substantially as described. 5th. The movable die-plate D, raised elevations a, webs I, I, and guide plate j, rack E and pinion F, and roller K, with the shaft G and pinions H and I, the frame J which supports the guide plate j, the driving pulley L, housings B and the die-grooved roller C, the annular grooves c through which the bars pass, the clutch M and gear N, also gear O through which motion is transmitted from gear N for the purpose substantially as described. 6th. The die-grooved roller C and annular grooves c and which contains depressions c<sup>1</sup> and c<sup>2</sup>, also projections c<sup>3</sup> and c<sup>4</sup>, also the housings B and the movable die-plate D, as shown in Fig. 1, the clutch M with the gear S, which transmits a quick reverse motion to the gear T, and also gears U and the roller K, the guide plate j and frame J, for the purpose and substantially as described. 7th. The die-grooved roller C with annular grooves c in which are depressions and projections for shaping the blank bars, the movable die-plate D with webs I, I, guide plate j, driving pulley L, the clutch M and roller K the shaft G and pinions H and I, the frame J, the housings B, together with gears N and O, for the purpose substantially as described. 8th. The movable die-plate D with the raised elevations a with webs I, I, guide plate j, in combination with die-grooved roller C with annular grooves c in roller, and depressions c<sup>1</sup> and c<sup>2</sup> and projections c<sup>3</sup> and c<sup>4</sup>, for the purpose and substantially as described.

### No. 34,618. Combined Mop and Wringer.

(*Torchon et essoreuse combinés.*)

Caroline C. Rolls, (assignee of Edwin C. Rolls.) Chatham, Ont., 4th July, 1890; 5 years.

*Claim.*—1st. The combination, with a handle made tubular a required distance, and provided with a frame supporting a clamping device at its lower end, of a rotatable and reciprocatory spindle engaged in the handle, said spindle provided with a clamping device, substantially as set forth. 2nd. The combination, with a handle made tubular a required distance, and provided with a frame supporting a clamping device at its lower end, of a spindle having a rotatable and reciprocatory engagement in said handle, and gear for rotating said spindle, said spindle provided with a clamping device, substantially as set forth. 3rd. The combination with a handle made tubular a required distance, and provided with a frame supporting a clamping device at its lower end, of a spindle having a rotatable and reciprocatory engagement in said handle, gear having a fixed engagement with the handle for rotating the spindle, said spindle being provided with a clamping device at its lower end, substantially as set forth. 4th. The combination, with a handle made tubular a required distance, and provided with a frame supporting a clamping device at its lower end, of a spindle entering said handle and provided with a clamping device at its lower end, a pinion journaled into the handle, a gear meshing with said pinion and journaled in the handle, said spindle made angular in cross section and passing through a corresponding aperture in said pinion, substantially as set forth. 5th. The combination, with a handle made tubular a required distance, and provided with a frame supporting a clamping device at its lower end, of a spring lip engaged with said clamping device, a spindle having a rotatable and reciprocatory engagement in said handle, and mechanism to rotate the spindle, said spindle, provided with a clamping device, substantially as set forth. 6th. The combination, with a handle provided with a frame supporting a clamping device at its lower end, of a rotatable and re-

ciprocatory spindle, and mechanism having a fixed engagement for rotating said spindle, said spindle provided with a clamping device, substantially as set forth. 7th. The combination, with a handle provided with a frame supporting a clamping device at its lower end, of a rotatable and reciprocatory spindle, mechanism for rotating said spindle, and a spring bearing on said spindle, substantially as and for the purposes described. 8th. The combination, with a handle provided with a frame supporting a clamping device at its lower end, of a brush holder engaged with said clamping device, a rotatable and reciprocatory spindle provided with a clamping device, and mechanism for rotating said spindle, substantially as set forth.

### No. 34,619. Vessel or Receptacle for Holding, Measuring and Discharging Liquids. (*Vaisseau ou réceptacle pour contenir, mesurer et décanter les liquides.*)

Jane Parish, Belgrave, Leicester, Eng., 5th July, 1890; 5 years.

*Claim.*—The employment in vessels or receptacles herein described, of holding, measuring and discharging liquids, of transparent eyes D encased in a metal case or cup A, and arranged in the manner substantially as described.

### No. 34,620. Musical Box. (*Boîte musicale.*)

Carl A. Roepke, Manchester, Eng., 5th July, 1890; 5 years.

*Claim.*—1st. In musical boxes of the character indicated, the lever c, c, combined with the draw rod f, f, and secondary lever d, d, directly operated by the pressure of the edges of the perforations in a travelling sheet, giving a compound motion to the striking end or point, and of the draw-rod f, f, for the purpose and in manner substantially as herein shown and described. 2nd. In musical boxes of the character indicated, the lever c, c, combined with the secondary lever d, d, having therein a withdrawable striking end or point directly operated by the pressure of the edges of the perforations in a travelling sheet, giving a compound motion to such end or point, for the purpose and in manner substantially as herein shown and described.

### No. 34,621. Mud and Sediment Collector for Steam Boilers. (*Collecteur de boue et de sédiment dans les chaudières à vapeur.*)

James Gourlay, Toronto, Ont., 5th July, 1890; 5 years.

*Claim.*—A tank A, longitudinally divided by a partition B, one or more perforated partitions C, being arranged on one side of the partition B, and one or more perforated partitions G, on the other side of the partition B, the said partitions being so arranged that the water which enters at f must pass through all the perforated partitions before reaching the boiler E, a blow-pipe H, being arranged at the bottom of the tank A, substantially as and for the purpose specified.

### No. 34,622. Harvester. (*Moissonneuse.*)

Earl G. Watrous, Hoosick Falls, N. Y., U.S., 5th July, 1890; 5 years.

*Claim.*—1st. The combination, in a harvester of the main frame, the platform frame and the pole frame pivoted respectively on rear and front thereof, a lever on the main frame, a link connecting the lever and platform frame, a locking device connecting the lever to the main frame, a second link connected to the pole frame, and a locking device connecting the second link and the lever, substantially as and for the purpose specified. 2nd. The combination with the main frame rocking on the axle of the driving wheel, the platform frame pivoted thereto in rear thereof, of a lever mounted on the main frame, a segmental rack mounted concentrically with the lever, a link connecting the platform frame and the lever, a detent mounted on the lever to engage the segmental rack, and a second detent on the main frame to lock the segmental rack in a fixed position with regard to the main frame. 3rd. The combination of the main frame rocking on the axle of the driving wheel, the tongue frame pivoted thereto in front thereof, the platform frame pivoted thereto in rear thereof, a rocking lever mounted on the main frame, a segment pivoted concentrically with the axis of movement of the lever, two segmental racks on the segment, a detent mounted on the lever to engage with one segmental rack to lock the latter fast with the lever, a detent on the main frame to engage the other segmental rack, a link connected with the tongue frame and the segment, a second link connected to the lever and the platform frame, and means to disengage the detents from the racks, whereby the lever is adapted to both tilt the platform frame on its pivotal connection with the main frame, and to rock the latter together with the platform frame on the axle of the driving wheel, substantially as and for the purpose specified. 4th. The combination of the main frame rocking on the axle of the driving wheel, the tongue frame pivoted thereunto in front thereof, and the platform frame pivoted thereto in rear thereof, a rocking lever on the main frame, a segment pivoted concentrically with the axis of movement of the lever, a detent on the lever taking into the rack in the segment, a detent on the main frame taking into a second rack on the segment, a spring secured to the lever at one end and to the segment at the other, a link connected to the segment and the tongue frame, a second link connected to the platform frame and to the lever, and means to disengage the detents from the racks, whereby the spring assists in tilting the platform frame on its pivotal connections with the main frame, and does not interfere with the rocking of the machine on the axle, substantially as specified. 5th. The combination of the main frame rocking on the axle of the driving wheel, the platform frame pivoted thereto in rear thereof, and the tongue frame pivoted thereto in front thereof, a lever pivoted on the main frame, a segment pivoted concentrically

with the axis of movement of the pivoted lever, a link connecting the lever and the platform frame, a link connecting the segment and tongue frame, and means for hooking the segment to the lever and the segment to the main frame, substantially as and for the purpose specified. 6th. The combination of the main frame, the platform frame pivoted thereto in rear thereof, the driving wheel and its driving gear mounted in the main frame, a counter-shaft mounted in the main frame parallel with the advance of the machine, a gear thereon meshing with the driving gear, a communicating shaft on the counter-shaft, articulated by a universal joint with the counter-shaft, in line with the pivotal connections of the main and platform frames, substantially as and for the purpose specified. 7th. The combination of the main frame, the driving wheel and its driving gear mounted thereon, a counter-shaft mounted in the main frame parallel with the advance of the machine, a gear on the forward end of the counter-shaft meshing with the driving gear, the platform frame pivoted to the main frame, a bell mounted gear on the rear end of the counter-shaft, a communicating shaft on the platform frame, having a hub with elliptical gear teeth, taking into the bell-mouthed gear in the line of the pivotal connection of the main and platform frames, substantially as and for the purpose specified. 8th. The combination, with the main frame, of the driving wheel and its driving gear mounted thereon, a counter-shaft mounted in the main frame parallel with the advance of the machine, a gear on the forward end of the counter-shaft, meshing with the driving gear, the platform frame pivoted to the main frame, a communicating shaft on the counter-shaft in line with the pivotal connection of the main and platform frame, and a lever for tilting the platform frame, as and for the purpose specified. 9th. The combination with the main frame, of the platform frame pivoted thereto, a driving shaft in the main frame parallel with the advance of the machine, a communicating shaft on the platform frame articulating by a universal joint in line with the pivotal connections of the main and platform frames with the driving shaft, substantially as and for the purpose specified.

### No. 34,623. Process of Separating Ores.

(*Procédé de séparation des minerais.*)

Clinton M. Ball, Troy, N. Y., and Sheldon Norton, Hokendauqua, Penn., U.S., 5th July, 1890; 5 years.

*Claim.*—1st. The process of separating iron or its ore from impurities, consisting in forcing it in a state of division past a succession of two or more magnetic poles of alternating polarity, whereby the particles are forcibly caused to tumble or rotate, end for end. 2nd. The process of separating iron or its ore from impurities, consisting in forcing it in a state of division past a succession of two or more magnetic poles of alternating polarity, while interposing a non-magnetic screen between the ore and the poles. 3rd. The process of separating iron or its ore from impurities, consisting in forcing it in a divided state past a succession of magnetic poles of alternating polarity, while subjecting the material to the action of a current of air. 4th. The process of separating magnetic ore from its accompanying impurities, consisting in causing the movement of the particles of ore through a magnetic field in a given direction by interposing a moving non-magnetic screen between the ore and the magnet producing such field, and at the same time subjecting the body of ore and gangue to the action of a current or currents of air in an opposite direction to that of the ore. 5th. The process of separating magnetic ore from its accompanying impurities, consisting in causing the movement of the particles of ore through a magnetic field while interposing a moving non-magnetic screen between the ore and the magnet producing such field, and at the same time subjecting the ore and gangue to the action of a current of air.

### No. 34,624. Magnetic Ore Separator.

(*Séparateur des minerais magnétiques.*)

Clinton M. Ball, Troy, N. Y., and Sheldon Norton, Hokendauqua, Penn., U.S., 5th July, 1890; 5 years.

*Claim.*—1st. An ore separator, comprising a group of magnets of alternating polarity, in combination with means for forcibly conveying the ore past the said magnets successively without contact therewith. 2nd. An ore separator, comprising, in combination, a group of magnets of alternating polarity, a travelling screen adapted to move across the poles of said magnets, and means for delivering the ore in proximity to the screen. 3rd. An ore separator, comprising, in combination, a group of magnets of alternating polarity, a travelling magnetic material adapted to move across the poles of said magnets, and means for delivering the ore in proximity to the screen. 4th. An ore separator, comprising, in combination, a group of magnets of alternating polarity, a travelling diamagnetic screen adapted to move across the poles of said magnets, means for delivering a current of air through the space between the magnet poles, and means for forcing the magnet poles. 5th. An ore separator, comprising, in combination, a group of magnets of alternating polarity, a travelling diamagnetic screen adapted to move across the poles of said magnets, and an apron adapted to confine the ore within inductive range of said magnets and deliver it in close proximity to said screen.

### No. 34,625. Milk Aerator and Cooler.

(*Garde-lait à ventilation.*)

Martha L. Webster (assignee of W. Chamberlin), Newboro, Ont., 5th July, 1890; 5 years.

*Claim.*—A milk strainer, aerator and cooler, consisting of the straining section A, the aerator section consisting of the perforated neck D and inclined disk F, having perforations G, and a wall H, and the cooler section, consisting of a receptacle or vessel J, to contain cold water, etc., provided with a cone-shaped top having a neck K connecting with the neck of the aerator, and radial arms M to bear on the edge of the receiving can N, as set forth.

### No. 34,626. Eccentric. (*Excentrique.*)

Emma L. Branch (administratrix of the estate of Jesse M. Branch), Laurence, and Freeman Arnold, Gaylord, Mich., U.S., 5th July, 1890; 5 years.

*Claim.*—1st. In an eccentric, the combination, with a sleeve adapted to be secured to a shaft, and having flattened sides and longitudinal slots, of sliding inclines fitting in the slots of the sleeve and an apertured disk fitting on the sleeve and inclines, substantially as described. 2nd. In an eccentric, the combination, with a sleeve adapted to be secured to a shaft, and having flattened sides and longitudinal slots, of a recessed and apertured disk fitting on the sleeve, and sliding inclines fitting in the slots of the sleeve and recesses of the disk, substantially as described. 3rd. In an eccentric, the combination of a sleeve adapted to be secured to a shaft, and having flattened sides and longitudinal slots in opposite sides at right angles to the flattened sides, collars fitting loosely on the sleeve, inclines secured to the collars and fitting in the slots of the sleeve, and a disk provided with an elongated opening, and recesses in the top and bottom of the said opening, substantially as shown and described.

### No. 34,627. Harvester. (*Moissonneuse.*)

The Milwaukee Harvester Company (assignee of Henry F. Craudall), Milwaukee, Wis., U.S., 5th July, 1890; 5 years.

*Claim.*—1st. The combination, in a harvester, of a bull-wheel, its axle, and the pinions and sheave carried by the axle, with racks fixed to the harvester frame and receiving the pinions, a lifting shaft carried by the harvester frame, a fixed and loose sleeve carried by the shaft, a spring uniting the two sleeves, and a flexible connection having one end secured to the sheave and the other to the loose sleeve, substantially as described. 2nd. The combination, with the lifting shaft and its fixed and loose sleeves and uniting spring, of a flexible connection, having one end secured to the loose sleeve and the other end secured to an arm of the lifting mechanism for the outer end of the grain platform, substantially as described. 3rd. The combination, in a harvester, of a bull-wheel, its axle and pinions, a sheave carried by the axle, racks fixed to the harvester frame and receiving the pinions, a lifting shaft carried by the harvester frame, a fixed and loose sleeve carried by the shaft, a spring uniting the two sleeves, ordinary lifting mechanism on the axle of the grain-wheel, and flexible connections leading from the loose sleeve, one having an end secured to the sheave on the axle and the other having an end secured to the lifting mechanism of the grain wheel, as set forth. 4th. In a harvester, the combination, with the harvester frame and its supporting wheels, of raising and lowering mechanism connected with, and arranged to raise and lower both ends of said frame simultaneously, and a yielding or elastic connection in said mechanism, by which sudden shocks to the machine are prevented, substantially as described. 5th. In a harvester, the combination with the harvester frame and its supporting wheels, having adjustable connections therewith so as to permit the raising and lowering of said frame, of raising and lowering mechanism carried by said harvester frame and connected with both ends of the frame and its supporting wheels so as to raise and lower both ends of the platform simultaneously, and a yielding or elastic connection interposed at some suitable point in said raising and lowering mechanism, so as to prevent sudden shocks to the frame and its attachments at both ends, substantially as described.

### No. 34,628. Harvester. (*Moissonneuse.*)

The Milwaukee Harvester Company (assignee of John W. Latimer), Milwaukee, Wis., U.S., 5th July, 1890; 5 years.

*Claim.*—1st. In a harvester, the combination of the bull-wheel, its axle and pinions, the racks suspended from the harvester frame which the pinions engage, two sleeves loosely carried by a suitably supported shaft, each of said sleeves having a pair of arms, the arms of each pair extending in opposite directions from each other, and an arm of each sleeve overhanging an arm of the other sleeve, a spring interposed between the opposing arms of the two sleeves, gearing for revolving one of the sleeves, and means, substantially as described, for connecting the other sleeve with the bull-wheel axle, whereby the latter will be supported by the sleeves and be revolved or prevented from revolving by them. 2nd. In a harvester, the combination of the axle and its pinions, the racks suspended from the harvester frame, a sprocket-wheel keyed to the axle, a shaft mounted in standards projecting up from the harvester frame, a pair of sleeves loose on said shaft, each having a pair of arms projecting out from it in opposite directions, with an arm of each sleeve overhanging the arm of its neighbor, a spring interposed between the opposing arms of the two sleeves, an operating shaft, and gearing connecting the operating shaft with one sleeve, and a sprocket gear connecting, by means of a sprocket chain, the other sleeve with the sprocket-wheel or the bull-wheel axle, substantially as described.

### No. 34,629. Harvester. (*Moissonneuse.*)

The Milwaukee Harvester Company (assignee of John W. Latimer), Milwaukee, Wis., U.S., 5th July, 1890; 5 years.

*Claim.*—1st. The combination, in a harvester, of the main wheel and its axle and sheave, a keeper hinged to the harvester frame, a spring confined in the keeper, and a follower confining the spring therein, a sheave carried by the follower, and a lifting shaft and cable, the latter extending from the lifting shaft under the sheave of the follower and connected at its lower end to the periphery of the sheave on the main-wheel axle. 2nd. In a harvester, the combination, with the frame and its supporting wheels, having adjustable connections therewith, of a lifting shaft mounted on the harvester frame, springs confined in keepers against said springs, and cables journaled in followers bearing against said springs, and cables passing under said sheaves and connecting said lifting shaft with the elevating mechanism, at opposite ends of the machine.

**No. 34,630. Truss.** (*Bandage herniaire.*)

John C. Rorick, Wauseon, Ohio, U.S., 8th July, 1890; 5 years.

*Claim.*—A hollow permanently inflated rubber air pad cast integral and consisting of an inner convex face formed by an elastic pliable wall, a rigid flat rear wall formed by a double thickness of rubber, and a flat metal plate centrally located within, and of about the same diameter as the wall, the rubber being cast around and completely surrounding said plate, thereby permanently and rigidly securing the same within the rear wall, and one or more screws or lugs extending through the outer rubber portion of the rear wall and secured to or formed with the plate, as set forth.

**No. 34,631. Process of Galvanizing.**(*Procédé pour galvaniser.*)

Thomas Midgley, Beaver Falls, Penn., and Walter B. Nye, Boston, Mass., U.S., 8th July, 1890; 5 years.

*Claim.*—1st. The above described process of galvanizing metal, which consists in passing the metal into and through a large body of lead and through and out of a smaller body of zinc floating upon the lead, as herein described and for the purpose set forth. 2nd. The above described galvanizing apparatus, which consists of a large pan for holding the lead, and means for heating the same, and a smaller open bottom pan for confining the zinc upon the surface of the lead, and means for heating the same, as and for the purpose described.

**No. 34,632. Machine for Drying Clothes on.** (*Séchoir à linge.*)

Arthur E. Lulis and W. Hoyt Foster, Bridgetown, N. S., 8th July, 1890; 5 years.

*Claim.*—A clothes drier, consisting of pole A, arms B, ring C, supports D, ring E, stake F, with cap, ring and eye, and cord or wire, all formed, combined and operated as set forth in this specification.

**No. 34,633. Brush Contact of Electric Railways.** (*Contact à aigrette pour les chemins de fer électriques.*)

Samuel Trott, Halifax, N.S., 8th July, 1890; 5 years.

*Claim.*—1st. In the brush contact of an electric railway covering, the conducting wires *d*, with insulating material *d'*, spread out over the brushes *d''*, in order to form a hood *d'''* for their protection, substantially as herein shown and described. 2nd. In the brush contact of an electric railway, the combination, with the insulated conductors *d''*, of a carrier *e''*, for the conductors *d* and brushes *d''*, such carrier inclosing and protecting the conductors *d''*, and travelling in the opening or slot *a'* of the conduit *a*, all in manner substantially as herein shown and described. 3rd. In the brush contact of an electric railway, the employment of two or more such carriers *e''* and connected parts coupled by flexible joints *e'*, all in manner substantially as herein shown and described and for the purpose stated. 4th. In the brush contact of an electric railway, the employment of a carrier *e''*, consisting of two thin side plates *e*, clamping the conductors *d''*, two vertical end plates *e'*, fitting between the same, and two horizontal plates *e''* bolted together and to the other parts, such carrier *e''* being supported by the car, all in manner substantially as herein shown and described and for the purpose stated. 5th. In the brush contact of an electric railway, the employment of a carrier *e''*, for the conductors *d''* or brushes *d''*, such carrier *e''* enclosing and protecting the conductors *d''*, and travelling in the opening or slot *a'* of the conduit *a*, and being connected with the car by means of several spring devices *f'*, each consisting of a box or frame *f* hinged to the car and embracing a spindle *e'*, rising from the carrier *e''*, such spindle being encircled by a coiled spring *f'* and steadied by a cross-head *f'*, and threaded to receive an adjusting nut *f'*, all in manner substantially as herein shown and described and for the purpose stated.

**No. 34,634. Hook or Hanger.** (*Patère.*)

Robert Gorton, Plainfield, N.J., U.S., 8th July, 1890; 5 years.

*Claim.*—A hanger made of wire, having the wire forming the brace for the upper hook turned up to and over the horizontal portion *a*, and then carried down to form the lower hook, substantially as set forth.

**No. 34,635. Pump Head and Handle Attachment.** (*Corps de pompe et brimbale.*)

Thomas Hodgson, Wilfrid, Ont., 8th July, 1890; 5 years.

*Claim.*—The cast-iron head or socket, with movable or swivel fulcrum with its continuation, to form guide for rod of pump at E, substantially as shown and described.

**No. 34,636. Pot or Receptacle for Plants, Cuttings or Seeds.** (*Pot ou réceptacle pour les plantes, boutures ou graines.*)

Philip H. Brachner, Winoanton, Eng., 8th July, 1890; 5 years.

*Claim.*—As a new article of manufacture, garden hollow ware, constructed of porous metal sheet, as described, and protected by a coating of hydro-carbon, substantially as set forth.

**No. 34,637. Lunch Basket.** (*Panier de voyage.*)

John Campbell, Toronto, Ont., 8th July, 1890; 5 years.

*Claim.*—1st. A lunch basket, consisting of a lid A, a bottom B, side pieces C and end pieces D, the side and end pieces being suit-

ably hinged to the bottom B, and so arranged that they may be folded one over the other, substantially as and for the purpose set forth. 2nd. A lunch basket, consisting of a lid A, a bottom B, side pieces C, and pieces D connected to the bottom B by any suitable form of hinge *d*, the side pieces C having rounded corners *a* overlapping the edge of the end pieces D, the whole being arranged that they may be folded into a small compass, substantially as and for the purpose set forth. 3rd. A lunch basket, consisting of the combination of a lid A, bottom B, side pieces C, having rounded corners *a*, end pieces D, having portions E out of the lower end of their sides, suitable hinges *d'* connecting the side and end pieces to the bottom, the whole being arranged so as to fold into a small compass, substantially as and for the purpose set forth.

**No. 34,638. Portable Work Case.**(*Boîte à ouvrage portative.*)

James N. Jefferson, Moundsville, W. V., U.S., 8th July, 1890; 5 years.

*Claim.*—1st. A portable work case, consisting of a body having a supporting band secured thereto, a plate secured thereto horizontally, having one end turned upward and sharpened to form a thread cutter, and wires secured to the plate upon which the spools are placed, substantially as specified. 2nd. A portable work case, consisting of a body having a supporting band connected thereto, a plate secured to the body horizontally, and having its ends turned outward from the body and formed into hooks, one of the hooks being sharpened, for the purpose substantially as specified.

**No. 34,639. Combined Try Square and Protractor.** (*Equerre simple et rapporteur.*)

Franklin E. Roberts, Flint, Mich., U.S., 8th July, 1890; 5 years.

*Claim.*—1st. A combined try-square and protractor, consisting in a try-square having separate and independent quadrants movably secured to its two members and adapted to be projected beyond the edges thereof, substantially as set forth. 2nd. A combined try-square and protractor, consisting in a try-square and quadrants provided with concentric slots, and set-screws for clamping the quadrants in any desired position on the members of the try-square, substantially as set forth. 3rd. A combined try-square and protractor, consisting in a try-square having quadrants adjustably secured to its members, and each provided with concentric series of radial graduations, substantially as set forth. 4th. A combined try-square and protractor, consisting in a frame formed of inner and outer spaced sections, each formed of two wings at right angles to each other to form the try-square, and a protractor adjustable between each pair of wings, substantially as set forth. 5th. A combined try-square and protractor, consisting in a frame formed of inner and outer spaced sections, each having two wings at right angles to each other registering at their straight edges and forming the try-square, the quadrants in the spaces between said wings, and set screws for clamping the quadrants in their adjusted positions, substantially as set forth. 6th. A combined try-square and quadrant, consisting in a frame formed of inner and outer spaced sections, each having two quadrant shaped wings at right angles to each other with their straight edges registering, the quadrants in the spaces between the said wings, and having finger projections on their curved edges projecting beyond the curved edges of the wings, substantially as described. 7th. A combined square and quadrant, consisting in a frame formed of separate and independent inner and outer sections, each having two wings at right angles to each other registering at their straight edges, an angular spacing piece between the two sections, screws or rivets passing through said sections and spacing piece, quadrants within the spaces between the wings and provided with curved slots, radial graduations, and finger projections on their curved edges extending beyond the curved edges of the frame, and set-screws passed through the frame sections and the slots, substantially as set forth.

**No. 34,640. Window Sash Balance.**(*Contre-poids de croisée.*)

Joseph T. C. Cove, Amherst, N.S. 8th July, 1890; 5 years.

*Claim.*—1st. The combination in a window sash balance, with the sashes moving vertically, of the pulleys A' and A, placed either under lintel, or let into the same near the centre of window frame, and in corner near jam, the cord E, passing over pulleys A' and A, and attached to the centre of head rail of top sash, and connected to side of lower sash by a button C, ring bolt or knot, held in a clip or catch B, from which it may be disconnected at pleasure, the clip or catch B, being fastened either to stile, or meeting rail of lower sash, as may be most convenient, by which means the sashes are raised and lowered simultaneously, all substantially as and for the purpose hereinbefore set forth. 2nd. In a window sash balance with the sashes moving vertically, the combination of the cam or eccentric E, as used to hold the top sash when lowered, in any position, by gripping and holding fast the cord E, against the parting slip or bead, the lower end of the cord E, being at the same time disconnected from the clip B, on the lower sash, enables the top sash to be lowered, and held in position without raising the lower sash, all substantially as described. 3rd. The combination in a window sash balance of the roller G, let into and projecting slightly from or beyond face of stile of lower sash next the jam, on the side opposite to that to which the cord E is connected, and near to the top of the stile, substantially as described and for the purpose specified. 4th. The combination in a window sash balance of the locking arrangement by bolt or key H, and plates K, L and M, substantially as and for the purpose hereinbefore set forth.

**No. 34,641. Metallic Post.** (*Pieu métallique.*)

Foster Milliken, New York, N.Y., U.S., 8th July, 1890; 5 years.

*Claim.*—1st. As an improved article of manufacture, a post consisting of longitudinally flanged segments connected at diametrical-





**No. 34,652. Hydrant Nozzle.***(Lance de fontaine.)*

Alexander Warnock and Robert J. Woods, Toronto, Ont., 8th July, 1890; 5 years.

*Claim.*—An improved automatic hydrant nozzle and valve, the hydrant constructed so as to be always full of water, and under pressure when in use, the nozzles in said hydrant constructed with a valve, on the back of which the water acts and keeps the valve on its seat and water-tight, the said valve is constructed with a cross-head forming a part of the stem, and is constructed with a cross-head guides for the same, the said valve is pushed inwards and opened by the end of the hose nozzle, when being screwed on to that of the hydrant, and is closed on unscrewing the hose nozzle by the pressure of the water on the back of the valve, substantially as shown and described.

**No. 34,653. Sewer Trap.** *(Trappe d'égout.)*

Horace A. Palmer, Erie, Penn., U.S., 9th July, 1890; 5 years.

*Claim.*—1st. In a sewer trap or catch-basin, the combination, with a valve box constructed to be set in masonry and provided with a lateral flange for overlapping the masonry, of a hood overhanging and covering the open end of the valve box, said hood being sustained by a hook-shaped flange formed upon its upper horizontal edge, said flange being dropped over the flange on the valve box, whereby the point of support and connection is located wholly above the water level or sewer inlet, and a free joint formed between the hood and box, substantially as described. 2nd. In a sewer-trap or catch-basin, the combination, with a valve box set in the masonry, and having upon its edge a flange overlying the outer face of the masonry, of a hood overhanging and covering the open end of the box, said hood being substantially semi-circular at its lower end and contracting toward its upper end, where a downwardly turned flange or hook is formed adapted to seat upon and inclose the flange on the upper side of the valve box, thereby forming a hood which drops below the water line and is detachably connected with the valve-box by a free joint located above the sewer inlet or above the water-line, substantially as described. 3rd. In a sewer-trap or catch-basin, the combination, with an inclined valve-box C, set in the wall between the catch-basin and the sewer, or the entrance thereto, of a hood E, overhanging the open end of the box and having a downwardly-turned flange or hook c, adapted to engage a flange c, formed on the edge of the valve box, and a valve D, supported at its upper end by flanges or hooks on the opposite open end of the valve-box, substantially as described.

**No. 34,654. Device for Moistening Envelopes.** *(Appareil pour humecter les enveloppes.)*

Clinton H. Burton, St. Louis, Mo., U.S., 9th July, 1890; 5 years.

*Claim.*—In a reservoir dampener, the combination, with the removable cap B and its oblique-edged well adapted to contain an absorbent brush, of the bearing plate in the fold of said brush, the hollow handle or reservoir, and the bracket or rest therefor, substantially as specified.

**No. 34,655. Lock.** *(Serrure.)*

Washington A. Martin, Chicago, Ill., U.S., 9th July, 1890; 5 years.

*Claim.*—1st. The combination, substantially as set forth, of the bolt provided with a lug, as 10, the swinging pin or dog to engage said lug and to hold the bolt back, and the trigger provided with an oblique slot, as 16, to throw the dog and release the bolt. 2nd. The combination, substantially as set forth, of the bolt, the dog, the trigger, the cam to retract the bolt, the cam-arbor, having a forked end, and a key-operated lock, as 28, in engagement with said cam-arbor, all arranged and operating substantially as shown and described.

**No. 34,656. Rein Guard.** *(Garde-rènes.)*

Andrew V. Callahan, Melrose, Fla., U.S., 9th July, 1890; 5 years.

*Claim.*—1st. In a rein-guard, the combination, with a band adapted to encircle and snugly fit the tail of a horse and independent of the harness, and having its ends detachably and adjustably connected, of a rein-supporting guard-loop secured to and supported by said band and projecting vertically above the same, as specified. 2nd. In a rein-guard, a tail-embracing band, in combination with an upwardly-projecting rein-guard and opposite inclined bearing arms, adapted to bear upon the hind quarters of a horse, substantially as specified. 3rd. In a rein-guard, the combination, with the embracing band and buckle connected to one end thereof, of a rein-support formed of wire and V-shaped, the terminals of the V being secured to the buckle plate, thence carried forward and connected with the sides of the V, and then laterally bent to form inclined supports, substantially as specified. 4th. The combination, with the encircling band and the buckle-plate, provided with a suitable pad, eyes formed in the plate, and an intermediate recess formed between the eyes, and a buckle-tongue pivotally mounted in the eyes and depending in the recess, of the herein described integrally formed rein-guard, consisting of a forward V-shaped guard, provided with opposite eyes, the terminals of the V being bent parallel with and secured to the buckle-plates, and thence carried forwardly, and one of said terminals terminating in an eye engaging the adjacent eye of the guard, and the opposite terminal passed through the opposite eye of the guard, thence laterally to form an inclined support, thence over the buckle-plate and through guide-eyes, and again laterally to form the opposite support, and upwardly terminating in an eye engaging that of the opposite terminal, and a cross-bar connecting said eye and the opposite eye of the guard, substantially as specified. 5th. In a rein-guard, the tail-embracing band, combined with the rein-guard attached thereto, and provided with the opposite inclined

bearing arms 13, adapted to bear on the hind quarters of the horse, and the elevated guard 9, as set forth. 6th. In a rein-guard, the tail-embracing band having its ends buckled together around the tail of a horse, combined with the rein-guard and support attached to and carried by the band, and formed with the elevated guard portion 9, having cross-bar 15, as set forth.

**No. 34,657. Cant Hook.** *(Renard.)*

Lewis Koster, Harrisville, N.Y., U.S., 9th July, 1890; 5 years.

*Claim.*—1st. The combination, with the handle and the pivoted dog or hook, of the spike secured to the lower end of the handle, and a spur projecting laterally from the spike and in alignment with the dog, substantially as specified. 2nd. A cant-hook, a spike having a recess extending from substantially its point of bevel to near the inner ends of its shank, and a spur-shank located in the recess and brazed or welded thereto and terminating in a laterally projecting spur, substantially as specified. 3rd. A cant-hook, having a spike provided with a recess formed in it, the lower end of which recess is provided with a curved shoulder, the recess gradually diminishing toward its rear end, and a spur shank conforming to the recess and brazed thereto and terminating at its lower end in a laterally projecting beveled spur, substantially as specified.

**No. 34,658. Window Ventilator.** *(Vasista.)*

Peter Abrahamson, San Francisco, Cal., U.S., 9th July, 1890; 5 years.

*Claim.*—1st. A window ventilator, consisting of the combination of the casing A, having slotted ends, and oppositely sliding ventilating plates or sheets fitted in said casing from and through opposite ends, whereby the whole device is rendered adjustable to different widths of window casings, substantially as herein described. 2nd. In a window ventilator, the casing A having the slotted ends, in combination with oppositely sliding ventilating plates or sheets passing through said casing from opposite ends, and the overlapping sleeve plates on the ends of the ventilating plates or sheets fitting over the ends of the casing, substantially as herein described. 3rd. In a window ventilator, the combination of the casing A, having the slotted ends, separate oppositely sliding ventilating plates or sheets fitting and passing through the ends of the casing from opposite ends, the slotted sleeve plates on the ends of the ventilating plates or sheets and fitting over the ends of the casing, and the set screws in the casing ends for holding the plates or sheets in the position to which they are adjusted, substantially as herein described. 4th. In a window ventilator, the combination of the casing A, having the slotted ends, the oppositely sliding plates or sheets fitted in and passing through the slotted ends of the casing from opposite ends, said plates or sheets extending across the casing from opposite sides, overlapping and each terminating short of the opposite side, so as to leave an opening above and below on opposite sides, and the screen sheets in and covering said openings, substantially as herein described. 5th. A window ventilator, consisting of the casing A, having the slotted ends, the oppositely sliding frames passing through said casing from opposite ends, and having the sleeve plates at one end fitting over the ends of the casing, the glass plates in the sliding frames overlapping each other, and terminating short of opposite sides, so as to leave an opening above and below on opposite sides, and the screen sheets in and covering said openings, substantially as herein described. 6th. In a window ventilator, and in combination with the window sashes, the plate H secured to the meeting rail of the lower sash, the plate I hinged to the plate H and the screen G hinged to the plate I and adapted to protect the opening between the sashes when their meeting rails are separated, substantially as herein described.

**No. 34,659. Manufacture of Switch Points.***(Fabrication des rails de croisement.)*

Isaac D. Weaver, Lebanon, Penn., U.S., 9th July, 1890; 5 years.

*Claim.*—1st. Rolls for manufacturing switch points, provided with a concentric groove for the flange, and an eccentric groove for the head in one roll, and eccentric grooves for the flange and head in the opposing roll, and concentric ribs between the grooves in both rolls constituting one pass in the rolls, substantially as described. 2nd. Rolls for manufacturing switch points provided with a cam shaped or eccentric projection, as e, on one roll, and a corresponding part, as f, on the opposite roll, grooves, as a, d, to operate upon the head and flange of the switch point, and concentric ribs, as g, to operate upon the web, substantially as described. 3rd. Rolls for manufacturing switch points, provided with a pass or passes having grooves, as a, d, and ribs, as g, and vertical and lateral projections in said grooves, as at i and e, for pointing or reducing a bar of metal at its upper front end and forming a double incline on one of the flanges, substantially as described. 4th. Rolls for manufacturing switch points, provided with a series of passes having grooves, as a, d, and ribs, as g, for forming the head flange and web, and eccentric vertical and lateral projections respectively, as shown at c, e and i, for reducing the head to a point on both sides of the web and the flange on one side of the web, substantially as described. 5th. Rolls for manufacturing switch points, provided with grooves, as a, d, having concentric portions throughout a part of the circumference of the rolls, and eccentric portions throughout the remainder of the circumference of the rolls, and a concentric rib, as g, between the grooves, whereby the article is rolled parallel throughout a part of its length, and gradually tapered throughout the remainder of its length, substantially as described. 6th. Rolls for manufacturing switch points, provided with grooves, as a, d, the former being concentric to the axis in one roll throughout its circumference, and concentric to the axis in the opposing roll throughout a portion of the circumference of said roll, and eccentric throughout the remainder of the circumference, and the latter groove being concentric to the axis of both rolls throughout a portion of the circumference, and eccentric to the axis throughout the remaining portion

of the circumference, substantially as described. 7th. Rolls for manufacturing switch points, provided with a series of passes having grooves, as  $a$  and  $d$ , constructed substantially as described, concentric ribs, as  $e$ , between said grooves, in combination with an automatic feed mechanism, substantially as described. 8th. Rolls for manufacturing switch points, having grooves provided with cam shaped projections and recesses in the rolls, in combination with an automatic feed mechanism constructed to admit the metal to the several passes at the same point on the periphery of the rolls, substantially as described. 9th. Rolls for manufacturing switch points in combination with a feed mechanism consisting of rolls and a gate for opening and closing the entrance to the pass in the rolls, substantially as described. 10th. Rolls for manufacturing switch points, in combination with a feed mechanism, consisting of rolls A, rock shaft provided with gates, and a train of mechanism for intermittently dropping and raising said gates, substantially as described. 11th. Rolls for manufacturing switch points, in combination with feed rolls, a rock shaft supporting gates, a gear wheel having a cam shaped groove, a pinion engaging said gear wheel, and intermediate connection between the gear wheel and the rock shaft, substantially as described. 12th. As a new article of manufacture, a rolled switch point having the head reduced on both sides and one flange reduced on its side and bottom by rolls, substantially as described.

### No. 34,660. Driving Bridle. (*Bride de harnais.*)

John Gray, Jefferson, Iowa, U.S., 9th July, 1890; 5 years.

*Claim.*—1st. As an improved article of manufacture, the angular stay provided at one edge with a downturned flange for attachment to the blind, and at the opposite edge with a vertical flange adapted to bear against the horse's head. 2nd. In a bridle, the upright flat blind attached at its rear edge to the bridle, in combination, with the horizontal triangular brace secured at one edge to the top of the blind and arranged to bear at the opposite edge against the side of the animal's head.

### No. 34,661. Wood Sawing Machine. (*Machine à scier le bois.*)

Robert Gillies, Paris, Ont., 9th July, 1890; 5 years.

*Claim.*—1st. In a wood sawing machine, the cross piece B, having journals on its ends or being hinged, and carried by the uprights S, S, the lever C, being fastened at one end to the brass piece B, and then extending outward and resting on the travelling cut wood as it is passing through between the two saws R, R, said lever C is held up by the rope Q, from dropping on the mandrel, substantially as and for the purpose hereinbefore set forth. 2nd. In a wood sawing machine, the combination, with the chains D, D, of the inclined brace F, extending back, and resting on the chains D, D, the bar E fastened to the upright carriers F, coupling the two chains D, D, together, substantially as and for the purpose hereinbefore set forth. 3rd. In a wood sawing machine, the combination of the sleeve M, slipped on the saw mandrel K, and running in a journal bearing, substantially as and for the purpose hereinbefore set forth.

### No. 34,662. Truss. (*Bandage herniaire.*)

Joel S. Blackburn, Salt Lake City, U.T., U.S., 9th July, 1890; 5 years.

*Claim.*—1st. The combination, with the band, the pad having the connecting rod and the coupling, of the steel dog depressed to fit around the band, and having a sharpened rib  $f$ , and the screw cap, band A, the recessed pad, the connecting rod D, having a head at each end, the plate B, spring b, coupling E, having slots  $e$ , steel dog F, having depressed end and sharpened rib  $f$ , and the screw cap G, having opening  $g$  to receive the prongs of an operating tool, substantially as set forth. 3rd. The combination, with the pad and the slotted tubular projection, and the spring b, having its inner end passing through the slot in the said tubular projection and through the opening  $d$ , substantially as and for the purpose described.

### No. 34,663. Wood Working Machine. (*Machine à travailler le bois.*)

Joseph Paquette and Victor Lahais, Montreal, Que., 9th July, 1890; 5 years.

*Claim.*—1st. In a wood working machine for making stair balusters, a cutter X mounted on the bearings  $d$  and  $e$ , and provided with ing loose pulley  $k^3$  and pivoted at the strap C, stiffened by lever  $k^3$ , having shaft B, substantially as described and for the purposes set forth. 2nd. In a wood working machine for making stair balusters, the bearings  $d$  and  $e$  provided with a lug on their under surfaces, the one  $e$  having the piece  $q^1$ , screws  $f$  and  $g$ , bevel gear wheels  $k, i, j, k, n, o, t$  and  $v$ , piece  $y$  supported by shafts  $l$  and  $s$ , crank  $w$ , bearings  $m$ , adjustable piece  $r^1$ , bell crank  $e^1$ , provided with the two gear wheels  $j^1$  and  $g^1$ , also with pulley  $k^1$  driven by the main driving shaft B, through the medium of the pulleys  $t^1, m^1, n^1, o^1$  and  $p^1$ , substantially as described and for the purposes set forth. 3rd. In a wood working machine for making stair balusters, a large number of small saws  $t^1$  mounted on the same shaft pulley  $z^1$ , guide blocks  $a^2$  and  $b^2$ , frames  $c^1$ , wheels  $d^2$  and  $e^2$ , connecting rods  $e^2$  and  $f^2$ , pedal  $k^2$  with loose pulley  $n^2$ , shafts D, C and B, pulleys G, L, N, J, K and M, flexible frame  $O^2$  provided with pulleys  $n^2$  and  $z^2$ , deviating belt  $v^2$  driven by pulley H, substantially as described and for the purposes set forth. 4th. In a wood working machine for making stair balusters, the combination of the cutter X, bearings  $m, n, o, d, e, t$  and  $v$ , pulleys  $b, k^2, l, i, m^1, n^1, o^1, p^1, z^1, H, G, L, N, J, K, M, n^2, w^2$  and  $x^2$ , lever  $k^2$ , shafts B,  $l, s, t$  and C, screws  $f$  and  $g$ , bevel gear wheels  $k, i, j, k, p$  and  $r$ , ordinary gear wheels  $q, r^1$  and  $g^1$ , pieces  $q^1, r^1$  and  $y$ , crank

$w$ , blocks  $a^2$  and  $b^2$ , frames  $c^2$ , wheels  $d^2$  and  $e^2$ , connecting rods  $e^2$  and  $f^2$ , pedal  $k^2$ , flexible frame  $O^2$  with the frame A, pulleys E, F, Q, S, T and W, centers O and P, rests  $p^2$  and  $q^2$ , the latter being adjusted by means of the crank  $r^2$  placed on the screw  $w$ , on which is the nut  $a^3$  joined to the lever  $s^2$ , substantially as described and for the purpose set forth.

### No. 34,664. Wooden Pail or Tub. (*Seau ou cuvette de bois.*)

The E. B. Eddy Manufacturing Company, (assignee of George H. Millen), Hull, Que., 9th July, 1890; 5 years.

*Claim.*—1st. A hoopless pail or tub constructed of staves held together by a dovetail tongue and groove joint, and provided with an inserted bottom, as set forth. 2nd. A pail or tub having staves A joined together by a dovetail tongue and groove joint, as set forth. 3rd. A pail constructed of staves A, joined together by a dovetail tongue and groove, an inserted bottom D, bearing on a ledge  $d$ , formed by removing a portion of the staves angularly on the inside, a wire E, encircling the outside of the pail and having loops  $g$ , and a bail F, having its ends bent to connect with said loops, substantially as set forth.

### No. 34,665. Self Threading Loom Shuttle. (*Navette de métier renvideuse automatique.*)

Edwin A. Scholfield, Westerly, R.I., and Joseph Lindsay, Brookville, Ind., U.S., 9th, July, 1890; 5 years.

*Claim.*—The combination, with the tension ball, the hollowed lug and the forwardly projecting hook, of the shuttle body provided with a slit for guiding the thread between the tension ball and its seat, and with the oblique slit which guides the thread to the delivering eye of the shuttle, substantially as described.

### No. 34,666. Car Coupler. (*Attelage de chars.*)

Ansel Wetherel, Kendall Station, N. Y., U.S., 10th July, 1890; 5 years.

*Claim.*—1st. The combination, with the bifurcated draw bar A, of the spring actuated bar 3, loosely secured at its rear end to the lever 4, of the lever 4 having its upper end provided with a hook, of the lever 7 pivoted centrally to the front end of which is loosely secured the coupler pin, the under side of the rear end being provided with a hook or lug, a spring for forcing the rear end of said lever from the draw bar, and a coupling pin, as set forth. 2nd. The combination, with the bifurcated draw bar A, of the supporting block 1 and 2, of the spring actuated bar 3 loosely secured at its rear end to the lever 4, of the lever 4 having its upper end provided with a hook, of a lever 7 pivoted centrally to the front end of which is loosely secured to the coupling pin, the under side of the rear end being provided with a hook or lug, of a spring for forcing the rear end of said lever for the draw bar, and a coupling pin, as set forth. 3rd. The combination, with the bifurcated draw bar A, of the supporting block 1 and 2, of the spring actuated bar 3 loosely secured at its rear end to the lever 4, of the lever 4 having its upper end provided with a hook, of a lever 7 pivoted centrally, to the front end of which is loosely secured the coupling pin, the under side of the rear end being provided with a hook or lug, of a spring for forcing the rear end of said lever for the draw bar, and a coupling pin, and means for forcing the rear end of the lever 7 so that the lug 12 will engage with the hook 5, as set forth. 4th. The combination, with the bifurcated draw bar A, of the supporting block 1 and 2, of the spring actuated bar 3 loosely secured at its rear end to the lever 4, of the lever 4 having its upper end provided with a hook, of a lever 7 pivoted centrally, to the front end of which is loosely secured the coupling pin, the under side of the rear end being provided with a hook or lug, of a spring for forcing the rear end of said lever, for the draw bar and a coupling pin, and means for forcing the rear end of the lever 7 so that the lug 12 will engage with the hook 5 and the coupling link, as set forth.

### No. 34,667. Car Coupler. (*Attelage de chars.*)

Joseph E. Francis, Thornhill, Ont., 10th July, 1890; 5 years.

*Claim.*—1st. An automatic car coupler formed in two parts, the outer part or shank of which has an arrow-head shaped end with flat top and bottom surfaces to the point of the barb, while the inner end of the shank is pivoted on the inner part, substantially as and for the purpose specified. 2nd. An automatic car coupler formed in two parts, the outer part or shank of which has an arrow-head shaped end with flat top and bottom surfaces, the barb end edge of the upper surface being concaved to interlock with the convexed lower barb end edge of the connecting coupler, in combination with the inner portion of the end of the car coupler on which the inner end of the shank is pivoted, substantially as and for the purpose specified. 3rd. The shank A pivoted at  $e$ , on the end of the inner part B, and having an arrow-head shaped end A', formed as described, in combination with the spring D, for the purpose specified. 4th. The shank A pivoted at  $e$ , on the end of the inner part B, and having an arrow-head shaped end A', formed as described, in combination with the spring D, stop  $a$ , pivoted at  $e$ , on the end of the inner part B, and an arrow-head shaped end A', formed as described, in combination with the spring D, stop  $a$ , and extension piece G, on the rod F, operated by the handle H, substantially as and for the purpose specified. 5th. The shank A, pivoted at  $e$ , on the end of the inner part B, and having an arrow-head shaped end A', formed as described, in combination with the spring D, stop  $a$ , tension piece G, on the rod F, and plate J, secured on the bumper, substantially as and for the purpose specified. 7th. The shank A, pivoted at  $e$ , on the end of the inner part B, and having an arrow-head shaped end A', formed as described, in combination with the guard rods I,

string D, and tension piece G, on the rod F, and plate J, substantially as and for the purpose specified. 8th. The shank A, pivoted at *e*, on the end of the inner part B, and having an arrow-head shaped end A', formed as described, in combination with the link L, secured in the slot K, formed in the arrow-head shaped end A', by the pin *k*, substantially as and for the purpose specified.

### No. 34,668. Car Replacer.

(Appareil à remettre les chars sur la voie.)

Robert W. Africa, Huntingdon, Penn., U. S., 10th July, 1890; 5 years.

*Claim.*—1st. The car replacer block C, formed upon its upper face with the inclined grooves *c* and *c'*, extending from opposite ends toward the center, and upon its edges concaved, substantially as shown and described, and for the purpose specified. 2nd. The combination, with the rails A and A', of the block C, formed with concaved edge, and upon its upper face with the longitudinal grooves *c* and *c'*, and the block D, secured to the outside of the rail A', and formed upon its upper face with the two inclines extending from the ends toward the center and toward the inner edge, substantially as shown and described.

### No. 34,669. Cushioned Automatic Car Coupling. (Atelage de chars automatique à tampon élastique.)

Alvin W. Van Dorston, Washington, D. C., U. S., 10th July, 1890; 5 years.

*Claim.*—1st. In an automatic car coupling, the combination, with a pivoted jaw having a recess, of an india rubber block, secured in said recess by means of a buffer acting in contact therewith, to receive the shock, and prevent damage to the side wall of the draw head and to the said jaw, substantially as described. 2nd. In an automatic car coupling, the jaw having a suitable recess, a rubber cushion therein, a buffer *e*, arranged in said recess, and the rivet *d* for securing the buffer movably in place, substantially as described. 3rd. In a car coupling, the draw head having a cushion in one side, combined with a jaw pivoted in the draw head on that side containing the cushion, and also having a cushion in itself, the two cushions co-operating in the movement of the jaw to break the force of blows, and thus preserve the draw head and jaw from damage therefrom, substantially as described. 4th. In an automatic car coupling, the interlocking jaw arm having the guard A', projecting forwardly beyond the plane of a right line drawn from the pivotal center of the jaw arm to the inner forward end of said arm, substantially as shown, combined with a draw head of the close coupler, as distinguished from the free slack kind, to compel said interlocking arm to rotate and engage with one or more of the locking tumblers without contact or shocks upon the front jaw faces and walls of the draw head, substantially as described. 5th. In a car coupling, the draw head having the pocket *a'*, and cushion therein, and the column *a'*, on that side of the draw head in which the jaws pivoted, combined with said jaw, and a cushioned buffer therein, substantially as described. 6th. In a car coupling, the jaw having a suitable recess containing a cushion *b'*, and a buffer or piston *e*, adapted to move back and forth in said recess, combined with a draw head, against one side wall of which the thus cushioned jaw strikes, substantially as described. 7th. In an automatic car coupling of the twin jaw class, the combination of the jaw arm provided with a cushioned piston, with the draw head having a column *a'*, against which the buffer or piston *e*, of the jaw arm strikes, to receive the blow on the jaw, substantially as described. 8th. In a car coupling, the socketed guard arm having a cushion in its bottom, combined with the plain straight headless buffer *c*, substantially as described. 9th. In an automatic car coupling, the draw head having diverging arms and a connecting bottom wall of undulating outline, combined with a pivoted jaw whose outer face is substantially elliptical, its nose round, and its inner face flattened between two curvilinear surfaces and terminating in the clearance *a'*, to give thickness and increased wearing body to the knuckle, substantially as described. 10th. In an automatic car coupling, the draw head having divergent arms with an intervening bottom wall whose surface is a compound or undulating curve, with a rise between the axial line of the draw bar and the guard arm, combined with a jaw pivoted in said draw-head, and having a knuckle whose outer face is substantially elliptical in outline, its nose rounded, and its inner face flattened between two curves, substantially as described. 11th. In an automatic car coupling, the draw head having divergent arms with an intervening bottom wall whose surface is a compound or undulating curve, with a rise between the axial line of the draw bar and the guard arm, combined with a jaw pivoted in said draw head, and having a knuckle whose outer face is substantially elliptical in outline, its nose rounded and its inner face flattened between two curves, and having a clearance cavity at the angle of the jaw, substantially as described. 12th. In an automatic car coupling, the draw head having divergent arms and a connecting wall, combined with a jaw pivoted in said draw head and having a knuckle with a substantially elliptical outer face the rear of which is depressed or cut away to form a clearance and a buffing surface, substantially as described. 13th. In an automatic car coupling, a draw head having divergent arms with an intervening connecting wall, having an undulating surface combined with a jaw pivoted in said draw head, and having a knuckle with a substantially elliptical outer face, a rounded nose, and a flattened inner face, bounded on each side by curved surfaces, and one or more cushions interposed between the arm of the jaw and the draw head, substantially as described.

### No. 34,670. Sulky or Riding Plow.

(Charrue à siège.)

James Marr, Port Dover, Ont., 10th July, 1890; 5 years.

*Claim.*—1st. In a sulky plow, the combination of the wheel E, the axle D, saddle F, screw G, substantially as and for the purpose

hereinbefore set forth. 2nd. In a sulky plow, the combination of the slide H, standard K, lever X, ratchet P, substantially as and for the purpose hereinbefore set forth.

### No. 34,671. Milk Aerating and Cooling Can.

(Garde-lait.)

John Grant, Kenyon, Ont., 10th July, 1890; 5 years.

*Claim.*—1st. The combination of the can A, the aerator C, the cooler D, and the aerator E, substantially as and for the purpose hereinbefore set forth. 2nd. In a milk aerating apparatus the aerator C, in the cooling trough D, as shown and described for the purpose set forth. 3rd. In a milk aerating apparatus, the cooling trough D, in connection with the aerator C, as shown and described, for the purpose set forth.

### No. 34,672. Hame Tug. (Mancelle.)

William E King, St. Regis Falls, N. Y., U. S., 10th July, 1890; 5 years.

*Claim.*—1st. In a hame tug, outwardly-curved plates provided with bosses or bearings *d*, *d'*, transversely perforated, and lugs *j*, *j'*, *i*, *i'* on their inner faces, one of which plates is formed with upper and lower hooked interlocking portions and cut away centrally, the opposite plate being provided with the hook or curved tongue adapted to said cut-away portion of the other plate, all substantially as specified. 2nd. In a hame tug, the hinge connection, consisting of the plates A, A', curved outward, and having the eye *b* to receive a thimble, a bolt or staple, the plate A having the cut-away portion *k*, hooks *l*, *l'*, plate A', having the upper and lower cut away portions *o*, *o'* and hook *m*, the lugs *j*, *j'*, and having inwardly-projecting bosses forming wearing surfaces, and the clip attached to the trace and provided with the eye adapted to engage said bosses, whereby a hinged joint is formed between the plates, substantially as and for the purpose set forth. 3rd. In a hame tug, the combination, with the curved castings composed of the two sections having the parallel plates engaging the hame provided with bosses transversely perforated, and lugs, said plates having rounded ends of the clip B, B', the annular ring C, eye *h*, having shoulders *i*, *i'*, adapted to fit the rounded ends of the said plates, substantially as and for the purpose set forth.

### No. 34,673. Hame Tug. (Mancelle)

Fred Lather, Ridgeville, Ohio, U. S., 10th July, 1890; 5 years.

*Claim.*—1st. A hame tug, comprising the sections 1 and 4, provided with eyes at their adjacent ends, and the loop secured in the eye of one of the sections, and provided with a removable bolt engaging the eye of the other section, and having a sleeve, substantially as and for the purpose described. 2nd. A hame tug, comprising the section 1, provided at its rear end with an eye, the loop 5, provided with parallel plates and secured in the front of said section, the section 4, having an eye at its front end, and the loop 3, having its cross-bar 12, arranged in the eye of the section 4, and being provided with a removable bolt engaging the eye of the section 1, and provided with a sleeve and engaging the eye in the section 1, substantially as and for the purpose described.

### No. 34,674. Art of Making Butter.

(Art de faire le beurre.)

John Boyd, Elmhurst, Ill., U. S., 10th July, 1890; 5 years.

*Claim.*—1st. The improvement in the art of butter-making, which consists, first, in preparing a starter from skimmed milk, by enclosing the same at a proper temperature in a vessel with non-conducting walls, secondly, mixing the starter so prepared in small proportion with cream, and enclosing the mixture at a proper temperature, as indicated, in a non-conducting vat, permitting the same to ripen therein, and, lastly, churning the ripened cream into butter, substantially as specified. 2nd. The improvement in the art of ripening cream in butter-making, which consists in bringing the cream to a temperature at which fermentation may be engendered, adding the necessary fermentive starter, and maintaining the mixture during the necessary period of fermentation, *i. e.*, about twenty-four hours, in a closed vessel at said temperature, or a slow abatement therefrom, substantially as specified. 3rd. The improvement in the art of preparing starter for the ripening of cream in butter-making, which consists in, first, bringing skimmed milk to a proper temperature to induce lactic fermentation, as specified, and, secondly, inclosing the milk at this temperature, from the air, and maintaining the same, or a slowly decreasing temperature, which will allow for the fermentation to continue for a period of about twenty-four hours, substantially as specified.

### No. 34,675. Horse Shoe. (Fer à cheval.)

James V. Griffiths, London, Eng., 10th July, 1890; 5 years.

*Claim.*—A horse shoe, with two clips projecting upwards and bearing against the front of the hoof, and two bands attached to these clips passing upwards from the clips, crossing each other above the front of the hoof and fastened at their ends to the back of the shoe.

### No. 34,676. Screw-Cutting Head.

(Machine à fileter les vis.)

Henry Westbrook and Robert Burnas, Woodstock, Ont., 10th July, 1890; 5 years.

*Claim.*—1st. In a screw-cutting head, the combination, with a plate provided with recesses, of dies held longitudinally adjustable therein, and screws screwing into the dies and having their ends resting against the walls of the recesses, substantially as and for the

purpose specified. 2nd. In a screw-cutting head, the combination, with a plate having recesses and radial slots, of dies held in the said recesses, and each provided with a pivot engaging the said radial slots, and a screw resting with its ends on the walls of the die recess, and screwing in the said die, substantially as shown and described. 3rd. In a screw-cutting head, the combination, with a plate having recesses and radial slots, of dies held in the said recesses, and each provided with a pivot engaging the said radial slots, a screw resting with its ends on the walls of the die recess and screwing in the said die, and a screw screwing in the said plate for adjusting each die inwardly or outwardly, substantially as shown and described. 4th. In a screw-cutting head, the combination, with a plate provided with recesses, and longitudinally and transversely adjustable dies in said recesses, of screws screwing into the plate, and having their ends projecting into the recesses adjacent to the inner ends of the dies, whereby provision is made for relieving the dies of strain, as set forth. 5th. In a screw-cutting head, the combination, with a plate having recesses and radial slots, of dies held in the said recesses, and each provided with a pivot engaging the said radial slots, a screw resting with its ends on the walls of the die recess and screwing in the said die, and screws screwing in the said plate and abutting against the said dies, substantially as shown and described.

### No. 34,677. Harness Hame.

(*Attelle de collier*)

Thomas G. Foster, Peterborough, and Robert Bayley, Emily, Ont., 10th July, 1890; 5 years.

*Claim.*—1st. The particular shape of the hames A, A, made of iron or any suitable material, having a rounding groove or bed on their inner sides, into which the rim of the collar fits, so as to hold the collar tightly and prevent the edge of the hame from cutting or wearing the draw plates B, B, having their knuckle or hooked end passing over the outer flange of the hames, and receiving the bolts 2, 2, and bearing on the front of the hame and relieving the bolts 2, 2 from strain, in combination with the collars e, e, e, e, and the bolts 1, 1 and 2, 2 forming the connection with the hames for the attachment of the traces, the combination of the clasp H, and the gudge slide E, and the wedge I, and the lever F fastened on the staple J, with the keeper G, forming the entire fastening for the lower ends of the hames, substantially as and for the purpose set forth.

### No. 34,678. Curtain Pole, Rod and Fixture.

(*Bâton, tringle et ferrure de rideau.*)

George Smith, London, Eng., 10th July, 1890; 5 years.

*Claim.*—1st. The improvements in wooden curtain poles, whereby the use of curtain rings is obviated, and consisting of attaching to the wooden pole, or forming therein a track or tracks for the runners of curtain carriers, as set forth. 2nd. The curtain carriers, constructed as shown and described, and consisting of a flat metal or wire blank, having a loop or eye, and which, when bent up, will form a frame for carrying the axle of a ball or disc runner, as set forth. 3rd. The curtain carrier, as shown and described, and consisting of a pear-shaped blank of wire or flat metal, and a circumferentially-grooved ball runner, as set forth.

### No. 34,679. Automatic Railway Frog.

(*Rail de croisement automatique.*)

Michael Leary and James F. Mann, Utica, N. Y., U. S., 10th July, 1890; 5 years.

*Claim.*—1st. In a railroad frog, the combination of two stationary converging rails, terminating in a V-shaped point, a movable rail having the point of the angle between the body line and tapering point of the rail, at or before the V-shaped point, and a movable rail having the angle between the body line and tapering point at the side of and behind the V-shaped point, substantially as described. 2nd. In a railway frog, the combination of two converging stationary rails terminating in a V-shaped point, a movable rail terminating in a tapering point, which taper is parallel with one side of the V-shaped point, and a movable rail terminating in a tapering point which converges with a side of a V-shaped point from the stationary rail toward the point, substantially as set forth. 3rd. In a railway frog, the combination of the converging stationary rails terminating in a V-shaped point 2, a movable rail 3a, having the point 3 thereof, at or before the point 2, and a movable rail 3, having point 3 thereof at the side of the V-shaped point, substantially as described. 4th. In a railway frog, the combination of two stationary converging rails, terminating in a V-shaped point 2, a movable rail 3a, having a tapering point 11 removed from the side of the V-shaped point 2 and the point 4 of the rail 3a, at or in advance of the V-shaped point 2, and movable rail 3, having tapering point 9 adjacent to the side of V-shaped point 2, substantially as described.

### No. 34,680. Car Axle Box.

(*Boîte à graisse de char.*)

William Prenter, James P. Kelly and Henry B. Spencer, Ottawa (assignees of Edward Best, Carleton Place), Ont., 10th July, 1890; 5 years.

*Claim.*—1st. The improved car axle box, having a horizontal bottom, and adapted to receive a removable oil vessel, said box having the lower part of its outer wall permanently fixed in place, and the upper part removable by sliding in grooves in the side walls of the box, substantially as described. 2nd. A car axle box, having the lower portion of its outer wall cast integral with its bottom and the side walls, as and for the purpose specified. 3rd. A removable oil vessel for a car axle box, having attached to the under surface of its top side an inverted trough, composed of the downwardly and outwardly sloping sides D and ends E, substantially as herein shown and described.

### No. 34,681. Saw. (*Scie.*)

Charles H. Douglas and Eldridge J. Smith, Washington, D.C., U.S., 10th July, 1890; 5 years.

*Claim.*—1st. A saw, provided with teeth, so formed or constructed that the backs have a clearance of less than five degrees angle from the line of the cut, and on the sides of which there are ribs which extend from the cutting points toward the heel, that are nearly or quite parallel with the face of the saw and are slightly beveled or rounded along their outer edges at b, substantially as specified. 2nd. A saw tooth that is constructed with a rib on one side of the back, which is slightly beveled or rounded along its outer edge at b, as described. 3rd. A saw, having a series of ribs upon both of its sides, said ribs extending back from the cutting edge of each tooth, and having their outer edges rounded or beveled, substantially as described. 4th. A saw, having a series of ribs upon its sides, said ribs extending back from the cutting edge of each tooth and having their outer edges rounded or beveled, substantially as shown and described. 5th. A saw, having a rib on each side of the cutting teeth, said ribs forming part of the cutting edges and extending back on a line with the outer edge of the saw blade, and having their outer edges rounded or beveled, substantially as described. 6th. A saw, having a series of ribs a, a, upon the sides of the blade, the front end of which forms a part of the cutting teeth of the saw, said ribs extending back from the cutting edge on a line parallel with the outer edge of the projection upon which the cutting teeth are formed, and having their outer edges b, b, rounded or beveled, substantially as shown and described.

### No. 34,682. Metal Bending Machine.

(*Machine à plier le métal.*)

James Cooper and Frederick Fairman, Montreal, Que. (assignees of Thomas McDonald, Toronto, the assignee of Walter S. Shippe, Minerva, Ont.), 10th July, 1890; 5 years.

*Claim.*—1st. In a metal bending machine, three rolls having a simultaneous rotation, for the purpose described. 2nd. A metal bending machine, provided with three rolls, two of which have fixed bearings, and the other having bearings adjustable in an arc concentric with the axis of one of the first-named rolls, for the purpose described. 3rd. In a metal bending machine, the combination of two smooth rolls and a fluted roll, for the purpose described. 4th. In a metal bending machine, three rolls having a simultaneous rotation in coincident directions, for the purpose described. 5th. In a metal bending machine, bearing blocks in the form of annular sectors for one of the rolls of same, adapted to fit and be adjustable in correspondingly-shaped recesses in suitable supports, for the purpose described. 6th. In a metal bending machine, the combination, with three rolls of same, suitably carried by gears mounted on their three spindle ends, and in such relation to each other as to receive simultaneous rotation in coincident directions from the driving pulley, for the purpose described. 7th. In a metal bending machine, the combination, with suitable frame and supports, of two rolls having fixed bearings in same, a third roll carried in bearings adjustable in fixed bearings in same, concentric with the axis of one of the first-named rolls, means for giving a simultaneous rotation to such rolls in coincident directions, and means for operating the adjustable bearings of said third roll, as shown and for the purposes described. 8th. In a metal bending machine, the combination with suitable end pieces or supports, and adjustable bearings in same for the movable roll of the machine, of a shaft extending from end to end of same, having its bearings in such supports, and provided with means for turning it and means for communicating the movement of such shaft to the said adjustable bearings, for the purpose described. 9th. In a metal bending machine, the combination of table A, end pieces or supports B, B, bearing blocks G, G, rolls C, D and H, shaft F, links I, I, means for connecting same to said shaft, and bearing blocks J, J, means for rotating said rolls and for turning said shaft, all arranged and operating as shown and for the purposes described. 10th. In combination with end pieces B, B, the guard plate K fitted in grooves in same, as shown and for the purpose described.

### No. 34,683. Machine for Bending Metal.

(*Machine à plier le métal.*)

Lemuel Coburn, Holyoke, Mass., U.S., 11th July, 1890; 5 years.

*Claim.*—1st. In a sheet metal bending machine, the combination, with a longitudinal trough formed lower die, having its bottom provided with centrally aligned apertures of a corresponding longitudinally arranged male plunger die, provided with centrally aligned pins 30, and guided for a play into and away from said trough formed die, substantially as and for the purpose described. 2nd. In a sheet metal bending machine, the combination with a female die a, having a horizontal bottom provided with aligned apertures and having a longitudinal side wall terminating in upwardly flaring walls b, b, of a longitudinally arranged male plunger die, substantially of rectangular shape in cross-section, provided with centrally aligned pins 30 and guided for a play into and away from said lower die, substantially as and for the purpose described. 3rd. In a metal bending machine, the combination with a longitudinally ranging female die, having a longitudinal groove or draft rod playing in said groove, and male plunger die, of a slide or draft rod r, substantially as and for the purpose described. 4th. In a metal-bending machine, the combination with a longitudinal female die, having a longitudinal groove or way g, and a correspondingly formed male plunger die, of a slide or draft rod playing in said groove, and provided at its rear end with a dog or hook r, and a flexible connection by one end attached to the forward end of said draft rod, and thence rearwardly to the rearward of the said forward end around a suitable gear, thence forward to and around said draft rod, substantially as and for the purpose described. 5th. In a metal bending machine, the combination with the die A, comprising the lower longitudinal trough part a, having horizontal bottom and vertical side walls terminating in the

upwardly flaring walls *b, b*, and the longitudinally ranging male plunger die, of the die, comprising the lower longitudinally-arranged trough part *d*, the longitudinal core bar of rectangular cross-section within said trough part *d*, and the plunger *n* having horizontal bottom *i*, with downwardly flaring wings *j*, substantially as and for the purpose described. 6th. In a metal bending machine, the combination with the die A, comprising the lower longitudinally-arranged trough-part *a*, having horizontal bottom *a* and vertical side walls, terminating in the upwardly flaring walls *b, b*, and the horizontally ranging male plunger die, of the die B, comprising the lower longitudinally-arranged trough part *d*, having horizontal bottom and vertical side walls, one of which is laterally adjustable, the longitudinal core bar of rectangular cross-section supported within said trough part *d*, and the plunger *n*, having horizontal bottom *i*, and downwardly flaring wings *j*, substantially as and for the purpose described. 7th. In a metal bending machine, the combination with a female die, provided within one wall with a longitudinal groove or way, and a plunger die of corresponding cross section, and one or more sets of dies, comprising lower longitudinally-arranged female dies, provided within one wall with a longitudinal groove or way in continuation of said first-mentioned groove, and each provided with a longitudinal core bar, and plunger dies of a draft bar D, arranged for a slide in said continuous groove or way provided with suitably arranged abutments, for the purpose described. 8th. In a metal bending machine, a trough and plunger die, and one or more sets of dies comprising lower longitudinally-arranged trough portions, and one or more of said trough portions, provided with a separable side wall of wedge shape, guided for a lengthwise movement, and the lever 21 engaging said wedge-shaped side wall combined with a longitudinal core bar, substantially as and for the purpose described. 9th. In a metal bending machine, the combination with the trough and plunger die A, and a stationary standard or bracket 27, provided with an aperture 26 of the die B, comprising the longitudinally-arranged trough body, the core bar *g* and plunger *h*, the headed bolt 25, passing through said aperture 26, and connected to the end of said core bar, and the spiral spring 29 and washers 28, substantially as and for the purpose described. 10th. In combination, with the trough and plunger die A, and the die B comprising the lower longitudinally-arranged trough body *d*, having the movable inclined side wall 16, core bar *g* and plunger *h*, of the die C comprising the lower longitudinally-arranged trough body, having movable side wall 17, jointed to said movable side wall 16, core bar *m*, consisting of the lower portion 19, having its upper face inclined and the upper portion 18 having its lower face inclined, and having the longitudinal depression L and the levers 21 and 22, the former engaging said inclined side wall 17 and the latter engaging said upper core bar portion 18, substantially as and for the purpose described. 11th. In a metal bending machine, the combination with uprights E, having vertical slide ways 35 therein, of a plunger die body, having inclined ends 38 and vertical grooves 33 thereat, the bearing blocks F having the shoulders 47 and tongues 34, provided with the horizontally extending slots 36, the headed bolts 37, of the wedges 39, substantially as and for the purpose described. 12th. In a metal bending machine, the combination with uprights E, having vertical slide ways 35 therein, of a plunger die body, having inclined ends 38, and vertical grooves 33 thereat, the bearing blocks F, provided with the headed bolts 41 and having the shoulders 47, and tongues 34, provided with the horizontally extending slots 36, and the wedges 39, substantially as and for the purpose described. 13th. In a metal bending machine, the combination with suitable uprights E having vertical slide ways therein, and one or more plunger dies having bearings in said vertical ways, of a longitudinally-arranged spring actuated rocker shaft 45, provided with fixed dogs adapted to be swung into the vertical plane of movement of said plunger dies, and having the crank lever 51 and the stop 54, substantially as and for the purpose described. 14th. In a metal bending machine, in combination, the frame or uprights E and the die A, comprising the lower trough portion *a*, having horizontal bottom and vertical side walls terminating in the upwardly flaring extensions *b, b*, and male plunger die of substantially rectangular cross-section, having the pins 30, the die B, comprising trough body *d*, having horizontal bottom and vertical side walls, terminating in inwardly inclining portions *f*, one of which side walls is laterally movable, the transversely rectangular core bar *g*, supported within said trough body *d*, and the plunger die *h*, having lower horizontal face *i*, and downwardly-flaring wings *j, j*, and the die C, comprising the lower trough body *o*, having horizontal bottom and vertical side walls, one of which is laterally movable, the core bar *m*, comprising lower tapering portion 19, jointed to said core bar *g* and the upper tapering portion 18, provided with the longitudinal depression L, and the male plunger die *n*, having the rib *p*, the said core bar portions *g* 19, being provided on their upper sides with the longitudinal way 15, and the said horizontal bottoms of said lower trough portions *a, d, o*, having the longitudinal way *q*, the draft rod D, adapted to slide in said way *q*, having the aligned holes 32, the rear hook *r*, and the recesses *t, t*, within which are pivoted the counter-weighted dogs S, S, the overhanging drum shaft 43, and the rope or chain supports between the drums and the plunger dies, substantially as and for the purpose described.

### No. 34,684. Manufacture of Books.

(Fabrication des livres.)

Addison C. Fletcher, New York N.Y., U.S., 11th July, 1890; 5 years.

*Claim*.—1st. A bound volume, in which the leaves are trimmed or arranged with their end edges lying in a plane forming an angle with the plane of the leaves of less than ninety degrees, substantially as described. 2nd. A bound volume, having its pages marked to form equal upper and lower divisions, said leaves being so formed and arranged as to present their ends in two parallel planes, which form angles of less than ninety degrees with the plane of the said leaves, substantially as described. 3rd. The combination, with a bound volume, of independent elastic sustaining devices interposed between the backing and the binding, and adapted to aid in opening the volume and to support the binder when the volume is opened, substantially as described. 4th. The combination, with a bound volume of elastic plates, interposed between the backing and the

binding and adapted to be placed under tension by opening the book, the edges of the said plates overlapping each other, substantially as described. 5th. The combination with a bound volume, of elastic sustaining plates, having attachment at their edges to the backing and having their free edges overlapping and exerting an elastic and constant tension upon the middle portion of the backing, substantially as described. 6th. A bound volume, having its edges or the ends of its leaves trimmed off at angles less than ninety degrees with the plane of the leaves, said angles being reversed at the opposite ends, substantially as described. 7th. A bound volume, having a reverse bevel upon opposite edges of the leaves, whereby a double reverse overhang is formed to facilitate the separation of the leaves, substantially as described. 8th. In a blank book, a series of pages divided by a transverse blank space from the beginning to the end of the volume, the pages upon opposite sides of said space being numbered in opposite directions, and the ends of the leaves being beveled or cut in parallel planes and at angles less than ninety degrees with the plane of the leaves, substantially as described. 9th. A book, having its pages divided by a blank space running transversely to said pages, said space being divided centrally by a ruling also transverse to the pages, the leaves upon one side of said space being numbered in one direction and upon the opposite side of the said transverse space in the opposite direction, and the ends of the leaves being trimmed in parallel planes, forming less than an angle of ninety degrees with the plane of said pages, substantially as described.

### No. 34,685. Self-Locking Alarm Till.

(Tiroir à sonnerie à fermeture automatique.)

John Outhet, Toronto, Ont., 11th July, 1890; 5 years.

*Claim*.—1st. The combination of the catch A, with the holes A and F in the top of the till, and the cap E at the bottom, substantially as and for the purpose hereinbefore set forth. 2nd. The combination, with the sliding receptacles D, of the projections C from the top of the till, substantially as and for the purpose hereinbefore set forth.

### No. 34,686. Shirt. (Chemise.)

John Wilson, Toronto, Ont., 11th July, 1890; 5 years.

*Claim*.—1st. As a new article of manufacture, a shirt formed with a diagonal vent, substantially as shown and described, and for the purpose specified. 2nd. The combination, with a shirt, of a triangular or other suitably shaped facing, substantially as shown and described, and for the purpose specified. 3rd. As a new article of manufacture, a shirt formed with a diagonal vent, in combination with a triangular or other suitably shaped facing, substantially as shown and described, and for the purpose specified.

### No. 34,687. Shoe, Gaiter, etc.

(Soulier, guêtre, etc.)

William Norton, Lynn, Mass., U.S., 11th July, 1890; 5 years.

*Claim*.—1st. A shoe, glove or over gaiter provided at the opening with an elastic gore or strip, said strip having a series of hooked fasteners constructed and secured thereto as described, said fasteners co-operating with a series of eyelets on the other side of said opening, substantially as set forth. 2nd. A shoe, glove or over gaiter provided at the opening with an elastic gore or strip, said strip having a series of hooked fasteners secured thereto, a series of eyelets on the other side of said opening arranged to co-operate with said fasteners, and a tongue secured inside said gore, substantially as shown and described.

### No. 34,688. Electric Track Signal.

(Signal électrique de voie de fer.)

Homer A. Parrish, Jackson, Mich., U.S., 11th July, 1890; 5 years.

*Claim*.—1st. In an electric signal, a track signalling instrument having two or more dissimilarly constructed circuit controllers, one of which comprises the rail of the track and the contact strip, and independent circuits leading from said controllers to an electric signal or signal common to all of said circuits, substantially as set forth. 2nd. The combination of a rail of the track, a bar having a metallic surface for the car wheels to traverse, a spring support to said bar, the bar being provided with a circuit-terminal insulated therefrom, a circuit terminal co-operating therewith, the circuit wires connected with said circuit terminals and a circuit attached to the metallic part of the bar, the latter circuit being closed by the direct contact of the wheels of the train when pressing down the bar to make the other circuit, substantially as set forth. 3rd. The combination of the bar having a metallic surface for the car wheels to traverse and adapted to be borne down against a spring resistance, the metallic projection on the under side of said bar the circuit wires having the disconnected metallic ends with which said projection contacts when the bar is borne down, and the circuit wires one of which connects with the rail of the track and the other with the metal strip of the spring supported bar, substantially as set forth. 4th. In an electric signal apparatus, the combination of the circuit wires having the disconnected metallic end, the bar and spring supports therefor, said bar being adapted to be borne down by the cars against a spring resistance, the projection on said bar for engaging the ends of the circuit wires, and the shield to protect the metallic connections of the circuit consisting of the two part case, one part adapted to telescope over the other when the bar is acted upon by the car wheels, substantially as set forth.

### No. 34,689. Car Axle Lubricator.

(Boîte à graisse de char.)

James Donovan and Henry Jennings, Brockville, Ont., 11th July, 1890; 5 years.

*Claim*.—1st. In a car axle lubricator, the combination of the stand C, having an open base and hollow posts *c*, bearings C', in the cavities

of the posts, springs C<sup>1</sup>, supporting said bearings caps C<sup>11</sup> closing said cavities, rollers D, journaled in said bearings and the bar E supported upon and between said rollers, and held in position by the cross pieces e, substantially as set forth. 2nd. In a car axle lubricator, the combination of the axle journal a, brass B<sup>1</sup>, box B, stand C, having posts e, springs C<sup>1</sup>, contained in said posts, bearings C<sup>1</sup>, supported by said springs, rollers D journaled in said bearings and pressed by the springs against the journal a, substantially as set forth. 3rd. In a car axle lubricator, the combination of the journal a, the rollers D, bearing against said journal and journaled in bearings carried upon springs, and a bar E, between and upon the rollers D, and held by cross pieces engaging the trunnions of the rollers, substantially as set forth.

### No. 34,690. Pulley. (Poulie.)

George C. Cowles, East Saginaw, and Edward Germain, Saginaw, Mich., U.S., 11th July, 1890; 5 years.

*Claim.*—1st. In a pulley having an opening from the center out through the periphery, a removable web and rim section adapted to fill said opening, and means for holding the same in place, a locking head for insertion in said opening adjacent to the shaft, and means for clamping it thereto, substantially as described. 2nd. In a pulley having an opening from the center out through the rim, the combination with the removable web and rim section adapted to fill the said opening and means for holding the same in place, of a locking head for insertion in the opening adjacent to the shaft, and bolts for clamping said locking head to the shaft, substantially as described. 3rd. The combination with the locking head D and means for clamping it to the shaft, the surface of said head adjacent to the shaft being of a greater concavity than the convexity of the shaft, of a roller placed between the head and the shaft for firmly locking the pulley to the shaft, substantially as described. 4th. The combination, with the removable web and rim section, of the cross piece J adapted to be engaged to the main web, and a bolt for engaging the removable web to the cross piece, substantially as described.

### No. 34,691. Ash Sifter. (Crible à cendres.)

Samuel Sudlow, Brooklyn, N.Y., U.S., 12th July, 1890; 5 years.

*Claim.*—An ash sifter consisting of casing 1, with hopper 2, a board 12, inclined from one side of the hopper 2, a screen 6, inclined from the opposite side of the hopper in the opposite direction to and beneath the board 12 and projecting into the casing, a screen 10, located beneath and inclined in the opposite direction to screen 6, the lower end of the latter projecting over the upper portion of screen 10, a board 14, located beneath and inclined in the same direction as screen 6, with its lower end projecting over the lower end of screen 10, a dust and screenings receptacle 15, located beneath screen 10, a removable sifted coal receptacle 19, and a second removable sifted coal receptacle 20, within receptacle 19, the receptacles 19 and 20 being located beneath the lower end of screen 10 within casing 1, substantially as described.

### No. 34,692. Method and Apparatus for Utilizing the Waste Heat from Steam Engines, and Similar Apparatus. (Mode d'utiliser la chaleur perdue des machines à vapeur et des appareils similaires et appareil pour cet objet.)

Henry S. Robinson, Andover, Mass., U.S., 12th July, 1890; 5 years

*Claim.*—1st. The herein described method of utilizing waste heat from steam engines, which consists in exposing a current of air to the water that has been heated in condensing the exhaust steam of the engine and thereby heating the air, substantially as described. 2nd. An apparatus for utilizing waste heat, comprising an engine and condenser, and a heater in which a current of air is exposed to and heated by the hot water discharged from the condenser, substantially as described. 3rd. The combination of a steam engine having a fly wheel and condenser for exhaust steam, with a heater and a duct connecting the same with said condenser, and an air duct or passage leading from the fly wheel to the said heater as described, whereby the motion of the fly wheel produces a current of air through the wheel in which said air is heated from the hot water conveyed to the heater from the condenser, substantially as described.

### No. 34,693. Furnace. (Foyer.)

William Richardson, Cairngorm, Ont., 12th July, 1890; 5 years.

*Claim.*—1st. A boiler or other similar furnace or chamber F, provided with a supplemental combustion chamber C, substantially as shown and described, and for the purpose set forth. 2nd. A supplemental combustion chamber C, in combination with and opening into the boiler or other similar furnace or chamber F, and the damper M, substantially as shown and described, and for the purpose specified. 3rd. A supplemental fire chamber C, formed with an opening boiler or other furnace or chamber F, substantially as shown and described, and for the purpose specified. 4th. The chute N, formed with the guides N<sup>1</sup>, in combination with the reciprocating bar O, shown and described, and for the purpose specified. 5th. The supplemental combustion chamber C, communicating with the boiler or damper M, in combination with the chute N, reciprocating bar O, formed with shoulders O<sup>1</sup>, and the pivotal blades R, substantially as shown and described, and for the purpose specified.

### No. 34,694. Locking Nuts on Bolts used in Fastening the Fish Plates on the Rails of Railroads, etc. (Arrête-écrou pour assujétir les éclisses sur les rails des chemins de fer, etc.)

Levi H. Young, Saint John, N.B., 12th July, 1890; 5 years.

*Claim.*—The above described pendulum and reversible joint nuts C, C, used for locking nuts on bolts and applied as above set forth.

### No. 34,695. Saw Mill Dog. (Clameau de scierie.)

James H. Miner, Baton Rouge, La., U.S., 12th July, 1890; 5 years.

*Claim.*—1st. In combination with the standard, the frame carrying the dog, an adjustable supporting pin for said frame, and an eccentric and lever supported on said pin for giving limited vertical movement to the frame, substantially as described. 2nd. In combination, the standard, the dog, the supporting frame therefor, the supporting pin for the frame, an eccentric held on said pin, and in connection with the frame, and a handle for operating the eccentric to adjust the frame, substantially as described. 3rd. In combination, the standard, the frame, the dog, the pin supporting the frame, a loop on the upper part of the frame, an eccentric within the loop supported on the pin, and a handle for the eccentric, substantially as described.

### No. 34,696. Leather Stuffing Wheel.

(Roue pour donner l'huile au cuir.)

Angus J. Darragh, Allegheny, Penn., U.S., 14th July, 1890; 5 years.

*Claim.*—1st. In a leather stuffing wheel, the combination, with the inner cylinder D constituting the receptacle for the skins, and provided with the double heads S, T, of the outer concentric cylinder A supported by and upon the inner cylinder, the said cylinders with the heads S, T, constituting a hollow or double walled chest, the inner cylinder being perforated around the space inclosed by its heads for the passage and circulation of the heating fluid, and being provided with hollow journals on opposite sides through which pass steam or hot air pipes for the entrance and exhaust of the heating fluid, substantially as described. 2nd. In a leather stuffing wheel, the cylindrical receptacle for the skins having an annular surrounding space, and provided with double heads, the spaces between which communicate with said annular space and hollow journals through which pass supply and exhaust pipes respectively to admit and carry off the heating fluid, substantially as described. 3rd. In a leather stuffing wheel, a cylindrical receptacle for the skins having an annular surrounding space, and provided with double heads, the spaces between which communicate with said annular space, the supply and exhaust pipes communicating with the spaces between the heads of the cylindrical receptacle, and arranged in the hollow journals thereof, and the exhaust pump connected by a pipe with the interior of the receptacle, substantially as described. 4th. In a stuffing wheel, the combination with an inner and an outer concentric cylindrical chests the walls of which are separated to form an annular space, and end spaces which communicate of the supply and exhaust pipes arranged in the hollow journals to convey the heating fluid to and from said end spaces, and an exhaust pump connected with the interior of the inner chest by means of a pipe which is arranged within said exhaust pipe, substantially as described.

### No. 34,697. Cultivator Shank and Tooth Attachment. (Tige de coutre de cultivateur.)

Edward G. Dorchester, Geneva, N.Y., U.S., 14th July, 1890; 5 years.

*Claim.*—A cultivator tooth supporting shank formed with the curved recess a in its front, the straight face d extending upward from said recess, and the bearing b on the lower end of the recess and in line with the aforesaid straight face, substantially as described and shown for the purpose set forth.

### No. 34,698. Electric Light Holder and Stand. (Porte-lampe électrique.)

Joseph B. Moore, Minneapolis, Minn., U.S., 14th July, 1890; 5 years.

*Claim.*—The combination, with the lamp 2, of the plate 7 arranged upon the top of the socket of said lamp and projecting therefrom, the thimble securing said plate in position, and the spring 13 secured to said plate, substantially as described.

### No. 34,699. Controlling the Speed and Arresting the Motion of Locomotive Engines or Cars, and for Rendering the Energy Developed in Overcoming the Momentum of a Train or Cars, available for Different Purposes. (Appareil pour controller les machines locomotives ou les chars.)

Samuel E. St. O. Chapleau, Ottawa, Ont., 14th July, 1890; 5 years.

*Claim.*—1st. In combination with a railway locomotive or car, a pneumatic cylinder D, with a piston therein operated by the momentum of said locomotive or car or train of cars, and having valves and mechanism for operating said valves for the purpose of controlling the air in said cylinder, with pipes leading from the latter to an air reservoir, to the smoke stack, to the furnace, or to the cars for various purposes, substantially as hereinbefore set forth. 2nd.

In combination with a locomotive engine, having the usual steam cylinders and pistons, pneumatic cylinder D, having adjustable valves J and Q, piston E, inlet valve M, main piston rod C and pitman F, substantially as and for the purposes hereinbefore set forth. 3rd. In combination, with adjustable valves attached to pneumatic cylinder D, valve operating device L, P, F, substantially as and for the purposes hereinbefore set forth. 4th. In combination with pneumatic cylinder D, valves J, M, and Q, conductor O, and compressed air reservoir P, substantially as and for the purposes hereinbefore set forth.

**No. 34,700. Machine for Removing Snow from Railways and Tramways.**  
(*Machine à enlever la neige des voies de fer et de tramways.*)

Carl Paulitschky and Wilhelm Paulitschky, Vienna, Austria, 15th July, 1890; 5 years.

*Claim.*—1st. A snow dredging machine, in which chain buckets after taking up the snow are cleared thereof by a snow clearer c, passing through the bucket. 2nd. In a snow dredging machine, the buckets d, having either no bottom or a hinged bottom and a slot in the outer side for the passage of the stem of the snow clearer.

**No. 34,701. Pulley. (Poulie.)**

Francis M. Powell and George B. Ingersoll, Chicago, Ill., U. S., 15th July, 1890; 5 years.

*Claim.*—1st. A pulley, comprising a hub, a rim connected therewith and provided with parallel radially-slotted flanges, and a series of separate and independent blocks forming the expansible working face of the pulley and projecting at their ends through said slots, and disks mounted on the hub enclosing the outer sides of its slotted flanges and provided on their inner sides with spiral grooves engaging the ends of the blocks, substantially as set forth. 2nd. A pulley, comprising blocks forming the rim and provided at each end with a toothed projection, annular flanges having radial slots into which fit the said projections, and a second set of annular flanges provided with spiral grooves into which fit the teeth of the said projections, substantially as shown and described. 3rd. A pulley, comprising a hub, a web secured on the said hub and supporting a rim, annular flanges held on the said rim, and provided with radial slots blocks fitted between the said flanges, and provided with toothed projections extending through the said radial slots, and a second set of annular flanges held to turn on the said hub, and provided with spiral grooves engaged by the said toothed projections, substantially as shown and described. 4th. A pulley, comprising a hub, a web secured on the said hub and supporting a rim, annular flanges held on the said rim, and provided with radial slots, blocks fitted between the said flanges and provided with toothed projections extending through the said radial slots, and a second set of annular flanges held to turn on the said hub and provided with spiral grooves engaged by the said toothed projections, and means for locking the said web to the said second set of annular flanges, as set forth. 5th. A pulley, comprising a hub, a web secured on the said hub and supporting a rim, annular flanges held on the said rim and provided with radial slots blocks fitted between the said flanges, and provided with toothed projections extending through the said radial slots a second set of annular flanges held to turn on the said hub, and provided with spiral grooves engaged by the said toothed projections, bevel pinions held to turn in the said web, and bevel gear wheels formed on the said set of annular flanges, and in mesh with the said pinions, substantially as shown and described. 6th. A pulley, comprising blocks forming the rim and provided at each end with a toothed projection, annular flanges having radial slots into which fit the said projections, a second set of annular flanges provided with spiral grooves into which fit the teeth of the said projections, and a brake mechanism for braking either of the outer annular flanges, substantially as shown and described. 7th. A pulley, comprising a hub a web, secured on the said hub and supporting a rim, annular flanges held on the said rim and provided with radial slots, blocks fitted between the said flanges and provided with toothed projections extending through the said radial slots, a second set of annular flanges held to turn on the said hub, and provided with spiral grooves engaged by the said toothed projections, bevel pinions held to turn in the said web, bevel gear wheels formed on the said set of annular flanges and in mesh with the said pinions, and a brake mechanism for braking either of the annular flanges, substantially as shown and described.

**No. 34,702. Washing Machine.**

(*Machine à blanchir.*)

Richard H. Brett and Edward Bailey, Hamilton, Ont., 15th July, 1890; 5 years.

*Claim.*—1st. In a pneumatic washing machine, the series of pressure tubes A, B, C, D, E, F, and G (instead of one larger sized tube) in combination with the air chamber H, spaces M, and valve K, as described. 2nd. The cover I of the air chamber H, made to screw on and off, as described. 3rd. The handle O with the supporting wires P, P, in combination with the sockets Q, and the pressure tubes, all operating substantially as and for the purposes set forth.

**No. 34,703. Dish Washing Machine.**

(*Machine à laver la vaisselle.*)

Josephine G. Cochrane, Shelbyville, Ill., and Jacob Kritch, Cleveland, Ohio, U. S., 15th July, 1890; 5 years.

*Claim.*—1st. In a dish washing machine, the deflector U, connected with the rocker Y, pivoted to the exterior of the machine, in combination with the perpendicular pins Z, Z', of the pump plunger rods, and the means for operating said rods causing simultaneously

an automatic interchange of the deflector, substantially as and for the purpose set forth. 2nd. In a dish washing machine, the slotted discharge pipes of the force pumps, having in their front ends inserted auxiliary perforated pipes provided with the deflectors N<sup>2</sup>, to affect a discharge of liquid through the entire length of the said slotted pipes, substantially as and for the purpose set forth. 3rd. In combination with the force pumps, of a dish washing machine, the standard D, lever E, connecting rods F, G, parallel rod H, grippers I, J, and plunger rods K, L, substantially as and for the purpose set forth.

**No. 34,704. Lubricator. (Graisseur.)**

John B. Kelly, Blyth, Ont., 15th July, 1890; 5 years.

*Claim.*—1st. The combination with the reservoir H, of the plug E and strainer F, as set forth. 2nd. The reservoir H, having a solid plug I, at top, and a hollow plug E, at the outlet, in combination with the socket D, cock C, cruciform coupling B, and bracket A, as set forth. 3rd. The combination with a supply pipe, a cruciform or T-shaped coupling B, B', K, connecting pipe J, connecting pipe N, cam M, screwing thereon, feed tube O, one end screwing through said cap and the other end extending above the inlet, and a friction pin P, extending through said feed tube, as set forth. 4th. The combination with the reservoir H, plug E, and cock C and coupling B, of the pipe connections J, the cruciform couplings B', B<sup>2</sup>, and T-couplings K, K', the connections L and N, the caps M, and feed tubes O, passing through said caps and extending above the inlets, whereby cavities are formed around said tubes for the deposit of sediment, and the pins P, within said tubes, as set forth.

**No. 34,705. Vehicle Seat. (Siège de voiture.)**

Thomas J. Kerstetter, Fern, Penn., U. S., 15th July, 1890; 5 years.

*Claim.*—1st. The combination of the spring arms by which to support the back bar and the holding frame adapted to secure such arms and made in sections and adjustable, substantially as set forth. 2nd. As an improvement in seat backs, the spring arms for supporting the back and the securing devices having fulcrum like bearings for said arms, and provided with adjusting and clamp devices by which the arms may be adjusted pivotally on said fulcrum, and bearing and secured in their different adjustment, substantially as set forth. 3rd. The improvement in seats comprising the holding frame having a bearing for the spring arm and provided in advance thereof with the clamp, and the spring arm engaging said bearing and arranged to be engaged by said clamp, substantially as described. 4th. In a seat, substantially as described, in combination with the arms for supporting the seat back, a holding frame provided with devices for securing such arms and for adjusting the same to different angles, substantially as set forth. 5th. The improvement in seats herein described comprising the holding frame having a slotted segment, and provided in rear thereof with a bearing for the spring arm, the spring arm engaging said bearing and a clamping screw connecting the said spring arm with the segment of the holding frame, substantially as set forth. 6th. In a seat, the combination, with the seat arm, of the holding frame provided with a clamp, whereby the arm may be held in different adjustments, and having a section movable back and forth, whereby the back bar may be set back or forward in the different adjustments of the spring arms, substantially as set forth. 7th. In a seat, the combination with the back bar and the arms for supporting the same, of the securing or clamp devices for said arms, and the safety stop, whereby to engage said arms above its clamp devices and limit its movement in case of breakage, substantially as set forth. 8th. In a seat the combination of the holding frame having a fixed section provided with a bearing for the spring arm and with guides for the movable section, the movable section held in said guides, the clamp for securing said movable section in its different positions, the spring arm and the clamp for securing said arm, substantially as set forth. 9th. As an improvement in seats, the holding frame consisting of a fixed section provided with a bearing for the seat arm, and the movable frame section having a slotted segment and provided at its rear end with the safety stop, substantially as set forth. 10th. The combination, with the seat, of the holding frame secured to said seat and provided with adjustable securing devices for the spring arms and the spring arms, substantially as set forth. 11th. The improvement in seats herein described, consisting of the holding frame having a fixed section provided with a bearing for the spring arm, and with guides for the movable section, the movable section provided at its front end with a slotted segment, and at its rear end with the safety stop, the spring arm having a coil or loop and engaging the bearing of the fixed frame section and the clamp screw securing such spring arm to the slotted segment of the movable frame section, substantially as set forth. 12th. In an improved seat, the combination of the back bar supporting arms having upright and base portions, a bearing for the rear end of the base portion and adjustable securing devices, whereby its forward end may be held in different vertical adjustments, substantially as set forth. 13th. The combination substantially as described, of the seat, the back bar, the holding frames secured to the seat and provided with clamp devices, and the arms supporting the back bar and held by the clamp devices of the holding frame, substantially as set forth.

**No. 34,706. Barrel. (Baril.)**

Zachary Woodworth, Nankin, Mich., U. S., 15th July, 1890; 5 years.

*Claim.*—1st. A barrel, provided with an upper hinged cover and an interior diaphragm or follower, adapted to hold down the contents of the barrel in the desired place, said follower provided with suitable means for holding it at any desired point, substantially as described. 2nd. In a barrel, as herein described, the cover C hinged to the stationary piece C', and provided with the grooves C<sup>2</sup> in its under surface, substantially as described. 3rd. In the herein described barrel, the combination with the barrel, of an interior cover or follower adapted to hold down the contents of the barrel, said follower provided with suitable means for supporting it at any desired point in the barrel, substantially as described.

**No. 34,707. Inscription and Motto Plate.***(Plaque d'inscription et de devise.)*

Charles M. Underwood, Hamilton, Ont., 16th July, 1890; 5 years.

*Claim.*—1st. An inscription or motto plate, consisting of a main frame having a depressed panel plate between two perpendicular slits, a letter case, having its side walls bent upwards and inwards for the reception of letter blocks, and having bent prongs at each end, and letter blocks and blank blocks to place in said letter case, all substantially as set forth. 2nd. A letter case adapted to be inserted within a frame or attached to the surface in relief, having its side walls bent upwards and inwards, forming a frame or groove to hold blocks with letters or designs on their face surface, having prongs or projections on each end, for the purpose of fastening said letter-case to a plate or frame, substantially as set forth.

**No. 34,708. Gas Motor Engine.***(Machines à gaz.)*

John Taylor, Nottingham, Eng., 16th July, 1890; 5 years.

*Claim.*—1st. In a gas engine, the combination, of the compression cylinder B, the working cylinder A, with the exit port J, near one end, the single breech end D, connected to said cylinders, and having the explosion chamber E, pistons B<sup>1</sup> and A<sup>1</sup> working in the respective cylinders, one in advance of the other, automatically-actuated valves F<sup>1</sup>, G<sup>1</sup> and H<sup>1</sup>, double-ended lever P, shafts S, lever P<sup>2</sup>, rod R and eccentric R<sup>1</sup>, all substantially as set forth. 2nd. In a gas engine, the combination, of the cylinder B, the cylinder A, with the exit port J, the breech connected to said cylinders and having the explosion chamber E, pistons A<sup>1</sup> and B<sup>1</sup> working in the respective cylinders, one in advance of the other, actuated valves F<sup>1</sup>, G<sup>1</sup> and H<sup>1</sup>, lever P, shaft S, lever P<sup>2</sup>, rod R and eccentric R<sup>1</sup>, and the governor I, and intermediate mechanism for controlling the valve F<sup>1</sup>, all substantially as set forth.

**No. 34,709. Preserving Fish, Birds, Poultry or other Analogous Articles of Food.** *(Conserves alimentaires.)*

William Douglas, Glasgow, and James Donald, Broomhill, Scotland, 16th July, 1890; 5 years.

*Claim.*—1st. Preserving fish, birds, poultry or other analogous articles of food, by placing them in a bag or cover and freezing them in a block of ice, in the manner and for the purpose hereinbefore described. 2nd. Preserving fish, birds, poultry or other analogous articles of food, by placing them in a bag or cover and immersing them in water and afterwards freezing them, as described.

**No. 34,710. Window Blind Roller.***(Bâton de store de fenêtre.)*

Henry Gibbs, Bristol, Eng., 16th July, 1890; 5 years.

*Claim.*—1st. The improvements in window blind rollers, by which one part thereof is removable to allow the end of the blind to be mounted between the two, which are kept together by the end mounts, substantially as herein set forth and shown upon the drawings. 2nd. The improvements in window blind rollers, consisting of the roller in two portions A and A<sup>1</sup>, with springs e between and held together by the ends D and D<sup>1</sup>, substantially as herein set forth and shown upon the drawings. 3rd. In improvements in window blind rollers, the caps D and D<sup>1</sup>, slotted at d<sup>2</sup>, substantially as and for the purpose herein set forth and shown upon the drawings. 4th. The improvements in window blind rollers, consisting of the roller in two portions secured together by caps D and D<sup>1</sup>, with dowels between, in combination with corresponding eyelets in blinds.

**No. 34,711. Preparation in Linseed Oil.***(Préparation de l'huile de lin.)*

Charles H. Robinson, Philadelphia, Penn., U. S., 16th July, 1890; 5 years.

*Claim.*—As a new article of manufacture, a solution of linseed oil solidified by oxidation, substantially as described, in raw linseed oil.

**No. 34,712. Method of Thickening Linseed Oil.** *(Mode d'épaississement de l'huile de lin.)*

Charles H. Robinson, Philadelphia, Penn., U. S., 16th July, 1890; 5 years.

*Claim.*—1st. The method of thickening linseed oil, which consists in heating said oil and adding to it a portion of previously thickened linsed oil. 2nd. The method of thickening linseed oil, which consists in heating said oil, adding to it a portion of previously thickened linseed oil, and maintaining the mixture at a high heat. 3rd. The method of thickening linseed oil, which consists in heating said oil, adding to it a portion of previously thickened linseed oil, maintaining the mixture at a high heat and subjecting the hot mixture to the action of the air. 4th. The method of thickening linseed oil, which consists in heating raw oil, adding to it a portion of linseed oil, previously thickened by treatment with litharge and exposure to the action of the air. 5th. The method of thickening linseed oil, which consists in mixing with raw oil a portion of previously oxidized and thickened oil, raising and maintaining the heat of the mixture to a degree below that at which gases are rapidly driven off from the thickened oil, until said thickened oil is dissolved, and then raising the temperature of the mixture to a high heat to effect the desired thickening of the mass.

**No. 34,713. Art or Process of Manufacturing Artificial Stone.** *(Mode ou procédé de fabrication de la pierre.)*

Otto E. C. Guelich, Detroit, Mich., U. S., 16th July, 1890; 5 years.

*Claim.*—1st. The composition of material, consisting of litharge and acetate of lead and water in the proportions named, mixed together in the manner described, and combined sulphate of baryta, substantially as and for the purpose described. 2nd. The described composition of sulphate of baryta, litharge, acetate of lead and water combined in the proportions specified, and combined with a filling of cement and sand in about the proportions specified, substantially as described.

**No. 34,714. Chain Attachment.***(Disposition aux chaînes.)*

The Bridgeport Chain Co. (assignee of Richard A. Brel), Bridgeport, Conn., U. S., 16th July, 1890; 5 years.

*Claim.*—1st. The combination, with a chain link, of a loop having eyes at opposite ends, which engage the opposite sides of the link, thereby securing both ends of the loop firmly to the chain, leaving the loop free to swing, and a cross-bar connected to the chain and adapted to engage said loop. 2nd. A sheet metal cross-bar for chains, made widest at its central portion, and having a central opening with a cut leading thereto from the outer edge of the bar, so that the metal on opposite sides of the cut may be pressed outward to permit a chain link to be inserted in said opening, after which the ends are pressed together, thereby securing the bar to the chain.

**No. 34,715. Rock Drill.** *(Barre à mine.)*

Thomas B. Kerr, Kansas, Kan., George A. Case, John B. Searge, and Moses W. Clay, Joplin, Mo., U. S., 16th July, 1890; 5 years.

*Claim.*—1st. The drill, shown and described, comprising, in combination, the tripod F, F<sup>1</sup>, L, the shaft S, having on its inner end the trammel B, and on its outer end the crank wheel A, the shaft S<sup>1</sup>, having the groove O, the pinion P<sup>1</sup> feathered on shaft S<sup>1</sup>, the bevel gears G, for connecting said shafts, slides Y, Y, pitman D, screw feed shaft E, clamp n, arm r, having latch c, swivel plate V, links W, shaft J, frame M, spring K, pinion P and shaft P<sup>2</sup>, all arranged to operate substantially as and for the purpose set forth. 2nd. In the drill shown and described, the combination of shaft S, trammel B, slides Y, pitman D, screw feed rod E, clamp n, arm r, having latch c, swivel plate V, having eyes V<sup>1</sup>, links W, shafts J and P<sup>2</sup>, spring K, pinions P, P<sup>1</sup>, frame M, drill D<sup>1</sup>, shaft S<sup>1</sup>, and bevel gears G, all arranged to operate substantially as and for the purpose set forth. 3rd. In the drill shown and described, the combination with the pitman D, of the screw feed rod E, clamp n, arm r, having latch C and swivel plate V, substantially as and for the purpose set forth. 4th. In the drill shown and described, the combination with the shaft S<sup>1</sup>, the pinion P<sup>1</sup> feathered thereon, the pinion P, frame M, shaft P<sup>2</sup>, spring K and the means specified for reciprocating and rotating said shaft P<sup>2</sup> and said pinions, substantially as and for the purpose set forth. 5th. In the drill shown and described, the combination of shaft H, having arms Z and Z<sup>1</sup>, respectively, provided with the friction rollers R, R<sup>1</sup>, and arm Z<sup>2</sup>, forming a step for shaft S<sup>1</sup>, arm G<sup>1</sup>, having a loop on its outer end for enclosing the drill bit shaft S, trammel B, slides Y, pitman D, screw feed shaft E, arm r, having latch c, swivel plate V, having eyes V<sup>1</sup>, links W, shafts J and P<sup>2</sup>, coil springs K, frame M, pinion P, shaft S<sup>1</sup>, having groove O, pinion P<sup>1</sup> feathered on said shaft and bevel gears G, all arranged to operate, substantially as and for the purpose set forth. 6th. In the drill shown and described, in combination with the drill shaft of the pinions P and P<sup>1</sup>, frame M, and the shaft S<sup>1</sup> passing through pinion P<sup>1</sup> and feathered thereto, substantially as and for the purpose set forth. 7th. In the drill shown and described, in combination with the drill shaft, the pitman D, the coil spring interposed between said shaft and pitman, and the means specified for rotating said shaft independent of the pitman and for feeding forward the drill shaft, substantially as and for the purpose set forth. 8th. In the drill shown and described, the combination, with the screw feed shaft E, and having arm r secured thereto immediately below the pitman, and having the latch C, substantially as and for the purpose set forth. 9th. In the drill shown and described, in combination with the drill shaft P<sup>1</sup> and P<sup>2</sup>, the pinion P secured thereon, the frame M and the pinion P<sup>1</sup> and the means specified for rotating said shaft and pinions, while the same reciprocate, substantially as and for the purpose set forth. 10th. In the drill shown and described, the combination of two parts secured together at their upper end and adjustably secured together at their lower end, and screw threaded between their lower ends, as and for the purpose set forth. 11th. In the drill shown and described, in combination with the pitman D, formed of two parts secured together at their upper end and adjustably secured together at their lower end, and screw threaded between their lower ends, of the screw feed rod E, the swivel plate having the eyes V<sup>1</sup>, links W, coil spring K, shafts J and P<sup>2</sup> and drill bit D<sup>2</sup>, all arranged to operate substantially as and for the purpose set forth. 12th. In the drill shown and described, the combination with the tripod F, F<sup>1</sup>, L, of the shaft H, arms Z and Z<sup>1</sup>, respectively, provided with the friction rollers R, R<sup>1</sup>, pitman D, and drill bit D<sup>2</sup>, substantially as and for the purpose set forth. 13th. In the drill shown and described, the combination of the trammel B, slides Y, pitman D, screw-threaded feed shaft E, the said pitman and shaft being detachable for adjustment, substantially as and for the purpose set forth. 14th. In the rock drill shown and described, the combination with the tripod F, F<sup>1</sup>, L, of shaft H, arms Z, Z<sup>1</sup>, respectively, provided with the friction rollers R, R<sup>1</sup>, pitman D, trammel B, having slides Y, shaft S, screw feed shaft E, having swivel V and arm r, provided with latch C, drill shaft J, P<sup>2</sup>, coil spring K, interposed between the two sections of the drill shaft gear wheel P, pinion P<sup>1</sup>, shaft S<sup>1</sup> and bevel gears G, all arranged to operate substantially as and for the purpose set forth.



15th. In the rock drill shown and described, in combination with the drill shaft formed in two sections J and P<sup>2</sup>, the coil spring K interposed between the two sections of the drill shaft gear P, secured to section P<sup>2</sup> of the drill shaft pinion P<sup>1</sup>, shaft S<sup>1</sup>, having said pinion feathered thereon, and the means specified for operating said parts, substantially as and for the purpose set forth.

### No. 34,716. Water Closet. (*Latrines à l'eau.*)

Henry A. Egan, Montreal, Que., 17th July, 1890; 5 years.

*Claim.*—1st. In a cistern for water closets, the combination of a double cylinder, inlet and discharge pipes connected with inner shell, aperture in head of same and float to close it, and waste pipe connected to outer shell and soil pipe or closet, all as herein described and for the purposes set forth. 2nd. In a water closet cistern, the combination, with a double cistern, of an inlet pipe communicating with inner shell and bent down in same, an air aperture in said pipe, and openings in the heads of both cylinders, all as and for the purposes set forth.

### No. 34,717. Bolt Holder. (*Arrête-boulon.*)

Charles A. Maurer, Cedar Bluff, Iowa, U.S., 17th July, 1890; 5 years.

*Claim.*—A bolt holder comprising the U-shaped frame 1, having one of its arms provided with a threaded opening, the screw arranged in the threaded opening and adapted to engage and securely hold the clamp to the work operated upon, and a lever pivoted to the other arm and provided with a depending point arranged to engage the head of a bolt and hold the same against turning while a nut is being screwed home, substantially as specified.

### No. 34,718. Closing and Sealing Device for the Discharge Openings of Fire Extinguishers or Other Vessels.

(*Appareil de fermeture scellé pour les lances des extincteurs d'incendies et autres vaisseaux.*)

Jay L. Bradley, St. Louis, Mo., U.S., 17th July, 1890; 5 years.

*Claim.*—1st. A sealing device, for closing the discharge orifice of a vessel, consisting of a flexible metallic strip or band adapted to be soldered over such discharge orifice, and having a coiling key attached transversely thereto, substantially as and for the purposes specified. 2nd. In a sealing device, for closing the discharge orifice of a vessel, the combination, with a sealing plate having a coiled extension, of a coiling key having shank inserted within the coiled strip and attached transversely thereto, substantially as and for the purposes specified.

### No. 34,719. Belt Pulley and Wheel.

(*Poulie et roue à courroie.*)

John A. J. Shultz and Bruce C. Alvord, St. Louis, Mo., U.S., 18th July, 1890; 5 years.

*Claim.*—A pulley or wheel, provided with a facing, said facing being wider than the face of the pulley or wheel, and having its side edges secured to the sides respectively of said face, substantially as described.

### No. 34,720. Expansion Gear for Rolls. (*Engrenage à compensation pour les cylindres.*)

Joseph N. Wise, William R. Owen, Searick F. Nelson, Valentine Wingerter and George Beattay, Norwalk, Ohio, U.S., 18th July, 1890; 5 years.

*Claim.*—The combination, with the shaft a, of the stationary roll A, and shaft b, of movable roll B, of the short intermediate shaft E, gear wheel D, on shaft b, gear wheel D' on intermediate shaft E, brackets 1, 1, extending from the extremities of intermediate shaft E to the shaft a, brackets 2, 2, extending from intermediate shaft E to shaft b adjacent, the gear wheels D, D', and means substantially such as described, for communicating direct movement from shaft a, to intermediate shaft E, for the purposes specified.

### No. 34,721. Leaf Turner. (*Tourne-page.*)

Cyril P. Brown and Warren Gee, Spring Lake, Mich., U.S., 18th July, 1890; 5 years.

*Claim.*—1st. In a leaf turner, the combination, with a support or base plate and a guide, of leaf turning arms placed loosely on the guide, a key lever fulcrumed to the support, a hook plate carried by the key lever and having a shoulder next the hook, and a spring normally throwing the hook into engagement with the outermost leaf turning arm as the key lever is operated, substantially as herein set forth. 2nd. In a leaf turner, the combination, with a support or base plate and a guide, of leaf turning arms placed loosely on the guide, a key lever fulcrumed to the support, a plate carried by the key lever and provided with two opposite hooks and adjacent shoulders, and two spring arms acting on the hook plate, and causing engagement of either hook with a leaf turning arm as the key lever is operated, substantially as herein set forth. 3rd. In a leaf turner, the combination, with a support or base plate and a guide, of leaf turning arms placed loosely on the guide, a key lever fulcrumed to the support, a hook plate carried by the key lever and having shoulders next the hooks, a spring normally throwing the hook or hooks into engagement with the outermost arm as the key lever is

operated, and a spring retracting the key lever and hook plate to normal intermediate positions, substantially as herein set forth. 4th. In a leaf turner, the combination, with a support or base plate and a guide, of leaf turning arms placed loosely on the guide, a key lever fulcrumed to the support, a plate carried by the key lever and provided with two opposite hooks and adjacent shoulders, a spring normally engaging each hook with the outermost arm as the key lever is operated, and a spiral spring K, held to the key lever and support and retracting the lever and hook plate to normal positions, substantially as herein set forth. 5th. In a leaf turner, the combination, with a support or base plate and a bracket guide thereon, of a series of leaf turning arms held loosely to the guide, a key lever fulcrumed to the support, a hook plate pivoted to the key lever and having a continuous rounded head cut away at the interior to form opposite hooks h, h, and adjacent shoulders h<sup>2</sup>, and a spring normally throwing the hooks into engagement with the outermost leaf turning arm as the key lever is operated, substantially as herein set forth. 6th. In a leaf turner, the combination, with a support or base plate and two bracket guides thereon, of a series of leaf turning arms looped to said guides, a key lever fulcrumed to the support, a hook plate pivoted to the key lever and lying between the two guides and provided with hooks h, h, and adjacent shoulders h<sup>2</sup>, and a spring normally throwing either hook into engagement with the outermost leaf turning arm as the key lever is operated, substantially as herein set forth. 7th. In a leaf turner, the combination, with a support or base plate and a guide thereon, of a key lever fulcrumed to the support, a series of leaf turning arms held to the guide, a shouldered hook plate pivoted to the lever, and a spring normally throwing the hook or hooks of said plate into engagement with the outermost leaf turning arm as the key lever is operated, said leaf turning arms each having a slot into which the hook plate enters to steady the arms in their swinging movements and sustain them when adjusted, substantially as herein set forth. 8th. In a leaf turner, the combination, with a support or base plate and two bracket guides thereon, of a key lever fulcrumed to the support, a series of leaf turning arms looped at their inner ends around the two guides, a shouldered hook plate pivoted to the key lever and held between the two guides, and a spring normally throwing the hook or hooks into engagement with the outermost leaf turning arm as the key lever is operated, said leaf turning arms each having a slot into which the hook plate enters, substantially as described, for the purposes set forth. 9th. In a leaf turner, the combination, with the swinging leaf turning arms, of leaf clips held to their outer ends and formed with a cross bar m, two adjacent side loops or eyes m<sup>1</sup>, m<sup>1</sup>, through which passes the pivot holding the clip to the arm, and two leaf receiving fingers m<sup>2</sup>, m<sup>2</sup>, extending from the pivot eyes, substantially as herein set forth. 10th. In a leaf turner, the combination, with the swinging leaf turning arms having an edge recess m<sup>3</sup>, of leaf clips held to the arms and formed with a cross bar m, two adjacent side loops or eyes m<sup>1</sup>, m<sup>1</sup>, through which passes a pivot holding the clip to the arm, and two fingers m<sup>2</sup>, m<sup>2</sup>, extending from the pivot eyes, said clips adapted to fold to the arms at which time the cross piece m enters the arm recess m<sup>3</sup>, and adapted also to be unfolded when the cross piece forms a stop against the arm, substantially as herein set forth. 11th. In a leaf turner, the supporting base plate made with a screw receiving slot a<sup>1</sup>, in its upper part, and with clip receiving flanges or openings a<sup>2</sup>, at its lower portion, substantially as described, whereby the leaf turner may be held by a headed screw or pin to a vertical support, and by a clip to a horizontal support, substantially as herein set forth. 12th. In a leaf turner, the combination, with the support or base plate, of two end cushions a<sup>3</sup>, a<sup>3</sup>, and a center cushion a<sup>4</sup>, disposed to prevent marring of a vertical or horizontal support to which the leaf turner may be held, and adapted also to sustain the instrument on a flat surface, substantially as herein set forth. 13th. In a leaf turner, the combination, with the support, a base plate provided with an upper socket and leaf turning arms and operating mechanism held to the support, of a detachable sheet-music clamp, consisting of two plates, one having a foot adapted to the base plate socket, and spring clips pressing the clamp plates toward each other, substantially as herein set forth. 14th. In a leaf turner, the combination, with the support or base plate having an upper tongue a, provided with side flanges a<sup>2</sup>, a<sup>2</sup>, forming a socket, and leaf turning arms and operating mechanism held to the support, of a detachable sheet-music clamp C, consisting of two plates c<sup>1</sup>, c<sup>2</sup>, having out-turned upper ends c<sup>3</sup>, c<sup>3</sup>, the plate c<sup>1</sup> having a foot c adapted to the flanges a<sup>2</sup>, and spring clips c<sup>3</sup> held to the plates and pressing them toward each other, substantially as herein set forth.

### No. 34,722. Separator for Cream and Butter

(*Séparateur pour la crème et le beurre.*)

Richard D. Harris, New York, N.Y., U.S. (assignee of Adolph Wahlin, Carl J. Lundstrum, Stookholm, and Thomas Collins, Winchester, N.H., U.S., 18th July, 1890; 5 years.

*Claim.*—1st. The combination, with a centrifugal separating vessel, having places at which the skim milk and cream are delivered, of an accumulator against which the cream is thrown by the centrifugal action, and upon which the butter particles adhere sufficiently for the skim milk to separate, substantially as set forth. 2nd. The combination, with a centrifugal separating vessel, having cream and skim milk deliveries, of butter accumulators composed of a range of plates, against which the butter particles are thrown from the separator, and a support for such accumulators, and upon which the same is allowed to revolve by the impact of the butter particles and skim milk, substantially as set forth. 3rd. The method herein specified of separating the butter particles from milk, consisting in exposing the milk to a centrifugal action, throwing off the skim milk separately from the cream, and causing the butter particles to strike against and accumulate upon surfaces around the delivery place for such cream, substantially as set forth. 4th. The combination, with the centrifugal separator for cream, of rotary agitators or accumulators receiving motion from the impact of the skim milk or from separate mechanism, substantially as specified.



tongue and bears on the skelp at the rear of the bell, substantially as and for the purposes described. 5th. In combination with a pipe welding bell, a tongue having anti-friction rollers which bear against the pipe in the bell at opposite points, so as to support the seam, substantially as and for the purposes specified. 6th. In combination with a pipe welding bell, a seam support or tongue which bears against the pipe in the bell at opposite points, so as to support the seam, and a heel which is connected with said tongue and bears on the skelp at an intermediate portion of its width, substantially as and for the purposes described. 7th. In combination with a pipe welding bell, a seam support or tongue arranged within the bell, and having an anti-friction roller which supports the seam, said roller having a periphery laterally curved to conform to the internal shape of the pipe, substantially as and for the purposes described. 8th. In combination with a pipe welding bell, a tongue arranged within the bell at a short distance from the interior wall thereof, directly beneath the position of the seam in the bell, for the purpose of supporting the seam, substantially as and for the purposes described. 9th. In combination with a pipe welding bell, a tongue fixed to the exterior of the bell, and projecting therein in position to fit on the inner side of and to support the seam, substantially as and for the purposes described. 10th. In combination with a pipe welding bell, a tongue removably fixed to the exterior of the bell and projecting therein in position to fit on the inner side of and to support the seam, substantially as and for the purposes described.

### No. 34,735. Pencil Sharpener.

(*Taille crayon.*)

James Howarth, Manchester, Eng., 19th July 1890; 5 years.

*Claim.*—1st. The combination of a spring pressing surface, with a fixed flat, angular, or curved knife, substantially as described and shown hereinbefore and in the accompanying drawings, for the purpose set forth. 2nd. The combination, with a fixed pressing surface, of a flat, angular, or curved knife pressed by a spring, substantially as described and shown hereinbefore and in the accompanying drawings, for the purpose set forth.

### No. 34,736. Box Fastener. (*Fermeture de boîte.*)

Julius E. Mergott, Newark, N.J., U.S., 19th July, 1890; 5 years.

*Claim.*—The combination, with the body portion, and the lid of a box of a fastener, consisting of a holding plate *a*, provided with oppositely projecting portions *a*<sup>1</sup> and *a*<sup>2</sup>, having teeth or prongs *a*<sup>3</sup>, struck up thereon for securing said plate on the outside of the body portion, a locking plate *b*, provided with oppositely projecting portions *b*<sup>1</sup> and *b*<sup>2</sup>, having teeth or prongs *b*<sup>3</sup>, struck up thereon for securing said plate to the lid, and a spring tongue on said plate *b*, extending down and over said holding plate, and engaging with a holding means on said plate for holding or locking the parts of the catch when the lid of the box is closed, substantially as and for the purposes set forth.

### No. 34,737. Umbrella Frame.

(*Monture de parapluie.*)

James H. Sprague, Norwalk, Ohio, U.S., 19th July, 1890; 5 years.

*Claim.*—In an umbrella frame, the combination, with the stick, of the stationary hub *I*, provided with a series of slanting radial grooves or channels, the ribs *M* provided at their inner ends with eyes fitting in the said grooves or channels, the ring *N*, locked in place by malleable projections on the hub and engaging the eyes of the ribs, the said ribs being provided at intermediate points with loops *m*<sup>1</sup>, the movable hub *F* sliding on the stick and provided with radial grooves or channels, the braces *O*, provided at their outer ends with eyes interlocked with the loops *m*<sup>1</sup> of the ribs, and at their inner ends with eyes fitting in the grooves or channels of the sliding hub *F*, and the ring *P* on the said hub, engaging the eyes at the inner ends of the braces and locked in place by malleable projections on the hub, as set forth.

### No. 34,738. Axle. (*Essieu.*)

Solomon Laschinger, Elmira, Ont., 19th July, 1890; 5 years.

*Claim.*—1st. The combination of the spindle *a*, the hollow casting *b*, the truss rod *c*, the lever *d*, and the axle *f*, substantially as and for the purpose hereinbefore set forth. 2nd. The combination of the levers *d*, *d*, and *g*, the connecting rod *e*, and the bolts and pins *h*, *i*, and *j*, substantially as and for the purpose hereinbefore set forth.

### No. 34,739. Lamp Bracket for Upright Pianos. (*Console de piano droit pour les lampes.*)

Alpheus M. Darley, Oshawa, Ont., 19th July, 1890; 5 years.

*Claim.*—The combination of the bracket *B*, and the area or support *C*, with the key bottom *A*, substantially as and for the purpose hereinbefore set forth.

### No. 34,740. Fire Place Heater.

(*Calorifère de foyer.*)

Thomas B. Jackson, Belmont, Ohio, U.S., 19th July, 1890; 5 years.

*Claim.*—1st. In a fire place heater, the combination, with the hot air chambers *K*<sup>2</sup>, *K*<sup>1</sup>, and *K* arranged to inclose a fire chamber, the hot air chamber *K* being directly above the fire chamber and closed in on every side and communicating with the hot air chamber *K*<sup>1</sup>, of the cold air pipe leading directly to the hot air chamber *K*, substantially as and for the purpose described. 2nd. The herein de-

scribed fire place heater, composed of the front, the end, and the rear hot air chambers *K*<sup>2</sup> and *K*<sup>1</sup>, respectively, inclosing the fire chamber, the hot air chamber *K*, arranged directly over the top of the fire chamber and communicating with the rear hot air chamber, the cold air pipe passing through the rear chamber *K*<sup>1</sup> and extending into the chamber *K*, and the cold air register communicating with the said cold air pipe, substantially as and for the purpose described. 3rd. In a fire place heater, having end, rear, and top hot air chambers arranged to form walls and inclose the fire chamber, the combination of the hot air chamber *K*, arranged in the top hot air chamber, the metal end plates *O*, *O*, and the metal top plate *P*, extending over the fire chamber and part way down in the rear of the fire chamber, substantially as and for the purpose described.

### No. 34,741. Carbureter. (*Carburateur.*)

Jonathan S. Tibbets, Jeffersonville, Ind., U.S., 19th July, 1890; 5 years.

*Claim.*—1st. A carbureting apparatus, consisting of a casing having a vertical wall forming the interior into an oil reservoir, and a vapor storage chamber, a series of cells arranged in the lower part of the casing divided by a diaphragm having an opening provided with a vertical flange or collar, and the uppermost cell in direct communication with the vapor storage chamber, an oil pipe located in the said vapor storage chamber connecting the oil reservoir with the uppermost cell, and having a valve provided with a valve stem rising through the vapor storage chamber to the exterior of the casing, a float located in the lowermost cell and having a stem extended through the top of the casing, and means substantially as described, for conducting the vapors of different specific gravity from different levels in the vapor storage chamber. 2nd. A carbureting apparatus, consisting of a casing containing in its base two cells divided by a horizontal diaphragm having an opening from which rises a tubular flange, a vertical wall joined at its top to the wall of the casing and forming the interior thereof into an oil reservoir and a vapor storage chamber, a pipe located in the vapor storage chamber connecting the oil reservoir with the uppermost cell and having a valve provided with a stem extending through the top of the casing to be operated from the exterior, and an air forcing pipe connected with the lowermost cell, substantially as described. 3rd. A carbureting apparatus, consisting of a casing containing in its base two cells arranged one above the other having baffle plates, and separated by a diaphragm provided with an opening, from the edge of which rises a tubular flange or collar, a vertical wall arranged in the casing and dividing its interior into an oil reservoir and a vapor storage chamber, a pipe located in the vapor storage chamber connecting the oil reservoir with the uppermost cell, and having a valve provided with a stem rising through the top and operated from the exterior of the casing, and means for conducting the vapor of different specific gravity from the one vapor storage chamber at varying heights or levels therein, substantially as described. 4th. The combination, with a casing, an oil reservoir, and a series of superimposed cells in the base of the casing, of a vapor storage chamber arranged over and into which the uppermost cell directly opens, and means such substantially as described, for conducting the vapor of different specific gravity from the one vapor storage chamber at different heights or levels therein. 5th. The combination, with the vapor storage chamber, of a carburetor, of a series of vertically suspended pipes having their lower ends terminating at different heights in the said vapor storage chamber for conducting the vapor of different specific gravity from the chamber at different heights or levels, substantially as described. 6th. In a carbureting machine, the combination with one or more cells arranged in the bottom of a drum or casing, of a vapor storage chamber communicating therewith and inclosed between a portion of the wall of the drum and an angular or curved wall rising from the top of the cell, a gasoline reservoir inclosed between the remaining wall of the drum and the wall of the vapor storage chamber, a pipe communicating with the reservoir and cell through said chamber, and a valve opening and closing the pipe and having a stem packed through a pipe in the vapor chamber and extending to the surface, substantially as described. 7th. In a carbureting machine, the combination, with a drum or casing, of one or more cells arranged in the bottom thereof, and separated from each other and from the interior of the drum by diaphragms, a vapor storage chamber formed by a wall rising from the upper diaphragm and uniting with the wall of the drum, a gasoline reservoir inclosed between the said diaphragm, the wall of the storage chamber and the wall of the drum, pipes entering said chamber and dropping therein to different points between the top and the bottom thereof, an intersecting pipe having communication with the service pipe, independent valves arranged in the pipes taking vapor from the storage chamber, said valves having stems rising to the surface and provided with sustaining latches, a pipe connecting the gasoline reservoir with the cell or cells through the storage chamber, and a valve opening and closing said pipe and having a stem operated from the surface, substantially as described.

### No. 34,742. Manufacture of Boots and Shoes. (*Fabrication des chaussures.*)

John W. Jones and Edward K. Bridger, London, Eng., 19th July, 1890; 5 years.

*Claim.*—1st. The combination in a boot or shoe of a sliding forepart or sliding outer sole *a*, with a device or appliance such as *e*, which latter is embedded in the waist part of such boot or shoe, substantially as and for the purposes hereinbefore described, and illustrated in the drawings hereunto annexed. 2nd. We claim a device or appliance, such as *e*, embedded in the waist part of boot or shoe, having a sliding outer sole, arranged and acting, substantially in the manner and for the purposes hereinbefore described, and illustrated in the drawings hereunto annexed. 3rd. We claim the application of the device, such as *e*, or *e*<sup>1</sup>, to the heels of boots and shoes, substantially as and for the purposes hereinbefore described, and illustrated in the drawings hereunto annexed.

**No. 34,743. Attachment or Apparatus for Relieving Vehicle Springs of the Severe Strain to which they are Ordinarily Subject.** (*Appareil pour soulager les ressorts des voitures.*)

Alfred Brewer, (Cowansville, Que., 19th July, 1890; 5 years.

*Claim.*—1st. The combination, with a vehicle spring, of the sliding piece or tongue F, as secured to the spring D, and the bearing or bed piece H, with its bearing box L, and U-shaped shoe K, for securing the bearing to the axle I, and the slot M, in the tongue F, and adjusting bolt or screw N, substantially as and for the purpose hereinbefore set forth.

**No. 34,744. Automatic Rough Lock for Sleds.** (*Enrayoir automatique des traîneaux.*)

Henry H. Budgett (assignee of Charles C. Skinner), Long Prairie, Minn., U.S., 21st July, 1890; 5 years.

*Claim.*—1st. The combination, with a sled, of the sliding tongue 5, held in suitable supports on said sled, the cross-bar 11 rigidly secured to said tongue, the brake shoes 13 pivotally secured to the runners of said sled, and links 15 connecting said shoes with said cross-bar, substantially as described. 2nd. In a sled, the combination, with the sliding tongue and brake shoes connected to and operated thereby, of the latch or dog 17, hinged upon said tongue and arranged to lock the tongue in place, substantially as described.

**No. 34,745. Saw Mill Feed Mechanism.**

(*Mécanisme d'alimentation des scieries.*)

William Button and Hankinson J. Blackburn, Grafton, Ont., 21st July, 1890; 5 years.

*Claim.*—1st. The combination with the supporting frame 1, of the driving shaft 2, having belt pulley 3, feed shaft 6, journalled in movable bearings, friction wheel 7, adjustable by hand lever 14, and gearing wheel 5, on a separate shaft 6, for uniformly feeding and fixing the log carriage, as set forth. 2nd. The combination with 6 journalled in movable bearings and adjustable by hand lever 14, carriage, of the speed wheels A, B, and intermediate transmitting friction wheels F, F', F'', journalled in bearings hinged at one end to the cog wheel O, rack bar P, connecting rod R, rock shaft Q and lever U, whereby either of the transmitting friction wheels are brought into frictional contact with the speed wheels, to obtain a quicker or lower speed by the movement of said lever, as set forth. 3rd. The combination of the speed wheels A, B, transmitting friction wheels F, F', F'', journalled in bearings G, G', G', severally hinged at one end to a fixture, and the other end provided with a spring U, shaft Q connecting with a crank rock shaft N and the lever said crank rock shaft to move one of said transmitting wheels into contact with the speed wheels, as set forth for the purpose described.

**No. 34,746. Hot Water Heater.**

(*Calorifère à eau.*)

Herman S. Jewett and Company (assignees of John J. Graves), Buffalo, N.Y., U.S., 21st July, 1890; 5 years.

*Claim.*—1st. A hot water heater section, consisting of the hollow water legs of unequal length connected by two or more cross pipes of a width equal to the width of the water legs, whereby, when the sections are placed end to end, continuous flues are formed between the cross pipes, substantially as described. 2nd. A hot water heater, and a short leg connected by cross pipes, each having a long pair with their shorter legs abutting, and such pairs being connected end to end with their cross pipes abutting to form draft flues through the sections, substantially as described. 3rd. A hot water heater, and a short leg connected by cross-pipes, each having a long pair with their shorter legs abutting, and such pairs being connected end to end, a base on which the united sections are placed, and a fire grate between the longer legs of the sections, substantially as described. 4th. A hot water heater, consisting of hollow water section to form draft flues, in combination with openings through them deflecting plates arranged adjacent to the opposite ends of the adjacent pipes which separate the draft passages, substantially as and for the purpose specified. 5th. A hot water heater, composed of end, and casings or walls closing the ends of the sections, substantially as described. 6th. A water heater section, consisting of the cross-pipes, substantially as described, connected by the inclined consisting of sections united side by side in pairs, and such pairs united end to end, such sections having water legs and inclined cross-pipes between the water legs, substantially as described. 7th. A hot water heater, consisting of a series of hollow water sections, each having a long and a short leg connected by cross-pipes, the sections being united in pairs with their shorter legs abutting, and such pairs being connected end to end, with their cross-pipes abutting to form draft flues through the sections, and water sections or tubes 18 uniting the water legs of the outer sections, substantially as described. 8th. A hot water heater, consisting of a series of hollow water sections, each having a long and a short leg connected by cross-pipes, and such pairs being united in pairs, with their shorter legs abutting, and such pairs being connected end to end with their cross-pipes

abutting to form drafts flues through the sections, and water sections or tubes 18 and 19 connecting the opposite end sections A and forming water passages between them, substantially as described. 10th. A hot water heater, composed of sections, each having a raised portion, of a length about half that of the section, which sections are united side by side with their raised portions overlapping, and such pairs of sections united end to end, substantially as described.

**No. 34,747. Aural Attachment for Telephone Receivers.** (*Appareil acoustique pour les récepteurs téléphoniques.*)

Edwin C. Hess, Newark, N. J., U. S., Frank Caverhill and Frank S. Harrison, Montreal, Que., 21st July, 1890; 5 years.

*Claim.*—1st. In combination with a telephone receiver, caps adapted to fit over the ears of the user and a communicating passage between the interiors of such caps, for the purposes set forth. 2nd. In combination with a telephone receiver body, caps having recesses to receive the ears of the user, a resilient tube connected with each cap and communicating with subsidiary openings in same, for the purposes set forth. 3rd. The combination with a telephone receiver body, of caps having recesses to receive the ears of the user, and perforated nipples, one of such caps being screwed onto said receiver and serving to hold the diaphragm of same in place, a resilient tube carrying on one end the other cap, and a swivel connection between the opposite end of said tube and the cap connected to the receiver body, for the purpose set forth.

**No. 34,748. Box Fastener.** (*Fermeture de boîte.*)

William Beck, Montreal, Que., 21st July, 1890; 5 years.

*Claim.*—1st. A box fastener, every part of which, when the box is closed, is hidden from view, for the purpose set forth. 2nd. In combination with the cover and front side of a box, a recess in the under side of such cover, an eyelet fitting over same, and a stud projecting from the upper edge of said front side and adapted to engage with said eyelet, as set forth.

**No. 34,749. Boomerang Thrower.** (*Catapulte.*)

Michael Cummins, Leadville, Col., U.S., 21st July, 1890; 5 years.

*Claim.*—1st. The herein described catapult, consisting of the handle A, the spring wires B, secured thereto near their lower ends and extending above the upper end of the handle, and the socket D, of U-shape cross-section, said socket having longitudinal tubular portions D', within which the upper ends of said wires are secured, the whole operating substantially as set forth. 2nd. The herein described catapult, consisting of the handle A, the spring wires B secured thereto near their lower ends and extending above the upper end of the handle, and the socket D, of U-shape cross-section, said socket having longitudinal tubular portion D', within which the upper ends of said wires are secured, and the brace d standing across the open mouth of said socket, and having its ends embracing said tubular portions, as set forth. 3rd. The herein described catapult, consisting of the handle A, the spring wires B, secured thereto near their lower ends and extending above the upper ends of the handle, and the socket D of U-shape cross-section, its ends secured to the upper ends of said wires and the bend of its body being enlarged, as and for the purpose set forth. 4th. The herein described catapult, consisting of the handle A, the spring wires B secured thereto near their lower ends and extending above the upper end of the handle, the socket D, of U-shape cross-section, its ends secured to the upper ends of said wires, braces d and d' across the centre of the open mouth and bottom of said socket respectively, and a plate P covering the rear extremity of the open upper end, as and for the purpose set forth.

**No. 34,750. Electric Welding and Tempering Metals.** (*Soudage et trempage des métaux par l'électricité.*)

Elias E. Ries, Baltimore, Md., U.S., 21st July, 1890; 5 years.

*Claim.*—1st. The method of effecting a weld between two pieces of metal, which consists in, first, placing the ends of the metals to be united in contact, and then gradually heating the same under endwise pressure up to the fusing temperature by the passage of a graduated current of electricity through the same, substantially as described. 2nd. The method of effecting a weld between two pieces of metal, which consists in, first, placing the ends of the metals to be united in contact, and passing a heating current of electricity through such contacting ends, and then gradually increasing the current strength until the metals have reached the fusing temperature while the ends are being pressed together, substantially as described. 3rd. The method of effecting a weld between two pieces of metal, which consists in, first, placing the ends of the metals to be united in contact and passing a heating current of electricity through such contacting ends, and then gradually pressing the ends together and increasing the current strength until said contacting ends are fused and united, substantially as described. 4th. The herein described method of welding together two pieces of steel, or other like metal, without destroying their hardening and tempering properties at the point of union, which consists in passing a graduated electric current through the ends pressed in contact until they reach a fusing temperature below the burning point of the metals, substantially as described. 5th. The herein described method of effecting a hardened or tempered juncture between two metals, which consists, first, in welding the abutting ends of the same together by the passage of an electric current therethrough, and, secondly, in electrically reheating the joint thus produced and applying a suitable hardening and tempering agency thereto, when it has reached the desired degree of heat, substantially as described. 6th. The herein described method of forming a line of railway track, consisting in electrically welding successive sections of rails end to end, and securing the welded rails upon the road bed immediately upon the completion of each weld, substantially as described. 7th. The

herein described method of forming a line of railway track, consisting in electrically welding successive sections of rails end to end, restoring the original temper of the rails at the welds, and securing the welded rail sections upon the road-bed, immediately upon the completion of the process of welding and tempering, substantially as described. 8th. A movably welding apparatus, consisting of a wheeled vehicle welding clamps suitably mounted upon the vehicle, and a source of electricity carried by the vehicle, and electrical connections between said source and the clamps, substantially as described. 9th. A movable electric welding apparatus for the production of continuous lines of rails, consisting of a wheeled vehicle, welding clamps suitably mounted upon the vehicle, means for feeding rails to the clamps and for depositing the joined rail sections upon the road bed, and a source of electricity for furnishing current to the clamps, substantially as described. 10th. A clamp for electric welding, composed of two jaws of metal joined for co-operation, as shown, and each jaw adapted to the article to be welded, with an elastic or yielding locking device for closing the jaws about the article, substantially as described. 11th. A clamp for electrically welding metals, composed of two jaws joined for co-operation, as shown, each jaw being adapted to the shape of the article to be welded, and a recess in each jaw for the reception of the upset metal to form a rib at the weld, substantially as described.

**No. 34,751. Manufacture of Imitation Dressed Chamois and Buck-Skin from Paper Pulp, in Sheets.** (*Fabrication de l'imitation des peaux de chamois et de daim avec de la pâte à papier.*)

John C. McLaughlin, Port Huron, Mich., U. S., 21st July, 1890; 5 years.

*Claim.*—1st. The art or process of reducing sheets of paper pulp from a harsh state to a pliable material, resembling dressed chamois or buck-skin, which consists in pounding the sheet of paper pulp in a damp state saturated with liquid gelatine, as set forth. 2nd. The art or process of softening wood fibre in sheets, which consists in damping, the same with liquid gelatine, then crushing the fibre by pounding, and finally passing the sheet between heated rollers, as set forth for the purpose described.

**No. 34,752. Calendar.** (*Calendrier.*)

Clemens J. Bothwell and George J. Lovell, Toronto, Ont., 21st July, 1890; 5 years.

*Claim.*—In a calendar, the combination of the thirty-one numerals, from one to thirty-one, arranged in seven vertical columns, with slips fastened above the numerals, having printed on them the names of the days of the week, arranged to suit one or more months, substantially as described and for the purpose specified.

**No. 34,753. Binding Clip.** (*Agrafe de reliure.*)

Harlan H. Ballard, Pittsfield, Mass., U. S., 23rd July, 1890; 5 years.

*Claim.*—1st. A spring binding clip, having its side members inclined toward each other at its mouth, and adapted to receive independent means for opening it, substantially as shown and described. 2nd. A spring binding clip, approximately U-shaped in construction having its side members inclined toward each other at its mouth, and adapted to receive independent means for opening it, substantially as shown and described. 3rd. A spring binding clip, approximately U-shaped in construction, having its side members inclined toward each other at its mouth, and provided with openings adapted to receive independent levers for springing its side members apart, substantially as shown and described. 4th. A spring binding clip opening device, consisting of a pair of removable jointed levers adapted to engage the side members of the clip for springing said members apart, substantially as shown and described. 5th. The combination, with a spring binding clip, approximately U-shaped in construction, having its side members inclined toward each other at its mouth and provided with openings, as shown, of an independent pincers-like opening device adapted to enter the openings in the clip for springing its side members apart, substantially as shown and described. 6th. The within described spring clip opening device C, consisting of the crossed arms c, pivoted together at d, and extension rods or levers f, pivoted at their rear ends to the forward ends of the arms c, substantially as shown and described. 7th. The within described spring clip opening device C, consisting of the crossed arms c, pivoted together at d, and extension rods or levers f, pivoted at their rear ends to the forward ends of the arms c, and provided at their forward ends with the buttons h, substantially as shown and described.

**No. 34,754. Waggon Spring.** (*Ressort de wagon.*)

Miles D. Conley, O'Daniel, Texas, U. S., 23rd July, 1890; 5 years.

*Claim.*—The combination, with a bolster, of the springs arranged at the sides thereof, the stirrups connecting the ends of the springs and suspending the same from the bolster, and parallel spring bars and the plates connecting the bars and having recesses arranged to receive the standards of the bolster, and having depending flanges at the sides of the standards, said plates being provided at their ends with transverse slots, whereby the springs may be adjusted to different sized bolsters, substantially as described.

**No. 34,755. Plate for Secondary Batteries.**

(*Plaque pour les piles secondaires.*)

Albert E. Woolf, New York, N. Y., U. S., 23rd July, 1890; 15 years.

*Claim.*—1st. An electrode for storage batteries, comprising essentially a strip of metal coated with active material, and coiled upon itself in such manner that the active material fills all the space be-

tween contiguous layers of the metal, substantially as set forth. 2nd. An electrode for storage batteries, comprising essentially a strip of flat metal coated with active material, and coiled upon itself flatwise, and in such manner, that the active material fills all the space between contiguous layers of the metal, substantially as set forth. 3rd. An electrode for storage batteries, comprising essentially flat metal coated with active material, and coiled upon itself in such manner that the width of the metal extends across the plane of the plate, and also so that the active material fills all the space between the contiguous layers of the metal, substantially as set forth. 4th. An electrode for storage batteries, comprising essentially flat metal coated with active material coiled upon itself flatwise, and having all the space between contiguous layers of the metal filled with active material, and pressed into oblong form, substantially as set forth. 5th. An electrode for storage batteries, comprising essentially metallic parts separated by interposed layers of active material, and an exterior sustaining band or clasp, substantially as and for the purposes set forth. 6th. An electrode for storage batteries, comprising essentially flat metallic parts disposed in such manner that the width of the metal extends across the plane of the plate, active material between adjacent surfaces of the metal, and an exterior sustaining band or clasp of rubber, or other material not acted upon by the solution, substantially as set forth. 7th. An electrode for storage batteries, comprising essentially metallic parts separated by interposed layers of active material, and an exterior band or clasp of rubber or other material not acted upon by the solution and means for drawing the ends of the band together, substantially as set forth. 8th. An electrode for storage batteries, comprising essentially metallic parts separated by interposed layers of active material, and an exterior band or clasp of rubber or other material not acted upon by the solution, the band being wider than the metal or the active material or provided with projections which extend laterally beyond the face of the plate, substantially as set forth. 9th. As a new manufacture, a roll from which electrodes for storage batteries may be cut, consisting essentially of a sheet metal coated with active material, and rolled up upon itself so that the active material fills all the space between contiguous layers of the metal, substantially as set forth.

**No. 34,756. Mail Box.** (*Boîte à lettres.*)

Jonathan E. Morris, Chicago, Ill., U. S., 23rd July, 1890; 5 years.

*Claim.*—1st. In mail boxes, designed to be used on residences, public buildings, and offices, the combination of the receptacle for periodicals provided with an opening through which they may be introduced from the outside, and a receptacle for letters provided with an opening through which they may be introduced from the outside, said receptacles being hinged together and so constructed that one forms a door to the other openable to permit access to both the periodicals and the letters, substantially as described, and for the purpose set forth. 2nd. In mail boxes, having a periodical receptacle, and a receptacle for letters, hinged together so that one forms a door for the other, the combination with the letter receptacle of the guard E, substantially as and for the purposes described.

**No. 34,757. Car Heating Apparatus.**

(*Appareil de chauffage des chars.*)

Daniel D. Sewall, Portland, Me., U. S., 23rd July, 1890; 5 years.

*Claim.*—1st. In a car heating apparatus, the circulatory heating system herein described, comprising two transverse supply pipes taking steam from the main steam pipe, two sets of longitudinal pipes, each having at or near the center a manifold or equivalent, as described, to which the transverse pipes are connected, and by which the steam is substantially simultaneously admitted to each pipe of its set, each pipe of each set declining from the manifold toward the end, two longitudinal return pipes declining from the ends toward the center, and manifolds or equivalents by which the longitudinal pipes are connected, and two transverse return pipes leading from the longitudinal return pipes, all substantially as and for the purposes set forth. 2nd. In a car heating apparatus, the circulatory heating system herein described, comprising two transverse supply pipes taking steam from the main steam pipe, two sets of longitudinal pipes, each having a manifold or equivalent to which the transverse pipes are connected, and by which steam is admitted to each pipe of its set, two longitudinal return pipes, and manifolds or equivalents by which the longitudinal pipes are connected and transverse return pipes leading from the longitudinal return pipes, substantially as described. 3rd. In a car heating apparatus, the main steam pipe, and two independent sets of circulating pipes communicating therewith, and a valve for each set controlling the flow of steam therethrough, said sets having independent outlets, substantially as described. 4th. In a car heating apparatus, the main steam pipe, and two independent sets of circulating pipes communicating therewith, and valves controlling the flow of steam therethrough, combined with an independent outlet valve for each set of circulating pipes, substantially as and for the purposes described. 5th. In a car heating apparatus, the valve case having the steam passage through it, and main steam pipe leading thereto, and valves a', a'', two independent supply passages 2, 3, and two independent return passages 4, 5, in said case, combined with two independent sets of circulation pipes leading from the said passages 2, 3, and returning to the said independent passages 4, 5, substantially as and for the purposes specified. 6th. In a car heating apparatus, the main steam pipe a, pipe c leading therefrom to the boiler, the valve o', and reducing valve o'', combined with the loop or branch o'', shunting the reducing valve o'', and having the valve o' therein, substantially as described.

**No. 34,758. Washing Machine.***(Machine à blanchir.)*

Robert Waugh, (administrator of the estate of William Waugh), Carleton Place, Ont., 23rd July, 1890; 5 years.

*Claim.*—1st. The combination, in a washing machine, of the slide D, having the slot *d*, with the pin *e*, of the block E, substantially as and for the purposes set forth. 2nd. The combination, in a washing machine, with the attachments D, and E, of the fluted or grooved bed G, made up of the transverse sections, or segments grooved or shaped in sets of four by means of the knife or shaper C, having the recesses H, H, H, H, and the terminal notches *f*, *f*, and attachment slots K, K, substantially as set forth.

**No. 34,759. Washing Machine.***(Machine à blanchir.)*

Jacob S. Shafer, Hamilton, Ont., 23rd July, 1890; 5 years.

*Claim.*—In a washing machine, the bell shaped machine A, threaded at I, having handle B, and braces C, the cap D, threaded at H, having the valve E, with its spring F, all formed, arranged and combined, substantially as and for the purpose hereinbefore set forth.

**No. 34,760. Windlass. (Treuil.)**

Thomas H. Bridges, Valley Mills, Texas, U.S., 24th July, 1890; 5 years.

*Claim.*—1st. The combination of a frame having the cross-bars near its lower and upper ends, the windlass-shaft journaled in the side pieces of the frame and having the balance wheels and the pinion, the operating gears mounted in one side of the frame and one of said gears meshing with said pinion, an upright mounted upon the lower front cross piece of the frame and having a guide pulley at its upper end, arms extending laterally from said upright, and a guide roller journaled in said arms, substantially as set forth. 2nd. The combination of the forwardly inclined upright 12, bifurcated at its upper end and having the guide pulley 17, journaled in its forked upper end, the spiral springs 20, depending from the upper end of said upright, the perforated board or platform secured at the lower ends of said coiled springs, and the hoisting rope, all arranged and operating, substantially as set forth. 3rd. As an improvement in hoisting apparatus, the combination of the frame, the windlass shaft journaled in the side pieces of the same, and having a balance wheel near each end and pinion at one end, operating gears journaled in one of the side pieces of the frame and one of said gears meshing with the said pinion, an upright having a guide pulley at its upper end and braces connecting its upper end with the frame, brackets extending laterally from said upright, a guide roller journaled in said brackets, the hoisting rope, and a spring mounted platform at the upper end of the upright, having a perforation for the passage of said hoisting rope, all arranged and operated, as and for the purpose set forth.

**No. 34,761. Stove Pipe. (Tuyau de poêle.)**

Thomas Davidson, Montreal, Que., 24th July, 1890; 5 years.

*Claim.*—1st. A stove pipe section, one of the meeting edges of which is provided with tongues, and the opposite edge with slots to receive such tongues, as set forth. 2nd. A stove pipe section, one of the meeting edges of which is provided with tongues, and the opposite edge with slots to receive such tongue, and both edges depressed or grooved, as set forth. 3rd. A stove pipe section, one of the meeting edges of which is provided with tongues formed by a U-shaped cut, and depressed so that they will project inwardly and longitudinally of the pipe section, and the opposite edge having transverse slots to receive such tongues, and both edges correspondingly depressed or grooved longitudinally, as shown and described.

**No. 34,762. Skillet. (Creuset.)**

Minnie T. Durgy, Sherman, Conn., U.S., 24th July, 1890; 5 years.

*Claim.*—1st. A skillet extension open at the top and bottom, and having a flared nose, substantially as shown and described. 2nd. A skillet extension having its bottom open and shaped to snugly fit nose, substantially as and provided with an open top having a flared nose, substantially as set forth. 3rd. In a skillet extension as depicted, the hooks formed from the lower end of said extension and forth, adapted to fit over the outer wall of the skillet, substantially as set forth.

**No. 34,763. Straw Cutter. (Hache-paille.)**

Cyrus N. Bell, St. George, Ont., 24th July, 1890; 5 years.

*Claim.*—1st. In a straw cutter, the reversing mechanism consisting of the combination of the pinion *b*, on the driving shaft B, the spur wheel E, and bevel pinion *d*, on the auxiliary shaft *c*, the box frame G, the bevel pinion *e*, shaft *f*, and pinion *i*, all constructed and arranged substantially as and for the purpose specified. 2nd. In a straw cutter, the movable spring dog lever O, carrying pinions *l*, *n*, *o*, spring *e*, and the intermediate pinion *m*, on the shaft *l*, by which the pinions *l* and *i* are engaged in direct action of the feed rollers *o* and *i*, engaged by the shifting of the feed rollers J and M, substantially as and for the purpose specified. 3rd. In a straw cutter, the combination of the feed roller shafts K, L, pinions *p*, *q*, bevel wheel *e*, shaft *f*, pinion *t*, spring dog lever H, stop O, pinions *l*, *m*, *n*, *o*, all constructed, substantially as and for the purpose specified.

**No. 34,764. Heel Protector for Rubber Boots and Shoes. (Protecteur des talons de chaussures de caoutchouc.)**

Edward F. Ayres and Timothy H. Foster, Danbury, Conn., U.S., 24th July, 1890; 5 years.

*Claim.*—1st. A protector for the heel of a rubber boot or shoe, consisting of a plate or core formed by casting, and adapted to be contained within the heel, said plate or core having one or more openings and projecting wearing points, substantially as set forth. 2nd. The herein described protector adapted to be contained within the heel of a rubber boot or shoe, consisting of a metal plate or casting having an opening, a raised rear portion provided with dove-tailed notches in its outer edge, and a stud projecting to the level of said portion, substantially as set forth. 3rd. A heel protector for rubber boots and shoes, consisting of a raised portion having extending therefrom a perforated plate provided with one or more wearing points, substantially as set forth.

**No. 34,765. Composition of Matter to be used in the Manufacture of Plaster and Cement. (Composition de matières pour servir à la fabrication du mortier et du ciment.)**

John F. Boynton, Caroline H. Boynton, Syracuse, N.Y., U.S., and Robert L. F. Strathy, Owen Sound, Ont., 24th July, 1890; 5 years.

*Claim.*—A compound composed of unburned ground lime stones, sand or ground sandstone, sulphate of lime, a compound silicate of lime and alumina, and silicate of lime, to which may be added cellulose substances, substantially in the proportions and for the purposes set forth.

**No. 34,766. Baby Jumper and Support to Assist a Child While Learning to Walk. (Chariot escarpolette d'enfant.)**

Alfred Burkholder, Toronto, Ont., 24th July, 1890; 5 years.

*Claim.*—1st. A table, supported on suitable legs provided with castor wheels, and having a hole made in its centre to receive a child, in combination with a detachable seat connected to a padded ring located within and below the hole in the table, and supported by suitable springs, substantially as and for the purpose specified. 2nd. A table, supported on suitable legs provided with castor wheels and having a hole made in its centre to receive a child, in combination with an elastically-supported ring located within and below the hole, and carrying a revolvable supplemental ring to which supporting straps are connected, substantially as and for the purpose specified. 3rd. A table A, provided with legs B, having castor wheels C placed on their feet, a bead *a* formed on the table A and surrounding the hole made in its centre, and a bead *b* surrounding the outer rim of the table A, a shelf K, hinged at *d* to the table A, and provided with hooked supports *e*, in combination with an elastically-supported padded ring E, supplemental ring G, supported on friction rollers H, and carrying the straps I, the whole being arranged, substantially as and for the purpose specified.

**No. 34,767. Twine and Method of Making the Same. (Ficelle et mode de la fabriquer.)**

William Deering & Co., Chicago, Ill., (assignees of Farmer R. Williams, Beloit, Wis.) U.S., 24th July, 1890; 5 years.

*Claim.*—1st. A twine, composed of twisted waterproofed paper, substantially as described. 2nd. Twine, composed of waterproofed paper twisted and compressed as described. 3rd. A twine, composed of waterproofed paper twisted and provided with a coating of wax. 4th. A twisted paper twine coated with wax. 5th. A twine, composed of twisted paper coated with wax and compressed. 6th. A paper twine, consisting of a paper strip coiled or folded and thereafter twisted, as shown and described. 7th. The method of manufacturing paper twine, consisting in saturating the paper strip with waterproofing material, twisting said strip into twine, coating the twine with wax, and finally compressing the waxed twine.

**No. 34,768. Electric Arc Lamp.***(Lampe électrique à arc.)*

Edwin C. Russell and Abram Hoffecker, Boston, Mass., U.S., 24th July, 1890; 5 years.

*Claim.*—1st. In an electric arc lamp, a positive disc carbon having a rotary motion imparted thereto automatically of the gravity of the carbon rod when the clutch is released, substantially as set forth. 2nd. In an electric arc lamp, a positive disc carbon to which an intermittent vertical and rotary motion is imparted automatically by the gravity of the carbon rod, in combination with a pencil carbon fixed vertically below the said disc carbon, substantially as set forth. 3rd. In an arc lamp, a positive disc carbon mounted upon a carbon holder carried by a carbon rod *a*, that is lowered when the clutch is released, said disc carbon having an intermittent rotary motion imparted to it when the rod *a*, is lowered by the teeth of the wheel *a*<sup>2</sup>, engaging with the teeth of the rack *a*<sup>1</sup>, in combination with a pencil carbon fixed vertically in the bottom of the lamps, substantially as set forth. 4th. In combination with an arc lamp, having a disc and pencil carbon, a holder for the pencil carbon consisting of an adjustable socket *a*<sup>2</sup> held in the bottom of the lamp by means of a clamp, whereby the position of the pencil carbon can be adjusted in position, and held in proper relation to the disc carbon. 5th. In combination with an arc lamp, having a disc carbon, a carbon holder consisting of a spindle having a screw threaded enlargement 1, a conical projection 2, and a split thimble 4, having a flange 5, adapted to fit the screw threaded enlargement, whereby the thimble can

be expanded to fit the hole in the carbon disc, substantially as set forth. 6th. In an arc lamp, the combination of the rack  $a^1$ , with the toothed wheel  $a^2$ , secured to the shaft  $a^3$ , upon which the disc carbon is mounted for imparting a rotary motion thereto, substantially as set forth.

### No. 34,769. Electric Motor. (*Moteur électrique.*)

The Giant Electric Motor Company, (assignee of William H. Chapman), Portland, Me., U.S., 24th July, 1890; 5 years.

*Claim.*—1st. In a multipolar motor, the combination of a plurality of groups of equal number of armature magnets, arranged in a circle about a common center, the magnets in each group being located equidistant from each other about said circle, and connected permanently together as one magnet, and the several groups being connected to each other in succession, a commutator having as many segments as there are armature magnets and arranged in corresponding groups, the segments in each group being connected together as one, and each group of segments being connected with corresponding points of junction of the several groups of armature magnets, and a field magnet composed of a series of electric helices and having a plurality of both north, and south pole ends, the cores and pole ends of said helices being each made up of a series of plates which extend the whole length of the core to the pole end, and having its pole end expanded laterally, and curved tangentially to a plane at right angles to the axis of the revolvable portion of the motor. 2nd. In an electric motor, an armature having a series of magnet cores arranged with their magnetic axes parallel to the axis of revolution of the revolvable portion of the motor, and mounted in supports made of vulcanized fiber, or other suitable insulating material, whereby the several cores are insulated from each other, so that if the insulation of the wire of one coil is defective it shall not effect the other coils.

### No. 34,770. Purifying Sewage and Other Waters, and Deodorizing and Utilizing the Solids and Excreta. (*Purification des eaux des égouts et autres et utilisation des solides et excréments.*)

Harold Jagger, Qu'Appelle Station, N.W.T., (assignee of Benjamin Jagger, Henry B. Jagger and Arthur Thurley, Leeds, Eng.), 24th July, 1890; 5 years.

*Claim.*—The use of carbonized refuse, substantially in the manner and for the purpose as herein described.

### No. 34,771. Egg Case. (*Boîte à oeufs.*)

Robert A. Marr, James P. Jeffries and Granville S. P. Triplett, (assignees of Thomas Marr), Warrenton, Va., U.S., 26th July, 1890; 5 years.

*Claim.*—1st. The combination, substantially as hereinbefore set forth, of the outside box or casing, and the egg supports, each consisting of side pieces, front and rear connecting pieces, a sheet F, partitions resting on said sheet, and a perforated sheet G, above the sheet F, supported on the partitions. 2nd. The combination, substantially as hereinbefore set forth, of the outside box or casing and the egg supports, each consisting of a frame made up of side pieces, and front and rear pieces cross strips  $E^1$  and wires  $E^2$  arranged at right angles thereto, a sheet of card-board or similar material F resting on said strips, the partitions  $E^1$ , supported on the card-board, the perforated sheet G, supported on the partitions, and the perforated sheet  $G^1$  into which the tops of the eggs project, and on which the wires  $E$  bear. 3rd. The combination, substantially as hereinbefore set forth, of the outside box or casing, a frame consisting of front and rear pieces  $E^1$ ,  $E^2$ , a sheet of card-board F, clamped between the pieces  $E^1$ ,  $E^2$ , the partitions  $E^1$ , resting on said card-board, the sheet G having circular radial slitted openings into which the bottoms of the eggs project, and the sheet  $G^1$  having radial slitted openings into which the tops of the eggs project.

### No. 34,772. Compensating Pump Rod.

(*Tige de pompe à compensation.*)

The United States Wind Engine and Pump Company, (assignee of William H. Burnham and John H. Miller), Batavia, Ill., U.S., 26th July, 1890; 5 years.

*Claim.*—1st. In cushioned pump rods, the coupling straps A, and C, the pump rods B, and D, and spring E, within the looped ends of the pump rod couplers, substantially as specified and shown. 2nd. In cushioned pump rods, the coupling straps A, and C, spring E, washer F, and set screws G, substantially as specified and shown.

### No. 35,773. Tool Cutting Machine.

(*Machine à tailler les outils.*)

Franklin D. Dunnington, (assignee of Floyd G. Smith), Buckhannon W.V., U.S., 26th July, 1890; 5 years.

*Claim.*—1st. In a machine, substantially as described, a die formed of sections F, F', each having at one edge, a cutting edge G, and a fulcrum point  $f$ , and provided with a slot for the clamping screw, substantially as and for the purposes set forth. 2nd. In a machine, substantially as described, the combination of the framing, a die formed in two sections, each having at one edge a cutting edge G, and a fulcrum point  $f$ , and clamp devices by which to secure such sections in their various adjustments, substantially as set forth. 3rd. The improved machine, herein described, comprising the framing, the improved punch having its lower end curved from front to rear, and grooved along said curved end to form cutting edges, at the opposite sides thereof, the devices for supporting and operating such punch and the die, substantially as set forth. 4th. The combination, in a machine, substantially as described, of the framing, the die formed of sections, each of which is provided with a cutting edge G, and a fulcrum point  $f$ , the clamp devices for securing such sections to the

framing, the punch provided at the opposite sides of its lower end with cutting edges, and the devices for supporting and operating the punch, all substantially as and for purposes set forth.

### No. 34,774. Stove Lid. (*Couvercle de poêle.*)

Robert J. Quigley, Toronto, Ont. (assignee of Andrew B. Lipsey, West Hoboken, N.J., U.S.), 26th July, 1890; 5 years.

*Claim.*—The combination of a stove lid, having a hub and ribs on its under side, the ribs decreasing in projection toward the ends, and a plate lapping over the edges of the ribs and conforming longitudinally to the varying projection thereof, the said plate being secured to the hub and having flanges to fit against the ribs, the lid and the plate having a passage for air, substantially as specified.

### No. 34,775. Hinge. (*Penture.*)

Sumner F. Streeter and Gorham D. Williams, Greenfield, Mass., U.S., 26th July, 1890; 5 years.

*Claim.*—1st. The screen door or blind hinge, comprising the hollow screw, a spring encircled arm or shank inclosed by said screw, a pintle secured thereon, and the leaf having a cam or eccentric arm or shank fitting upon the pintle and bearing against the head or outer end of the screw, substantially as and for the purpose set forth. 2nd. The screen door or blind hinge, comprising the hollow screw, having an angular aperture in its head or outer end, an arm cylindrical for the greater portion of its length, and provided with an angular portion fitting said aperture of the screw-head, a pintle secured thereon at the outer end, a disk thereon at its inner end, a spring encircling said pintle arm or shank and bearing against said disk and against the inner portion of the hollow screw, and the leaf having an apertured cam or eccentric arm fitting upon said pintle and resting against the screw-head, substantially as specified.

### No. 34,776. Sled. (*Traineau.*)

Charles J. Fendel, Butte, Mont., U.S., 29th July, 1890; 5 years.

*Claim.*—1st. In a sled, the combination of the platform, the forward running gear, a vertical shaft journaled in suitable bearings beneath said platform and rigidly connected to said forward running gear, and a bracket secured beneath said platform depending therefrom and supporting said shaft, and forming a bearing in which the latter turns, substantially as described. 2nd. In a sled, the combination of a platform, an upright shaft journaled therein, and a brace or hound loosely placed on said shaft and rigidly secured beneath the rear end of said platform, substantially as described. 3rd. In a sled, a platform having a journal box, a runner, an upright shaft journaled at its upper end in said box, and secured at its lower end to turn with the runner, a bracket secured to the platform, supporting said shaft, and constituting a bearing therefor, and a brace loosely placed on the lower end of said shaft and secured to the rear part of said sled, substantially as described. 4th. In a sled, the combination of draft lines, levers keyed on a rock shaft operating in the forward runner, brake shoes on the rear runners, and suitable connections between said levers and said brake shoes, whereby the latter operate to retard the sled, substantially as described. 5th. In a sled, the combination of the draft lines, levers to the ends of which said lines are connected, connections attached to the opposite ends of said levers, suitable bearings beneath the platform, over which said connections run, and brake shoes pivoted to the rear running gear, to which the rear ends of said connections are secured, substantially as and for the purpose described.

### No. 34,777. Vaporiser for Disinfecting, Perfuming and Cooling. (*Appareil à désinfecter, parfumer et rafraîchir.*)

Justus O. Woods, New York, N.Y., U.S., 29th July, 1890; 5 years.

*Claim.*—1st. The combination, in a closed evaporating apparatus, of a receptacle, having orifices  $c$ ,  $c'$ , communicating with its interior thereof, with a trough having an evaporator connected with it, substantially as hereinbefore set forth. 2nd. In an evaporating apparatus, the combination of the receptacle, having orifices  $c$ ,  $c'$ , communicating with the interior thereof, with the trough, having an evaporator connected with the trough, and rollers  $b$ ,  $b'$  to regulate the quantity of fluid to be drawn out of the trough, substantially as specified. 3rd. The combination, with the closed fluid reservoir trough beneath, the discharge aperture near the bottom of said reservoir and within the evaporating trough, the evaporating strips and the flange for retaining the conducting evaporating strips in said trough, all combined and arranged substantially as and for the purposes specified. 4th. The combination of the covered reservoir, provided with the discharge aperture  $c'$ , the evaporating trough, provided with the slitted ends of the evaporating apron to regulate the quantity of fluid for evaporation, substantially as specified.

### No. 34,778. Sectional Hot Water Heater.

(*Calorifère à eau en sections.*)

Richard Bigley, Toronto, Ont., 29th July, 1890; 5 years.

*Claim.*—1st. A hot water heater, composed of a series of sections, preferably rectangular in shape, and having smoke flues formed between the plates of the section, and a water space between each section, the said water spaces being connected together by vertical passage ways, arranged substantially as and for the purpose specified. 2nd. A hot water heater, composed of a series of sections, preferably rectangular in shape, and having longitudinal smoke flues formed between the plates of the section, and a water space formed between each section, the said water spaces being connected together by suitable passage-ways, arranged as herein described, and extending from a point near the grate to the crown of said heater, substantially as and for the purpose specified. 3rd. A hot water heater, composed of a series of sections, preferably rectangular in shape and having smoke flues formed between the plates of the section, and a

water space between each section, connected together by suitable vertical passage-ways, in combination with a fire-box located at each end of the heater and connected with the smoke flues passing through the sections, substantially as and for the purpose specified. 4th. A hot water heater, composed of a series of sections, preferably rectangular in shape, and having smoke flues formed between the plates of the section, and a water space formed between each section, the said water spaces being connected together by suitable vertical passage-ways, in combination with two fire boxes located at each end of the heater, the said fire boxes being separated by an air space through which the smoke and heated gases pass from the fire boxes on their way to the smoke-flues, arranged, as described, in the sections of the heater. 5th. A hot water heater, having two fire boxes separated by an air space extending to a point where the smoke and heated gases pass into the flues arranged in the heater, in combination with adjustable dampers placed between the air space and the ash pits of the fire boxes, arranged substantially as and for the purpose specified. 6th. A hot water heater, composed of a series of sections, preferably rectangular in shape, and having smoke flues formed between the plates of the sections, and a water space formed between each section, the said water spaces being connected together by suitable vertical passage ways extending from a point near the grate to the crown of the fire-box, in combination with two fire boxes separated by an air space extending upwardly from the bottom of the ash pit, from which it is separated by adjustable dampers, arranged substantially as and for the purpose specified. 7th. A hot water heater, composed of a series of sections, having smoke flues formed in each section and connecting with each other, the said sections being jointed together so as to form the water space between each section, substantially as and for the purpose specified.

### No. 34,779. Mortise Lock. (*Serrure à mortaise.*)

Osborne R. Cooke, Salem, Ohio, U.S., 29th July, 1890; 5 years.

*Claim.*—1st. In a lock, the combination with a case, a spring-actuated sliding bolt, and tumbler for locking the bolt, of a locking device, adapted to automatically engage the bolt when the latter is withdrawn, and adapted to automatically release the bolt when the door is closed, substantially as set forth. 2nd. In a lock, the combination with a case, having lugs on its inner wall, a slide bolt and tumblers having notches therein adapted to receive the lugs on the inner wall of the case, whereby the tumblers are locked, of a locking device adapted to automatically engage the bolt when the latter is withdrawn, and adapted to automatically release the bolt when the door is closed, substantially as set forth. 3rd. The combination, with a case, a spring actuated slide bolt therein, and a tumbler or tumblers for locking the bolt, of a spring-actuated pawl, one end of which extends into the casing to engage the bolt when withdrawn, and the other end out of the casing, and a catch plate having a lug thereon adapted to strike the pawl when the door is closed, in order to automatically disengage the bolt, substantially as set forth. 4th. The combination, with a two-part cylindrical case, having flattened bearings therein, a face plate rigidly secured to one part, and means for securing the parts of the case together, of a slide bolt resting on the bearings, said bolt having an open centre and a spring for forcing the bolt forward, a spring locking pawl, loose sliding tumblers, a slide plate which engages the bolt, and a sleeve bearing a projection thereon, adapted to force the plate and bolt backward, and a catch plate having a lug thereon adapted to strike the spring locking pawl when the door is closed to automatically throw the latter outward, substantially as set forth. 5th. The combination, with a case and a spring-actuated slide bolt therein, of a spring-actuated pawl, one end of which extends into the casing to engage the bolt when withdrawn, and the other end out at one side of the casing and terminating flush with the end of the lock case, and a catch plate having a lug thereon adapted to strike the pawl when the door is closed in order to automatically disengage the bolt, substantially as set forth.

### No. 34,780. Automatic Signal and Switch Controlling Apparatus and Verifying Mechanism. (*Appareil automatique de contrôle des signaux et des aiguilles et appareil vérificateur.*)

Edwin R. Gill, Kansas, Mo., U.S., 29th July, 1890; 5 years.

*Claim.*—1st. The combination of an automatic railway switch and visual signal, and means, as described, to connect said switch with an escapement mechanism, an electric circuit and an escapement device provided with a predetermined combination of electric contacts, one alone of which renders the switch or signal operative, and an electro-magnet whereby said device is restored to normal position when a wrong combination of pulsations operate on said escapement device, substantially as described. 2nd. The combination of an automatic visual signal, an electric escapement thereon, and a verifying message wheel 51 also thereon, said wheel being provided with a predetermined combination of electric contacts arranged to transmit a verifying message by which the position of the signal can be determined, a second electric escapement device or lock at the signal station provided with a predetermined combination of electric contacts, a transmitting key at the dispatching station, and an electric circuit, substantially as and for the purpose described. 3rd. The combination of an automatic signal, an electric escapement thereon, a verifying message wheel upon said signal provided with a predetermined combination of electric contacts, arranged to transmit a message, a second electric escapement device or lock provided with a predetermined combination of electric contacts, a transmitting key, and a recording instrument at the dispatching station, and an electric circuit, whereby an electric message sent to a station automatically operates a signal at said station through the escapement thereon, and the fact that said message has been properly received and executed is returned by means of the verifying message

wheel and recorded at the dispatcher station, substantially as described. 4th. The combination, with a series of signals upon a main line, of electric combination locks at or connected with local circuits for each of said locks, having a movable part provided with contacts arranged with reference to a given series of long and short impulses, a separate contact thereon closing said local circuit by which the signal is brought into action, and a device automatically moved by or with the signal, and having a series of circuit-closing surfaces arranged to transmit a verifying message over the main line, substantially as described. 5th. The combination, with a series of signals upon a main line, of an electric combination lock at each signal, having a series of contacts arranged with reference to a given series of electrical impulses, and a final contact closing the signal operating circuit, a movable part having a series of alternating circuit-closing portions arranged to communicate the position of the signal at each shift, and a register recording said message, substantially as described. 6th. The combination, with a series of signals upon a main line, an electric combination lock at each signal having a movable part provided with contacts arranged with reference to a predetermined series of long and short electrical impulses over the main line, a final contact closing the signal operating circuit, a movable device moving with or actuated by the signal and provided with a series of points, or electrical contacts of such length as to represent an intelligible message on the Morse system, a Morse register receiving and recording such message, and an automatic time mechanism having means for printing the hour upon the strip coming from the Morse resistor, substantially as described. 7th. The combination, with a series of signals on a main line, each consisting of a shaft, or similar movable portion actuated by suitable mechanical means, of a spring impelled armature having a detent at one end and a hook at the other, an electro-magnet attracting said armature, an electric lock mechanism having a movable part provided with a series of contacts arranged with reference to a given series of long and short electrical impulses over the main line, a final contact closing the circuit of said electro-magnet, a movable device set in motion by the release of the signal, and having a series of connecting surfaces arranged to represent a message showing the position to which the signal moves at each release, a brush having electrical contacts thereon, a register recording the message, an automatically operated hour disk having impression type, and means for forcing the paper strip coming from the register against said type, substantially as described.

### No. 34,781. Billiard Table Rail and Cushion. (*Rail et bande de table de billard.*)

Charles G. Brockway, Pine Bluff, Ark., U.S., 29th July, 1890; 5 years.

*Claim.*—1st. The washer or spacing piece A, combined with the rail E, having cushion D, and vertical slot e, the slate bed F, nut H, embedded in the same, and the horizontal clamping bolt B, fastening the rail and slate bed together on opposite sides of piece A, substantially as described. 2nd. The washer or spacing piece A, combined with the rail E, having cushion D and vertical slot e, the slate bed F, having horizontal bolt hole with nut H embedded therein, the clamp-bolt B, fastening the rail and bed together upon opposite sides of the spacing piece A, the wooden frame G, and the vertical set screw C, tapped through the wooden frame and the slate bed and bearing against the lower side of the cushion, substantially as and for the purpose described.

### No. 34,782. Door Hanger.

(*Suspension des portes.*)

John Schlutter, Baltimore, Md., U.S., 29th July, 1890; 5 years.

*Claim.*—1st. The combination of a door 6, an upright post 7, the lever 10 fulcrumed to said post and provided with a slot 12 in one end thereof, the lever 14 fulcrumed to said post and provided with a pin 13 in one end thereof, the said pin 13 free to move in said slot 12, the bar 16, one end of which is pivoted to the lever 14, and the other end thereof pivoted to the said door, and the bar 17 one end of which is pivoted to the lever 10, and the other end thereof to the said door, the said bar 17 being fulcrumed to the said bar 16, for the purpose set forth. 2nd. The combination of the door 6, the upright post 7, the angle plate 8 secured to said post, the angle plate 9 secured to said post, the lever 10 fulcrumed to said plate 8 and provided with a slot 12 in one end thereof, the lever 14 fulcrumed to said plate 9 one end thereof engaging with the said slot 12, the bar 16 one end of which is pivoted to the lever 14, and the other end thereof pivoted to the said door, and the bar 17 one end of which is pivoted to the lever 10, and the other end thereof to the said door, the said bars 16 and 17 being fulcrumed one to the other, for the purpose set forth. 3rd. The combination of the door 6, the upright post 7, the lever 10 fulcrumed to said post and provided with a slot 12 in one end thereof, the lever 14 fulcrumed to said post, one end whereof engages with the said slot 12, the bar 16, one end of which is pivoted to the lever 14, and the other end thereof pivoted to the said door, the bar 17, one end of which is pivoted to the lever 10, and the other end thereof to end of which is pivoted to the lever 10, and the other end thereof to the said door, a fulcrum pin 20 provided on said bar 17, and a slot 21 provided on said bar 16 in which engages the said fulcrum pin 20, for the purpose set forth. 4th. The combination of a door 6, an upright post 7, a bent lever 10 fulcrumed to the said post and provided with a curved slot 12 in the short arm 11 thereof, the bent lever 14 fulcrumed to said post and provided with a pin 13 in the short arm 15 thereof, which engages with the said curved slot 12, the bar 16 one end of which is pivoted to the lever 14, and the other end thereof pivoted to the said door, and the bar 17, one end of which is pivoted to the lever 10, and the other end thereof to the said door, the said bar 16 being fulcrumed to the said bar 17, for the purpose set forth.



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

1863. THE HALL STEAM PUMP COMPANY, (assignee), 2nd 5 years of No. 22,049, from the 9th day of July, 1890. Improvements in Duplex Steam Pumps, 2nd July, 1890.
1864. A. M. CHAMBERS and T. SMITH, 2nd 5 years of No. 22,259 from the 20th day of August, 1890. Improvement on Coke Ovens, 2nd July, 1890.
1865. S. C. ROGERS, 2nd 5 years of No. 22,042, from 9th day of July, 1890. Improvement in Machines for Filing Saws, 3rd July, 1890.
1866. J. JOUBERT, 2nd 5 years of No. 21,989, from 3rd July, 1890. Improvement on Potato Sieves, 3rd July, 1890.
1867. THE NATIONAL WATER PURIFYING COMPANY, (assignee), 2nd 5 years of No. 22,160, from 21st July, 1890. Improvement in Means for Purifying Water by Aeration, 4th July, 1890.
1868. J. A. McFERRAN, 2nd 5 years of No. 22,237, from 30th day of August, 1890. Improvements on Molding and Compressing Machines, 4th July, 1890.
1869. C. W. WELD, 2nd 5 years of No. 22,010, from 4th July, 1890. Improvement in Wire Fences, 4th July, 1890.
1870. M. E. HERBERT, 2nd 5 years of No. 22,024, from 8th July, 1890. Improvements in Base Burning Steam Boilers, 7th July, 1890.
1871. A. HARRIS, SON & CO., (assignee), 2nd 5 years of No. 22,095, from 10th October, 1888. Improvement in Binding Harvesters, 8th July, 1890.
1872. J. STOTT, 2nd 5 years of No. 22,073, from 14th July, 1890. Improvement connected with Gas Governors or Regulators, 8th July, 1890.
1873. H. WILLIAMS, 2nd 5 years of No. 22,071, from 14th July, 1890. Improvement in Flat Roofs for Buildings, 9th July, 1890.
1874. S. J. LANCASTER, 2nd 5 years of No. 22,142, from 29th July, 1890. Composition of Matter to be used as a Liniment for the Cure of Sciatica, Neuralgia, Gout, and Inflammatory Rheumatism, and Diseases of similar origin and nature, 9th July, 1890.
1875. THE WILLIAMS MANUFACTURING COMPANY, (assignee), 2nd 5 years of No. 22,180, from 3rd August, 1890. Improvements in Shuttles for Sewing Machines, 12th July, 1890.
1876. E. L. FENERTY, 2nd 5 years of No. 22,089, from 15th July, 1890. Improvement on Brush Making Machines, 12th July, 1890.
1877. THE ONTARIO WIRE FENCING COMPANY, (assignee), 2nd 5 years of No. 22,115, from 20th July, 1895. Improvement in Wire Netting Machines, 12th July, 1890.
1878. A. CUNNINGHAM, 2nd and 3rd 5 years of No. 22,177, from 1st August, 1895. Improvement on Oscillating Engines, 14th July, 1890.
1879. J. O'FLAHERTY, 2nd 5 years of No. 22,367, from 2nd September, 1890. Composition of Matters to be Enclosed in a belt, and Applied Externally, for the Relief and Permanent Cure of all Kinds of Rheumatism and Kindred Affections, the title whereof is "The Royal Rheumatic Belt," 14th July, 1890.
1880. A. J. LAURENCE, L. R. ROBINSON and H. M. HOVEY, (assignee), 2nd 5 years of No. 22,104, from 18th July, 1890. Improvements in Sand Bands for Vehicle Axles, 18th July, 1890.
1881. D. ABREY, 3rd 5 years of No. 11,602, from 4th August, 1890. Improvement in Running Machinery and the Mechanical Movement thereof, 18th July, 1890.
1882. F. A. R. GUNTHER, 2nd 5 years of No. 22,134, from 23rd July, 1890. Improvement in Piano Fortes, 21st July, 1890.
1883. W. MATHER, 2nd and 3rd 5 years of No. 22,188, from 4th August, 1890. Process for Bleaching Cotton Yarns and Fabrics, 24th July, 1890.
1884. H. M. WHITNEY, 2nd 5 years of No. 22,406, from 7th September, 1890. Improvements in the Manufacture of Shovels, 26th July, 1890.
1885. W. ROBINSON, 3rd 5 years of No. 11,607, from 4th August, 1890. Improvement in Electric Signaling Apparatus for Railways, 26th July, 1890.
1886. W. STEVELY, 2nd 5 years of No. 22,232, from 10th August, 1890. Improvement in Milk Cans, 29th July, 1890.
1887. W. A. MARTIN, 2nd 5 years of No. 22,172, from 1st August, 1890. Improvement in Wheel Harrows, said improvement being also applicable to divers other kinds of wheels, 31st July, 1890.

## JULY LIST OF TRADE MARKS.

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

3759. THE LALANCE & GROSJEAN MANUFACTURING COMPANY, of New York, N.Y., U.S.A. Enamelled Sheet Metal Utensils, 5th July, 1890.
3760. THE METALLIC ROOFING COMPANY OF CANADA, LIMITED, of Toronto, Ont. Metallic Shingles, 9th July, 1890.
3761. R. SCHIFFMANN, of St. Paul, Minnesota, U.S.A. Medicine, 9th July, 1890.
3762. BOSWELL & BROTHER, of Quebec, Que. Malt Beverages, 9th July, 1890.
3763. HENRY WADE, of Kingston, Ont. Medicinal Compound, 9th July, 1890.
3764. W. J. BLAIR, of Toronto, Ont. Franklin's Electric Inhaler, 11th July, 1890.
3765. FINLAYSON, HIRCSH & COMPANY, of Montreal, Que. Whiskey, 14th July, 1890.
3766. } ORATOR F. WOODWARD, of Leroy, County of Genesee, N.Y., U.S.A.  
           } Kemp's Balsam
3767. } Lane's Family Medicine, 14th July, 1890.
3768. DANIEL BERNARD, of Bernard's Brewery, Edinburgh, Scotland. Ale, 15th July, 1890.
3769. } C. G. HOBSON & COMPANY, of Vancouver, B.C.  
 3770. } Canned Salmon, 17th July, 1890.
3771. THOMAS WILLIAM TWYFORD, of Hanley, County of Stafford, England. Water Closet Basins, 18th July, 1890.
3772. } SCHULKE & MAYR 9 Schaarthor, Hamburg, Germany.  
 3773. } Disinfectants, 18th July, 1890.
3774. CHARLES HOLLAND, of Montreal, Que. Houses, 19th July, 1890.
3775. D. RITCHIE & COMPANY, of Montreal, Que. Cigarettes, Tobaccos and Cigars, 21st July, 1890.
3776. AUGUSTUS HOMER MOORE, of Champlain, County of Clinton, N.Y., U.S.A. Medicinal Preparation, 22nd July, 1890.
3777. JOHN E. HETHERINGTON, of New York, N.Y., U.S.A. Toilet Masks, 23rd July, 1890.
3778. DELAFIELD McGOVERN & COMPANY, of New York, N.Y., U.S.A. Canned Fish, Fruit, Vegetables and Soup, and Dried Fruit and Vegetables, 23rd July, 1890.
3779. MARIE EDMOND DANSEREAU, de Montréal, Que. Trottoirs et Planchers en ciment ou beton, 25 Juillet, 1890.
3780. H. CORBY, of Belleville, Ont., Rye Whiskey, 25th July, 1890.
3781. LOUIS OVIDE GROTHÉ of Montreal Que. Cigars, 28th July, 1890.
3782. THE BUSHNELL OIL COMPANY, LIMITED, of London, Ont. Illuminating Oil, 30th July, 1890.

# COPYRIGHTS.

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

5439. COME AWAY TO JESUS (musical composition). Judson H. Morse, Halifax, N. S. 4th July, 1890.
5440. BARTLETT'S ADVERTISING BASE BALL GAME (chart). W. L. Bartlett, St. John, N. B., 4th July, 1890.
5441. FAUTES A CORRIGER (livre). Alphonse Lusignan, Ottawa, Ont., 7 Juillet, 1890.
5442. IN LOVE'S DIVINE CONFIDING. Words by L. A. Morrison. Music by Louie Mitchell. Llewellyn Abraham Morrison, Toronto, Ont., 8th July, 1890.
5443. I DARE TO LOVE THEE. Words by Marie Corelli. }  
Music by F. Paolo Tosti. }
5444. A SONG OF LIFE. Words by Clifton Bingham. Music by }  
F. Paolo Tosti. }  
The Anglo-Canadian Music Publishers' Association, L'd., London, England, 9th July, 1890.
5445. DOT AND DASH. Waltz. By Frank E. Fisher, Hazel Hill, N.S., 10th July, 1890.
5446. A WOMAN'S HEART. By Mrs. Alexander (book). }
5447. HER LAST THROW. By Mrs. Hungerford (book). }
- John Lovell & Son, Montreal, Que., 10th July, 1890.
5448. THE TWO PAULS, or THE WAY OF THE CROSS AND THE WORLDLY PATHWAY. By M. E. D. Mrs. E. Duncan, Collingwood, Ont., 11th July, 1890.
5449. C. W. IRWIN'S HAND BOOK TO THE CANADA TARIFF. Charles Warren Irwin, Toronto, Ont., 11th July, 1890.
5450. PETIT MANUEL DU CULTIVATEUR. Par Edmond Rousseau, C. Darveau, Quebec, Que., 11 Juillet, 1890.
5451. GRAND MARCH in honour of the Centennial of King's College, Windsor, N.S. By R. G. Allison, Yarmouth, N.S., 12th July, 1890.
5452. SEVENTY YEARS OF NEW BRUNSWICK LIFE. Autobiographical Sketches. By William T. Baird. Woodstock, N.B., 14th July, 1890.
5453. BRITON'S TRUMPET CALL. Caleb Platt Simpson, Leamington, Ont., 16th July, 1890.
5454. RESTHAVEN and RIDLEY COLLEGE, given out under the title of CONGREGATIONAL TUNES. Angelo M. Read, St. Catharines, Ont., 16th July, 1890.
5455. THE HOME MADE COOK BOOK. Revised Edition. William Bryce, Toronto, Ont., 16th July, 1890.
5456. PLAN OF LETHBRIDGE. Alfred Holloway, Winnipeg, Man., 18th July, 1890.
5457. N. HAYES' NATIONAL GUESSING, CALCULATING, ESTIMATING, COMPUTING AND ENUMERATING CHART ON THE OFFICIAL CENSUS OF 1891 and 1901 IN CANADA. Newlands Hayes, Windsor, Ont., 18th July, 1890.
5458. A TRUE FRIEND. By Adeline Sergeant (book). John Lovell & Son, Montreal, Que., 18th July, 1890.
5459. I WHISTLE AND WAIT FOR KATIE. Words by Michael Nolan. Music by John S. Baker. The Anglo-Canadian Music Publishers' Association, (L'd.), London, England, 19th July, 1890.
5460. THINE FOR EVER. Words by Rosa Carlyle. Music by Leigh Kingsmill. Phillips and Page, London, England, 21st July, 1890.
5461. BELL TELEPHONE COMPANY OF CANADA, HAMILTON AND DUNDAS EXCHANGES, SUBSCRIBERS' DIRECTORY, ONTARIO DEPARTMENT, JULY, 1890. The Bell Telephone Company of Canada, Montreal, Que., 21st July, 1890.
5462. PLAN OF THE TOWNS OF WINDSOR, WALKERVILLE AND SANDWICH, AND THEIR VICINITY, INCLUDING A PORTION OF THE CITY OF DETROIT, STATE OF MICHIGAN, U.S.A. Scale, 640 feet to 1 inch. George McPhillips, Windsor, Ont., 21st July, 1890.
5463. REV. DR. TALMAGE'S TRIP TO THE HOLY LAND (book). Robert A. H. Morrow, St. John, N.B., 22nd July, 1890.
5464. TENNYSON'S POEMS, so far as regards the following poems, namely: "Tithonus," "Looksley Hall," "Godiva," "The Day Dream," "Amphion," "St. Agnes' Eve," "Sir Galahad," "Edward Gray," "Will Waterproof's Lyrical Monologue," and those under the head of "Demeter and other Poems." Macmillan & Co., London, England, 22nd July, 1890.
5465. A FEDERAL PARLIAMENT OF THE BRITISH PEOPLE (book). By Arch. McGoun, M.A., B.C.L., Montreal, Que., 24th July, 1890.

5466. FRATERNAL ENDOWMENT RATES OF LIFE INSURANCE (leaflet). John D. Houston, Cornwall, Ont., 24th July, 1890.
5467. WARREN HASTINGS. An Essay, by Lord Macaulay,  
 5468. NOTES ON XENOPHON'S ANABASIS. Book III. By John Henderson. }  
 The Copp, Clark Co., L'd., Toronto, Ont., 26th July, 1890.
5469. TONTINE ROTATION TABLE. No. 2. }  
 5470. " " " No. 3. } prints.  
 5471. " " " No. 4. }  
 5472. " " " No. 5. }  
 Raymond Walker, Toronto, Ont., 26th July, 1890.
5473. GLIMPSES OF CANADIAN SCENERY. By Boorne and May. (Souvenir Album.)  
 William Hanson Boorne, Calgary, Alberta, N.W.T., 26th July,  
 1890.
5474. LOVELL'S MONTREAL DIRECTORY, 1890-91. John Lovell & Son, Montreal,  
 Que., 28th July, 1890.
5475. IN DARKEST AFRICA, or the Quest, Rescue and Retreat of Emin, Governor of  
 Equatoria. By Henry M. Stanley. In two volumes. Sampson,  
 Low, Marston, Searle and Rivington, L'd., London, England,  
 31st July, 1890.
5476. JACQUES CARTIER, Sa Vie et ses Voyages. Par Joseph Pope, Ottawa, Ont., 31st  
 July, 1890.



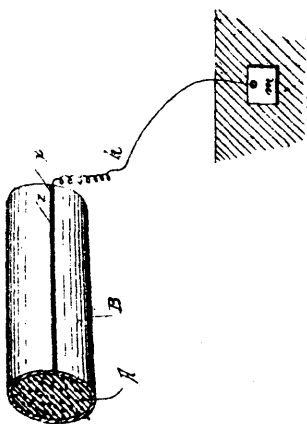
# THE CANADIAN PATENT OFFICE RECORD

## ILLUSTRATIONS.

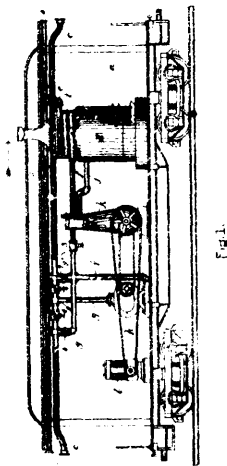
Vol. XVIII.

JULY, 1890.

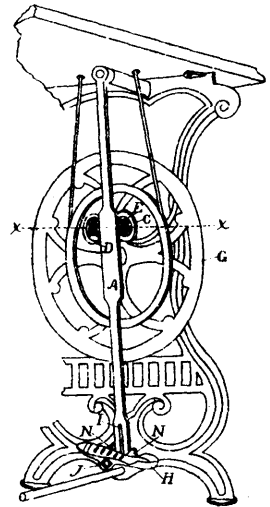
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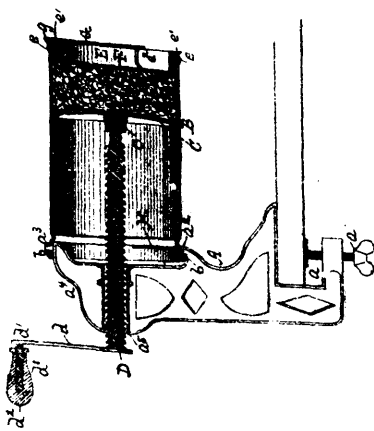
34598 Garland's Covering for Electric Cables.



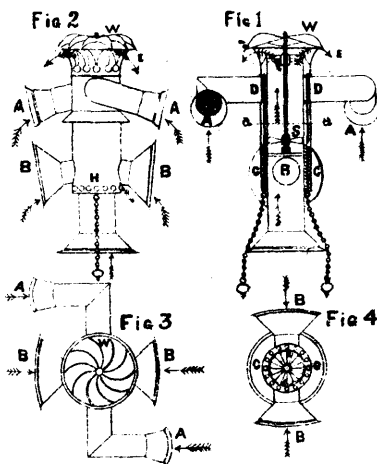
34599 Kimpton's Apparatus for Heating, or Cooling and Ventilating Cars.



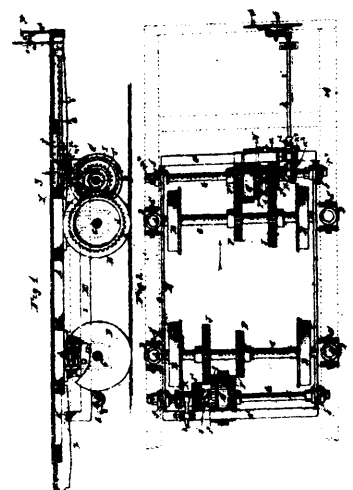
34600 Cochran's Bar Treadle.



34601 Taylor's Combination Press.



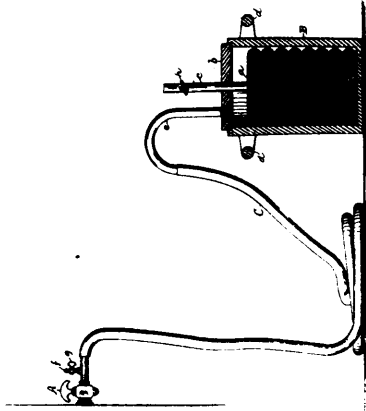
34602 Hunt's Ventilator and Foul Air Exhauster.



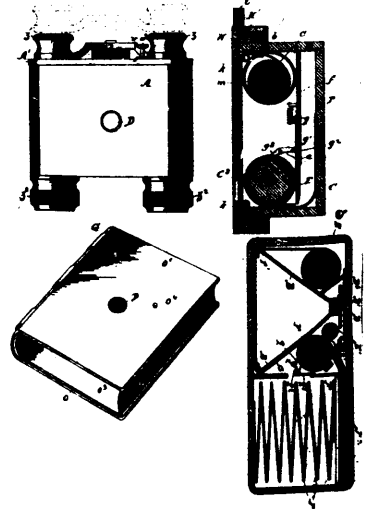
34604 Ross' Car Brake, etc.



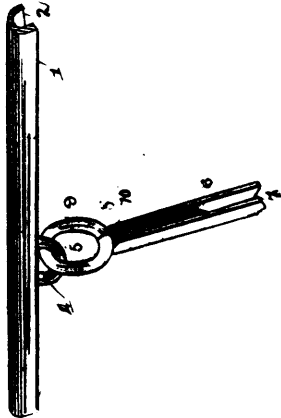
34605 Taylor's Gas Burner.



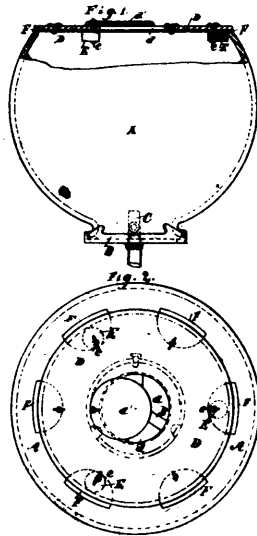
34606 Jones' Process of Annealing Metals.



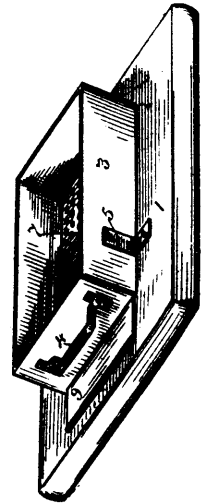
34607 Whitney's Photographic Camera.



34608 Sprague's Umbrella Frame.



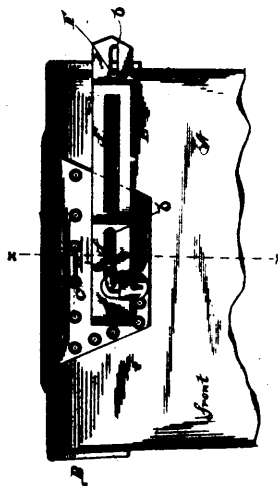
34609 Gardner's Gas Lamp.



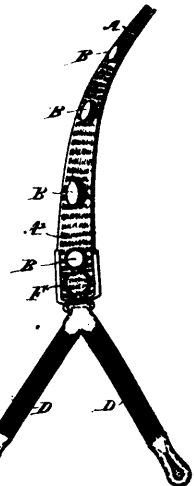
34610 Bassman's Machine for Making Chocolate Wafers.



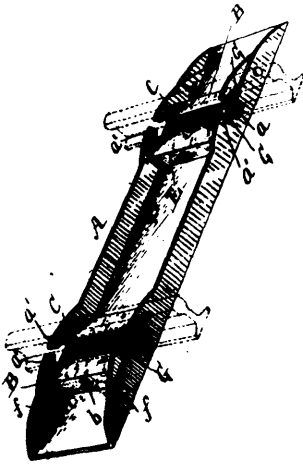
34611 Hallock's Drainage and Sewerage System.



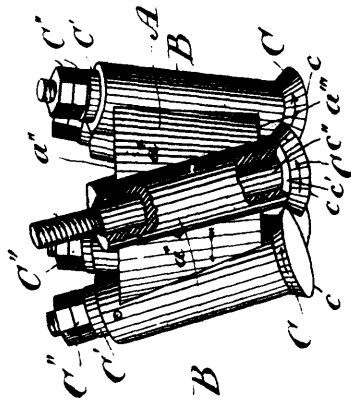
34612 Edgar's Mail Pouch.



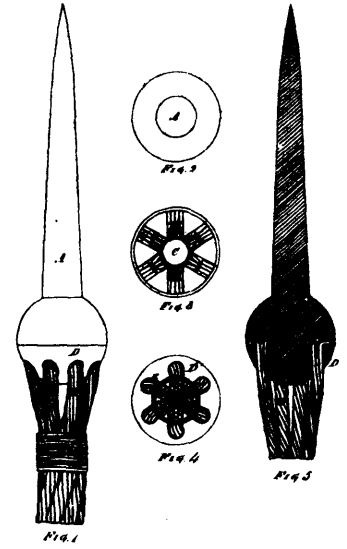
34613 Schwartz's Brace.



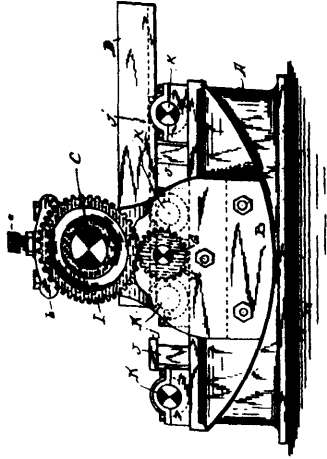
34614 Bagby's Railroad Cross Tie.



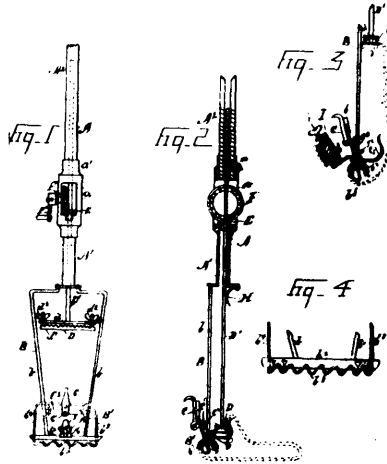
34615 Bowle's Stone Dressing Machine.



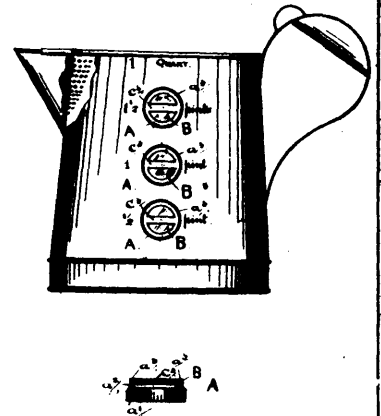
34616 Lefebvre's Paratonnerre.



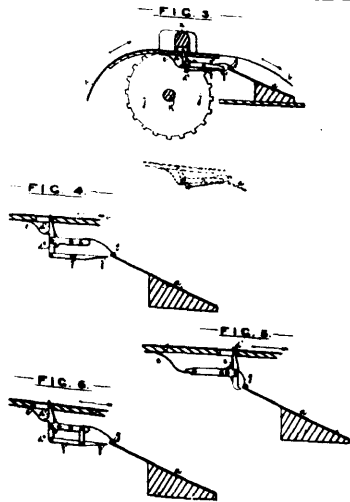
34617 Billings' Machine for Making Horse Shoes.



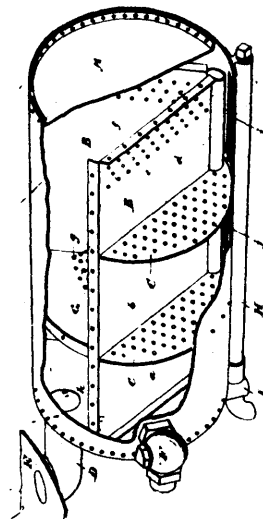
34618 Rolls' Mop and Wringer.



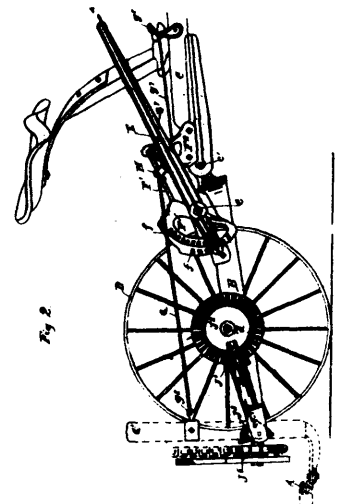
34619 Parish's Receptacle for Liquids.



34620 Roepke's Musical Box.

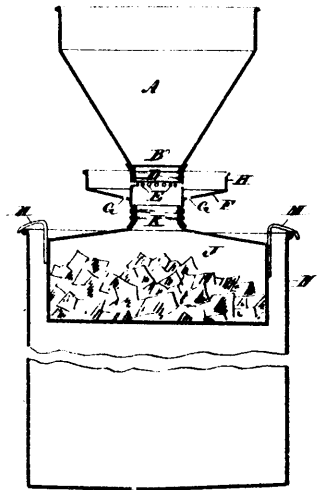
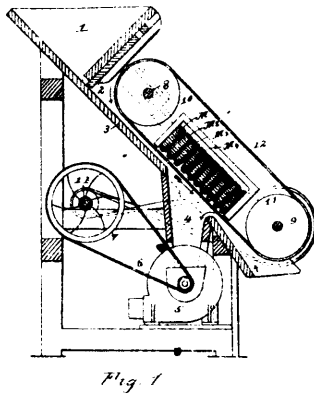
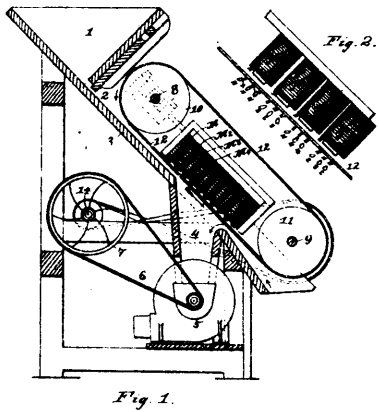


34621 Gourlay's Mud and Sediment Collector.



34622 Watrous' Harvester.

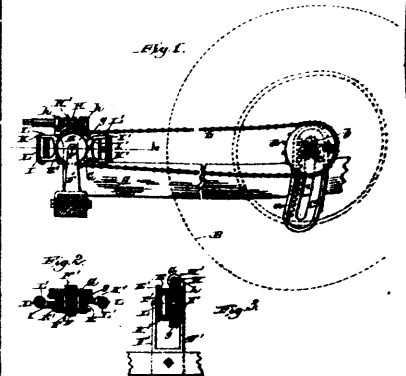
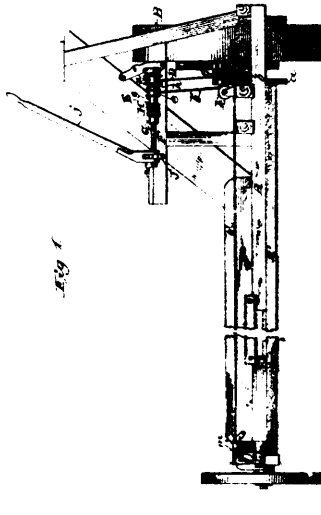
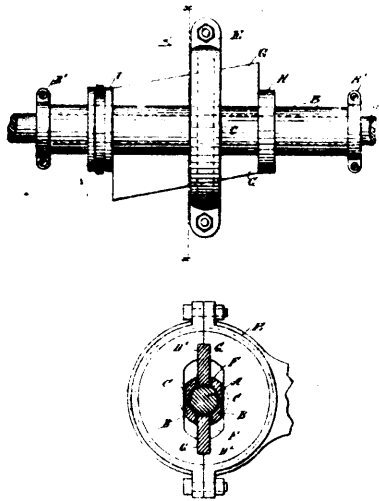




34623 Ball & Norton's Separating Ores.

34624 Ball & Norton's Magnetic Ore Separator.

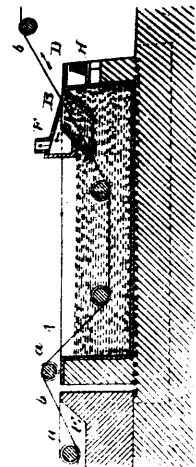
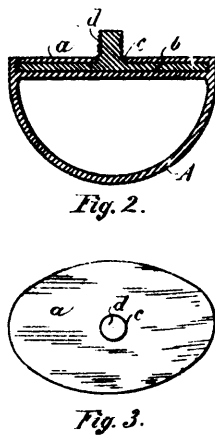
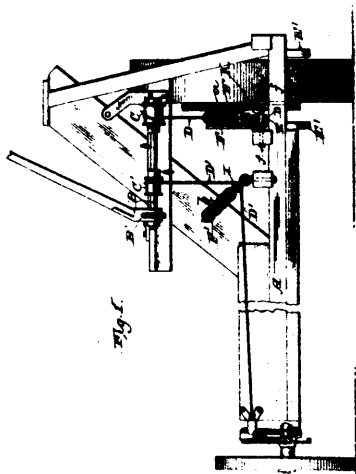
34625 Chamberlin's Milk Aerator. etc.



34626 Branch's Eccentric.

34627 Crandall's Harvester.

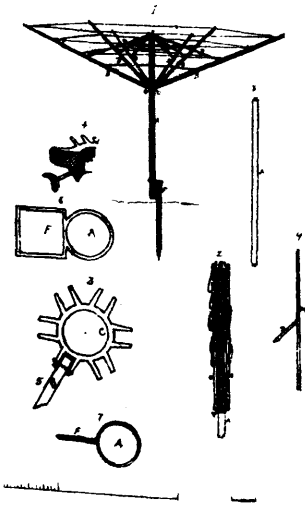
34628 Latimer's Harvester.



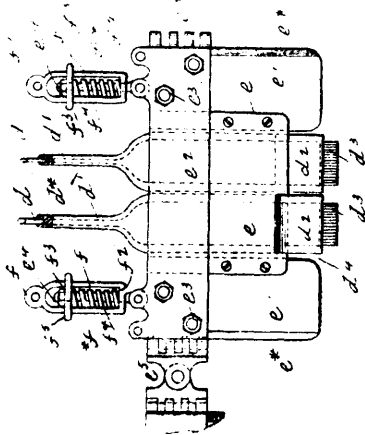
34629 Latimer's Harvester.

34630 Roric's Truss.

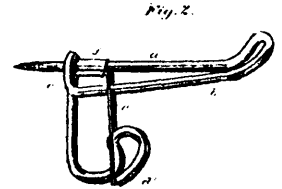
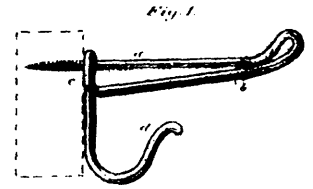
34631 Middley & Nye's Galvanizing.



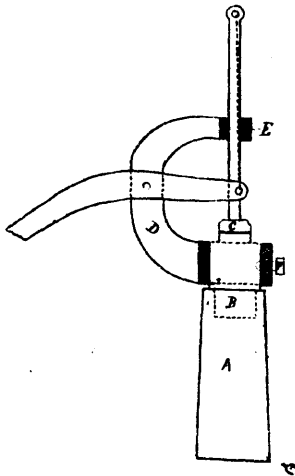
34632 Sullis & Foster's Clothes Drier



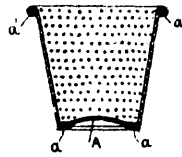
34633 Trott's Brush Contact of Electric Railway.



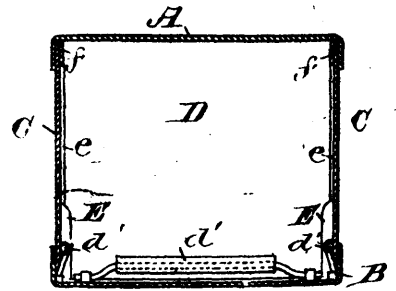
34634 Gorton's Hook.



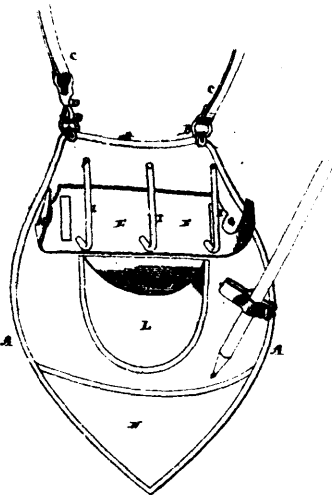
34635 Hodgson's Pump Head, etc.



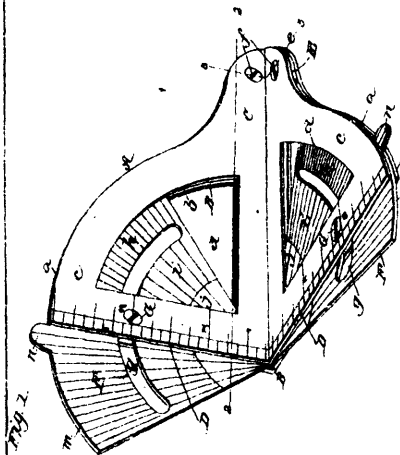
34636 Bracher's Pot for Plants, etc.



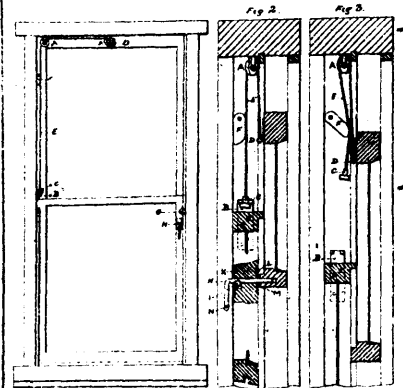
34637 Campbell's Lunch Basket.



34638 Jefferson's Work Case.

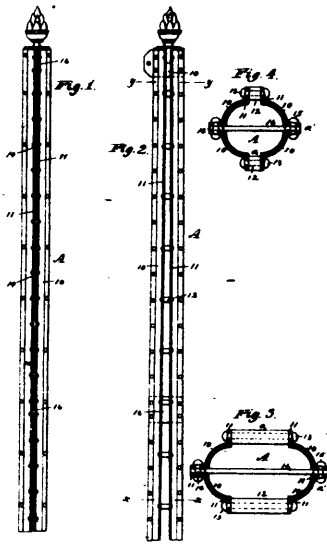


34639 Roberts' Try-Square, etc.

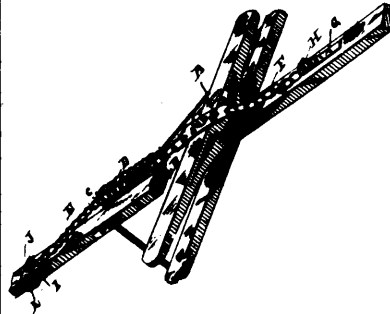


- A Pulley
- B Sash
- C Sprocket
- D Cord
- E Weight
- F Pulley
- G Lock
- H Block
- I. K. or Flange
- N Handle

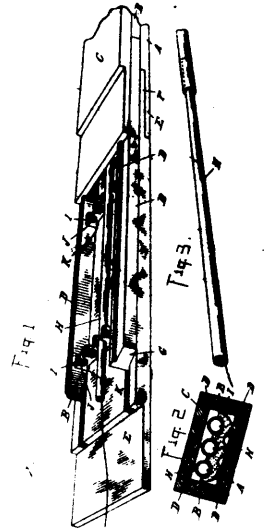
34640 Cove's Sash Balance



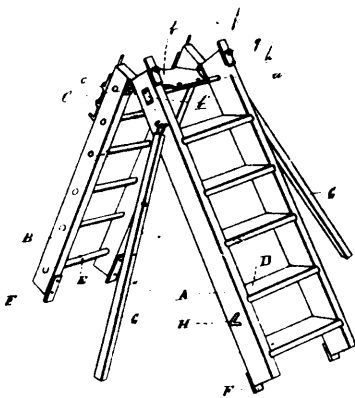
34641 Milliken's Metallic Post.



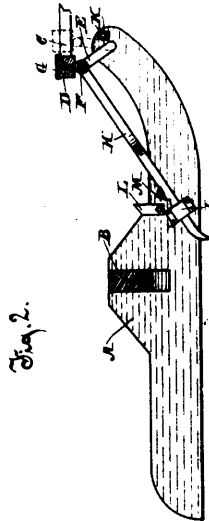
34642 Napier's Waggon Tongue Support.



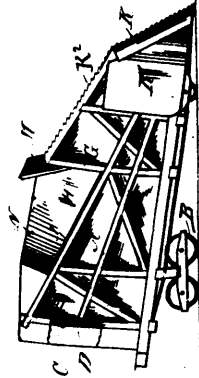
34643 Cook's Underground Conduit for Electrical Wires.



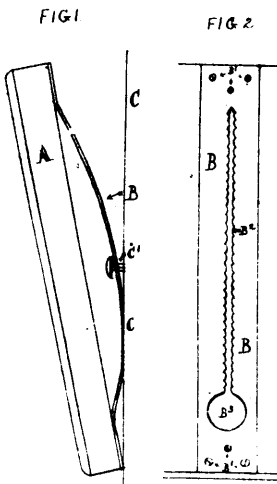
34644 Soper's Step Ladder.



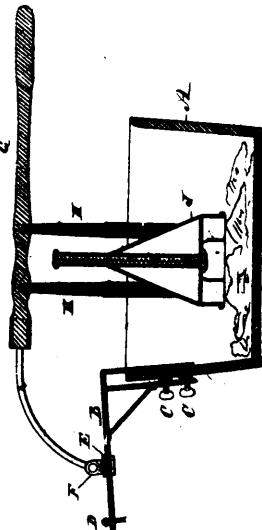
34645 Lee's Sled Brake, etc.



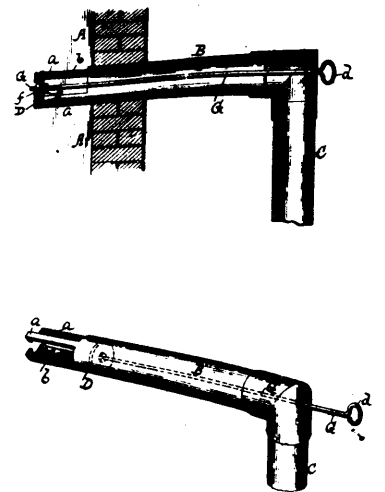
34646 Campbell & Ward's Snow Plough.



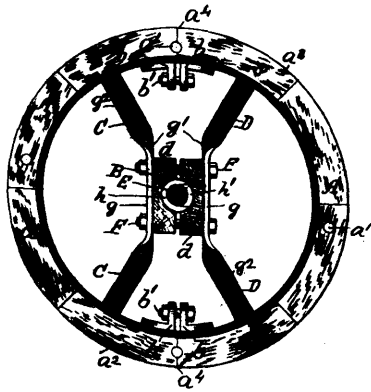
34647 Siddall's Picture Hanger.



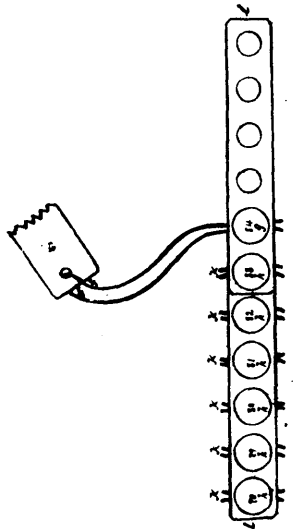
34648 Whittaker's Washing Machine.



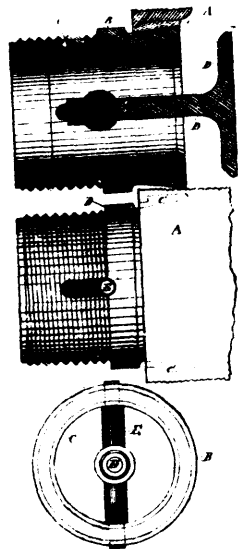
34649 Van Vorce's Stove Pipe Cleaner.



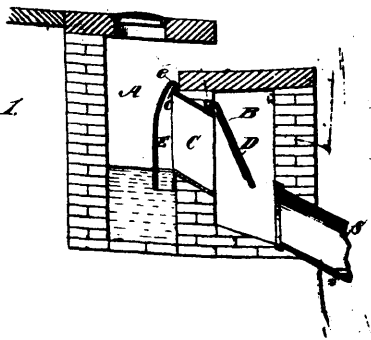
34650 Malah's Pulley.



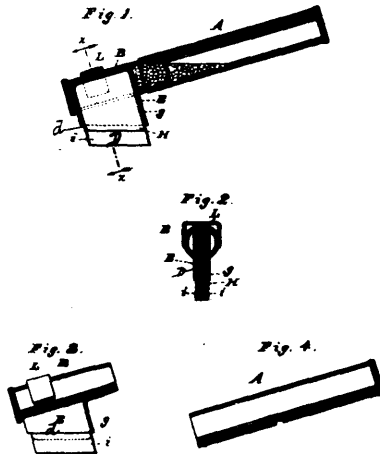
34651 Miller & Hillier's Car Seal, etc.



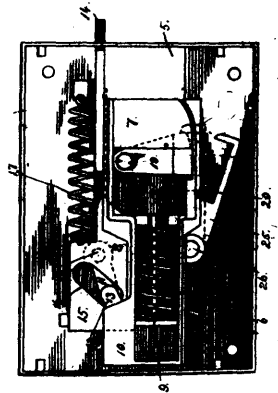
34652 Warnock's Hydrant Nozzle.



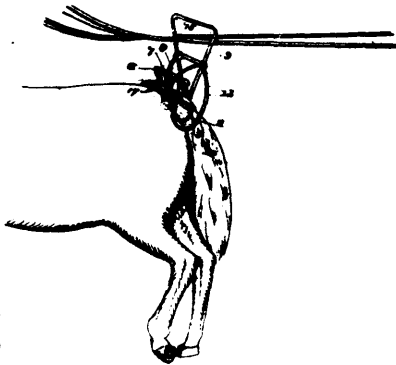
34653 Palmer's Sewer Trap.



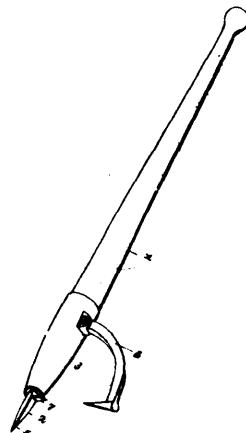
34654 Burton's Envelope Moistener.



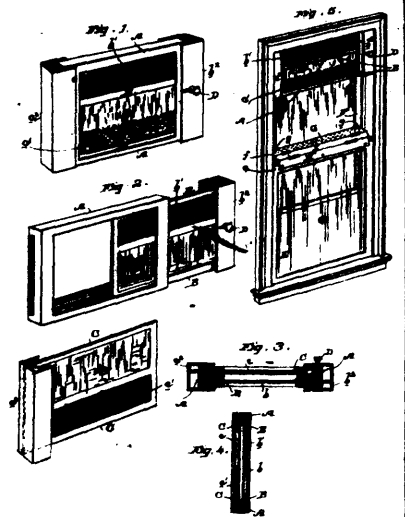
34655 Martin's Lock.



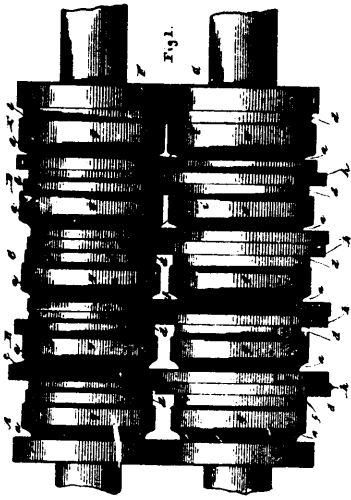
34656 Callahan's Rein Guard.



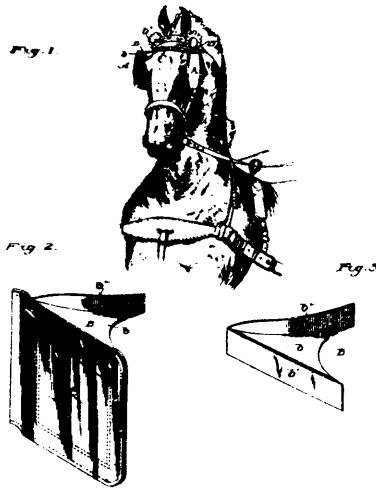
34657 Koster's Cant Hook.



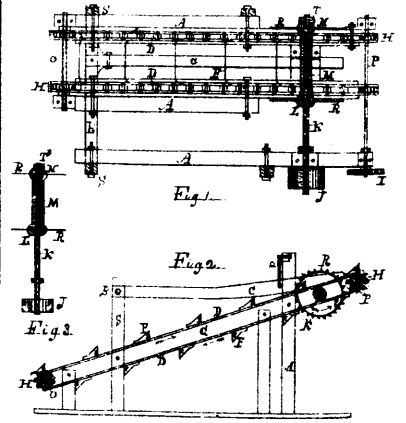
34658 Abrahamson's Window Ventilator.



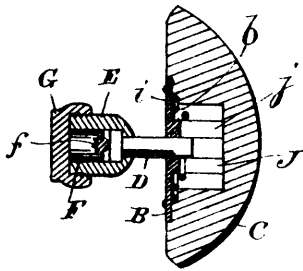
34659 Weaver's Switch Point.



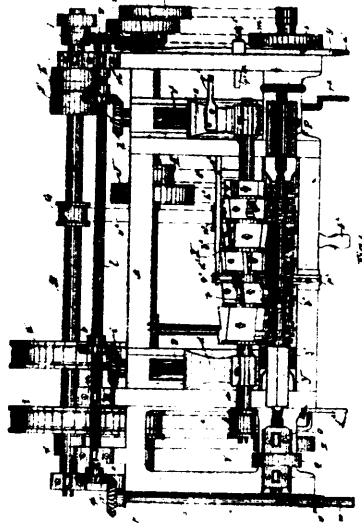
34660 Gray's Driving Bridle.



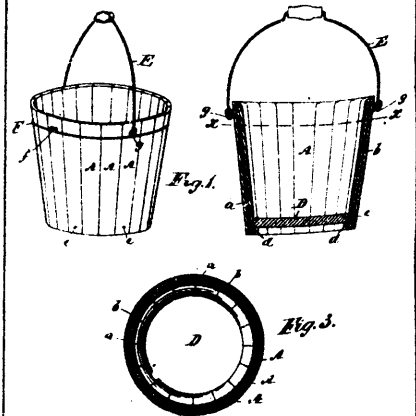
34661 Gillies' Wood Sawing Machine.



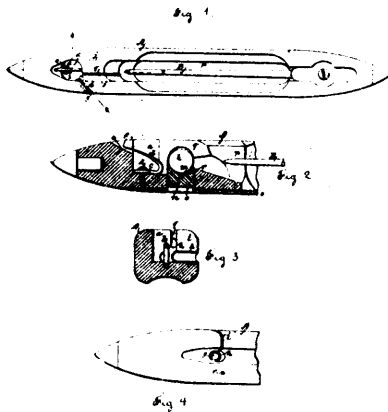
34662 Blackburn's Truss.



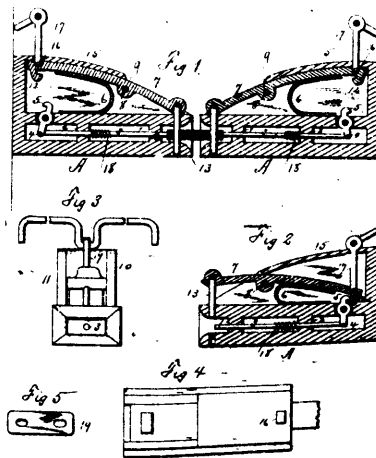
34663 Lahais' Wood Working Machine.



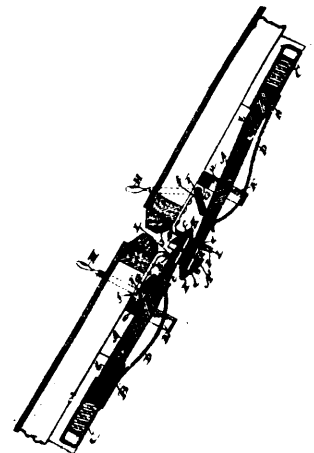
34664 Millen's Pail and Tub.



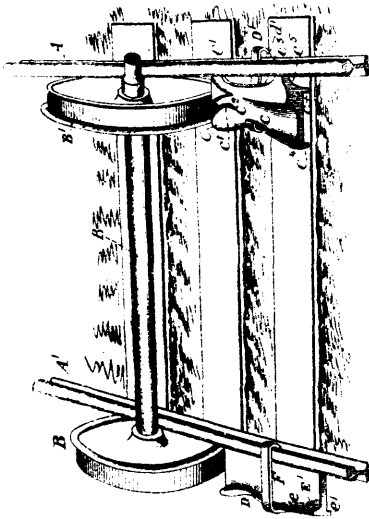
34665 Scholfield's Loom Shuttle.



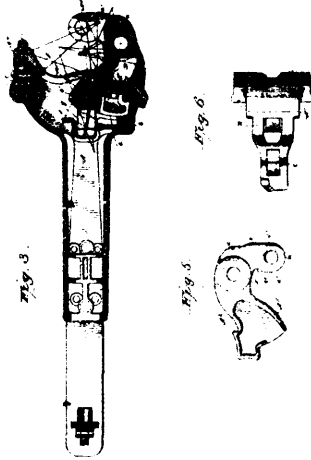
34666 Wetherel's Car Coupler.



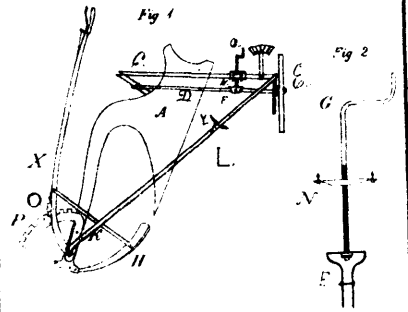
34667 Francis' Car Coupler.



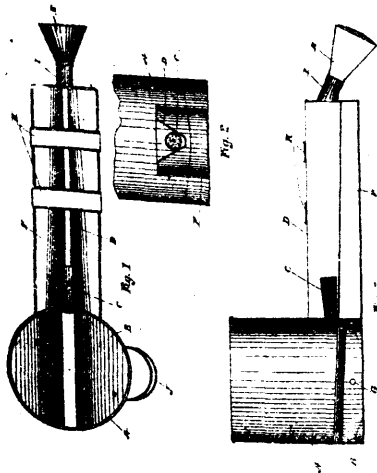
34668 Africa's Car Replacer



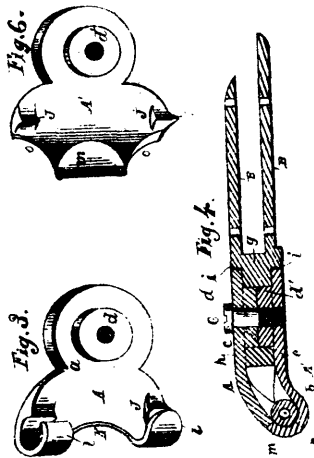
34659 Dorston's Car Coupling



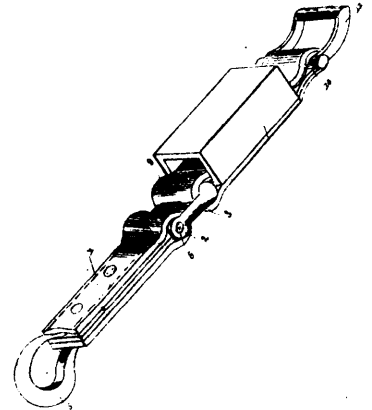
34670 Marr's Riding Plough



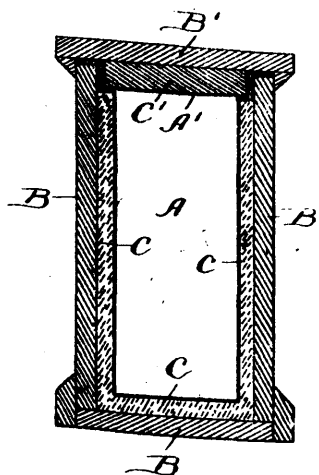
34671 Grant's Milk Aerating and Cooling Can



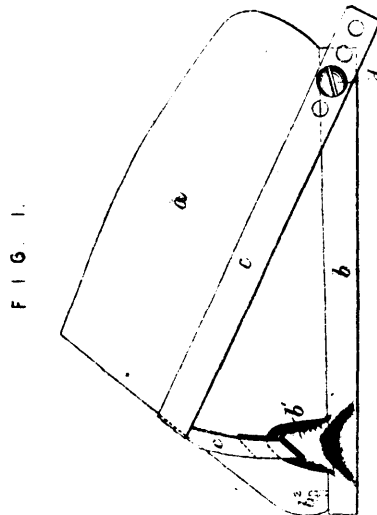
34672 King's Hame Tug



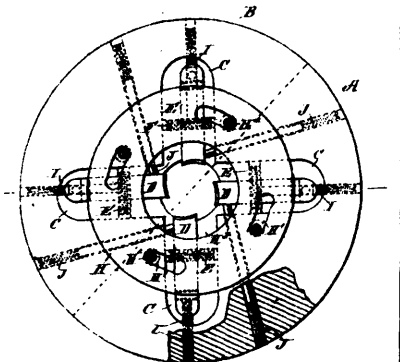
34673 Lather's Hame Tug



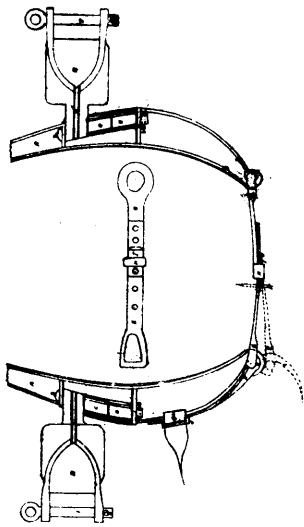
34674 Boyd's Butter Making



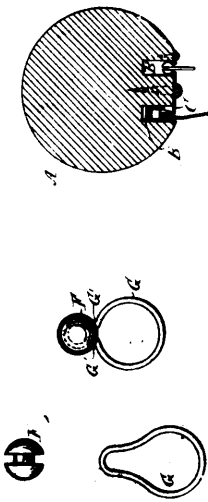
34675 Griffiths' Horse Shoe



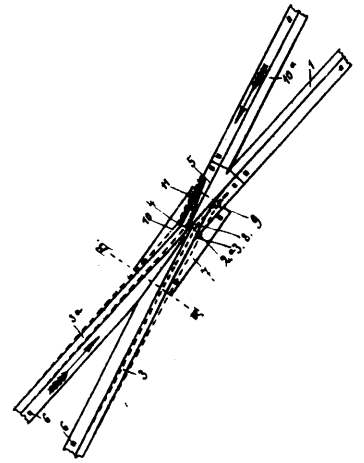
34676 Westbrook & Burns' Screw Cutting Head



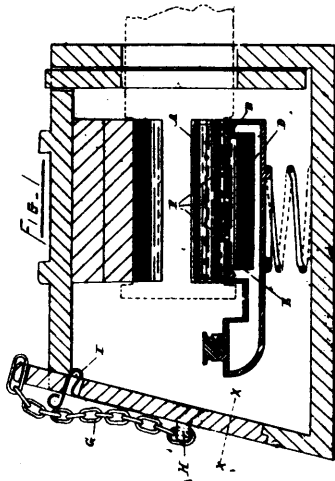
34677 Foster & Bailey's Harness Hames.



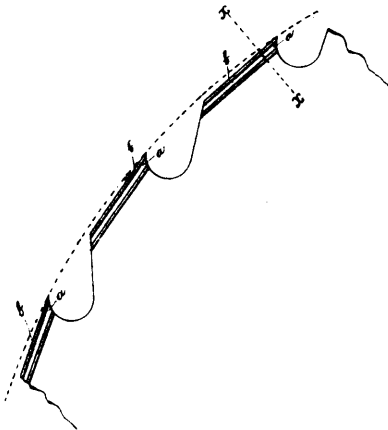
34678 Smith's Curtain Pole, etc.



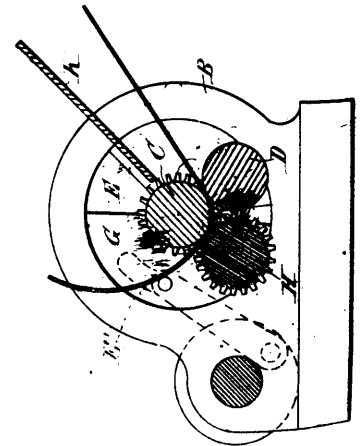
34679 Leary's Railway Frog.



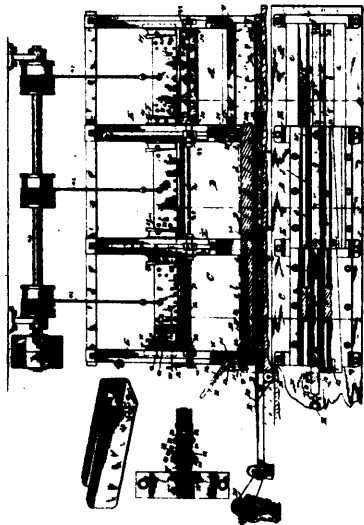
34680 Best's Car Axle Box.



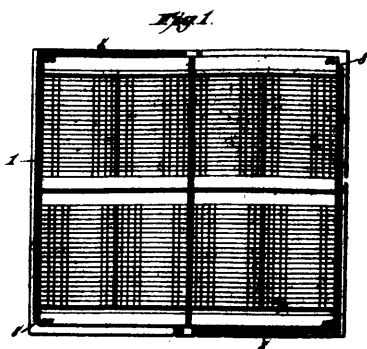
34681 Douglas' Saw.



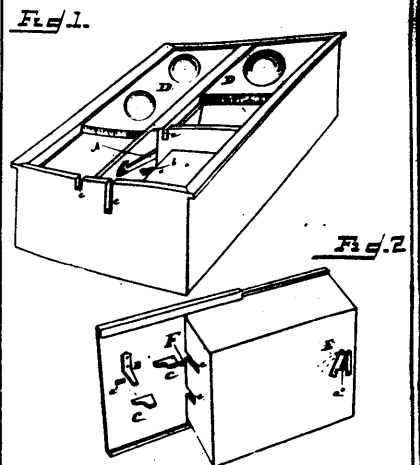
34682 Shippe's Metal Bending Machine.



34683 Coburn's Machine for Bending Metal.



34684 Fletcher's Book.



34685 Outhet's Alarm Till.

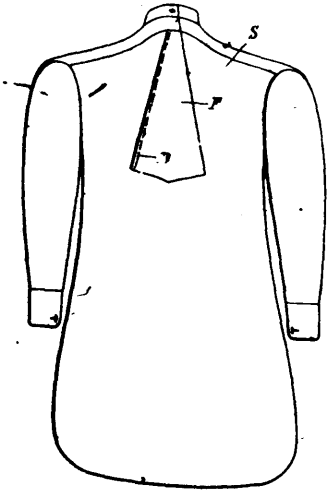


Fig. 3.

34686 Wilson's Shirt.

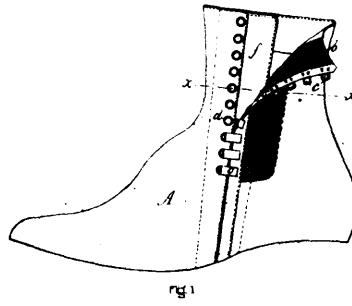


Fig. 1.

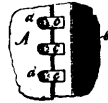


Fig. 2.

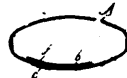


Fig. 3.

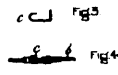


Fig. 4.

34687 Norton's Shoe, etc.

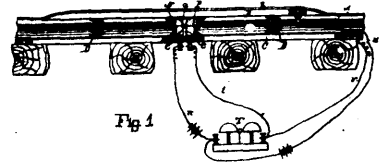


Fig. 1.

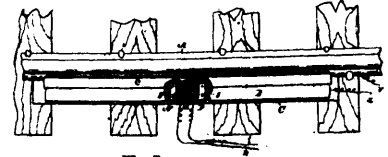


Fig. 2.

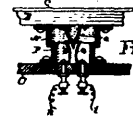


Fig. 3.

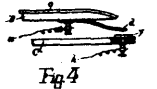
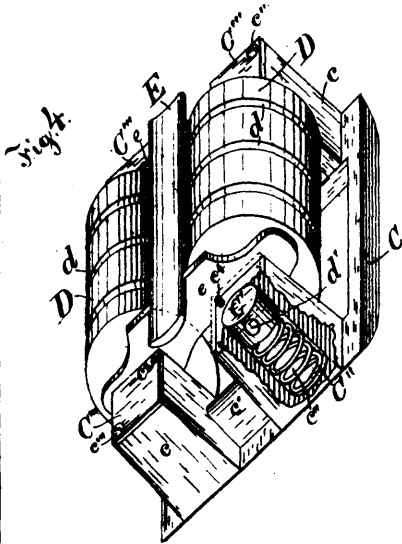


Fig. 4.

34688 Farris's Signal.



34689 Donovan & Jenning's Car Axle Lubricator.

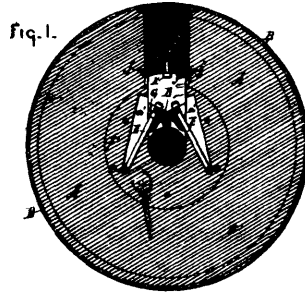


Fig. 1.



Fig. 3.

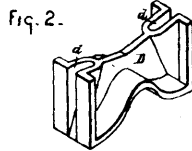


Fig. 2.

34690 Cowles' Pulley.

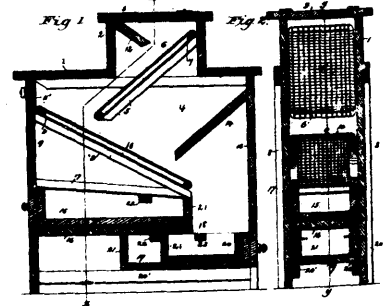


Fig. 1.

Fig. 2.

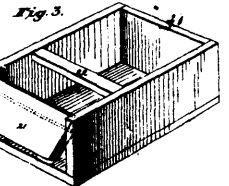
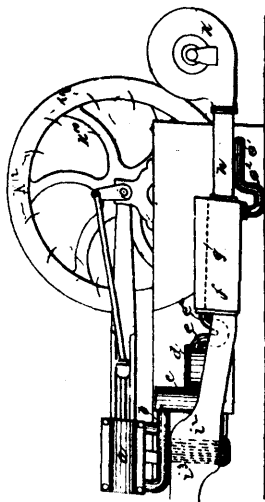


Fig. 3.

34691 Sudlow's Ash Sifter.



34692 Robinson's Apparatus for Utilising Waste Heat.

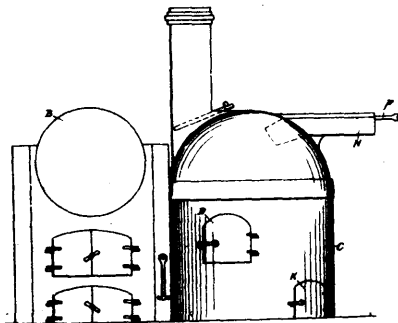


Fig. 1.

34693 Richardson's Furnace.

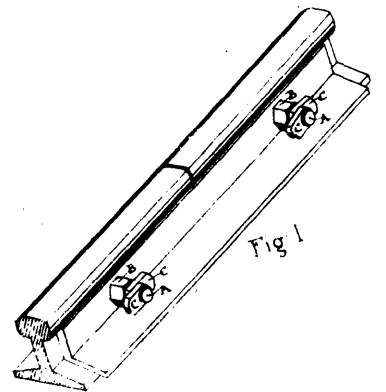
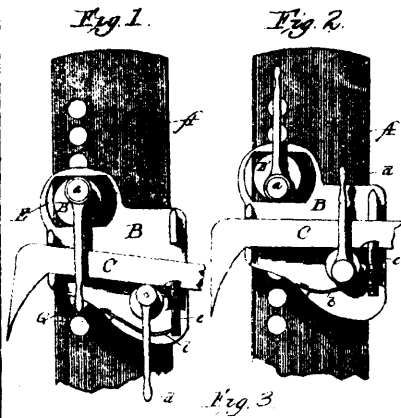


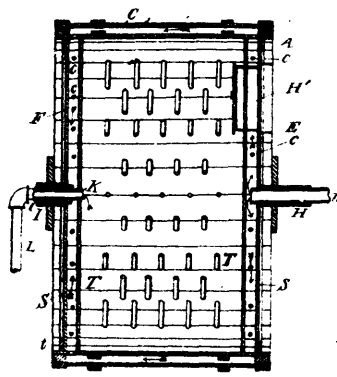
Fig. 1.

34694 Young's Nut Lock, etc.

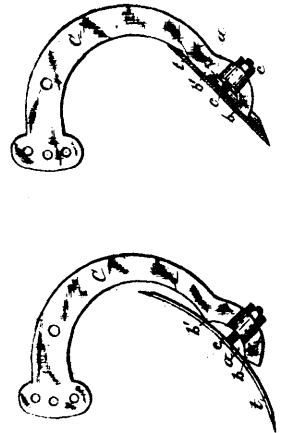




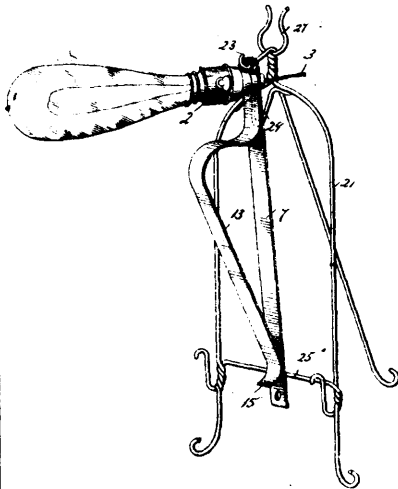
34655 Miner's Saw Mill Dog.



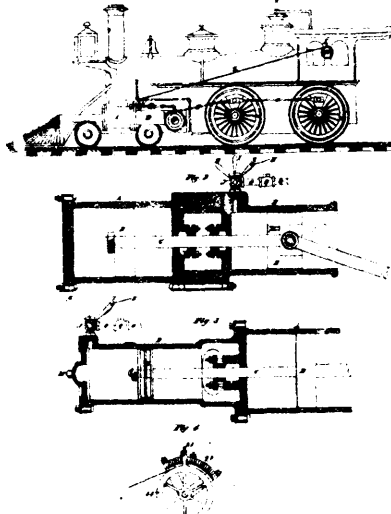
34656 Darragh's Leather Stuffing Wheel.



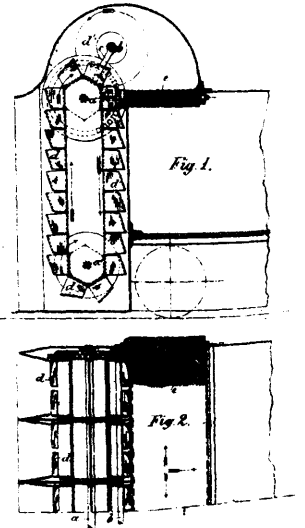
34697 Dorchester's Cultivator Shank, etc.



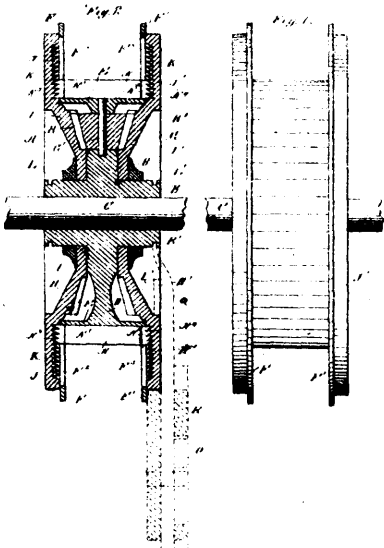
34698 Moore's Electric Light Stand.



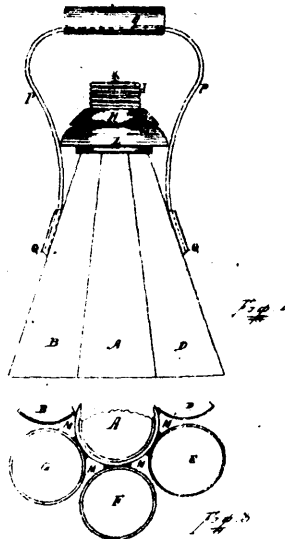
34699 Chapleau's Controlling the Speed and Arresting the Motion of Locomotive Engines, etc.



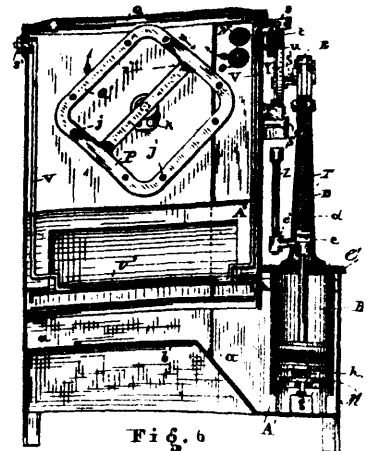
34700 Paulitschky's Snow Removing Machine.



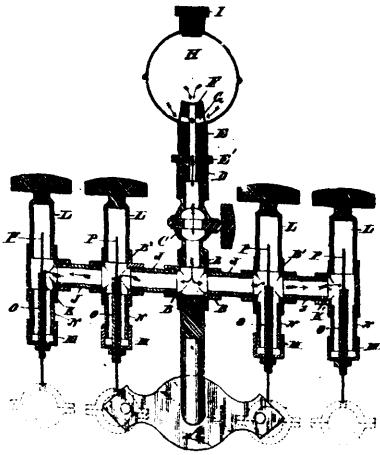
34701 Powell's Pulley.



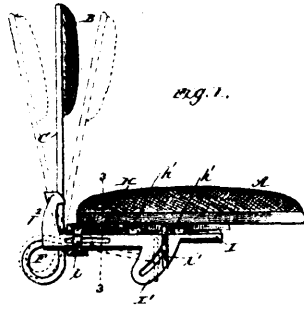
34702 Brett's Washing Machine.



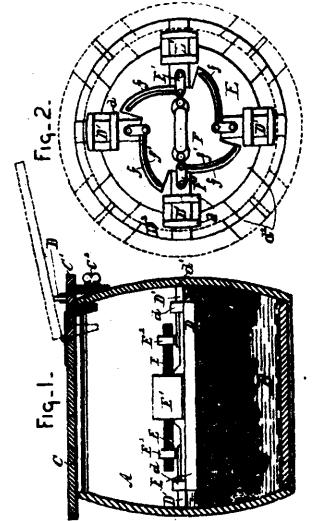
34703 Cochran & Kritch's Dish Washing Machine.



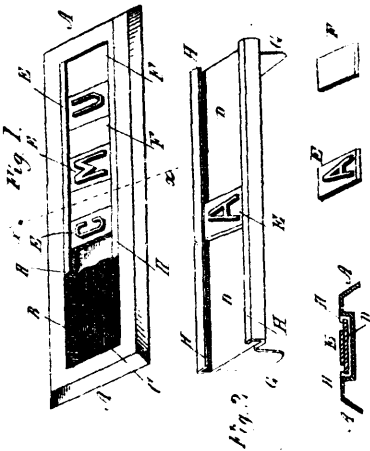
34704 Kelly's Lubricator.



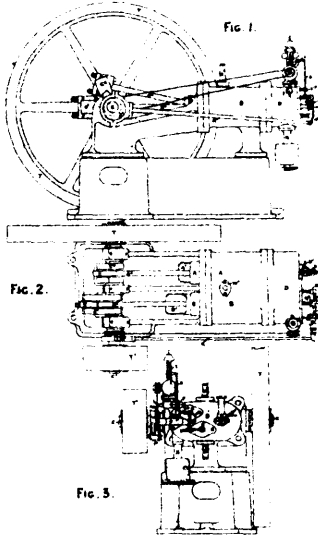
34705 Kerstetter's Vehicle Seat.



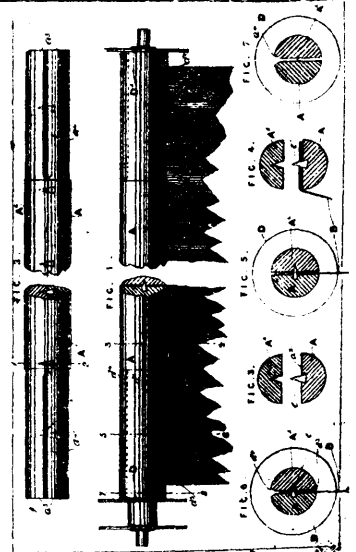
34706 Woodwort's Barrel.



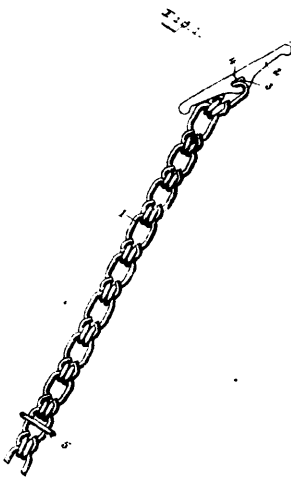
34707 Underwood's Motto Plate.



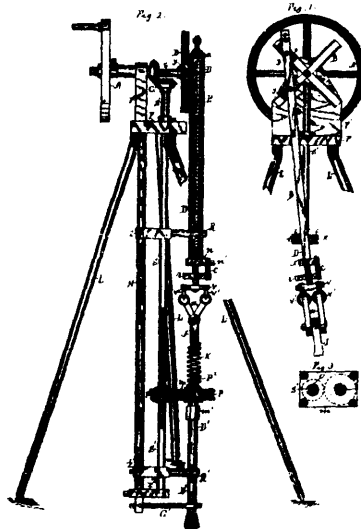
34708 Taylor's Gas Engine.



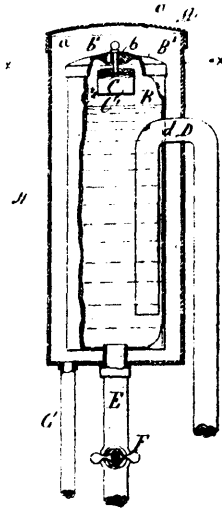
34710 Gibbs' Window Blind Roller.



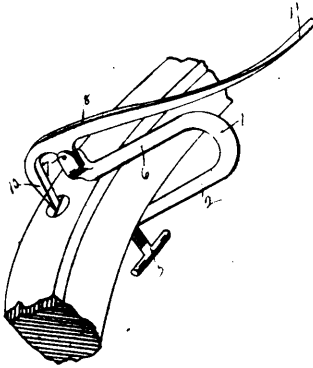
34714 Breul's Chain Attachment.



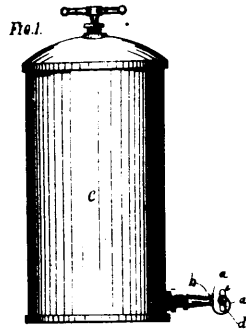
34715 Kerr's Rock Drill.



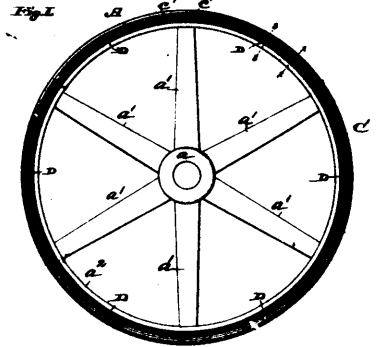
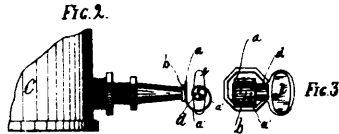
34716 Egan's Closet



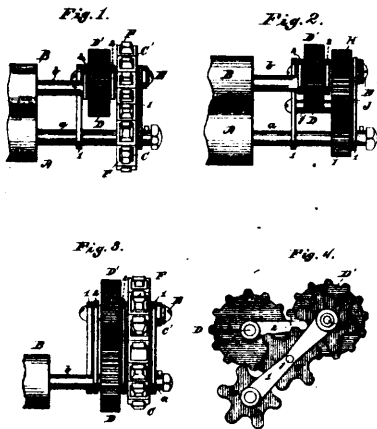
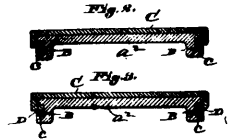
34717 Maurer's Bolt Holder.



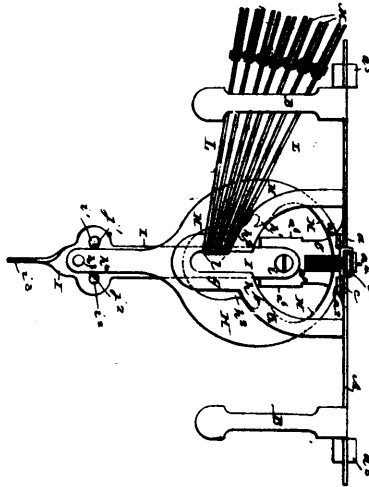
34718 Bradley's Closing and Sealing Device for Fire Extinguishers.



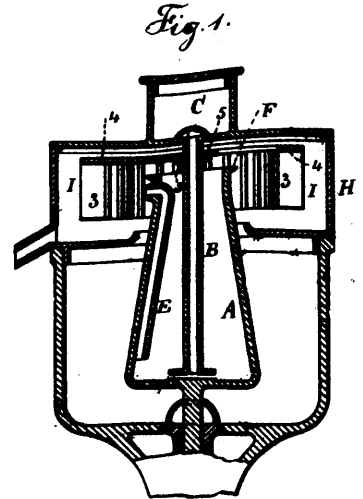
34719 Shultz's Pulley, etc.



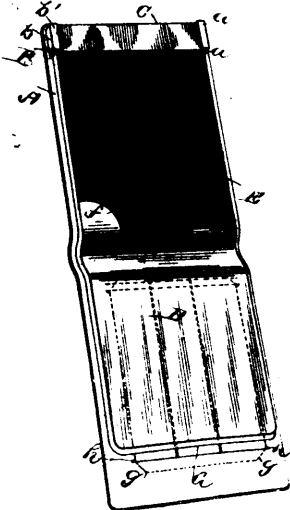
34720 Wise's Expansion Gear.



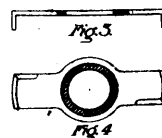
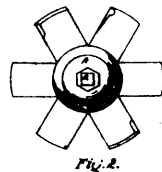
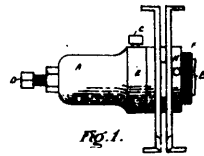
34721 Brown's Leaf Turner.



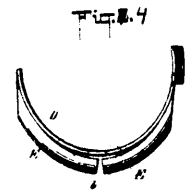
34722 Wahlin, Lundstrom & Collins' Separator for Cream, etc.



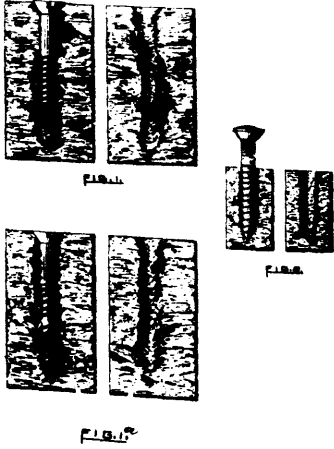
34723 Morton's Check Book.



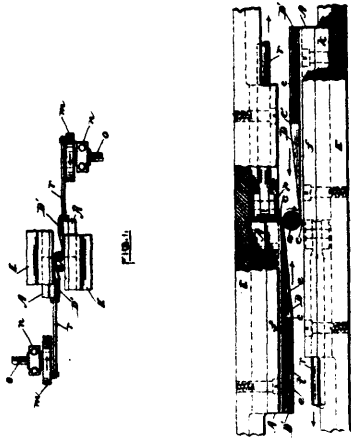
34724 Madill's Head and Cutter for Matching and Moulding Machines.



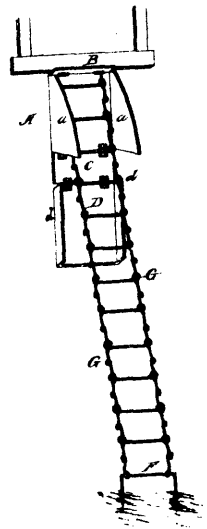
34725 Benton's Watch Case Spring.



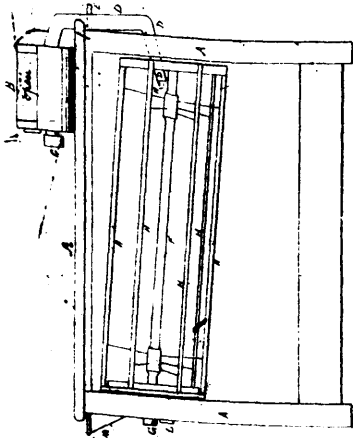
34726 Rogers' Screw Nail.



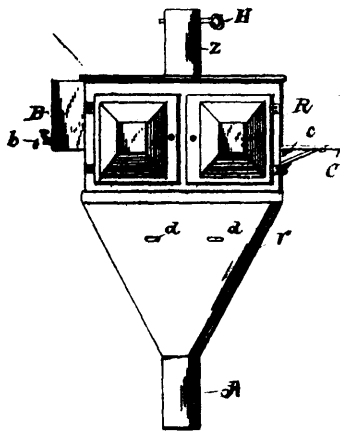
34727 Rogers' Dividing Rods of Metal, etc.



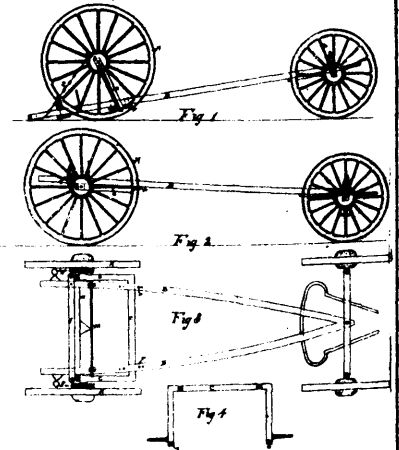
34728 Sample's Fire Escape Ladder.



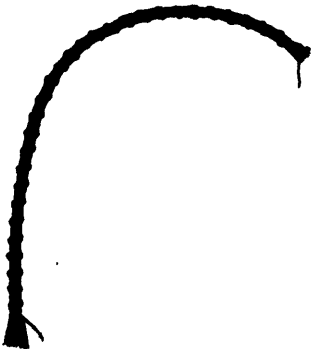
34729 Wismer's Bolting Reel.



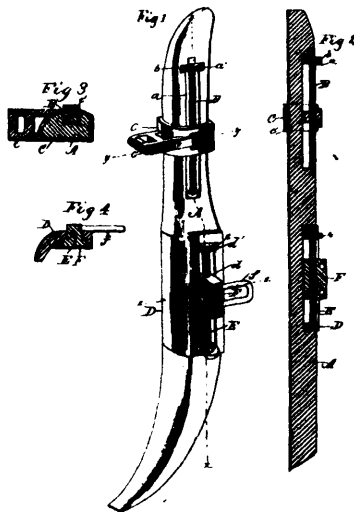
34730 Powell's Oven, etc.



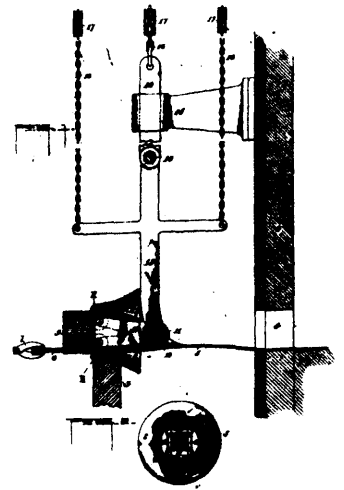
34731 Foley's Waggon Gear.



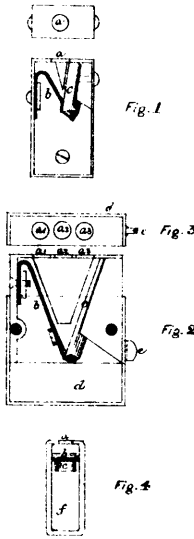
34732 Lowry's Twine.



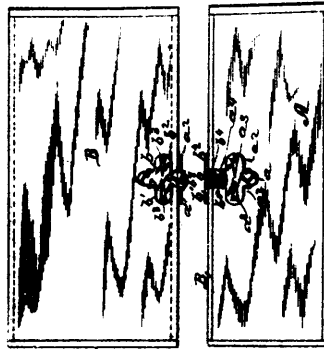
34733 Cronk's Hame.



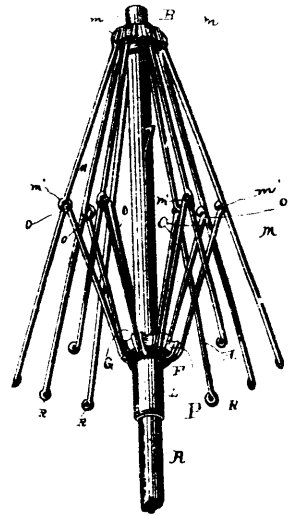
34734 Simpson's Pipe Welding Apparatus.



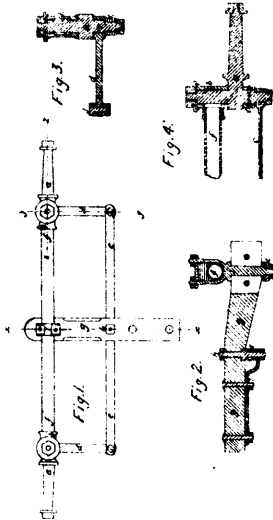
34735 Howarth's Pencil Sharpener.



34736 Mergott's Box Fastener



34737 Sprague's Umbrella Frame.



34738 Loschinger's Axle.

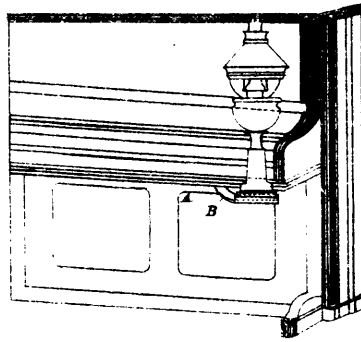
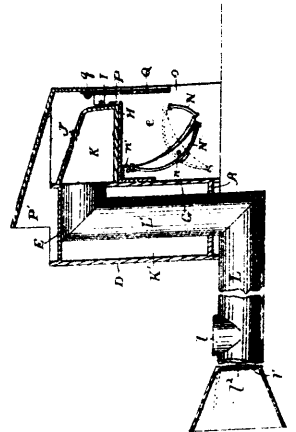
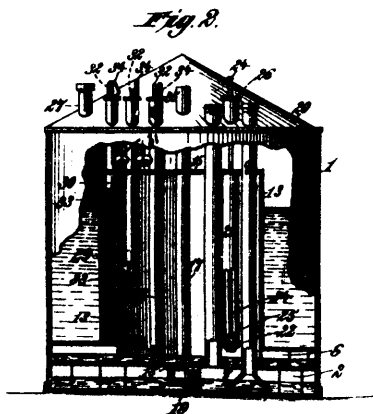


Fig. 3.

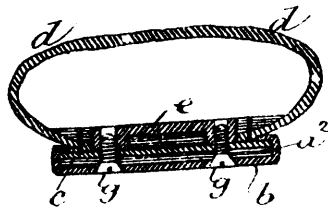
34739 Darley's Lamp Bracket



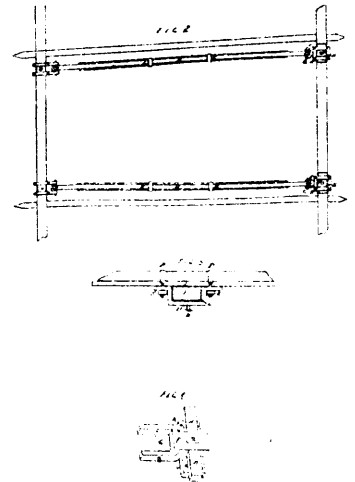
34740 Jackson's Fire Place Heater.



34741 Tibbets' Carburetor

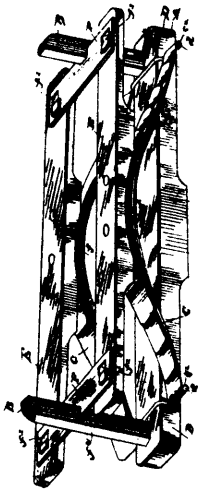


34742 Jones & Bridget's Boot and Shoe

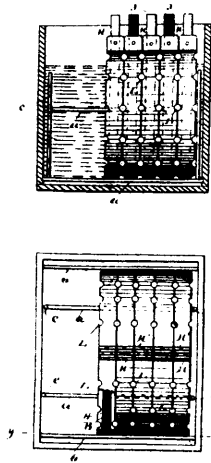


34743 Brewer's Apparatus for Relieving Vehicle Springs.

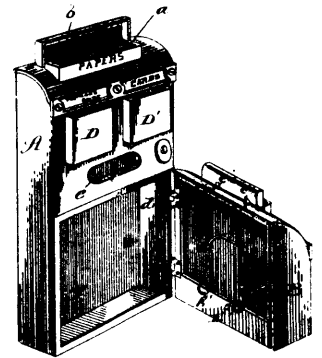




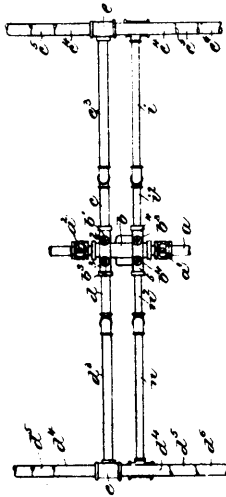
34754 Conley's Waggon Spring.



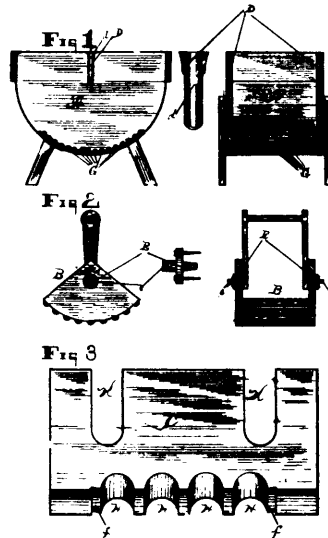
34755 Wool's Plate.



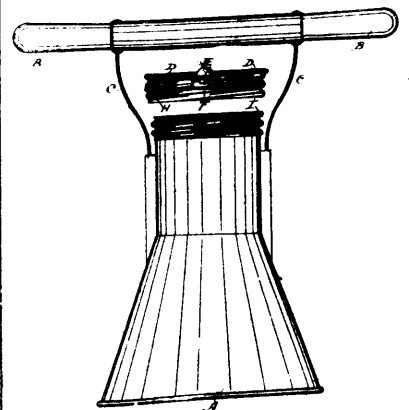
34756 Morris' Mail Box.



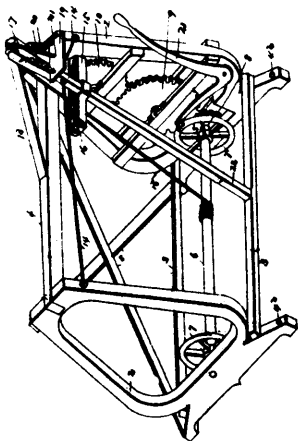
34757 Sewall's Car Heating Apparatus.



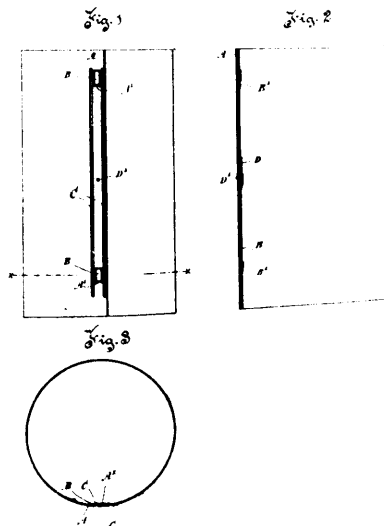
34758 Waugh's Washing Machine.



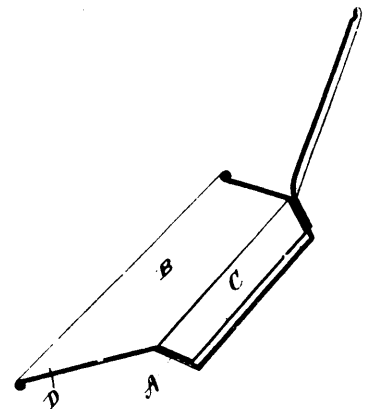
34759 Shafer's Washing Machine.



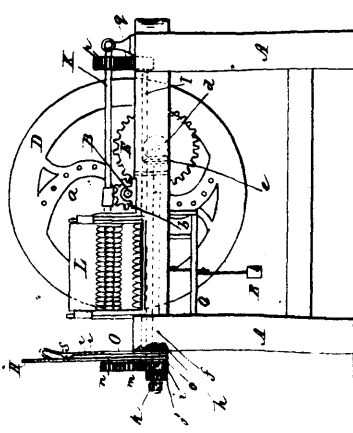
34760 Bridges' Windlass.



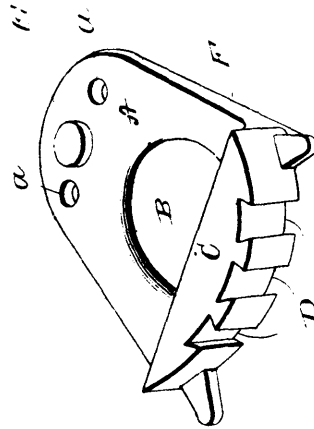
34761 Davidson's Stove Pipe.



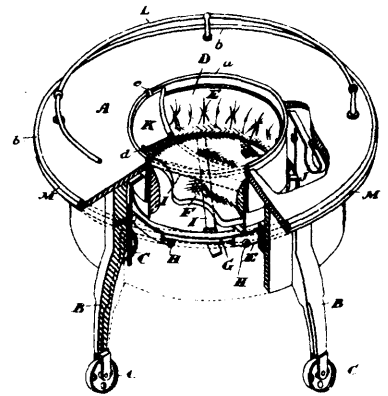
34762 Durgy's Skillet.



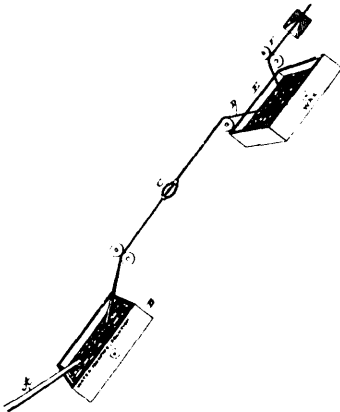
34763 Bell's Straw Cutter.



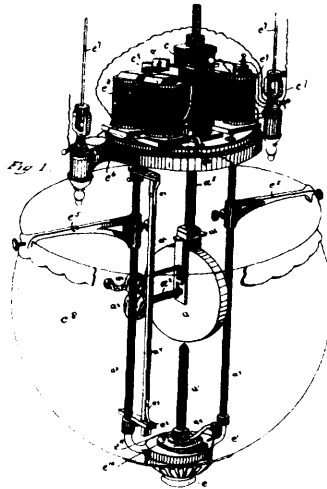
34764 Ayres & Foster's Heel Protector.



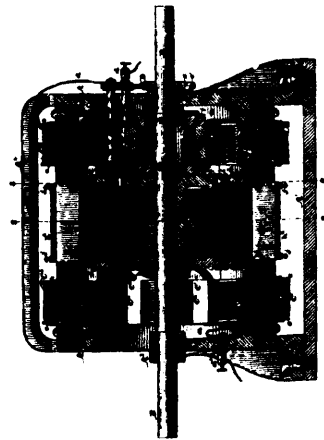
34766 Burkholder's Baby Jumper



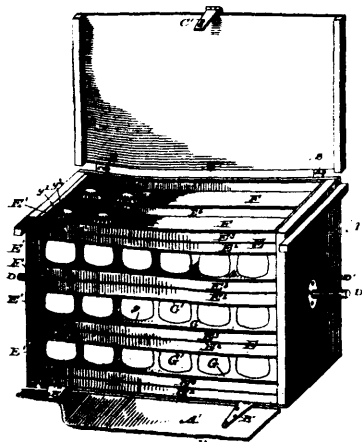
34767 Williams' Twine, &c.



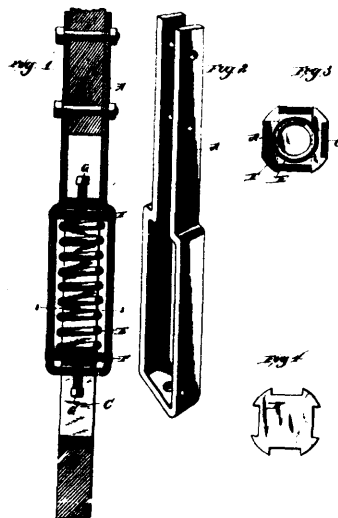
34768 Russell's Electric Arc Lamp.



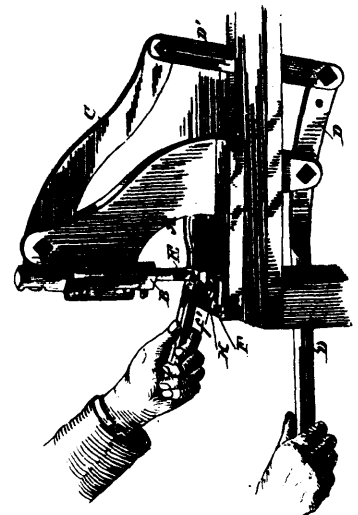
34769 Chapman's Electric Motor.



34771 Jagger's Purifying Sewage.

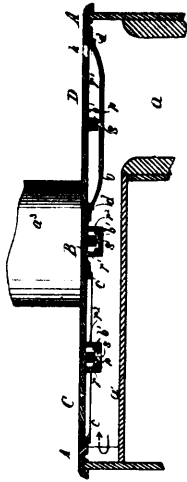


34772 Murr's Egg Case.

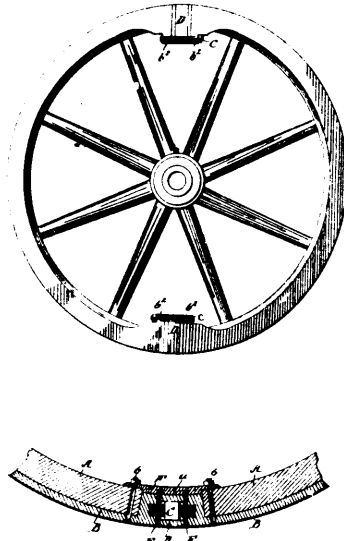


34773 Burnham & Miller's Pump Rod.





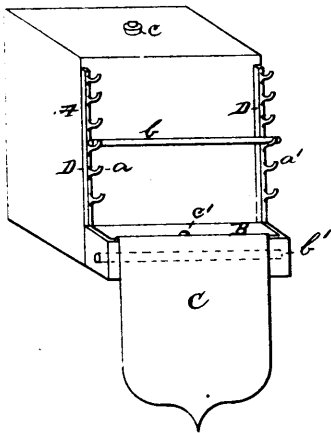
34774 Lipsay's Stove Lid.



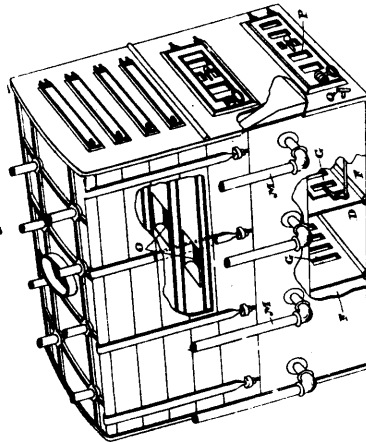
34775 Streeter's Hinge.



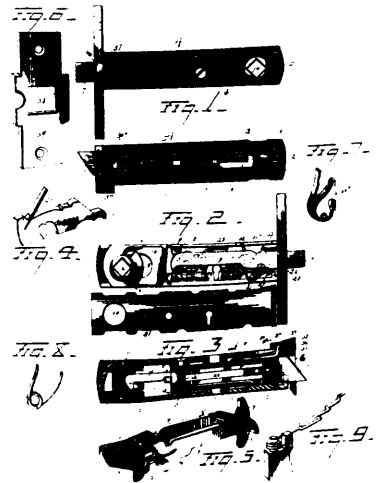
34776 Fendel's Sled.



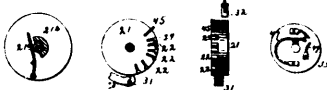
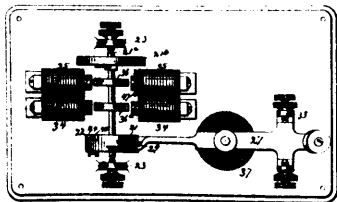
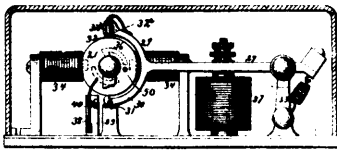
34777 Woods' Vaporizer, etc.



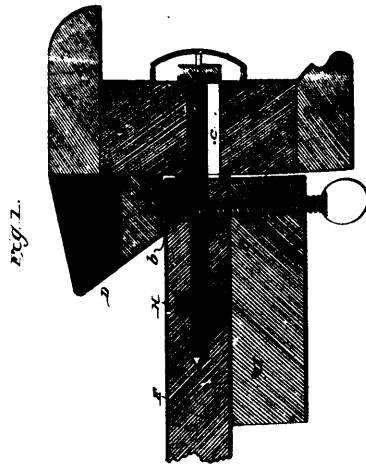
34778 Bigley's Heater.



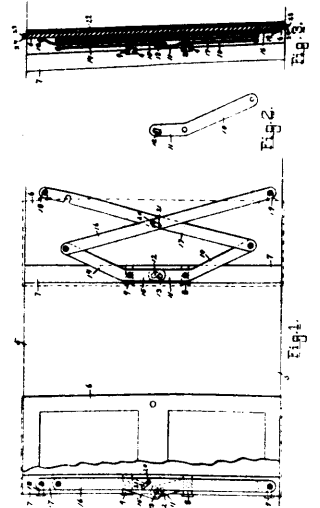
34779 Cooke's Mortise Lock.



34780 Gill's Signal and Switch Controlling Apparatus, etc.



34781 Brockway's Billiard Table Rail, etc.



34782 Schlutter's Door Hanger.