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**INVENTIONS PATENTED.**

**No. 16,770. Improvements in Mowing Machines.** (*Perfectionnements aux faucheuses.*)

William F. Cochrane, and John L. Mothershead, Indianapolis, Ind., U.S., 25th April 1883; for 5 years.

*Claim.*—1st. The combination, with a bevelled stationary annular gear F fixed to encircle the main driving shaft or axle B, of a conical bifurcated sleeve or spider E placed upon said shaft to rotate therewith and carrying, upon its diverging arms, bevelled pinions or planet wheels F F, adapted to engage said annular gear and to mesh centrally upon a pinion G upon the hub of a gear wheel H rotating upon the main shaft B. 2nd. The combination of the inverted bevel wheel H turning loosely upon the main shaft B, with the bevelled pinion I upon the crank shaft J on one side, and with the planet wheels F F engaging a pinion upon its hub on the other. 3rd. The combination, with the shoe M and spherical joints M m, of an arm U extending radially from said joint a guide X upon the casing D and a lever 13 pivoted to said casing, for the purpose of elevating or depressing the shoe and its cutter bar. 4th. The combination, with the spherically jointed shoe M M<sub>2</sub> and the finger bar carried thereby, of a lever S journaled upon a spindle secured to the frame of the machine, a quadrant or segmental sheave geared to the lever at an angle therewith, a chain extending from said sheave to the shoe and a pawl governing the movement of the sheave and lever, and actuated by a foot pedal. 5th. In combination with the finger-bar O, the cutter-bar P provided with lugs on its inner end, the pitman head R having recesses adapted to receive said lugs, and means for securing the cutter-bar and pitman head together, whereby an interlocking joint is formed which will admit of a ready release and withdrawal of the cutter-bar.

**No. 16,771. Improvements on Curtain Rollers.** (*Perfectionnement aux bâtons des rideaux.*)

Walter B. Noyes, Saginaw, Mich., U. S., 25th April 1883; (Extension of Patent No. 15,077.)

**No. 16,772. Improvements on Curtain Rollers.** (*Perfectionnement aux bâtons des rideaux.*)

Walter B. Noyes, Saginaw, Mich., U. S., 26th April, 1883; (Extension of Patent No. 16,077.)

**No. 16,773. Improvements on Printers' Quoins.** (*Perfectionnements aux coins d'imprimerie.*)

Joseph A. Hempel and Joseph A. Dingens, Buffalo N. Y., U. S., 26th April 1883; (Extension of Patent No. 8,817),

**No. 16,774. Improvements on Blind Hinges.** (*Perfectionnements aux pentures des persiennes.*)

Ellswood Smart, Brockville, Ont., 30th April 1883; (Extension of patent No. 8950),

**No. 16,775. Improvements in the Manufacture of Coke.** (*Perfectionnements dans la fabrication du coke.*)

John Jameson, Newcastle-on-Tyne, Eng., 30th April, 1883; (Extension of patent No. 15,804).

**No. 16,776. Improvements in the Manufacture of Coke.** (*Perfectionnements dans la fabrication du coke.*)

John Jameson, Newcastle-on-Tyne, Eng., 30th April 1883; (Extension of Patent No. 15,804).

**No. 16,777. Improvements on Step-Ladders.** (*Perfectionnements dans les échelles à queue.*)

William Varnum, Erie, Penn., U.S., 4th May, 1883; for 5 years.

*Claim.*—1st. The combination of the brace c hinged on the prop, the clamp iron D and cam lever E on the step A<sub>1</sub>, said brace passing through said clamping device and provided with an enlargement c<sub>2</sub> at its upper end. 2nd. A clamp for the brace consisting of the iron D with bearing bridge d and a cam lever E.

**No. 16,778. Improvements in Whisk Holders.** (*Perfectionnements aux porte-vergettes.*)

Thomas H. Doyle and Abram R. Stogg, Norwich, N.Y., U.S., 4th May 1883; for 5 years.

*Claim.*—1st. A whisk or other broom-holder having a spring suspending portion comprising two divergent spring arms, each carrying a broom holding strip or portion, said strips being relatively convergent and provided, or formed with concave inner faces. 2nd. A whisk or other broom holder comprising a spring suspending portion bent to form a top suspending eye or loop, and two divergent arms having their ends bent up and two convergent blocks or strips having concave inner faces, and each secured to one of said arms by its rear edge.

**No. 16,779. Improvements on Devices for Waking Purposes.** (*Perfectionnements aux réveille-matin.*)

Samuel S. Applegate, Camden, N. J., U. S. 4th May 1883; for 5 years.

*Claim.*—1st. As a means of waking persons from sleep, the combination of the light frame A of the character described, a cord for suspending the same over the bed, and a device for retaining and for automatically releasing said cord. 2nd. The combination of the suspension cord and a device for retaining and automatically releasing the same, with a frame A having pendant cords d. 3rd. The combination of the suspension cord and a device for retaining and automatically releasing the same, with a frame having pendant cords d with blocks e. 4th. The combination of the suspension cord B and the frame A with the retaining cord n. 5th. The combination of the frame A, the suspension cord B, and a device for retaining and releasing the latter with a stop, whereby the descent of the frame on the release of the cord is limited. 6th. The combination of the bars b with the central bar a of the frame, said bar a being made in parts x x<sub>1</sub> hinged together, the part x<sub>1</sub> carrying the bars, and the part x having a turnbuckle m. 7th. The combination of the frame A and the suspending cord B having a notched plate h, with the winding spindle i of the alarm mechanism of the clock, said spindle being flattened for the reception of the notched plate.

**No. 16,780. Improvements on Brushes.** (*Perfectionnements aux brosses.*)

Daniel A. McDonel, Detroit, Mich. U. S., 4th May 1883; for 5 years.

*Claim.*—1st. The combination, with the brush block A having the longitudinal grooves provided with semi-circular bottoms a and outwardly inclined walls c, the bristles e and the longitudinal wire B holding the bristles tightly in the inclined groove, and having its ends bent up and driven into the ends of the brush. 2nd. The combination of the wire B, extending the whole length of the brush and having projecting ends bent up and driven into the brush head, with the staples a driven into the ends of the brush head straddling the chaffnel.

**No. 16,781. Improvements on Stoves.** (*Perfectionnements aux poêles*)

John W. Thomas, Jersey, N. J., U. S., 4th May 1883; for 5 years.

*Claim.*—1st. An oven door provided with a series of perforations

*a*<sup>1</sup> *a*<sup>2</sup> arranged in the outside plate, on the outside of the air space *c*, and a series of finely perforated plates *a*<sub>3</sub> on the plate *a*<sub>3</sub>, on the opposite side of the air space. 2nd. A stove oven having a double series of holes *a*<sup>1</sup> *a*<sup>2</sup> *a*<sup>3</sup> *b* and an air space *c*, in combination with a series of openings *c*<sup>1</sup> in the back of the oven, and an adjusting damper. 3rd. An oven door provided with a transparent plate *f* secured thereto by buttons *f*.

**No. 16,782. Device to Assist to Put On and Take Off Coats, &c.** (*Appareil pour aider à mettre et ôter les habits, &c.*)

Silvanus Morton, Milton, N.S., 4th May 1883; for 5 years.

*Claim*.—In combination with a clothes rack attached to a wall or any convenient hook or fixture to support cord C, coat hook A having hook B at one end and an eye D at the other, to receive a cord chain or wire to attach it to the clothes-rack or convenient hook or fixture.

**No. 16,783. Improvements on Shirts.**

(*Perfectionnements aux chemises.*)

Isaac B. Keller and Cyrus G. Ranch, Lebanon, Penn., U.S., 4th May 1882; for 5 years.

*Claim*.—A shirt having the back yoke extension *d* beyond the back slit *b*, provided with a second button-hole *a* behind the neck button-hole, and a shield-shaped re-enforcement K having a broad lower end *m* secured to the back below the back slit, an upper end secured to the back yoke extension, a lateral edge *n* joining the back at one side of the back slit, and a portion *z* lapping over the back at the other side of the slit.

**No. 16,784. Improvements in Vehicles.**

(*Perfectionnements dans les voitures.*)

The Guelph Carriage Goods Company, (Assignees of John B. Armstrong,) Guelph, Ont., 4th May, 1883 (Re-issue of Patent No. 13,420)

*Claim*.—1st. A naked front axle centrally pivoted to a head plate, which is connected to the rear axle by perches or supporting springs. 2nd. A naked front axle having a bearing formed on its centre, upon which the head plate may be directly pivoted. 3rd. A head plate having the pivot bolt hole reinforced by a boss or thimble, punches from the stock of the plate, and forming a wearing point to protect the pivot bolt. 4th. A pivoted head plate having upwardly curved ends to receive the perches or side springs. 5th. A metal head plate, in combination with spring perches or supporting springs, arranged to connect the ends of the head plate with the rear axle. 6th. A metal head plate having spring ends, in combination with spring perches or supporting springs arranged to connect the spring ends of the head plate with the rear axle. 7th. A naked rear axle connected to the head plate by spring steel perches or supporting springs. 8th. A flat steel perch curved upwardly or downwardly between the points of connection. 9th. In a buggy or carriage gear, a metal saddle-plate having semi-circular recesses formed on its top surface to hold in position the saddle-plate clips and form a finish on either side thereof. 10th. In a buggy or carriage gear in which the perches and C-springs are fastened to the axle by clips, a teat or projection formed on the bottom side of the C-springs and fitting into a recess formed on the top of the perch by the punching of its stock, to form a similar teat on its bottom, which latter teat fits a recess made to receive it in the axle or head plate. 11th. In a buggy or carriage gear, tapered single plate C-springs rigidly attached at one end to the axle or head plate at right angles thereto, and having their free ends pointing towards each other. 12th. A tapered single plate side spring having a free shackle at either end, to connect it to tapered single plate, C-spring arranged to support it. 13th. A metal-spring plate fastened to the top side of the side springs and arranged to support the body of the vehicle. 14th. A single plate side spring having *cyma reversa* ends connected to tapered single plate C-springs by free shackles. 15th. A brace rigidly fastened to the axle and extending obliquely to the perch, where it is secured by a bolt passing through holes in the brace and perch, the said hole in the perch being reinforced by a boss formed by the stock punches out of the hole and fitting into a hole in the brace, for the purpose of strengthening the connection and protecting the connecting bolt from wear.

**No. 16,785. Improvements on Hoop Machines.** (*Perfectionnements aux machines à cercles.*)

John Connel, (Assignee of John B. Dougherty,) Rochester N.Y., U.S., 4th May, 1883; for 5 years.

*Claim*.—1st. The combination of the reciprocating dividing knife C, the movable lapping or tapering knives *f* *f*<sup>1</sup> arranged to act alternately on the plank, and the pointing knives *g* *g*<sup>1</sup>. 2nd. The combination, with the reciprocating dividing knife C, of the knife stock I and bar *m* pivoted to the knife stock and carrying at either end the lapping or tapering knives *f* *f*<sup>1</sup>. 3rd. The combination, with the reciprocating dividing knife C, of the lapping or tapering knives *f* *f*<sup>1</sup> and the pointing knives *g* *g*<sup>1</sup>, and mechanism for moving the lapping knives and for alternately operating the pointing knives. 4th. The combination of the reciprocating dividing knife C, knife-stock I, the movable lapping knives *f* *f*<sup>1</sup> and means for adjusting the position of the lapping knives relatively to the dividing knife at each reciprocation of the latter. 5th. The combination of the reciprocating dividing knife C, knife-stock I, pivoted bar M and lapping knives *f* *f*<sup>1</sup> arranged to be adjusted lengthwise of said bar to lap hoops of different length. 6th. The combination of the knife C, reciprocating knife frame H provided with studs *V* *V*<sup>1</sup>, pointing knives *g* *g*<sup>1</sup> and clamping dogs *Y* *Y*<sup>1</sup> having bent arms *n* *n*<sup>1</sup>. 7th. The combination of the reciprocating dividing knife C, swinging bar *m*, lapping and tapering knives *f* *f*<sup>1</sup> and rock shaft *u*. 8th. The combination of the slotted frame A, bed plate G, cranks F F<sup>1</sup>, pitmans *a* *a*<sup>1</sup>, dividing knife C, swinging bar *m*, lapping and bevelling knives *f* *f*<sup>1</sup>, rock shaft *u*, gearing O P and cam *q*.

**No. 16,786. Improvements on Coffe-Dams for Ships.** (*Perfectionnements aux caissons des navires.*)

Charles J. Fox, Liverpool, Eng., 4th May, 1883; for 5 years.

*Claim*.—1st. The combination, with a coffe-dam A adapted to receive the stem or stern of a ship, of an upright series of separately adjustable arms or bars B arranged at each side of the coffe-dam, and adapted to have their bars brought against the sides of the ship. 2nd. The combination, with the coffe-dam A, of two series of the independently adjustable hinged arms or bars B. 3rd. The combination, with a coffe-dam A adapted to receive the stem or stern of a ship, of an upright series of separately adjustable arms or bars B arranged at each side of the coffe-dam A and adapted to have their ends brought against the sides of a ship, and a covering of canvas, rubber, or other material *b* applied to the outer sides of said arms or bars, and a packing of fibrous material *d* applied between the ends of said arms or bars and the sides of the ship. 4th. The combination, with a coffe-dam A comprising watertight compartments and provided at each side with an upright series of separately adjustable arms or bars B, of valves for allowing water to flow from the inside of the coffe-dam into said compartments. 5th. The construction and arrangement of coffe-dam A, as described and shown at figures 1 2 3. 6th. The construction and arrangement of coffe-dam A, as described and shown at figures 4 5 6. 7th. The construction and arrangement of coffe-dam A as shown at figures 7 8. 8th. The construction and arrangement of coffe-dam A as shown at figures 9 10. 9th. The construction and arrangement of coffe-dam A as shown at figure 11.

**No. 16,787. Improvements on Wheel Hubs.**

(*Perfectionnements aux moyeux des roues.*)

Thomas B. Dowsley, Owen Sound, Ont., 4th May, 1883; for 5 years.

*Claim*.—A wheel hub constructed of a wood centre A mortised to receive the ends of the spokes B, and a metallic band *c* sleeved thereon, having independent or separated mortises, and spokes B bevelled to fit into the mortises and retain the band.

**No. 16,788. Apparatus for Treating Milk for the Manufacture of Butter and Cheese, and for Other Purposes.** (*Appareil de traitement du lait pour la fabrication du beurre et du fromage, et pour d'autres fins.*)

The Powell Manufacturing Company, (assignee Edwin R. Powell,) Burlington, Vt., U. S., 4th May, 1883; for 5 years.

*Claim*.—1st. The described process of treating milk for the manufacture of butter and cheese or for other purposes, which consists in first heating or raising the temperature of the milk and then cooling same *in vacuo*. 2nd. In the treatment of milk for the manufacture of butter and cheese or for other purposes, the method of developing the saccharine properties of the milk, which consists in exhausting the air from the milk containing vessel while the milk therein is in heated condition. 3rd. The combination of a suitable tank for receiving the cream, a suitable revolving dasher and pipes connected thereto at both of its ends, sliding couplings which are connected with the pipes that are attached to the revolving dasher and suitable flexible connections J for uniting the couplings with the pipes K L. 4th. The combination of a suitable tank in which the milk is placed a hollow revolving dasher which is journaled therein and connected with flexible pipes to pipes K L, whereby the tank is adapted to be raised or tilted at one end so as to cause the butter to be gathered at the opposite end. 5th. The combination of a tank to receive the milk provided with a suitable opening, to allow the milk to be poured in and the butter to be removed, with a hollow revolving dasher through which steam, hot or cold water can be forced, and suitable couplings to connect the dasher with the supply and exit pipes, the tank being connected to an exhausting medium so as to form a vacuum over the top of the milk while the cream is being raised.

**No. 16,789. Improvements on Bustles.**

(*Perfectionnements aux tournures.*)

Charles W. Higly, Jackson, Mich., U. S., 4th May, 1882; for 5 years.

*Claim*.—1st. The foundation springs A and curved springs B combined with the apron D having an opening E formed in it and rendered adjustable by elastics. 2nd. A bustle composed of the springs A B C, the apron D having an opening E provided with the elastics *b*, the skirt C, spring F and cord *d*.

**No. 16,790. Improvements on Windows.**

(*Perfectionnements aux fenêtres.*)

Samuel C. Taylor, Morton near Bingley, Eng., 4th May, 1883; for 5 years.

*Claim*.—1st. In a device for raising and lowering and controlling the sash of a window, the pulley D having the chamber K provided with the teeth *m*, the gear L provided with the studs X and teeth *a*, the sleeve P provided with the eccentric *n* and pulley G, the clutch M, shaft E, chain R, cord O and cord H. 2nd. The pivoted bars I to enable the sash C to be tilted or removed. 3rd. The auxiliary sill T provided with the sockets *j*, in combination with the sash C having the hinges *r*. 4th. The sash C provided with studs *y* *q*, in combination with the band Y provided with the bar I and space *z*. 5th. The door F in combination with the sash B. 6th. The sill U provided with the sockets *e*, in combination with the sash C having the hinges *r*. 7th. The sill U provided with the sockets 22, in combination with sash B having the flange 20. 8th. The sash C, auxiliary sill T, sash B and door F, in combination with means for raising and lowering the sash.

**No. 16,791. Improvements on Horse Collars.***(Perfectionnements aux colliers de cheval.)*

John H. Snyder and William Brodie, Muskegon, Mich., U. S., 4th May, 1883; for 5 years.

*Claim.*—1st. The combination of two hames having pads united to the same through only a portion of their length, leaving the upper ends of the hames free, with a jointed curved bar connecting the hames by hinged connections. 2nd. The combination of the hames with the curved bar C formed in two parts and united by a suitable fastening. 3rd. The curved bar C formed in two parts, the parts being provided respectively with the plates *d* and *d*<sub>1</sub> and the hook *c*. 4th. The curved bar secured to the hames by hinged joints, the pintles of which extend backward and form the trace hooks, in combination with the pads and their adjustable connecting strap.

**No. 16,792. Improvements in the Manufacture of Paper Pulp.***(Perfectionnements dans la fabrication de la pâte à papier.)*

George H. Mallary, London, Eng., 4th May, 1883; for 5 years.

*Claim.*—1st. In a machine for cutting or scraping fibres from wood blocks, the tilting bars *r* arranged in slots or apertures in the rotating disk, and operating in combination with the cutting or scraping blades and other parts. 2nd. In a machine for scraping or cutting wood for the production of fibrous materials, the employment of a device or devices for ensuring the proper position of the wood in relation to the blade or cutter which acts thereon. 3rd. The combination, with the tilting bar, of the spring or other device arranged to hold the same in an elastic or yielding manner. 4th. The air passages arranged in combination with the central pipe or tube *g*, and with the scraping blades *c* and tilting bars *r* in such a manner as to conduct the air from the said pipe to the said blades and tilting bars.

**No. 16,793. Improvements in Paper Bags.***(Perfectionnements aux sacs en papier.)*

Daniel Shirley, New Market, Va., U. S., 4th May, 1883; for 5 years.

*Claim.*—The combination, with the bag, of a flexible strip extending around the same as a re-enforce, said strip being provided with the gummed extension.

**No. 16,794. Improvement on Anchors.***(Perfectionnement des ancrés.)*

Lewis H. Rhoades, Bay Centre, W. T., U. S., 4th May, 1883; for 5 years.

*Claim.*—1st. The improved anchor having the shank made in two parts *b*, also having divided or branched flukes *c*, said shank and flukes being connected by the arms *d* which merge in points *e* and form the flukes. 2nd. The eye *a* for the cable, connected to the shank *b* by the elbows *c*, in combination with the divided or branched flukes *e* and connecting arms *d*.

**No. 16,795. Improvement on Envelopes.***(Perfectionnement des envelopes.)*

Knott H. Pedrick, Lynn, Mass., U. S., 4th May, 1883; for 5 years.

*Claim.*—The middle portion A having the short end flaps *a a* which are folded inward and provided with adhesive material on their outer faces, an inner flap B having the cut-away portion *e* and folded down upon the middle portion A so as to cover nearly the entire face of the same, and secured to the end flaps, and an outer flap *c* folded down upon the inner flap and extending flush with the edges of the inner portion A, the said construction producing an article having three unbroken plies of uniform thickness except where the side flaps and cut-away portion *e* are located, and affording a smooth unbroken body of uniform thickness upon either side of which a clear and regular impression can be made by a printing press.

**No. 16,796. Improvements on Tubular Lanterns.***(Perfectionnements aux lanternes tubulaires.)*

James Moncur, Owen Sound, Ont., 4th May, 1883; for 5 years.

*Claim.*—In combination with the tubes B B and D, the disk C provided with a spring bail E frictionally passing through staples K and having pendent springs G and spring wires A bent to encompass wire guides J or the tubes B of the lantern.

**No. 16,797. Improvements on Knock-Down Tables.***(Perfectionnements aux tables brisées.)*

Frederick H. De Tray and Reuben D. Vermilya, McLure, Ohio, U. S., 4th May, 1883; for 5 years.

*Claim.*—1st. The combination, with the table frame, the sides and ends of which have strap bails upon their inner sides, of the detachable top having hinged hooked arms upon its under side extending through the strap bails of the frame, and suitable keys or wedges driven between the hooked ends of the hinged arms and the under sides of the strap bails. 2nd. The knock-down table frame consisting of the legs connected in pairs by the end pieces F and having outwardly projecting hooked arms H and recesses N, in combination with the side pieces J having strap bails K provided with latterly projecting studs M and the keys L. 3rd. The knock-down table consisting of knock-down frame E F J provided with strap bails O and pins Q, in combination with the detachable top plate A having hinged hooked arms C and recesses R, and the keys or wedges P.

**No. 16,798. Improvements on Railway Track Layers.***(Perfectionnements aux machines à poser les voies de fer.)*

John Turner, Grosse Isle, Mich., U. S., 4th May, 1883; for 5 years.

*Claim.*—1st. A track laying car provided with a longitudinal track upon its floor, and an elevated longitudinal track of broader gauge, which latter projects beyond the end of said car, in combination with an auxiliary car, running upon said elevated track and provided with a hoisting apparatus. 2nd. In combination with a platform construction car of the ordinary character and provided with side pockets and a longitudinal track, the overhanging brackets adapted to support a track upon the track laying car.

**No. 16,799. Improvements in Flour Mills.***(Perfectionnements aux moulins à blé.)*

Harley M. Rounds, Clear Lake, Iowa, and Richard K. Noye, Buffalo, N. Y., U. S., 4th May, 1883; for 5 years.

*Claim.*—1st. The combination of a pair of rollers, each composed of several sections having the spaces between the working faces increasing in fineness, and the working faces increasing in length in the several successive pairs of sections, a separate feed and discharge compartment, and a separate sifting device for each pair of sections. 2nd. The combination of a pair of rollers each, composed of several sections having the spaces between the working faces increasing in fineness in the several pairs of sections, a separate feed and discharge compartment for each pair of sections, means whereby a differential peripheral rate of speed is imparted to the rollers, and a separate sifting device for each pair of sections. 3rd. The combination of a pair of rollers, each composed of several sections having the spaces between the working faces increasing in fineness, and the working faces increasing in length in the several successive pairs of sections, and a separate feed and discharge compartment for each pair of sections. 4th. The combination of a pair of rollers, each composed of several sections having the spaces between the working faces increasing in fineness in the several successive pairs of sections, means whereby a differential rate of speed is imparted to the rollers, a separate feed and discharge compartment for each pair of sections, means whereby the spaces between the working faces of the several pairs of sections can be increased or reduced, and a separate sifting device for each pair of sections. 5th. The combination of a pair of rollers, each composed of several sections having the spaces between their working faces increasing in fineness, and the working faces increasing in length in the several successive sections, a separate feed and discharge compartment for each pair of sections, and separating sieves corresponding in number with the several pairs of sections and increasing in width as the sections increase in length. 6th. The combination of a pair of rollers, each composed of several sections having the spaces between the working faces increasing in fineness in the several successive pairs of sections, means whereby a differential rate of speed is imparted to the rollers, a separate feed and discharge compartment for each pair of sections, separators whereby the product from each pair of sections is separately sifted, and an elevator whereby the coarse product of each separation is delivered to the next following pair of roller sections. 7th. The combination of a pair of rollers, each composed of several sections having the spaces between the working faces increasing in fineness in the several successive pairs of sections, means whereby a differential rate of speed is imparted to the rollers, a separate feed and discharge compartment for each pair of sections, separators whereby the product from each pair of sections is separately sifted, an elevator whereby the coarse product of each separation is delivered to the next following pair of roller sections, and a discharge whereby the coarse residue of the last separation is separately discharged. 8th. The combination, with the rollers B B<sub>1</sub> and journal boxes N O, of the levers R, screw-threaded rods *r*, standards S, screw nuts *s* and springs *q*.

**No. 16,800. Improvements on Saw Sets.***(Perfectionnements aux fers à contourner.)*

Emanuel Larson, South Pueblo, Col., U. S., 4th May, 1883; for 5 years.

*Claim.*—1st. The combination of the plate A, pivot B and bevelled gear wheels Q P provided with the projections R P<sub>2</sub> and actuated by the crank shaft *q*, whereby the saw is moved and set. 2nd. The combination, with the base A, pivot B and wheels P Q, of the rubber washer *c* and nut *d*. 3rd. The combination, with the base A having extensions A<sub>5</sub> provided with flanges B<sub>5</sub> and carrying friction rollers *c*<sub>5</sub>, of the saw clamp carrying flanges B<sub>5</sub> extending parallel to flanges B<sub>5</sub>. 4th. The combination, with the base A and pivot B, of the bar E, screw K, double bar J J<sub>2</sub> and clamp H H<sub>2</sub>. 5th. The combination, with the double bar J J<sub>2</sub> and clamp H H<sub>2</sub>, of the springs L M and their followers *m*. 6th. The combination, with the plate A, of the saw clamp consisting of the two jaws H H<sub>2</sub>, the lower of which is provided with trunnions *h* at its ends, and the screws G whereby the saw is adjustably held while being moved and set. 7th. The combination, with the double bar J J<sub>2</sub> and saw clamp H H<sub>2</sub>, of the screw K and the slotted bars V and screws *v*.

**No. 16,801. Improvements on Pad-Holders.***(Perfectionnements aux porte-buvards.)*

William J. Coughlin, Lowell, Mass., U. S., 4th May, 1883; for 5 years.

*Claim.*—1st. The combination of the elastic sheet B permanently bent upward near its ends at B<sub>1</sub> B<sub>2</sub> at about right angles, and provided with hooks B<sub>11</sub> B<sub>111</sub> and a handle A adapted to enter said hooks and to be held in position by the elasticity of said plate. 2nd. In a pad-holder consisting of an elastic sheet B permanently bent upward near its ends at B<sub>1</sub> B<sub>2</sub> and provided with hooks B<sub>11</sub> B<sub>111</sub> at its end edges, in combination with a handle A formed of wire bent into a quadrangular form.

**No. 16,802. Improvements on Speed Indicators.***(Perfectionnements aux indicateurs de la vitesse.)*

Thomas Blanchard, Stoughton, Mass., U. S., 4th May, 1883; for 5 years.

*Claim.*—1st. The bracket L, shaft N, segment O, shaft S, spur wheel

T, pinion *v*, shaft Z, pinion *g*, hand *f* and dial W, in combination with means for supporting the bracket and with operative mechanism. 2nd. The counter-balance *l* in combination with the hand shaft Z, to prevent back leash and steady the hand. 3rd. The dial W adapted to be adjusted to face in any desired direction to accommodate the workman having it in charge. 4th. A vertically arranged shaft, a pulley or means for rotating the shaft, a dial, a hand arranged to traverse the dial, and suitable intermediate operative mechanism connecting the shaft and hand, the dial being adapted to move around the shaft at its centre of motion, or to be faced outwardly in either direction from the shaft. 5th. The improved speed indicator herein described, the same consisting of the body A, shaft B, whorl C, sleeve H, collet Q, bars I, arms E, balls G, lever R, collet P, shaft N, segment O, pinion *v*, shaft S, wheel T, pinion *g*, shaft Z, weight *l*, cord *h*, dial W, hand *f* and brackets *u* *m*.

**No. 16,803. Improvements on Car-Couplings.** (*Perfectionnements aux accouplages des chars.*)

Arthur H. Armstrong, Plainville, Conn., U.S., 4th May, for 5 years.

*Claim.*—1st. The combination of the ordinary coupling pin *a*, the mainhead chambered and the supplementary head hung therein having the hopper mouthed outer end *e*, which projects beyond the end of the main head, and provided with the vertical pin holding orifice, the whole so combined that the supplementary head, with the coupling pin therein, may rock on its trunnions to adjust itself to a like coupling mounted at a different height. 2nd. The combination of the main head, the supplementary head hung thereon upon trunnions and having the hopper mouthed outer end, and the gravity pin holding lever hung within the supplementary and rocking head. 3rd. The combination of the main head having slotted side walls, and the supplementary head hung upon trunnions within said walls for tipping its outer end downwards, while the slotted walls permit the trunnions and outer end of the head to be raised.

**No. 16,804. Improvements in Shingle Machines.** (*Perfectionnements aux machines à bardeau.*)

Calvin J. Weld, George W. Hooker, Brattleboro, and Guy C. Noble, St. Albans, Vt., U.S., 4th May, 1883; for 5 years.

*Claim.*—1st. The combination, with a circular saw, of adjustable gang frames adapted to receive and incline the bolts, the said frames being provided with operating mechanism, two or more reciprocating sliding carriages, the said carriages being connected together and provided with spring grips having tappet arms projecting therefrom, suitable stationary guides for governing the action of the spring grips and mechanism for imparting motion to the sliding carriages. 2nd. The combination of a reciprocating carriage having spring actuated grips carried by a sliding bar to clamp the bolt, and the inclined projections operating to withdraw the grips, with the oscillating frame operated by the shaft provided with cam faces. 3rd. The combination of the oscillating frame, the shaft with cam faces, and the ratchet and pawl mechanism adapted to be operated by the carriage. 4th. The combination, with a shingle sawing machine having a horizontal saw, of a horizontal saw-dust pipe R arranged at the side of the machine, to inclose the edge of the saw and convey the saw-dust therefrom.

**No. 16,805. Improvements in Ash-Sifters.** (*Perfectionnements aux cribles à cendres.*)

Christian Cook, Baltimore, Md., U.S., 5th May, 1883; for 5 years.

*Claim.*—In combination with the box B and the removable sieve and spindle respectively represented by A and *c*, the sections *a* and *b* of the lid, the latter being notched to fit over the spindle *c*.

**No. 16,806. Improvements on Horse Power Machines.** (*Perfectionnements aux machines.*)

William O. Frost, LeRoy, N. Y., U. S., 5th May 1883; for 15 years.

*Claim.*—1st. The combination of the top plate, the planet wheel having the central recess or socket, and the hub on the top plate which the oil duct through it and on which the planet wheel turns. 2nd. The combination of the top plate, the sweep resting upon the top plate beneath an upper sweep, laying at right angles with the lower one and both secured in position by the clamping device. 3rd. The combination of the top plate, the sockets on the plate for the sweep, the bolts recessed in the inner face of the socket, and the clamping bar for securing the sweep upon its rest. 4th. The combination of the top plate, the sweep, the open rests or sockets on the plate of the sweep, and the clamping device for securing the sweep so as to permit its endwise adjustment.

**No. 16,807. Improvements on Car-Shunters.** (*Perfectionnements aux machines de garage.*)

La Fayette Collins, Bay, Mich., U.S., 5th May, 1883; for 5 years.

*Claim.*—A car shunting device composed of the bars A B E and straps D pivotally secured to the lever C.

**No. 16,808. Improvements on Tow Boats.** (*Perfectionnements aux remorqueurs.*)

Alexander McDougall, Duluth, Minn., U.S., 5th May 1883; for 5 years.

*Claim.*—1st. A tow-boat having a flat bottom and vertical sides, except at the ends, a semi-cylindrical upper portion throughout its entire length and having the bottom and sides toward the ends taper-

ing in outwardly curved lines to the extremities, so as to form a precisely similar conical bow and stern. 2nd. A water tight fore castle having a windlass supported by hangers and operated from a turrece deck above the fore-castle. 3rd. In combination with the turrets and communicating with them, a water tight cabin and fore-castle arranged on the upper part of the hull and communicating with each other by means of a water tight passage way in the upper central portion of the hull, all adapted to preserve the equilibrium of the hull under all conditions. 4th. The skeleton of the tow-boat composed of numerous rib frames precisely alike in size and form, each with flat lower parts and vertical sides and rounded tops throughout the body of the hull, bow and stern frames nearly annular and precisely alike in size and form, at equal distances from the extreme ends and cross beams, and stanchions secured together at their points of contact, whereby a keel and stern and stern post are dispensed with.

**No. 16,809. Improvements on Ore Separators.** (*Perfectionnements aux séparateurs des minerais.*)

George A. Metcalfe, Malden, Mass., U.S., 5th May, 1883; for 5 years.

*Claim.*—1st. The tank A having the perforated diaphragm B and water space beneath it, and provided with a gate for the discharge of the heavier metal above the diaphragm, and a gate or overflow in a higher plane for the escape of the lighter material, in combination with a rotary agitator adapted to act simultaneously on all portions of the mass.

**No. 16,810. Improvements on Canvas Boats.** (*Perfectionnements aux canots en toile.*)

Campbell M. Douglas, Quebec, Que., 5th May, 1883; for 5 years.

*Claim.*—1st. In a boat constructed with the gunwales hinged to the stem and stern posts of the keelson, and with a canvas other suitable covering of suitable material secured to the gunwales and to the keelson, whereby the gunwales can be folded down against the keelson. 2nd. The combination, with the keelson having stem and stern posts, of the gunwales hinged to the same canvas attached to the gunwales and keelson, and longitudinal strips attached to the inner and outer surfaces of the canvas. 3rd. The combination, with the keelson having stem and stern posts, of gunwales hinged to the said stem and stern posts, canvas attached to the gunwales and keelson, and transverse stretchers or ribs adapted to support the gunwales and held in notches in the upper edge of the keelson. 4th. The combination, with a keelson having stem and stern posts, of gunwales hinged to the said stem and stern posts and composed of an outer strip C<sub>1</sub> and an inner strip C<sub>2</sub> projecting below the edge of the outer strip C<sub>1</sub> and stretchers or ribs E, the ends of which are passed between the strips E<sub>2</sub> and the canvas D which is attached to the gunwales and the keelson. 5th. The combination, with a keelson having stem and stern posts, canvas attached to the gunwales and to the keelson, of the removable stretchers or ribs *b*, the pins G, and the cross pieces H held on the ribs by the pins G. 6th. The combination, with a keelson having stem and stern posts, canvas attached to the gunwales and to the keelson, of the removable stretchers or ribs *b*, the pins G, the cross pieces H and the seat I provided with a pivoted leg K. 7th. The combination, with a keelson having stem and stern posts, canvas attached to the gunwales and to the keelson, of the removable stretchers or ribs E and the cross-bar M. 8th. The combination, with a keelson having stem and stern posts, canvas attached to the gunwales and to the keelson, of the removable stretchers or ribs E, the false bottom planks L, the buttons *l* on the keelson, and the buttons *m* on the ribs E.

**No. 16,811. Improvements on Brushes.** (*Perfectionnements aux pinceaux.*)

Daniel A. McDonel, Mich., U.S., 5th May, 1883; for 5 years.

*Claim.*—A brush wherein the head is provided with a saw kerf at the base of the channel, which contains the bristles.

**No. 16,812. Improvements in Spectacles.** (*Perfectionnements aux lunettes.*)

Samuel Ollendorff, Detroit, Mich., U. S., 5th May, 1883; for 5 years.

*Claim.*—The eye wires and nose piece formed of the softer and non-corrosive metals, and the rule joints and temples formed of steel, such joints being soldered at a low temperature to the eye wires.

**No. 16,813. Improvement in Fences.** (*Perfectionnement des clôtures.*)

Alonzo Russell and Andrew J. Russell, Burr Oak, Mich., U. S., 5th May, 1883; for 5 years.

*Claim.*—The posts A, the side stakes B, the longitudinal rails D and the braces C, the parts being wired together.

**No. 16,814. Machine for Sharpening the Knives of Mowers.** (*Machine à ré-mouler les lames des faucheuses.*)

Peter Straith, Toronto, Ont., 5th May, 1883; for 5 years.

*Claim.*—1st. The combination, with the frame B provided with the boxes *d* and sliding bar D, of the slotted adjustable standards E formed in pairs secured together by the clamping screws *f*, the pivoted notched holders F and the stone A. 2nd. The combination, with the stone A, pinions *a* *b* and slotted frame B, of the transverse adjustable bar D, adjustable standards E, notched pivoted holders F, lever H and holder F pivoted thereto, and pitman *h* connecting the forward end of the lever H with the crank pin *a*.

**No. 16,815. Improvements on Catamenial Sacks.** (*Perfectionnements aux sacs cataméniaux.*)

Inadilla G. Campb. II, Chicago, Ill., U. S., 5th May, 1883; for 5 years.

*Claim.*—The soft rubber or other water-proof material enclosing sack with two straps at one end, and one at the other, and with a central longitudinal opening cut out from the rubber, for the insertion of the common cloth napkin.

**No. 16,816. Improvement on Crozes.** (*Perfectionnement des jabloires.*)

James England, New York, N. Y., U. S., 5th May, 1883; for 5 years.

*Claim.*—1st. A combination croze so constructed and arranged that it may be adjusted to cut either large or small grooves. 2nd. In a combination croze, the tool-holder B of the form and shape indicated in Fig. 1 and provided with the slots *c c t* and *o o t*, and set screw *e e t*. 3rd. The combination, with the tool-holder B, of the handle or stem A, the gland *n*, head or block E and set screws W. 4th. The combination, with the tool-holder B provided with the slots *c c t* and *o o t*, of the lances *s*, chisel or router *h*, handle or stem A and screw *u e e t*. 5th. The tool-holder B provided with the ribs *b* extending lengthwise of its body, the cross ribs *d*, slots *c c t* and *o o t*, in combination with the router or chisel *h*, lances *s*, handle or stem A, set screws *u e e t*, gland *n* and head or block E.

**No. 16,817. Improvements on Antimony Furnaces.** (*Perfectionnements aux fours à antimoine.*)

Arthur Hudson, Newton, Mass., U. S., 5th May, 1883; for 5 years.

*Claim.*—1st. The method of producing antimony consisting in first, roasting the ore or its tersulphuret in a muffle *a*, conducting the volatile oxide of antimony and sulphurous acid through one or more condensing chambers *c f g*, where the oxide of antimony is deposited and the separated sulphur us acid conducted over the nitrate pot *h*, through the flue *h* to the condensing tower *i*, where it is converted and condensed into sulphuric acid and conducted to the acid chamber *n*. 2nd. The improved antimony furnace consisting of muffle *a*, furnace *c*, one or more condensing chambers *c f g*, nitrate pot or its equivalent *h*, the condensing tower *i* with its shelves or grates K K, K<sub>1</sub>, coke or pumice stone *l* and water-pipe and sprinkler *m m*.

**No. 16,818. Improvements on Grain Separators.** (*Perfectionnements aux séparateurs des grains.*)

John E. Smith, Shilok, Ohio, U. S., 5th May, 1883; (Extension of Patent No. 8780.)

**No. 16,819. Improvements on Copper Smelting Furnaces.** (*Perfectionnements aux fourneaux de fusion du cuivre.*)

George H. Nichols, William H. Nichols and John B. F. Herreshoff, Brooklyn, N. Y., U. S., 5th May, 1883; for 5 years.

*Claim.*—1st. The combination of a smelting furnace having water jacket around the discharge opening *a* near its lower end, with the removable well or receiver F having inlet opening *d* near its upper end and with a water jacket having opening *d'* attached to said well and forming a continuous passage with opening *d*, so that it will be interposed between the well and water jacket on said furnace and continuous therewith, when said well is placed against said furnace. 2nd. The combination of a smelting furnace having tap hole *a* with a movable well F having inlet opening *d*, which is continuous with said tap hole *a* when the well is in position, said well being provided with a vertical water jacket in its outer side, said water jacket forming a passage *d'* contiguous to, and in line with the inlet opening *d* of the well.

**No. 16,820. Improvements in Filtering Apparatus.** (*Perfectionnements aux appareils de filtration.*)

John F. C. Farquhar and Walter Oldham, Paris, France, 5th May, 1883; for 15 years.

*Claim.*—The combination of the filtering chamber, the hollow cutter-head, the perforated bottom thereof, the tubular piston rod and the screw. The combination of the cutter head, the filtering chamber and the convex grid at the bottom of the filtering chamber. The combination of the cutter head, the filtering chamber and the convex grid at the bottom of said chamber constructed of less diameter than said chamber, so that a peripheral pocket is formed for filtering material around said grid. The combination of the filtering chamber, the grid and clamp ring by which the cloth is secured over the grid. The combination of the filtering chamber, the revolving cutter head, the screw, the screw nut, the cross-head which supports said screw nut, and the incline uprights which combine said cross-head with the filtering chamber.

**No. 16,821. Improvements in Roofing Compositions.** (*Perfectionnements aux compositions à toitures.*)

Gustave H. Poschel, Union Hill, N. J., U. S., 5th May, 1883; for 5 years.

*Claim.*—1st. A roofing composition made of a mixture of chalk, sulphur, asphalt, tar and pitch. 2nd. A compound roofing made of layers of paper alternating with layers of a mixture of chalk, sulphur, asphalt, tar and pitch.

**No. 16,822. Improvements on Vent Pegs.** (*Perfectionnements aux fausssets.*)

Henry A. Rayner, London, Ont., 5th May, 1883; for 5 years.

*Claim.*—The castings A C with interior spindle E D, and spring F for controlling the orifice G.

**No. 16,823. Improvements in Universal Joints.** (*Perfectionnements aux joints universels.*)

Peter Lord, Jean B. Vinet and Avila S. Vinet, Montreal, Que., 5th May, 1883; for 5 years.

*Claim.*—The combination of the elbow C, connecting branches A, bar D pivot connection and tightening screw.

**No. 16,824. Clothes Drier.** (*Séchoir à linge.*)

George W. Ainsworth, Montpelier, Vt., U. S., 5th May, 1883; (extension of Patent No. 2315.)

**No. 16,825. Swinging Baby's Chair.** (*Branle.*)

William W. Butcher, London, Ont., 8th May, 1883; (extension of Patent No. 2342.)

**No. 16,826. Improvements in the Manufacture of India Rubber, Gutta Percha and Analogous Gums.** (*Perfectionnements dans la fabrication du caoutchouc, de la gutta-percha et des gommes analogues.*)

Henry Gerner, New York, N. Y., U. S., 11th May, 1883; for 15 years.

*Claim.*—1st. The use and treatment of camphor or its chemical equivalent, in combination with india rubber, gutta percha or an analogous gum, and with sulphur or its chemical equivalent, without the admixture of metallic salts or other foreign bodies commonly used in the manufacture of rubber. 2nd. The use and treatment, in combination with mixtures of india rubber, gutta percha or an analogous gum, of the farinas of mustard seed, poppy seed, linseed or their equivalents, separated from their oils and husks. 3rd. The combined use of (a) camphor or its chemical equivalent, (b) india rubber, gutta percha or analogous gum, (c) sulphur or its chemical equivalent, (d) farinas of mustard seed, poppy seed, linseed, or their equivalents, separated from their oils and husks. 4th. The use and treatment of gum kauri or analogous resinous gum, in combination with camphor or its chemical equivalent, and with sulphur or its chemical equivalent. 5th. The combined use of (a) gum kauri or an analogous resinous gum, (b) camphor or its chemical equivalent, (c) sulphur or its chemical equivalent, (d) farinas of mustard seed, poppy seed, linseed or their equivalents, separated from their oils and husks.

**No. 16,827. Improvements in Coating Iron with Lead.** (*Perfectionnements dans le mode de couvrir le fer avec du plomb.*)

James A. Graham, London, Eng., 11th May, 1883; for 15 years.

*Claim.*—The coating of iron with a covering of lead of any required thickness by treating the surface with what is commonly known as chloride of zinc, and then raising the temperature of such surface to or above the melting point of lead and applying a suitable quantity of lead thereto, and allowing it to remain thereon until it has solidified.

**No. 16,828. Improvements on Secondary Batteries.** (*Perfectionnements des batteries secondaires.*)

Joseph S. Beaman, William Taylor and Frank King, London, Eng., 11th May, 1883; for 5 years.

*Claim.*—1st. The formation of secondary or storage batteries of ribbons, or tapes of insulating material covered with metal combined with lead or lead salts, or ribbons or tapes of metal, in combination with an insulating ribbon or tape alone, or used to form a carrier for lead or lead salts. 2nd. The use, in combination with the improved plates, of powdered and inert material for covering the insulating ribbons for batteries, alone or in combination with lead or lead salts, and the use of such ribbons when coated with inert material on one side, and lead or lead salts on the other. 3rd. The use in combination with the improved plates, of the mode of connecting the plates, the hook attachment connection, the ventilating valve, the distance studs and supporting rods or their respective equivalents, and the insulated tray stand or support for cell.

**No. 16,829. Improvements on Fire-Escapes** (*Perfectionnements aux sauveteurs d'incendie*)

Henry E. Braumfeld, Philadelphia, Penn., U. S., 11th May, 1883; for 5 years.

*Claim.*—1st. A fire-escape composed of the box A, the pulleys B and the rope C, said box having an eye D at each end, and the removable ring or loop D<sub>1</sub> which is formed with a flat side *d* and a journal *c*. 2nd. The fire-escape box having at opposite ends eyes D D, each with an opening *b*, in combination with the ring or loop D<sub>1</sub> which is formed with a journal *c* and flat side *d*, and adapted to be fitted to either side of said eyes D.

**No. 16,830. Improvements on Traction Engines.** (*Perfectionnements aux machines de traction.*)

John H. Elward, Polo, Ill., U. S., 11th May, 1883; for 15 years.

*Claim.*—1st. The combination of the traction wheels, the main engine shaft, the train or series of gearing wheels driven by said shaft, the mechanism separated from said train or series of wheels for driving the traction wheels, and the friction clutch interposed between said traction driving mechanism and the train of wheels operated by the shaft. 2nd. The combination of the traction wheels, the main engine shaft, the train or series of gear wheels driven by said shaft, the means for reversing the direction of the last wheel of the train or series, and the friction clutch between the mechanism for driving the traction wheels and the reversible wheel. 3rd. The combination of the traction wheels, the engine shaft, the train or series of gear wheels driven by said shaft, the chain wheel C<sub>2</sub> for driving the traction wheels, the means for reversing said chain wheel, and the friction clutch interposed between the reversing mechanism and the chain wheel. 4th. The combination, with the chain wheel C<sub>2</sub>, the wheel  $\sigma$  and the intermediate mechanism for driving the chain wheel, of the shaft Q<sub>5</sub> situated centrally within said chain wheel, and the journals  $\gamma$ ,  $\gamma$  attached to said shaft eccentrically, and the shifting mechanism for rotating the shaft Q<sub>5</sub> on said eccentric journal. 5th. The combination, with the chain C<sub>2</sub> and the shifting gear Q<sub>3</sub>, Q<sub>4</sub>, of the sprocket wheel C<sub>2</sub> loosely supported by said wheel Q<sub>3</sub>, Q<sub>4</sub>, and mechanism for forcing the sprocket-wheel into frictional engagement with the said wheel Q<sub>3</sub>, Q<sub>4</sub>. 6th. The combination of the following elements, namely: a boiler, an engine thereon, a rear truck, a driving mechanism mounted on said truck for moving the rear wheels, a front truck movable relatively to the boiler and engine, a driving mechanism on said front truck for moving the front wheels, and an automatically extensible power transmitting mechanism connecting the driving mechanism on the rear truck with the driving mechanism on the front truck. 7th. The combination of the following elements, viz: the rear truck, a driving mechanism on said truck for moving the rear wheels, a front truck, a driving mechanism mounted thereon for moving the front wheels, the sprocket wheel D<sub>7</sub> D<sub>8</sub> arranged to approach and recede from each other, the sprocket chain E<sub>3</sub>, and devices for expanding the chain. 8th. The combination of the rear truck, the counter shaft C<sub>4</sub> on said truck, the wheels on said shaft engaging directly with the rear traction wheels, the compensating gear on said shaft, the front truck, the counter-shaft D<sub>1</sub> on the front truck, the wheels on said shaft D<sub>1</sub> which engage directly with the front machine wheels, the compensating gear on said shaft D<sub>1</sub>, the short counter-shaft D<sub>3</sub>, the bevel gearing on the rear truck, the bevel gearing on the front truck and the flexible power transmitting devices between the trucks. 9th. The combination of the front traction wheels mounted loosely, the front counter-shaft D<sub>1</sub> engaging directly with said wheels, the compensating gear on said shaft, the rear traction wheels mounted loosely, the counter-shaft C<sub>4</sub> engaging directly therewith, the compensating gear on said shaft C<sub>4</sub> and the extensible power transmitting mechanism between said shafts C<sub>4</sub> and D<sub>1</sub>. 10th. The combination, with the driving mechanism which moves the rear traction wheels and the chain E<sub>3</sub>, of the counter-shaft D<sub>1</sub> engaging with the front traction wheels, the compensating gear on said counter-shaft D<sub>1</sub>, and the shaft D<sub>3</sub> mounted upon the front truck to receive the power from the chain E<sub>3</sub> and impart it to the compensating gear on the shaft. 11th. The combination of a driving mechanism for the rear wheels, a driving mechanism for the front wheels, a power transmitting mechanism, a frame work for supporting upon the front wheels the mechanism which drives them, the pivotal bearing of the boiler resting upon said frame work, and the arms F<sub>4</sub> arranged to loosely connect said frame work to the boiler.

### No. 16,831. Improvements on Potato-Diggers. (*Perfectionnements aux arrache-patates.*)

Robert A. Clark, Liverpool, Eng., 11th May, 1883; for 5 years.

*Claim.*—1st. The combination of an exterior stationary frame, nearly or entirely encircling the riddle and carrying bearing pulleys with the riddle, having a circular rim running upon said rollers and revolving inside said stationary frame and supported thereby. 2nd. A rotating cylindrical or conical riddle open at one end, to receive the potatoes from a travelling band projecting into it, and supported at the other end by a central pivot or shaft, round which the gear-wheel revolves that transmits motion to the riddle. 3rd. The combination of the riddle driven from one of the carrying shafts of the machine, with the digging and conveying apparatus driven from the other conveying shaft. 4th. The combination of the riddle with backward projecting arms *k*, and plate *j* protecting the bevel gearing from the dirt escaping from the riddle, and the bevel gearing *l*. 5th. In combination with the riddle F in a potato digging and separating machine, the spade D and travelling belt E. 6th. The combination of a finger-wheel helping forward the material detached by the spade D, with the belt E carrying forward the material to riddle F. 7th. The vertical adjustment actuating both the digging and conveying apparatus so that, in proportion as the digging apparatus is raised or lowered, the conveying apparatus is proportionally raised or lowered with it. 8th. The combination, with the trough C, of a tie-rod *e*, and screw *b*. 9th. In combination with the riddle F in a potato digging and separating machine, a hoop *f* having rollers *h*. 10th. The combination of a chain of balls lying in the exterior of the riddle, with the riddle so arranged that, as it rotates, the balls shall tumble over the bars and thus shake adhering material off. 11th. In combination with a potato digging machine, a bar G projecting from the posterior or extremity, so as to enable the attendant to slow the machine round more easily. 12th. The combination of the conveying device E not run directly from the main shaft, but from intermediate gearing which increases the speed, so that the conveying is done quicker than the actual digging.

### No. 16,832. Improvements in the Manufacture of White Lead. (*Perfectionnements dans la fabrication du blanc de plomb.*)

Edward V. Gardner, London, Eng., 11th May, 1883; for 5 years.

*Claim.*—1st. The preparation of lead by submitting it to the action of a mixture of acetic acid and acetate or nitrate of lead and water, or in a mixture of nitric acid, acetate or nitrate of lead and water, or in a mixture of these acids and the said salts of lead and water. 2nd. The method of granulating or spongyfying lead by dropping the molten

metal on to a slab arranged within a tank. 3rd. The arrangement of electro-negatives to lead such as carbon, platinum and so on, in connection with the lead to be converted into white lead, so that they shall be in electrical relationship to each other. 4th. The employment of ozonized material (such material being ozonized before entering the chamber, or they may be ozonized within the chamber by electrical discharges) alone or in combination with the electro-negatives referred to in the third claim. 5th. The method of producing carbonic acid gas, by causing paraffine petroleum or other such like carbonaceous substances, or a mixture of the same to act upon heated carbonates, and by fully oxidizing the products of such action. 6th. The manufacture of oxide and sub-oxide, and sub-salts of lead. 7th. The construction and arrangement of the apparatus, consisting of tank D, containers G having pipes I to L, and K within body A having outlet E, with or without inlets S L, and connected to feed tank N by pipes O, 8th. The employment of the mixed vapours of acetic and nitric acids and water, alone or mixed with air or oxygen, or carbonic acid in ordinary condition or with ozonized materials. 9th. The construction of the communicating apparatus, consisting of body A having one or more hoppers F<sub>2</sub> F<sub>3</sub>, and internally provided with one or more perforated cylinders F<sub>1</sub> and sieves G<sub>2</sub>.

### No. 16,833. Railroad Construction Car.

(*Char de chemin de fer de construction.*)

Adélard F. Martel, Montreal, Que., 11th May, 1883; for 5 years.

*Claim.*—1st. The car of a construction train fitted with a trough, channel or gutter, yieldingly connected at the joints of the cars and supporting the upper course of an endless chain which is actuated by hand or other power through the medium of a winch at one end of the train, by the rearward movement of which the chain, the ties and rails, with which the train is loaded, being thrown into the said trough, may be deposited as nearly as may be on the spot where they are required to be secured on the track. 2nd. The combination of the troughs T secured by the brackets B carrying the endless chains E, friction pulleys F, chain wheels W, crank-handle H, intermediate transmission gear between said chain-wheels and crank-handle, with the cars of an ordinary construction train. 3rd. The short trough T<sub>1</sub>, pivoted at the rear end of the car to the trough T, and overlapping the forward end of the trough T of the rearward car, forming a sliding and yielding joint of the trough.

### No. 16,834. Improvements on Atmospheric Motors. (*Perfectionnements aux moteurs atmosphériques.*)

Benjamin J. Forster, Glen-Williams, Ont., 11th May, 1883; for 5 years.

*Claim.*—1st. In a flexible air-tight vessel, in combination with mechanism so arranged in connection with the flexible vessel that the reciprocating movement of the vessel produced by the expansion and contraction of the air within it, due to the increase or decrease in the temperature of the atmosphere, shall impart movement to a motor capable of storing the power thereby produced, and reproducing the same at such times as required. 2nd. In an apparatus to produce motion by the expansion and contraction of air, due to the increase or decrease in the temperature of the atmosphere, an air-tight flexible vessel connected to mechanism, deriving its motion from the expansion and contraction of the said vessel, in combination with an inflexible air reservoir, also air-tight but communicating with the flexible vessel. 3rd. In an apparatus for utilizing the changes in the temperature of the atmosphere and in which motive power is applied to mechanism by the reciprocating movement of an air-tight flexible vessel, the combination of an inflexible air-tight vessel connected to the flexible vessel and provided with a mercurial safety valve. 4th. An air-tight flexible cylinder A, fixed at one end to the table C and having its movable head provided with friction rollers D working in guide-bars E, in combination with the counterbalance weights I. 5th. In an apparatus for utilizing the changes in the temperature of the atmosphere, by the expansion and contraction of a flexible cylinder, an endless chain L passing around the pulleys M N, in combination with the cross-head G connected to, and effected by the movement of the flexible cylinder, and having pivoted on it the dogs O P, arranged to engage with the chain L. 6th. In an apparatus for utilizing the changes in the temperature of the atmosphere, by the expansion and contraction of a flexible cylinder arranged to impart a rotary movement to a spindle, the combination of a ribbon spring S, the inner end of which is connected to the spindle M<sub>1</sub> and the outer end to the flange T.

### No. 16,835. Improvements on Creamers.

(*Perfectionnements aux boîtes à lait.*)

Pierre Lessard and Benjamin Boutin, Ste-Marguerite, Que., 11th May, 1883; for 5 years.

*Claim.*—1st. In a milk can, the tube V having holes *v*, the can provided with a cover having a conical tube *l*<sub>2</sub> and a cross-tube *l*<sub>3</sub>. 2nd. The combination, in a milk can having a sloping bottom, a glass gauge faucet-tube V provided with holes *v*, a cover having conical tube *l*<sub>2</sub> and cross-tube *l*<sub>3</sub>.

### No. 16,836. Improvements on Vehicles.

(*Perfectionnements aux voitures.*)

James Allen, Alliston, Ont., 11th May, 1883; for 5 years.

*Claim.*—1st. In a buggy or other vehicle, a malleable iron fifth-wheel, the lower half of which is made solid with the metal bed-plate and has a groove cut round its top surface, to receive a projection formed on the upper half of the fifth-wheel. 2nd. In a buggy or other vehicle, a malleable iron fifth-wheel, the lower half of which is made solid with the metal bed-plate, which has a socket formed on its centre, and metal lug extending from it on either side of the head-block and axle. 3rd. In a buggy or other vehicle, a malleable iron fifth-wheel, the upper half of which is made solid with the metal head-plate and reach, in combination with lugs cast on the fifth-

wheel, on either side of the head-plate, and a projection cast on the centre of the head-plate to fit into the socket on the bed-plate, 4th. In a buggy or other vehicle, a malleable iron fifth-wheel, the upper half of which has cast on it a metal reach projecting beyond the circumference of the wheel, and a lug cast on the outer surface of the wheel opposite to, but on a line with the reach, in combination with a stay rod, one end of which is fastened to the reach and the other end to the lug on the opposite side of the wheel, the said rod being bent so as to pass round the axle-plate, passing over a bolt projecting from the bottom of the said plate at the centre of the fifth-wheel.

**No. 16,837. Improvement in Spark-Arresters.** (*Perfectionnement des arrête-flammèches.*)

Robert Brayton, David June and Oratus S. French, Trémont, Ohio, U. S., 11th May, 1883; (extension of Patent No. 8783.)

**No. 16,838. Improvements on Sounding Apparatus.** (*Perfectionnements aux appareils de sondage.*)

Joseph Léveillé, Montreal, Que., 11th May, 1883; (extension of Patent No. 8774.)

**No. 16,839. Improvements on Horse Rakes.** (*Perfectionnements aux râteliers à cheval.*)

William H. Hall, Tiffin, Ohio, U. S., 11th May, 1883; for 5 years.

*Claim.*—1st. The combination of an oscillating rake-head carrying wheels by which it is supported, a gear-wheel driven by said carrying wheels, a pinion turning in bearing upon the rake-head and meshing with said gear wheel, and a friction clutch or device adapted to arrest the motion of said pinion, whereby it will be carried onward along the periphery of the gear-wheel, to lift the rake-head and the teeth attached thereto. 2nd. The combination of a rake-head carrying wheels by which it is supported, spur-gears upon the hubs of said carrying wheels, pinions normally turning freely in or upon bearings connected with the rake-head and meshing with said gears, and frictions clutches with which said pinions may be caused to engage to prevent their rotation, whereby they will be carried along periphery of the spur-gears to lift the rake-head. 3rd. The combination of an oscillating rake-head carrying wheels by which it is supported, spur-gears upon the hubs of said carrying wheels, pinions meshing with said spur-gears, and mounted to turn loosely upon the ends of the rake-head, disks or flanges upon said pinions and opposing disks or flanges upon the ends of the rake-head, with which the pinions may be brought forcibly into contact, to prevent their revolution and cause them to be carried onward by the gears to oscillate the rake-head. 4th. The combination of an oscillating rake-head carrying wheels by which it is supported, spur-gears upon the hubs of said carrying wheels, flanged spur-pinions meshing with said gears and mounted to turn idly in or upon bearings carried by the rake-head, boxes upon the rake-head for the bearings of said pinions provided with opposing flanges and mechanism for moving the bearings longitudinally within the boxes, to clamp the flanges upon the pinions against the flanges upon the boxes, and thereby prevent the rotation of the latter to cause the dumping of the rake. 5th. The combination of an oscillating rake-head, draft or carrying wheels by which it is supported, spur-gears upon the hubs of said wheels, flanged spur-pinions engaging with said gears, stubs or spindles upon which these pinions turn loosely, boxes upon the ends of the rake-head through which the squared shanks of the spindles are carried, flanges upon said boxes opposing the flanges upon the pinions, and rods connecting said shanks to a double or compound lever at or near the centre of the rake-head, whereby the pinions may be simultaneously moved in against the box flanges to prevent their rotation by frictional contact therewith. 6th. The combination of the oscillating rake-head, the draft wheels, the spur-gears upon the hubs of said wheels, the flanged spur-pinions intermeshing with said gears, the stubs or spindles upon which said pinions turn, the box flanges at the end of the rake-head, and the rods operated by a central lever and connected to the squared shanks of said stubs by adjustable joints. 7th. The combination of the oscillating rake-head, the draft wheels, the spur-gears upon the hubs of said wheels, the flanged spur-pinions meshing with said gears, the stubs or spindles upon which these pinions turn loosely, the flanged boxes mounted upon the end of the rake-heads and supporting said spindles, the rods connected at one end to the shanks of said spindles, the double lever to which the rods are connected at their meeting ends, a sliding passing through the rake-head and taking into a slot in the force arm of said lever and the foot lever for operating said link. 8th. The combination of the oscillating rake-head, the draft wheels, the spur-gears upon the hubs of said wheels, the flanged spur-pinions intermeshing with said gears, the spindles upon which these pinions turn loosely, the flanged boxes fixed to the ends of the rake-head and supporting said spindles, the double lever pivoted near the centre of the rake-head, the rods connecting it with the shanks of the spindles at each end of said head, the sliding rod passing through the rake-head and taking into a slot in the force arm of said lever, the foot lever pivoted to the thill-frame and operating said rod to clamp the pinions against the box-flanges, and the spring pressing against the heel extension from the double lever on the rake-head, to return it and the pinions to their normal position when the foot-lever is released. 9th. The combination, to form a means for operating the clutch of a horse hay-rake, of a lever pivoted near the centre of said rake, rods pivoted to said lever on opposite side of the lever pivot and passing longitudinally to the respective ends of the rake-head where they are connected with the clutching mechanism, a sliding rod passing through the rake-head and taking into a slot upon the force arm of the lever thereon, and a foot lever pivoted to the thill-frame and connected with said rod, whereby the lever upon the rake-head may be moved to project or retract the rods. 10th. The combination, to form a means for operating the clutches in a horse hay-rake, of a lever pivoted near the centre of the rake-head, rods pivoted to said lever on each side of the lever-pivot and passing to the clutching devices at the respective ends of the rake-head, a sliding rod passing through the rake head and taking into a slotted force arm the lever

thereon, a foot lever pivoted to the thill-frame and connected with said sliding rods, whereby the lever on the rake-head may be moved to cause the engagement of the clutching devices, and a spring mounted upon the rake-head and pressing against the heel extension from the lever thereon, to restore it to its normal position and throw the clutching devices out of engagement. 11th. The combination of the oscillating rake-head, the draft wheels, the spur-gears upon the hubs of said wheels, the idle revolving spur-pinions meshing with said gears and supported by boxes on the rake-head, and shields or guards fixed to said boxes and covering or protecting the spur-gears and pinions.

**No. 16,840. Machine for Peeling Potatoes.** (*Machine à peler les patates.*)

Joseph A. Moffat, Hamilton, Ont., 11th May, 1883; for 5 years.

*Claim.*—1st. A potato-peeling machine in which the potato is held on a stationary fork, and the knife for peeling it is connected with a frame pivoted upon the spindle of the fork, the said knife being so supported that it will automatically traverse the surface of the potato upon the frame being caused to revolve upon its centre. 2nd. In a potato-peeling machine in which the potato is held on a stationary fork, the frame C journaled on the spindle of said fork and provided with the lugs H in which the vertical screw G is journaled, in combination with the knife-holding frame I arranged to carry the knife-holder and having pivoted upon it an arm K with a half nut cut in it to fit against the screw. 3rd. In a potato-peeling machine in which the potato is held on a stationary fork, the knife-holder M having fixed to one of its ends a curved knife O and pivoted at its other end to a vertically adjustable frame I, in combination with a spring H arranged to force the knife against the potato. 4th. The knife-holder M pivoted to the frame I and provided with a tail piece M', in combination with the arm K also pivoted to the frame I and having a half nut formed in it. 5th. The frame I having pivoted upon it the knife-holder M and being held to the frame C by the cross-head J fitting on to the guide J', and by the screw G pivoted in the lugs H and passing through holes in the frame I, in combination with the arm K pivoted to the frame I and having a half nut formed on it and arranged to come in contact with the screw G. 6th. The frame C pivoted on the spindle B of the fork D and having an adjustable cross-head E fitted into it, in combination with the stand A arranged to hold the spindle B stationary while the frame C revolves around it.

**No. 16,841. Improvements on Fire-Escapes.** (*Perfectionnements aux sautoyeurs d'incendie.*)

Robert A. Bush, Brockville, Ont., 11th May, 1883; for 5 years.

*Claim.*—A fire-escape, constructed of a flexible ladder E, one end attached to a spool D to roll thereon, and the other end secured to racks C C attachable to the sill of a window to suspend the ladder when unrolled, and to carry the spool when the ladder is wound thereon.

**No. 16,842. Improvements on Wheelbarrows.** (*Perfectionnements aux brouettes.*)

Peter Allard, Sherbrooke, Que., 11th May, 1883; for 5 years.

*Claim.*—The handles and frame being constructed in one continued length A A with the guard C, the malleable iron wheel D, the circular brace G and the straight brace F.

**No. 16,843. Improvements on Bag Fasteners.** (*Perfectionnements aux attaches des sacs.*)

Walter G. Fraser, Campbellford, Ont., 11th May, 1883; for 5 years.

*Claim.*—A bag fastener plate A having flanges B B and slots C C, pin F, strap E, secured to plate by washer E', and pins D D.

**No. 16,844. Improvements on Self-Closing Taps.** (*Perfectionnements aux robinets automatiques.*)

Francis Hyde, Toronto, Ont., 11th May, 1883; for 5 years.

*Claim.*—1st. A self-closing tap A constructed with an upwardly closing valve h, a stem b and seat h' with metallic washer h<sub>2</sub>, button a, gland c and spiral spring d. 2nd. A percussion chamber B constructed with a compression ball o placed in the chamber proper m, and cover n. 3rd. A self-closing tap A, in combination with a percussion chamber B attached to the tap. 4th. A percussion chamber B constructed with a compression ball o, in combination with the ordinary taps in common use when so required.

**No. 16,845. Improvements in Ointments.** (*Perfectionnements dans les onguents.*)

Francis McKay, Lobo, Ont., 12th May, 1883; for 5 years.

*Claim.*—A compound composed of the following ingredients: fresh unsalted butter, two pounds, black wool cut from the sheep's breast at the full of the moon, one ounce, three fresh eggs and flower of sulphur, two table-spoonsfuls.

**No. 16,846. Improvements in Churns.** (*Perfectionnements aux barattes.*)

Benjamin F. Moore and Benjamin Moore, Heathcote, Ont., 12th May, 1883; for 5 years.

*Claim.*—In combination, the frame posts C C D D secured to base A and blocks E F, and to inclined plank G, and an elbow lever H fulcrumed to plank G and carrying pitman K, crosshead L and guide rod N sliding in a hole in blocks E F.

**No. 16,847. Improvements on Truck Flangers.** (*Perfectionnements aux camions nettoyeurs des bourrelets de rails.*)

Nicholas Watson, Summerside, P. E. I., 12th May 1883; for 5 years.



*Claim.*—1st. The arms C carrying cutters being guided by wheels B. 2nd. The supports for carrying arms F F F G G G L L L, and braces or stays D D D. 3rd. The lever or arm, the friction plates I and automatic action. 4th. The cutter plates E E E E. 5th. The safety chains K.

**No. 16,848. Compound for Reducing the Friction of Cutting Tools when Cutting Threads on Bolts.** (*Composition pour réduire la friction des outils à fileter les boulons.*)

Mitchell T. Buchanan, Ingersoll, Ont., 12th May, 1883; for 5 years.

*Claim.*—A compound composed of sal soda or soda ash, tallow or tallow soap, and water.

**No. 16,849. Improvements on Heel Burnishing Tools.** (*Perfectionnements aux brunissoirs des talons.*)

Hiram Bond, (assignee of Edouard Bourgeois,) Haverhill, Mass., U.S., 12th May, 1883; for 5 years.

*Claim.*—1st. The improved heel-burnishing tool having the convex portion 2. 2nd. The improved heel-burnishing tool having the convex part 2 and the bevelled part 3 relatively arranged as described. 3rd. The improved heel-burnishing tool having the parts 4 and 5 adapted to finish the heel and or bead at the upper portion of the heel. 4th. The improved heel-burnishing tool having the parts 4, 5 and 6 arranged and operating as described. 5th. The improved heel-burnishing tool having the parts 2 3 4 5 and 6 arranged and adapted to be secured to a rotary holder.

**No. 16,850. Improvements in Stop Cocks.** (*Perfectionnements dans les robinets.*)

John Milne, Hamilton, Ont., 12th May, 1883; (extension of Patent No. 8785.)

**No. 16,851. Improvements in Flat Brushes.** (*Perfectionnements aux pinceaux plats.*)

John L. Whiting, Boston, Mass., U.S., 12th May, 1883; (extension of Patent No. 9017.)

**No. 16,852. Improvements in Flat Brushes.** (*Perfectionnements aux pinceaux plats.*)

John L. Whiting, Boston, Mass., U.S., 12th May, 1883; (extension of Patent No. 9017.)

**No. 16,853. Apparatus for Distillation of Oils.** (*Appareil de distillation des huiles.*)

The Imperial Oil Company, London, Ont., (assignee of J. B. Merriam, Cleveland Ohio, U.S.) 12th May, 1883; (extension of Patent No. 9438.)

**No. 16,854. Apparatus for Distillation of Oils.** (*Appareils de distillation des huiles.*)

The Imperial Oil Company, London, Ont., (assignee of J. B. Merriam, Cleveland, Ohio, U.S.) 14th May, 1883; (extension of Patent No. 9438.)

**No. 16,855. Improvements in Steam Vessels.** (*Perfectionnements aux vaisseaux à vapeur.*)

Dudley W. Case, Bay, Mich., U.S., 14th May, 1883; for 5 years.

*Claim.*—1st. A vessel carrying her own means of propulsion and consisting of a water-tight bow section, an open midship section through which the water may freely flow, and a water-tight stern section detachably secured to the open rear end of the midship section. 2nd. A vessel consisting of a tight bow section, an open midship section and a tight stern section, in combination with means for detachably securing said stern section to the open midship section. 3rd. In combination with a tight bow section, of a vessel and a detachable tight stern section thereof, an open midship section, the front and rear ends of which are built of timber of different gravity. 4th. In combination with a vessel, an overhanging frame supported on top of the open midship section provided with means for loading said section.

**No. 16,856. Improvements in Umbrellas.** (*Perfectionnements aux parapluies.*)

James B. Wilson, Philadelphia, Penn., U.S., 14th May, 1883; for 5 years.

*Claim.*—1st. An umbrella runner having a slot for the reception of a holding pin, and having the sides of the said slot bent up to form bearings for a spring catch of locking lever. 2nd. The combination, with sleeve *a* and notch *b*, of the lever C having two catches above its pivotal point, one of said catches being above, the other below, the notch, and the said lever being pivoted on said sleeve. 3rd. The combination, with the sleeve *a* and notch *b* of an umbrella runner, of a locking or catch lever C fulcrumed on the sleeve and supported on the notch, to avoid contact with the umbrella stick. 4th. An umbrella slide having a longitudinal slot extending its entire length, the metal adjacent to the edges of the slide being bent outwardly whereby bearings or supports are afforded for a locking lever. 5th. The combination, with an umbrella slide and notch, of a lever having two catches or heads said lever being fulcrumed on said slide and having both its heads between its fulcrum and the notch. 6th. The combination with an umbrella slide and notch, of a lever having two catches or heads

on the same side of its fulcrum, said lever having a support on said notch and said heads being located between the notch and lever fulcrum. 7th. The combination, with the slide tube and locking or holding lever, of the springs K of U-shape or approximate form, having its sides attached to the tube, its crosspiece passing beneath the lever. 8th. The combination, with an umbrella slide and a lever carrier thereon, of a spring secured to said slide by lugs or lips struck up from the metal of said slide. 9th. The combination of sleeve G having flanges *g* *g*, locking lever H having two heads or catches *h* *h*, spring K secured under, or in lips, or struck-up portions of said sleeve, notch I having opening *i* and stick A with catch pins.

**No. 16,857. Means for Regulating the Supply of Water to House Service Pipes and Cisterns.** (*Moyens de régler l'alimentation de l'eau des tuyaux de service et citernes des maisons.*)

Alfred St. C. Buxton, Frederick O. Ross, London, Eng., and Jacob E. Bloom, Cincinnati, Ohio, U.S., 14th May 1883; for 5 years.

*Claim.*—1st. The method of automatically cutting off the supply of water to house service pipes from street mains or source of supply when the temperature falls to the freezing point and re-instating the flow to said service pipes when the temperature again rises. 2nd. The method of automatically cutting off the supply of water to house service pipes and emptying said pipes when the thermometer or temperature falls to the freezing point. 3rd. The combination of a valve or valves controlling the entrance of water to the house service pipes, and means for automatically actuating said valves. 4th. The combination of a valve or valves opening and closing a cistern or supply reservoir, and means for automatically or mechanically actuating said valves when a fall or rise of temperature occurs. 5th. The combination of the devices shown at figures 1, 4, 5 and 6 together with those shown at figures 7, 8, 9 and 10 which can be operated by hand. 6th. The combination and arrangement shown in figures 1, 4, 5, 6, 7, 8 which are actuated by electricity. 7th. The combination shown in figures 10, 11 and 12 operated by hand and by means of an electrical trip-gear. 8th. The combination of parts of valve and pipes A B C, plug E, level D, adjustable weight F and automatic cut out G, whereby waste of battery power is avoided. 9th. A valve provided with an internal port as shown in figure 4. 10th. The arrangement and combination of valves and ports shown in figure 5, with rocking shaft and cam. 11th. The valve as shown in figure 7. 12th. The arrangement of ventilated cock openings, two channels as shown at figure 8 with ventilated port and plug. 13th. The arrangement of port and ports and valve as shown in figure 9. 14th. The swift or ventilating valve shown at figure 2. 15th. The mercurial thermometer combined with one or more glycerine bulbs shown in figures 1, 4 and 11 arranged to release the tripping gear at any desired temperature, for governing or controlling the combinations shown in said figures. 16th. The combination of electrical batteries, electro-magnets and thermometers, with the arrangements of valves as shown in figures 1, 4 and 11, for the purpose of drawing water from the service pipe S, the main supply having been previously cut off before the freezing point is reached. 17th. The combination shown at figure 13 consisting of a two way plunger cock, in which the plunger is provided with a recess so placed that, when the opening through A to the house service is closed, the water filling the pipes can escape by means of recess and channel C, the devices being controlled by means of an electrical thermometer, electro-magnet and trip-gear. 18th. The combination shown at figure 14 consisting of a two-way cock E operated by a lever fastened at both ends to piston and rod as shown at figure 14, Q being the cylinders, R the piston, the two-way cock T controlling the action of the cylinders Q and automatically turning the water on or off, when a current is sent round the magnets operating the small controlling cock T. 19th. The combination shown at figure 15 consisting of the main pipe A, piston R having two swift-valves S and plugs P, the double ported cock T actuated by the lever D and electro-magnets H, such electro-magnets forming part of the electric circuit governed by a thermometer so arranged as to reverse the action of the valve N (figure 16) operating the piston R and valve E. 20th. The combination of a cistern or supply reservoir, a pipe leading therefrom to the house service pipes, a valve or valves controlling the admission of water to said pipe or pipes, said valve or valves being actuated by a cord or lever through the intervention of an electro-magnet armature lever and electrical thermometer which is in circuit with the magnet, and a tap connected with the house service. 21st. The combination or combinations shown at figure 17 consisting of two-way cock iron core and solenoid or solenoids V U, such solenoids may be hollow cylinders, brass slit lengthwise or of ebonite wood or other good insulating substance, the cores may consist of iron tube or may be solid or they may be permanently magnetized, in which case, by the reversal of the current, one solenoid can be made to attract and repel the magnetized core so operating the valve. 22nd. The combinations described and shown at Figs. 19, 20, 21, in which leather or rubber caulk valves are employed in place of metal, other suitable substances may be used for forming the valve which can be operated by hand or by electricity. 23rd. The combination shown at Figs. 22, 23, wherein a permanent magnet is used for the purpose of controlling water supply, such magnets being wound in such a way as either to decrease their magnetic effect or depolarize them when a current is sent round their coils, or they can be so arranged by winding and connecting to the battery that their magnetism is increased, or such a combination can be used as that their effect may be increased or decreased at will, so that the valves may be controlled automatically.

**No. 16,858. Electric Perforator for Automatic Printing Telegraphs.** (*Perforateur électrique pour les télégraphes automatiques imprimants.*)

Albert F. Johnson and Frank B. Johnson, Brooklyn, N.Y., U.S., 14th May, 1883; for 5 years.

*Claim.*—1st. In an electrically operated perforator for automatic printing telegraphs, the combination of a series of punching rods *a*, each representing one particular letter or character, the punching

rod  $h_2$  for making a separate line of perforations to operate the feed mechanism of a receiving instrument, the feeding device composed of the pawl 3 ratchet 4, and roller or disk 5 to feed forward the paper  $p_2$ ; the electro-magnets  $F_2$   $F_3$ , each provided with a lever armature 1 constructed to operate said rods  $h_2$   $h_3$  and having one of its coils connected with one of the line wires  $f_4$   $f_5$ , and its other coil connected with a local battery through the medium of the copper ring J.

**No. 16,859. Improvements in Automatic Printing Telegraphs.** (*Perfectionnements dans les télégraphes automatiques imprimants.*)

Albert F. Johnson and Frank B. Johnson, Brooklyn, N.Y., U.S., 14th May, 1883; for 5 years.

*Claim.*—In a system of mechanism for automatically transmitting, receiving and printing telegraphic despatches, the combination of the following parts, viz: a strip of paper or similar material  $p$  on which the message to be sent is perforated in several lines or series  $g$  of perforations, each series representing one particular letter or character and on which is perforated a separate series  $g_1$  for operating the feed mechanism of the receiving instrument, a transmitting instrument having a separate circuit closer for each kind of letter or character employed, and another circuit closer for operating the feed mechanism of the receiving instrument, said transmitting instrument being constructed as described and its circuit closers adapted to be operated by said perforated strip, a receiving instrument having a series of separate electro-magnets  $F$ , each of which is connected by a line wire  $f_4$  with said transmitter and provided with devices to print one particular letter or character on a message strip therein, and having another separate electro-magnet  $F_1$  connected by line wire  $f_5$  with said transmitter and provided with mechanism to feed forward said message strip, and battery wires forming properly arranged electric circuits between said transmitting instrument and said receiving instrument.

**No. 16,860. Improvements on Paper Bag-Holders.** (*Perfectionnements aux porteurs de papier.*)

Thomas J. Graham, Mobile, Ala., U.S., 14th May, 1883; for 5 years.

*Claim.*—1st. The rod A having formed upon its bottom the support  $a$  and its projection  $a_1$ , and having secured across it the arms B to which is attached the spring C, around the horizontal portion of which is the roller D. 2nd. A paper bag-holder consisting of the rod A, the support  $a$  and its projection  $a_1$  and the hook  $d$  operating in combination with the spring C and roller D, adapted to retain the bags securely within the holder and to enable them to be easily withdrawn in desired quantities.

**No. 16,861. Improvements in Belting.** (*Perfectionnements dans les courroies.*)

Edwin M. Cross, Syracuse, N. Y., U. S., 14th May, 1883; for 5 years.

*Claim.*—A belt reinforced by longitudinal rows of stitches, or waxed or metallic thread extending the length of the belt.

**No. 16,862. Machinery for Sawing Barrel Hoops.** (*Machine à scier les cercles de barils.*)

Robert Williams, Boston, and William Bowker, Somerville, Mass., U.S., 14th May, 1883; for 5 years.

*Claim.*—1st. The combination of the rollers F applied to one or both sides of the band saw and supported by means substantially as described, with the roller carrying frame C and its journal  $c$  provided with lengthwise grooves  $c_1$  adapted to the furcated slide or supporter E, whether such rollers F be elastic or inelastic on their peripheries. 2nd. The combination of the removable saw bearing blocks or rests  $l$  with the saw carrying frame C provided with the journals  $c$  provided with lengthwise grooves and with the roller sustaining arms  $f$  extending therefrom. 3rd. The combination, with the hoop roller  $a$  and the sustaining frame C having journals  $c$  provided with lengthwise grooves  $c_1$ , of the carrier A adapted to such frame and hoop roller and provided with means for moving the roller within the frame C.

**No. 16,863. Improvements in Dynamo-Electric Machines.** (*Perfectionnements aux machines électro-dynamiques.*)

Elmer A. Sperry, Cortland, N. Y., U. S., 14th May, 1883; for 5 years.

*Claim.*—1st. An automatically adjusted commutator mounted loosely on the armature shaft, its sections retaining their connection with their respective armature coils. 2nd. In a dynamo-electric machine, flexible conductors in connection with the sections of an adjustable commutator, to place said commutator sections in connection with their respective armature coils. 3rd. The centrifugal governor in combination with the commutator and connected with the same, whereby its relative position is automatically controlled in response to variations in the speed of rotation of the machine. 4th. The combination, with the commutator of a dynamo-electric machine, of a current regulating device, whereby the commutator is caused to move automatically on the shaft relative to its points of maximum and minimum current in response to variations in an electric current. 5th. The combination, with the commutator brush clamps of the supporting springs  $F_2$   $F_3$  attached thereto, the free ends of which rest in slots provided in rods  $F_1$  upon which the clamps are loosely mounted, whereby the pressure of the brushes can be adjusted by rotating said rod. 6th. In a current regulating device, the combination of the pawls  $K_1$   $K_2$ , links  $L$ , lever  $K$ , armature  $M$  and spring  $m$ , with ratchets  $K_3$   $K_4$ .

**No. 16,864. Improvements on Spring Hoes.**

(*Perfectionnements aux hoes élastiques.*)

Jesse O. Wisner, Wareham S. Wisner and Edward L. Goold, (assignees of James S. Heath), Brantford, Ont., 14th May, 1883; for 5 years.

*Claim.*—1st. In a spring hoe in which the braces are connected at one end to a stud pivoted upon the drag bar, the combination of a device arranged to so connect the hoe to the braces that the angle of the said hoe may be readily adjusted without removing the pin which connects the braces to the hoe. 2nd. A spring hoe in which the braces are connected at one end to a stud pivoted on the drag bar, and at the other end by a pin passing through a slot made in a block pivoted on the end of the drag bar, and arranged to carry the hoe or cultivator tooth notches formed on the upper side of the slot, in combination with an eye bolt made to grasp the pin passing through the slot in order to draw the said pin into one or other of the notches. 3rd. A spring hoe having a block pivoted on the end of the drag bar and connected to the side braces, a vertical slot formed in the end of the block to receive the drill or cultivator hoe, in combination with a lip formed on the top of the block and designed to fit over the top of the hoe to retain it in position with a bolt passing through the block and hoe. 4th. In a spring hoe in which the braces are attached to a dog pivoted on the drag bar, the combination of a cylindrical casing pivoted in the drag bar and containing a spring for actuating a plunger attached to the dog.

**No. 16,865. Improvements on Creamers.**

(*Perfectionnements aux boîtes à lait.*)

Damase M. Poirier, Halifax, Que., 14 May, 1883; for 5 years.

*Claim.*—The combination, with any milking can or creamer, of the plug faucet A having the branches J J, plug A with handle  $A_2$  and central aperture C.

**No. 16,866. Apparatus for Serving Locomotive Tenders with Water.** (*Appareil pour servir l'eau aux fourgons des locomotives.*)

Joseph Haggas, Uxbridge, and William Gooderham, Toronto, Ont., 14th May, 1883; (Extension of Patent No. 8,827.)

**No. 16,867. Apparatus for Serving Locomotive Tenders with Water.** (*Appareil pour servir l'eau aux fourgons des locomotives.*)

Joseph Haggas, Uxbridge, and William Gooderham, Toronto, Ont., 15th May, 1883; (Extension of Patent No. 8,827.)

**No. 16,868. Improvements in Telephones.** (*Perfectionnements aux téléphones.*)

Abner M. Rosebrugh, Toronto, Ont., 15th May, 1883; (Extension of Patent No. 10,242.)

**No. 16,869. Improvements in Telephones.** (*Perfectionnements aux téléphones.*)

Abner M. Rosebrugh, Toronto, Ont., 16th May, 1883; (Extension of Patent No. 10,242.)

**No. 16,870. Improvements on Washing Machines.** (*Perfectionnements aux machines à laver.*)

William F. Wilkins and James T. Sawyer, Montreal, Que., 18th May, 1883; (Extension of Patent No. 8,840.)

**No. 16,871. Improvements on Lamp Burners.** (*Perfectionnements aux becs des lampes.*)

Charles C. Richmond, Boston, Mass., U.S., 19th May, 1883, (Extension of Patent No. 8,800.)

**No. 16,872. Improvements on Lamp Burners.** (*Perfectionnements aux becs des lampes.*)

Charles C. Richmond, Boston, Mass., U.S., 19th May, 1883; (Extension of Patent No. 8,800.)

**No. 16,873. Improvements on Cheese Coverings.** (*Perfectionnements aux enveloppes des fromages.*)

Edward V. Lapham, Morrison, Ill., U.S., 22nd May, 1883; (Extension of Patent No. 9,249.)

**No. 16,874. Improvements on Cheese Coverings.** (*Perfectionnements aux enveloppes des fromages.*)

Edward V. Lapham, Morrison, Ill., U.S., 23rd May, 1883; (Extension of Patent No. 9,249.)

**No. 16,875. Improvements in Milk Vats.** (*Perfectionnements aux boîtes à lait.*)

Rodney S. Whitman, David H. Burrell and Walter W. Whitman, (assignees of David H. Burrell and George L. Freeman,) Little Falls, N.Y., U.S., 23rd May, 1883; (Extension of Patent No. 9,455.)

**No. 16,876. Improvements in Hoop Cutters.***(Perfectionnements aux machines à tailler les cercles.)*

David H. Burrell, James H. Ives, Rodney S. Whitman, Walter W. Whitman and David H. Burrell, Little Falls, (assignees of John B. Dougherty, Rochester.) N. Y., U.S., 23rd May, 1883; (Extension of Patent No. 9,485.)

**No. 16,877. Improvements in Polishing Wheels.***(Perfectionnements aux tambours à polir.)*

Simon T. Wray, Buffalo, N. Y., U. S., 23rd May, 1883; for 5 years.

*Claim.*—A buffing or polishing wheel composed of a number of disks of stiff card board, or equivalent material, joined together under pressure by glue or cement, and having a coating of polishing material applied directly upon its periphery by means of glue or other equivalent attaching medium.

**No. 16,878. Improvements on Logging Engines.***(Perfectionnements aux machines à billots.)*

John Dolbeer, San Francisco, Cal., U.S., 23rd May, 1883; for 5 years.

*Claim.*—1st. The means for moving logs consisting of the ropes or chains A secured to the log, passing thence to anchored snatch blocks, in combination with a gypsy having the guide rollers JK or their equivalent. 2nd. In combination with an engine and apparatus having a gypsy, the supporting frame work having longitudinal bearing timbers E bevelled or curved at the front, and shod so as to form runners upon which the machine may be moved from place to place. 3rd. In combination with an engine gearing and gypsy, the vertical flanges guide-rollers J K having a space between them in a line with a gypsy or an equivalent fixed guiding device. 4th. The vertical flanges guide rollers J K having their lower ends journalled in the support H, the roller K being arranged to tilt outward, in combination with the top journal support L made movable about the point M, and a locking bar or plate. 5th. The steam operated gypsy D mounted upon the longitudinal supporting runners E that are bevelled or curved in front, and provided with a point or attachment for a rope, in combination with the rollers J K or their equivalent, and the rope Q leading from the apparatus to an anchored snatch block, and thence between the guide-rollers to the gypsy. 6th. The means for moving logs, consisting of the rope or chain Q, secured to the log and leading through an anchor-

ed block by which the direction of the log is fixed, and thence through guides J K upon the engine frame to the steam driven gypsy D.

**No. 16,879. Improvements on Grinding Mills.***(Perfectionnements aux moulins à moudre.)*

James M. Collier, Atlanta, Ga., U. S., 23rd May, 1883; for 5 years.

*Claim.*—1st. The combination, with the frame A and the lever K attached to the shaft J, connected with the stone bearing racks D R by the rods G I Q, of hinged arm L having a screw hole and the swivelled hand screw M, whereby the stones can be adjusted with accuracy. 2nd. The combination, with the lower rack D and the upper rack K, of the lever r and the rods s having nut t, whereby the upper stone can be raised without changing its adjustment or set. 3rd. The combination, with the hopper m and the hinged shoe n, the cord o and the tin p, whereby the feed can be regulated and stopped. 4th. The combination, with the shaft that carries the upper stone, and the hinged shoe l, of the pulleys and belts g i h, the shaft j and the cam k, whereby the feed is made uniform. 5th. The pulley stand consisting of the bearing brackets a having a cylindrical stem, the pedestal b having a socket to receive the bracket stem and the set screw c, whereby the pulley can be readily adjusted into line with the shaft to be driven. 4th. The combination, with the journal of the driving pulley Z and the driving shaft X, of the two clutches O O<sub>1</sub> P P<sub>1</sub> and the intermediate shaft Y, whereby the driving shaft will be unaffected by the pull of the belt.

**No. 16,880. Improvements in Car-Couplings.***(Perfectionnements aux accouplages des chars.)*

Charles K. Cordrey, Harrison, Ohio, U.S., 23rd May, 1883; for 5 years.

*Claim.*—1st. In combination with the coupling apparatus of cars, the lever B, chains a b, swing F, notched pin G, elevating lever H and toggle K. 2nd. In combination with coupling apparatus of cars, the lever B, chains a b, swing F and toothed pin G. 3rd. The combination, with the coupling apparatus of cars, of the lever B, chains a b, toggle K and notched pin G. 4th. The combination, with the lever B (having a slight endwise movement) catches M, chains a and pin G, of the swing H and eyes F.

**No. 16,881. Improvements on Stoves.***(Perfectionnements aux poêles.)*

Charles H. McCaw and Thomas Brown, Port Perry, Ont., 23rd May, 1883; (Extension of Patent No. 8,833.)

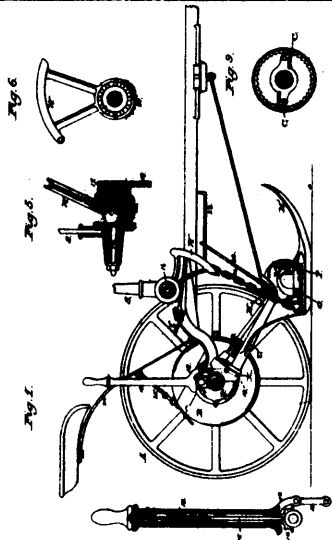
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ILLUSTRATIONS.

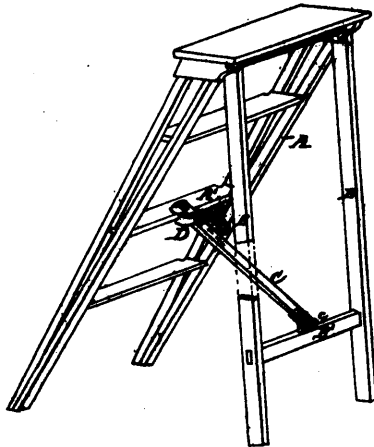
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JUNE, 1868.

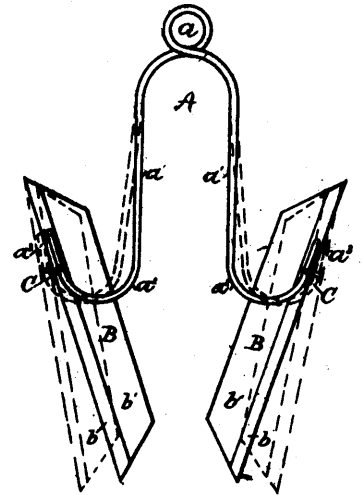
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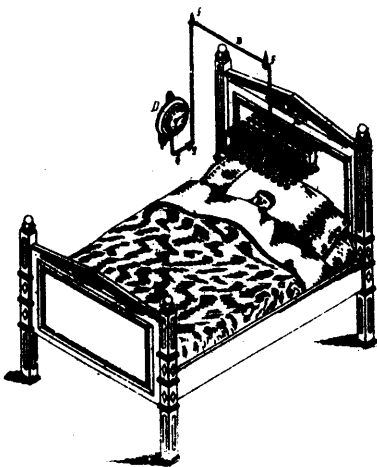
16770 Cochrane's Improvements in Mowing Machines.



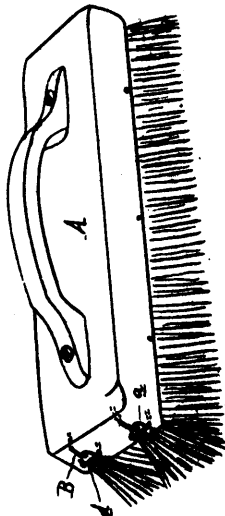
16777 Varnum's Improvements on Step Ladders.



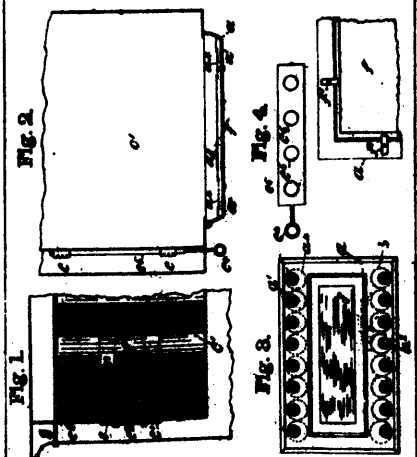
16778 Doyle's Improvements in Whisk-Holders.



16779 Applegate's Improvements on Devices for Waking Persons.



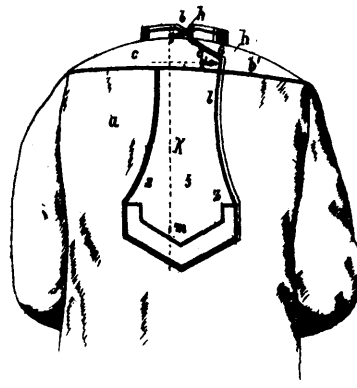
16780 McDonal's Improvements on Brushes.



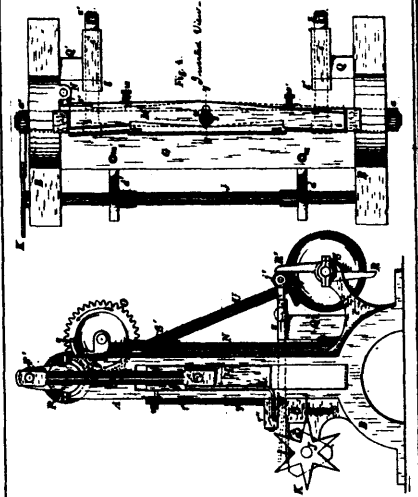
16781 Thomas' Improvements on Stoves.



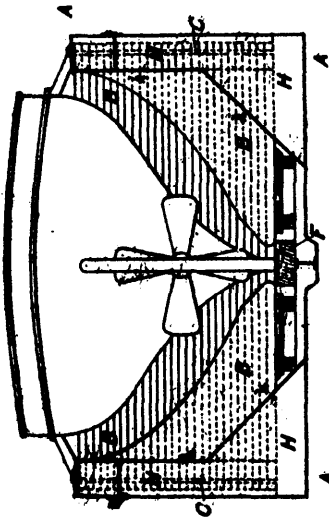
16782 Morton's Device to Assist to put on and take off Coats, &c.



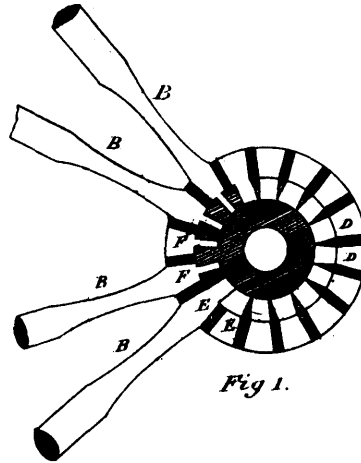
16783 Keller's Improvements on Shirts.



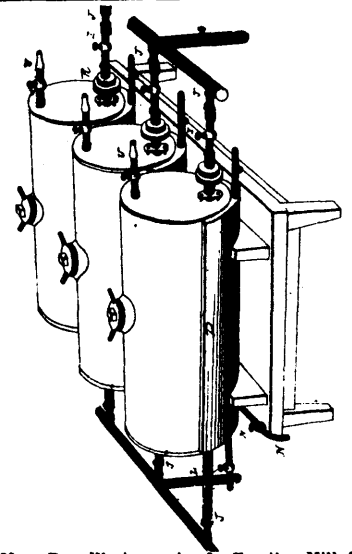
16785 Dougherty's Improvements on Hoop Machines.



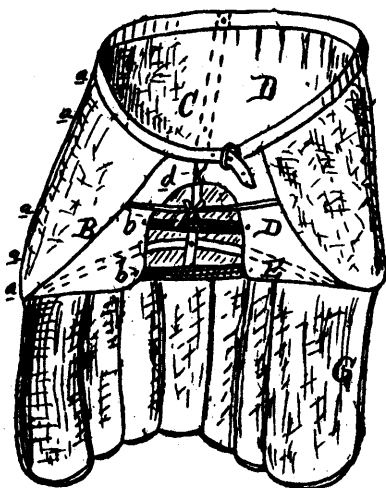
16786 Fox's Improvements on Coffor-Dams for Ships.



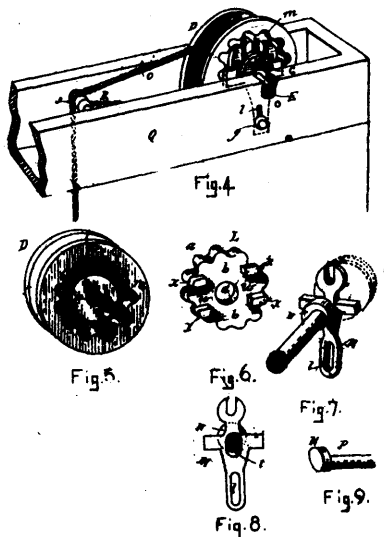
16787 Dowsley's Improvements on Wheel Hubs.



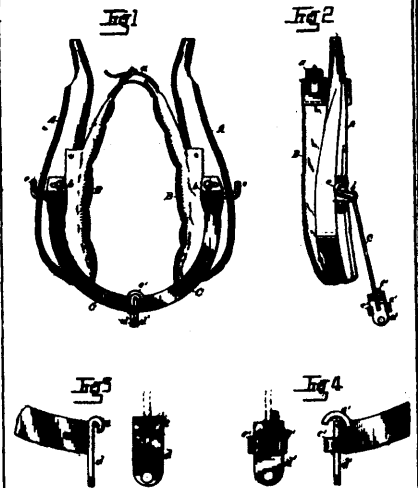
16788 Powell's Apparatus for Treating Milk for the Manufacture of Butter and Cheese, and for other purposes.



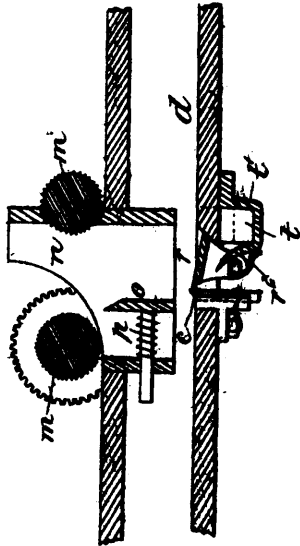
16789 Moulton's Improvements on Bustles.



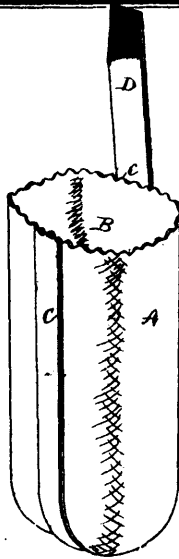
16790 Taylor's Improvements on Windows.



16791 Snyder's Improvements on Horse Collars.



16792 Mallary's Improvements in the Manufacture of Paper Pulp.



16793 Shirley's Improvements on Paper Bags.

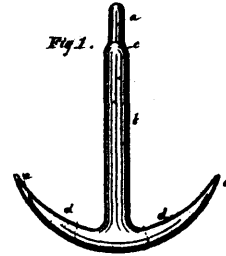


Fig. 1.

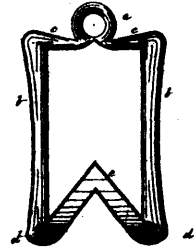


Fig. 2

16794 Rhoades' Improvement on Anchors.

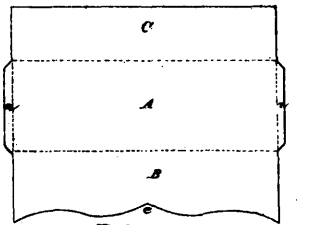


Fig. 2.

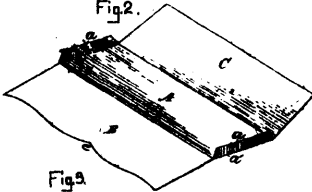
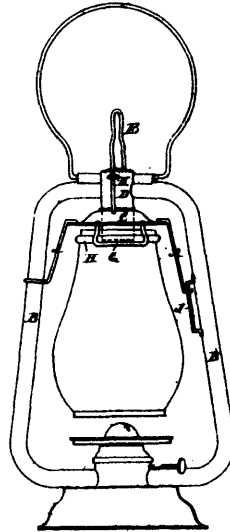


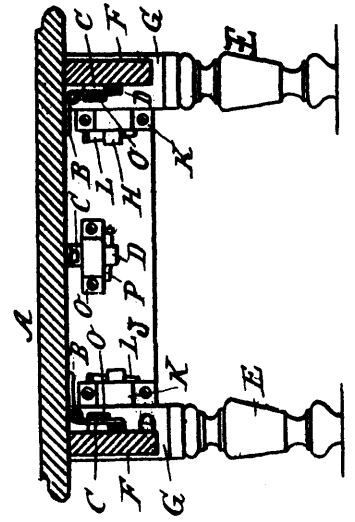
Fig. 3.

Place in the place for the printed matter referred to in the specification. It is on a leaf of equal thickness throughout.

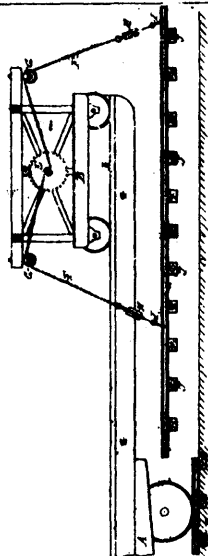
16795 Pedrick's Improvement on Envelopes.



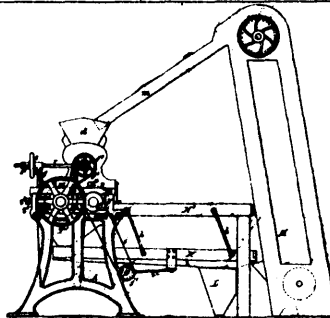
16796 Moncur's Improvements on Tubular Lanterns.



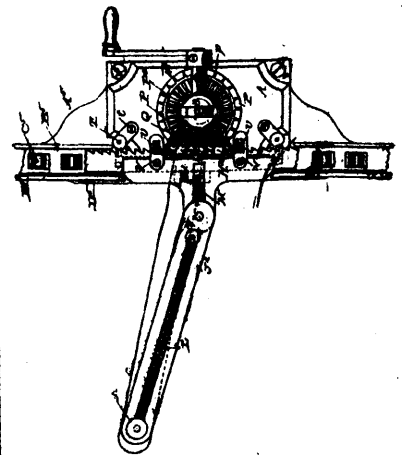
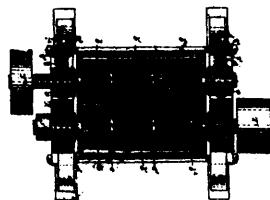
16797 De Tray and Vermilya's Improvements on Knock-Down Tables.



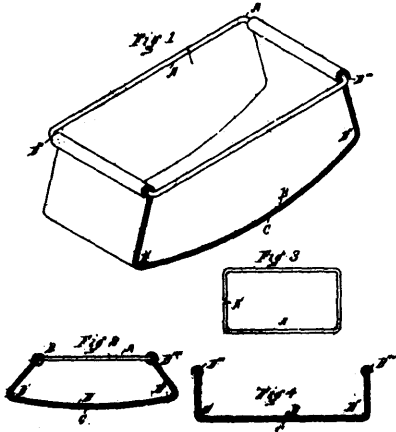
16798 Turner's Improvements on Railway Track Layers.



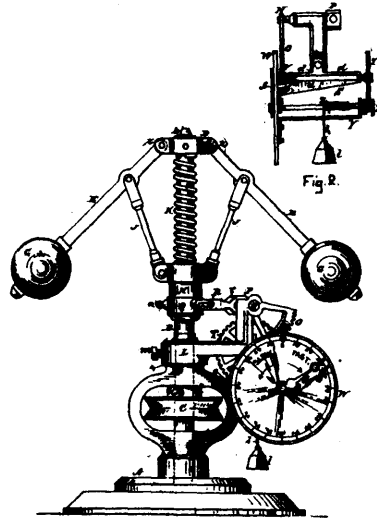
16799 Sound's Improvements in Flour Mills.



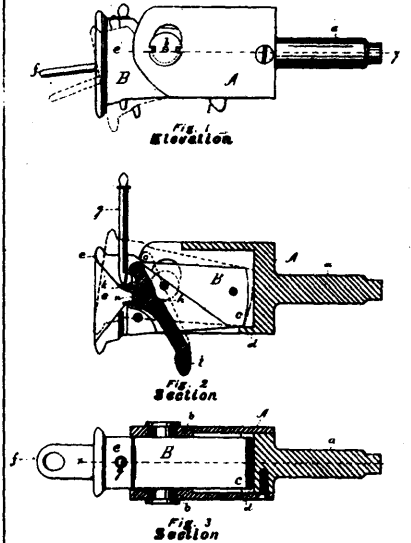
16800 Larson's Improvements on Saw Sets.



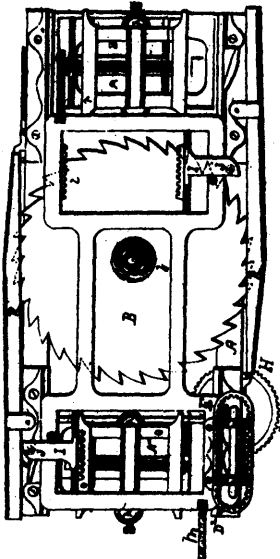
16801 Coughlin's Improvements on Pad-Holders.



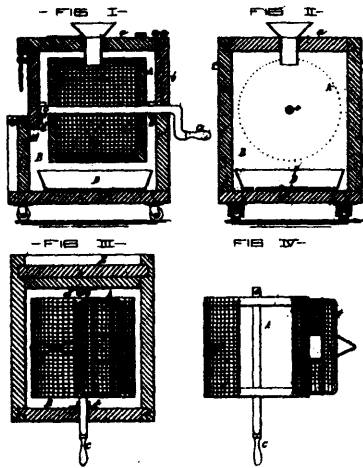
16802 Blanchard's Improvements on Speed Indicators.



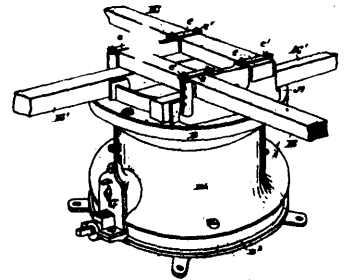
16803 Armstrong's Improvements on Car-Couplings.



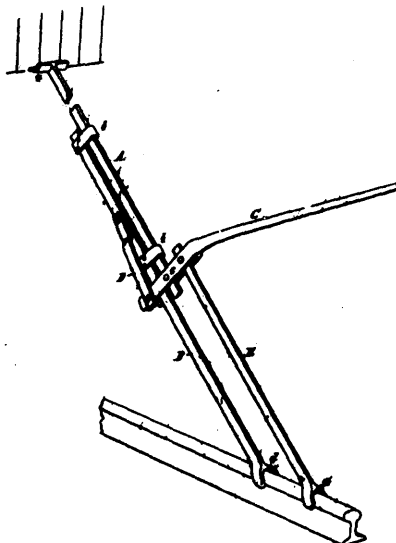
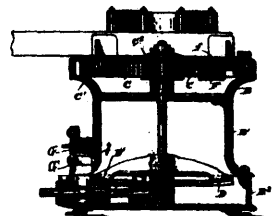
16804 Weld's Improvements in Shingle Machines.



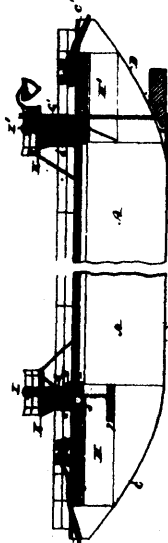
16805 Cook's Improvements on Ash-Sifters.



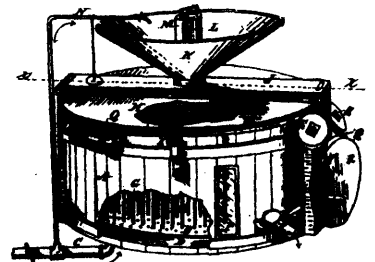
16806 Frost's Improvements on Horse Power Machines.



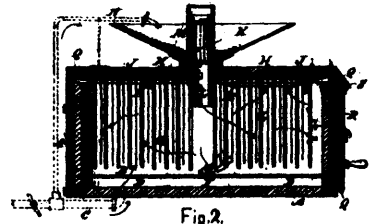
16807 Collins' Improvements on Car Shunters.

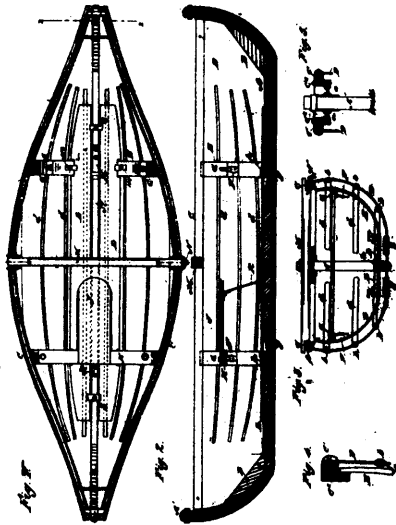


16808 McDougall's Improvements on Tow Boats.

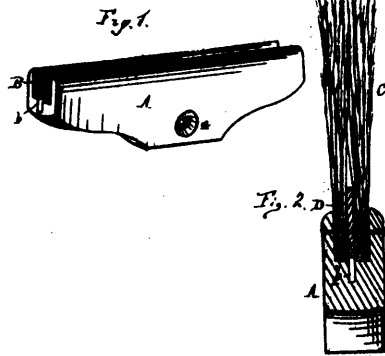


16809 Metcalfe's Improvements on Ore Separators.





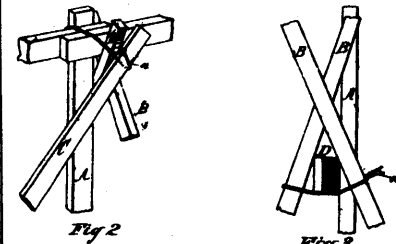
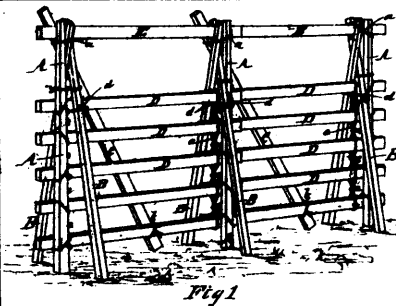
16810 Douglas' Improvements on Canvas Boats.



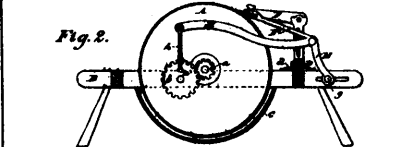
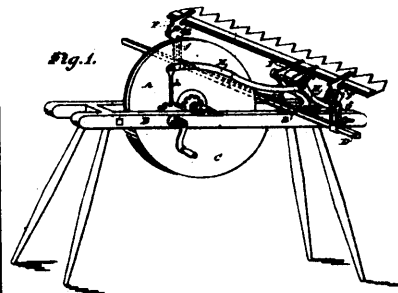
16811 McDonel's Improvements on Brushes.



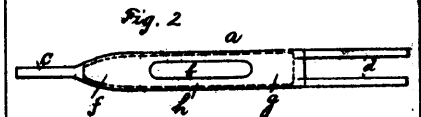
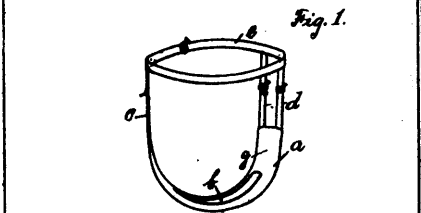
16812 Ollendorf's Improvements on Spectacles.



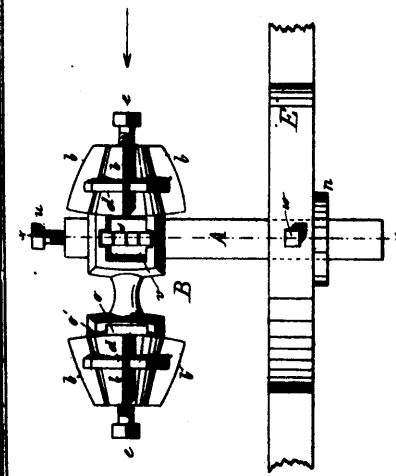
16813 Russell's Improvement on Fences.



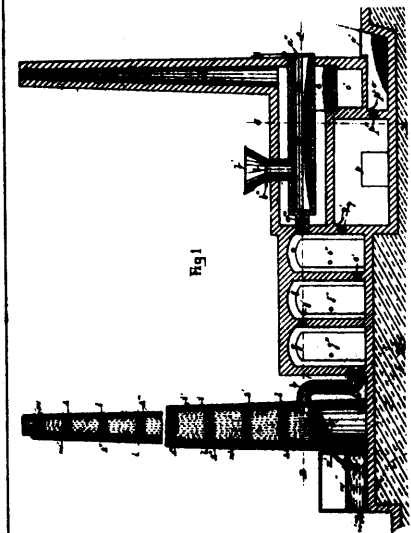
16814 Straith's Machine for Sharpening the Knives of Mowers.



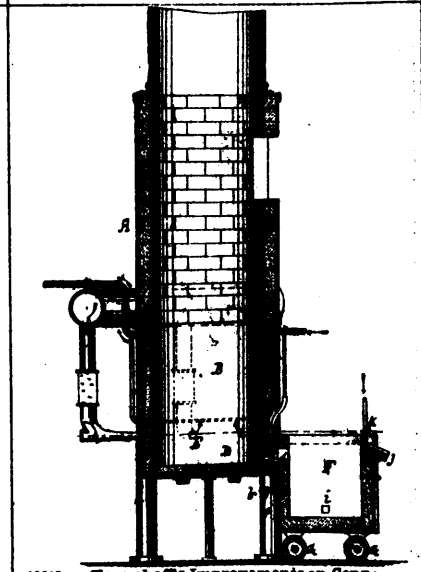
16815 Campbell's Improvements on Catamenial Sacks.



16816 England's Improvement on Crosses.

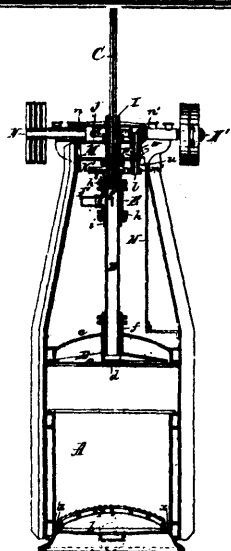


16817 Hudson's Improvements on Antimony Furnaces.

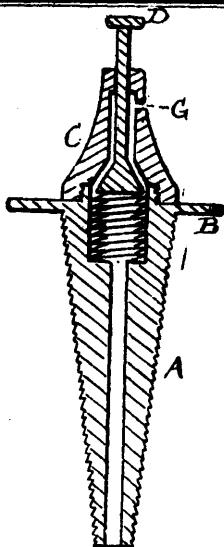


16818 Herreshoff's Improvements on Copper Smelting Furnaces.

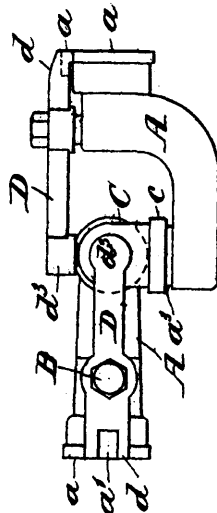




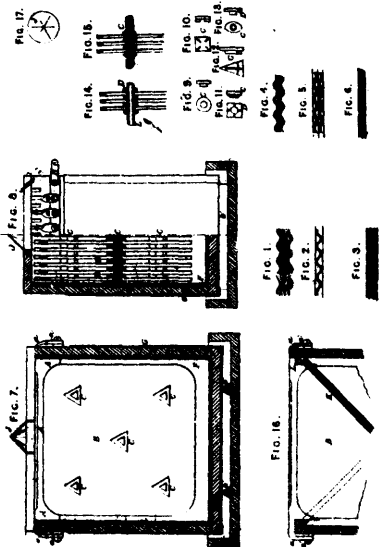
16820 Farquhar and Oldham's Improvements in Filtering Apparatus.



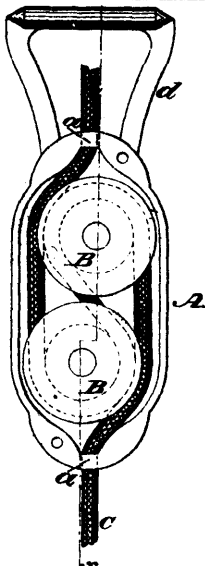
16822 Rayner's Improvements on Vent Pegs.



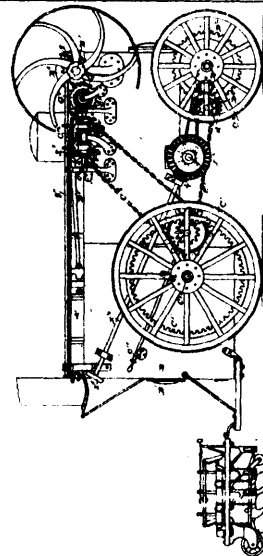
16823 Lord's Improvements in Universal Joints.



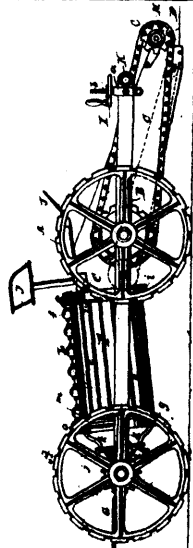
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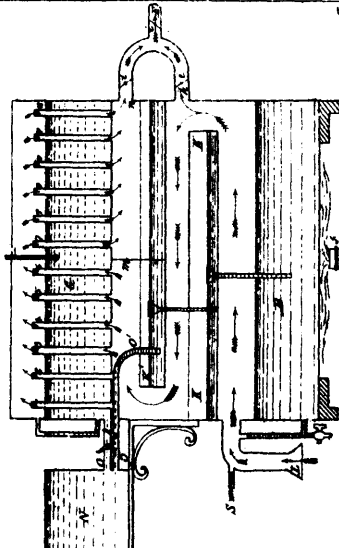
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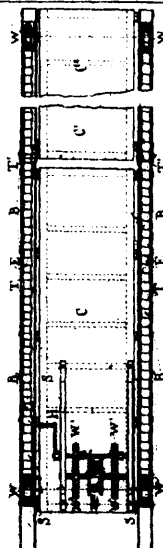
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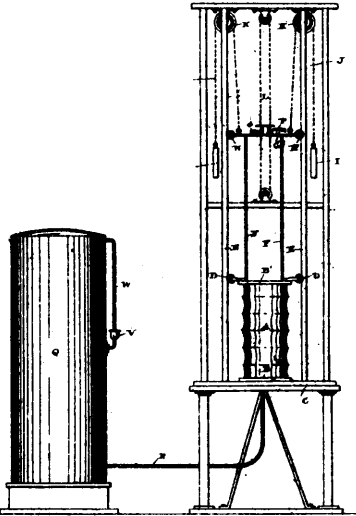
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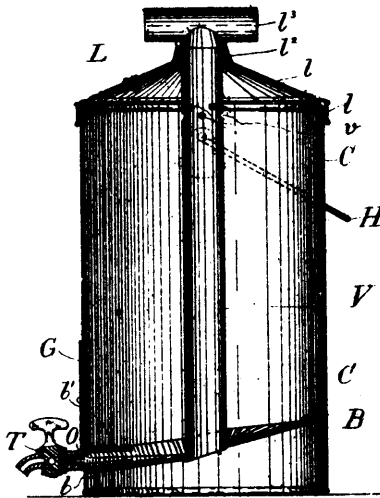
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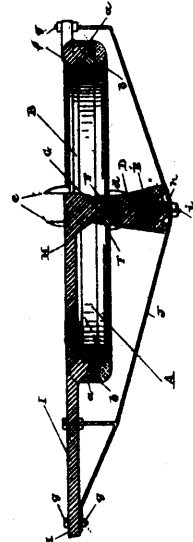
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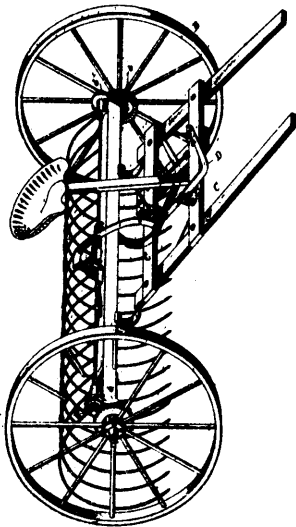
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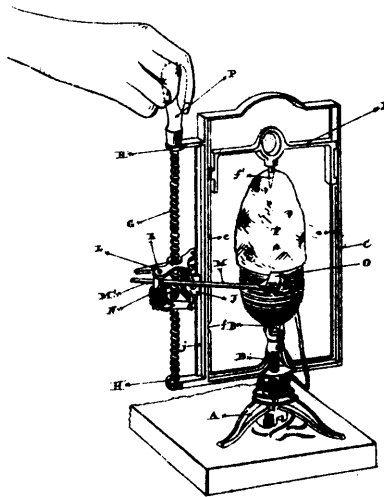
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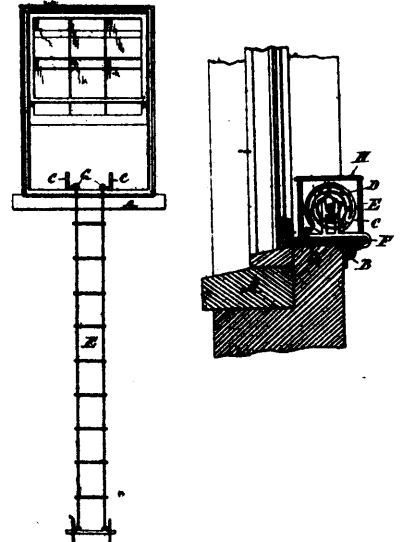
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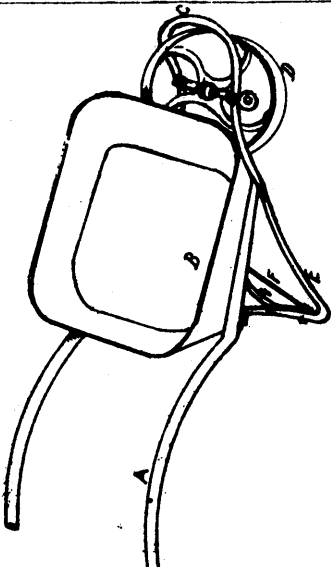
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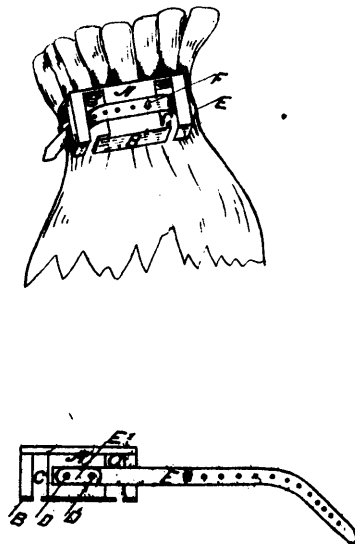
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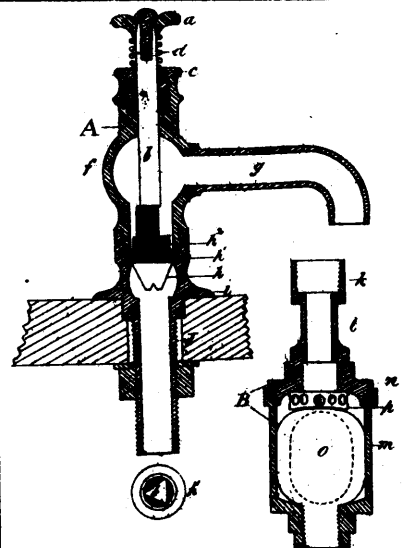
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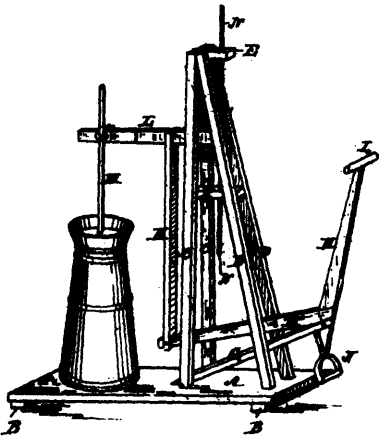
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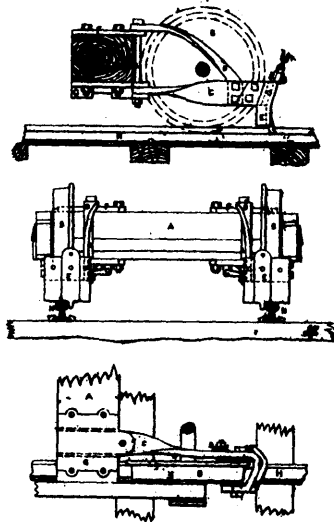
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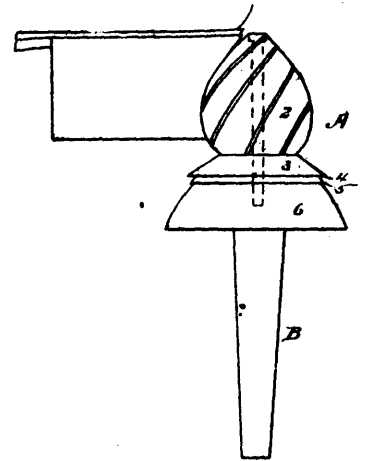
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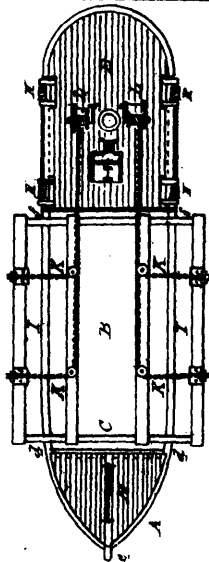
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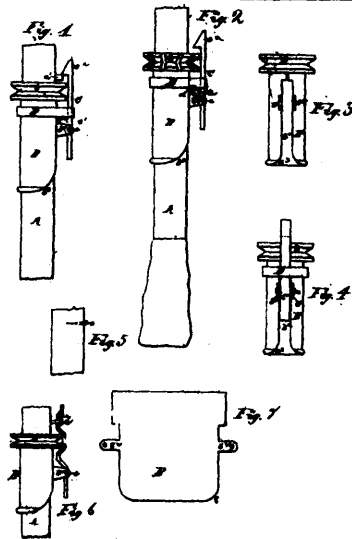
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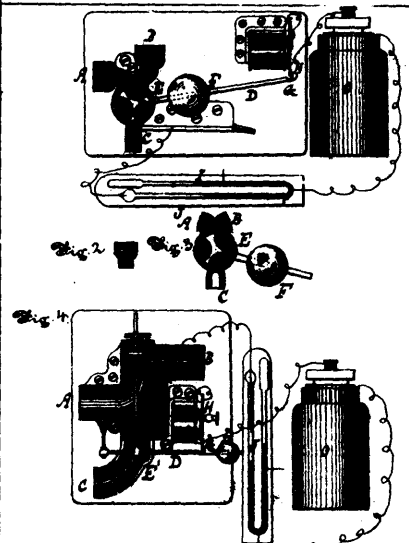
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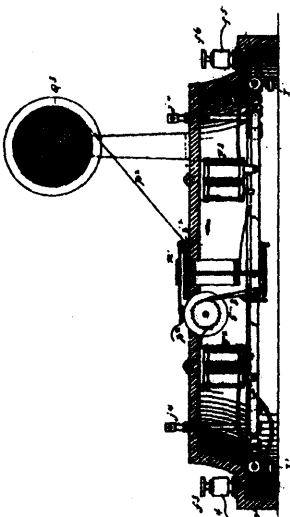
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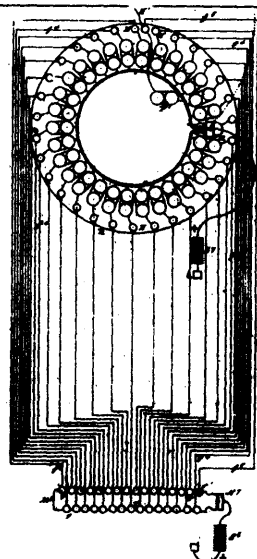
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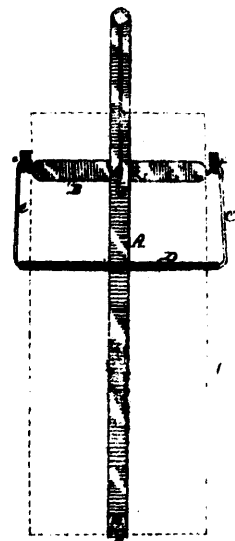
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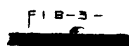
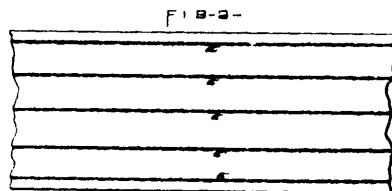
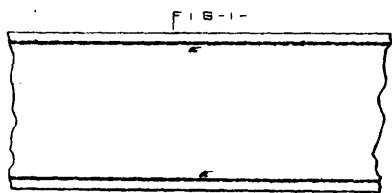
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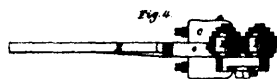
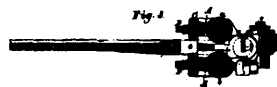
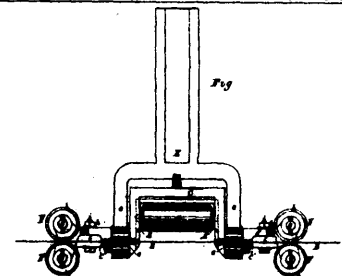
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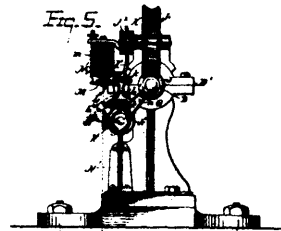
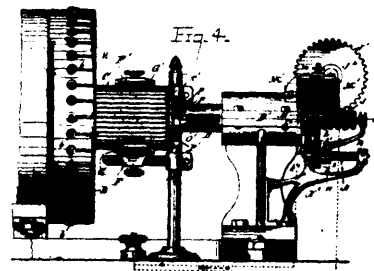
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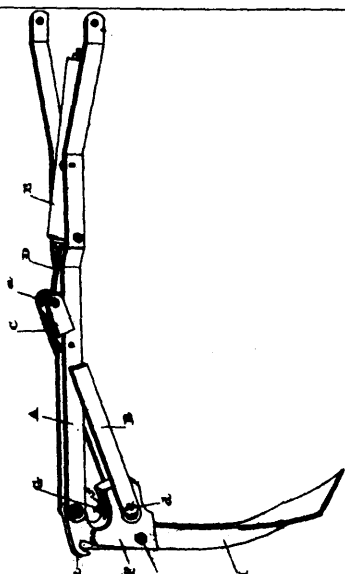
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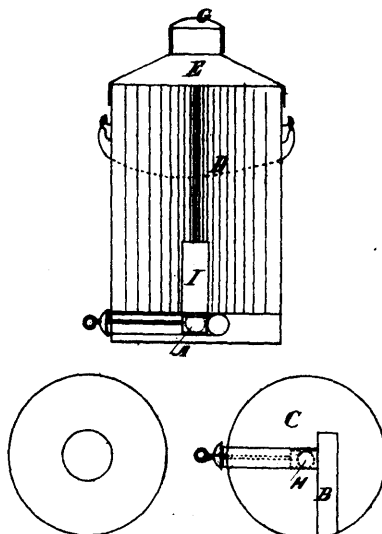
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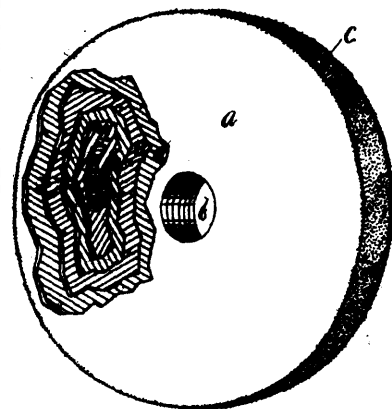
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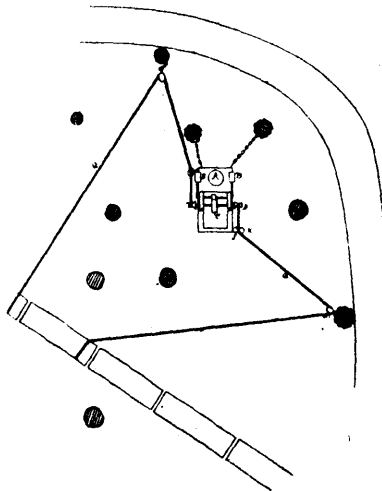
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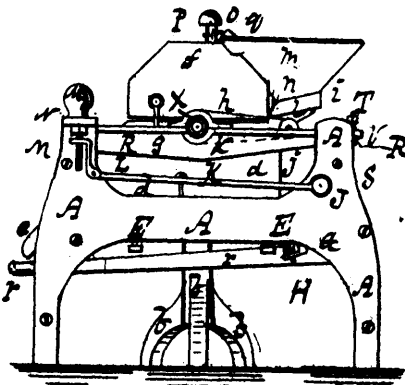
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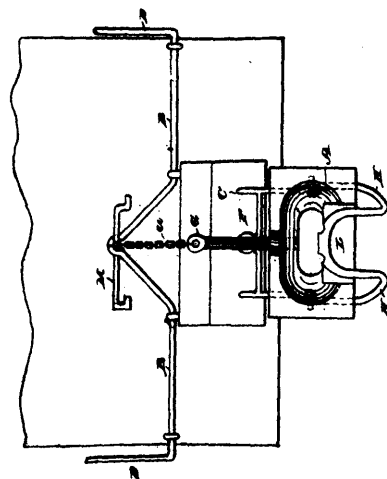
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Mallery, G. H., paper pulp.....	16,792	Wilson, J. B., umbrellas.....	16,856
		Wisner, J. O. and W. S., et al, spring-hoes.....	16,864
		Wray, S. T., polishing wheels.....	16,877

## Patents issued up to 25th June, 1883, Claims and Drawings of which will appear in a subsequent number of the Patent Record.

- No. 16,882. J. E. Beauchemin, Sorel, Que., "Horse takes," 14th June, 1883.
- No. 16,883. R. W. Jones, London, Ohio, "Feed water heaters and purifiers," 14th June, 1883.
- No. 16,891. C. H. Pelton and J. A. Wheeler, Grand Rapids, Mich., "Car couplings," 14th June, 1883.
- No. 16,885. W. S. Ingraham, Wankegan, Ill., "Sickle grinders," 14th June, 1883.
- No. 16,886. M. B. Crawford, Terre Haute, Ind., "Screw drivers," 14th June, 1883.
- No. 16,887. A. P. Prout, Woodhaven, N. Y., "Spike extractors," 14th June, 1883.
- No. 16,893. C. B. Tucker, Angerona, West Virginia, J. Tucker, Coolville, Ohio, "Car couplings," 14th June, 1883.
- No. 16,889. S. L. Willmer, Shingletown, Cal., "Combined wrench and pinchers," 14th June, 1883.
- No. 16,890. H. W. Vaughan, Providence, Rhode Island, "Method of applying dye stuffs to fibrous material," 14th June, 1883.
- No. 16,891. H. W. Vaughan, Providence, Rhode Island, "Method of applying dye stuffs to fibrous material suitable for textile fabrics," 14th June, 1883.
- No. 16,892. H. W. Vaughan, Providence, Rhode Island, "Method of preparing dye stuffs for application to fibrous material," 14th June, 1883.
- No. 16,893. E. A. Muckle, Rockford, Ill., "Match cases," 14th June, 1883.
- No. 16,894. W. A. Baker, Colonia, Mich., "Wagon yokes," 14th June, 1883.
- No. 16,895. J. Savoie, St. Germain de Grantham, Que., "Attachments for the conversion of mowing machines into reapers," 14th June, 1883.
- No. 16,896. H. Keller, Corpus Christi, Texas, "Car couplings," 14th June, 1883.
- No. 16,897. H. A. Graeter, Kansas City, Miss., "Flour bolts," 14th June, 1883.
- No. 16,898. R. O. Robinson, Glidden, Iowa, "Wind mills," 14th June, 1883.
- No. 16,899. J. Handy and D. H. Lord, Northfield, Minn., "Flour packers," 14th June, 1883.
- No. 16,900. A. E. Mann, Lawrence, Mass., "Corsets buses," 14th June, 1883.
- No. 16,901. D. Snyder, Grafton, Mass., "Pots and kettles," 14th June, 1883.
- No. 16,902. E. F. Andrews, St. Louis, Miss., "Hammer brick machine," 14th June, 1883.
- No. 16,903. J. H. Blessing, Albany, N. Y., "Combined check valves stop cocks and blow off cocks," 14th June, 1883.
- No. 16,904. E. Whiting, J. M. Smith, assignees, Brooklyn, N. Y., "Trucks for cars," 14th June, 1883.
- No. 16,905. H. D. Garrett, Phil., Penn., "Piston heads for engine cylinders," 14th June, 1883.
- No. 16,906. D. D. M. Master, Flushing, N. Y., "Elastic stockings," 14th June, 1883.
- No. 16,907. T. T. Prosser, Chicago, Ill., "Freight cars for transporting grain," 14th June, 1883.
- No. 16,908. T. T. Prosser, Chicago, Ill., "Freight cars for transporting grain, etc.," 14th June, 1883.
- No. 16,909. A. B. Fisher, Caribou, Maine, "Saw filing machines," 14th June, 1883.
- No. 16,910. R. G. Wiley, Hiram Rapids, Ohio, "Horse shoes," 14th June, 1883.
- No. 16,911. E. Thomson, New Britain, Conn., "System of electric distribution," 14th June, 1883.
- No. 16,912. G. G. Seeger, Hillsdale, Iowa, "Drag saw machines," 14th June, 1883.
- No. 16,913. S. J. McDowell and J. Knight, Boston, Mass., "Camp stores," 14th June, 1883.
- No. 16,914. D. Johnson, J. P. Cowan and F. Cowan, Ashland, Ohio, "Force pumps," 14th June, 1883.
- No. 16,915. S. Basford, Bangor, Maine, "Tire Tightners," 14th June, 1883.
- No. 16,916. G. M. Fish, Joliet, Ill., "Barbed fence wire," 14th June, 1883.
- No. 16,917. S. E. Worrall, Hannibal, Miss., "Machines for drying and cooling grain and other substances," 14th June, 1883.
- No. 16,918. J. M. Collier, Atlanta, Georgia, "Grinding mills," 14th June, 1883.
- No. 16,919. H. F. Hover, Phil., Penn., "Sofa beds," 14th June, 1883.
- No. 16,920. D. Patterson, Northwood, Ont., "Bean gathering attachments to harvesters," 14th June, 1883.
- No. 16,921. F. L. Brandon, Hicksville, Ohio, "Pitchforks," 14th June, 1883.
- No. 16,922. J. H. Blessing, Albany, N. Y., "Valves," 14th June, 1883.
- No. 16,923. R. O. Robinson, Glidden, Iowa, "Corn planters," 14th June, 1883.
- No. 16,924. C. B. Irish and D. R. Bryan, Grand Isle, Vt., "Fruit evaporators," 14th June, 1883.
- No. 16,925. C. R. and J. C. Wilson, Detroit, Mich., "Vehicle springs," 14th June, 1883.
- No. 16,926. J. S. Parmenter, Woodstock, Ont., "Steam engines," 16th June, 1883.
- No. 16,927. N. J. Cote and J. B. L. Rolland, jr., Montreal, Que., "Locks," 16th June, 1883.
- No. 16,928. T. T. Prosser, Chicago, Ill., "Freight cars for transporting grain, etc.," 16th June, 1883.
- No. 16,929. B. Bayliss, Pittsburgh, Penn., "Smelting furnaces," 16th June, 1883.
- No. 16,930. The Grip Printing and Publishing Company, Limited Toronto, Ont., assignees, "Memorandum books," 16th June, 1883.
- No. 16,931. R. M. Wanzer, Hamilton, Ont., assignee, "Sewing machines," 16th June, 1883.
- No. 16,932. W. McE. Kurtz, Columbus, Ohio, D. Martin, Galt, Ont., "Strap hinges," 16th June, 1883.
- No. 16,933. S. J. McDowell and J. Knight, Boston, Mass., "Portable ovens," 16th June, 1883.
- No. 16,934. W. R. and A. E. Miller, W. Raine, Guelph, Ont., assignees, "Window fasteners," 16th June, 1883.
- No. 16,935. L. D. Hawkins, Stoneham, and J. H. Webster, Boston, Mass., "Stops for elevators," 16th June, 1883.
- No. 16,936. J. H. Blain, H. Osgood and A. L. Blain, assignees, Adrian, Mich., "Safety attachments to harvesters," 16th June, 1883.
- No. 16,937. The E. T. Barnum Wire and Iron Works, Detroit, Mich., assignees, "Wire clothes," 16th June, 1883.
- No. 16,938. C. D. Van Allen, Brussels, R. H. Climie and J. McK. Clumie, Linstead, Ont., assignee, "Air tight packages for butter, etc.," 16th June, 1883.
- No. 16,939. F. W. Richardson, Troy, N. Y., "Balanced slide valves," 16th June, 1883.
- No. 16,940. I. Kitsee, Cincinnati, Ohio, "Devices for automatic indicating the presence of fire damp in mines and of giving notice thereof," 16th June, 1883.
- No. 16,941. J. Brady, North Chelmsford, Mass., "Knitting machines," 16th June, 1883.
- No. 16,942. E. G. Frisbee, Monroe, Mich., "Compound for lining vessels," 16th June, 1883.
- No. 16,943. F. J. Craig, Sarnia, Ont., "Thrashing machine separators," 16th June, 1883.
- No. 16,944. F. Pitt, Ionia, Mich., "Sounding boards for upright piano-fortes," 16th June, 1883.
- No. 16,945. J. Keys, Beloit, Kansas, "Raking, reeling, and elevating devices for harvesters," 16th June, 1883.
- No. 16,946. G. W. Sharp, Crawfordsville, Ind., "Thrashing machine attachments for cutting the bands and feeding the machine," 16th June, 1883.
- No. 16,947. E. Whiting, Brooklyn, N. Y., "Car axle boxes," 16th June, 1883.
- No. 16,948. F. Thérien, St. Eustache, Que., "Car-couplers," 16th June, 1883.
- No. 16,949. P. H. Case, Alexandria, Minn., "Harness pads," 16th June, 1883.
- No. 16,950. W. D. Gray, Milwaukee, Wis., "Methods of and plates for testing roller mills," 16th June, 1883.
- No. 16,951. J. Bassler, San Jose, Cal., "Riding saddles," 16th June, 1883.
- No. 16,952. T. T. Prosser, Chicago, Ill., "Freight cars for transporting grain, etc.," 16th June, 1883.
- No. 16,953. L. N. Bedford, Sioux Falls, Dakota, "Car-couplings," 16th June, 1883.
- No. 16,954. E. Thomson, New Britain, Conn., "Electric lamps," 16th June, 1883.
- No. 16,955. R. Cartnell, Bellows Falls, Vt., "Wood pulp machines," 16th June, 1883.
- No. 16,956. W. T. Coggeshall, Lowell, Mass., "Spindles for loom shuttles," 16th June, 1883.
- No. 16,957. J. H. Reynolds, Troy, N. Y., "Dust guards for railway car windows," 16th June, 1883.
- No. 16,958. L. Hatfield, Boston, Mass., "Car-couplings," 16th June, 1883.
- No. 16,959. H. W. Staples, Old Orchard, Maine, "Snow shovels," 16th June, 1883.
- No. 16,960. E. A. Loucks, Westband, Iowa, "Body stays for vehicles," 16th June, 1883.
- No. 16,961. J. Howes, Worcester, Mass., "Faucets," 16th June, 1883.
- No. 16,962. L. Hatfield, Boston, Mass., "Car-couplings," 16th June, 1883.
- No. 16,963. H. Stollwerek, Cologne, Germany, "Steam boilers," 16th June, 1883.
- No. 16,964. H. T. Coombs, Charlottetown, P. E. I., "Butter tubs," 16th June, 1883.
- No. 16,965. H. F. Coombs, Charlottetown, P. E. I., "Wagon or car tops," 16th June, 1883.

No. 16,966. E. Julien, Montreal, Que., "Stoves for cooking, heating and generating steam," 16th June, 1883.

No. 16,967. F. M. Hurtle, Donagair, Mich., "Vehicle hubs," 16th June, 1883.

No. 16,968. The Smith Manufacturing Company, Delta, Ohio, assignee, "Butter plates," 16th June, 1883.

No. 16,969. J. Carpenter and L. Fitts, Moravia, N. Y., 18th June, 1883.

No. 16,970. J. Draper, Oxford, Alabama, assignee, "Harrows," 18th June, 1883.

No. 16,971. The Whitehead and Atherton Machine Company, Lowell, Mass., assignees, "Condensers for roofing machines," 18th June, 1883.

No. 16,972. The Whitehead and Atherton Machine Company, "Carding machines," 18th June, 1883.

No. 16,973. The Whitehead and Atherton Machine Company, Lowell, Mass., assignees, "Carding machines," 18th June, 1883.

No. 16,974. C. R. Wild, Candalaria, Nevada, assignee, "Grain cleaners, separators and graders," 18th June, 1883.

No. 16,975. G. Nicholson, N. Y., assignee, "Machine for making bale bands," 18th June, 1883.

No. 16,976. The Ruggles Duplex Oil Cup Company, Kent, Ohio assignees, "Oil cups," 18th June, 1883.

No. 16,977. The Smith Consolidation Company, Chicago, Ill., assignees, "Machines for consolidating loose and bulky material into solid blocks," 18th June, 1883.

No. 16,978. F. Westlake, London, A. Dorenwend, Toronto, Ont., "Automatic machines for cutting and transmitting matches into holders and extracting the matches from the holders after being dipped," 18th June, 1883.

No. 16,979. C. H. Douglas and E. C. Chapin, Chicago, Ill., "Saws," 18th June, 1883.

No. 16,980. C. Moore and G. M. Elliott, Lowell, Mass., "Hammocks and hammock chairs," 18th June, 1883.

No. 16,981. J. Melack and C. H. Anderson, Montreal, Que., "Neck Ties," 18th June, 1883.

No. 16,982. J. H. Doyle, Hillsborough, Ohio, R. A. Holiday, Atlanta, and O. Hope, Hapeville, Georgia, "Oral speculum and cheek and lip distenders," 18th June, 1883.

No. 16,983. J. A. Rouse, East Berkshire, Vt., "Horse power speed regulators," 18th June, 1883.

No. 16,984. J. P. Milbourne, Manchester Eng., "Automatic apparatus for feeding horses and other cattle," 18th June, 1883.

No. 16,985. G. C. Taft, Worcester, Mass., "Drilling machines," 18th June, 1883.

No. 16,986. N. Washburn, Allston, Mass., "Railway car wheels," 18th June, 1883.

No. 16,987. N. St. Pierre, Osceola, Nevada, "Spring bottom oil cans," 18th June, 1883.

No. 16,988. J. Seanlon, Poughkeepsie, N. Y., "Car door fastenings," 18th June, 1883.

No. 16,989. J. R. Burchfield, Sharon, Penn., "Lighting buildings by hydro-carbon lamps," 18th June, 1883.

No. 16,990. G. H. Smith, New York, N. Y., "Method of and apparatus for making and raising salt brine from deep veins," 18th June, 1883.

No. 16,991. F. P. Taber, Auburn, N. Y., "Apparatus for the manufacture of sugar, salt, soap, varnish, and for the boiling and evaporation of any liquid or solution," 18th June, 1883.

No. 16,992. W. Donaldson, Ambleside, Eng., "Hydraulic machinery," 18th June, 1883.

No. 16,993. J. S. Clarke, Detroit, Mich., "Feed water regulators and alarms for steam boilers," 18th June, 1883.

No. 16,994. S. D. Jones, Chatham, N. J., "Rotary engines or pumps," 18th June, 1883.

No. 16,995. T. Levi, New Westminster, B. C., "Canning of fish, meats, fruits and other things," 18th June, 1883.

No. 16,996. T. J. Reany, Rocky Mount, N. C., "Feed mechanism for saw mills," 18th June, 1883.

No. 16,997. R. Goff, St. John's, Newfoundland, "Veneering presses," 18th June, 1883.

No. 16,998. W. Thurston, J. Lowe, Buffalo, N. Y., "Spoon baits for fishing," 18th June, 1883.

No. 16,999. J. J. A. Waterhouse, Vincennes, Ind., "Centrifugal reels," 18th June, 1883.

No. 17,000. D. C. Pierce, Chicago, Ill., "Railway frogs," 18th June, 1883.

No. 17,001. W. G. Mitchell, New York, N. Y., "Car axle lubricators," 18th June, 1883.

No. 17,002. W. Haun, Knoxville, Tenn., "Mail bags," 18th June, 1883.

No. 17,003. M. H. Gilbert, Smithville, Ohio, "Stock cars," 18th June, 1883.

No. 17,004. P. Swan, Litchfield, Mich., "Machine for hampering horses," 18th June, 1883.

No. 17,005. W. Malloy, Toronto, Ont., assignee, "Mode of applying magnetism to the human body," 18th June, 1883.

No. 17,006. C. Whitaker, Chicago, Ill., "Faucets," 18th June, 1883.

No. 17,007. T. Hall and J. West, "Summerside, P. E. I., "Grain threshing and separating machines," 18th June, 1883.

No. 17,008. E. Harrington, Manchester, N. Y., "Hay elevators and carriers," 18th June, 1883.

No. 17,009. A. N. Woodard, Millington, Mich., "Wagon jacks," 18th June, 1883.

No. 17,010. I. Beasley, London, Ont., "Smoke and gas consuming and fuel-saving furnaces," 18th June, 1883.

No. 17,011. W. A. Root, Montreal, Que., "Machines for forming staples," 18th June, 1883.

No. 17,012. W. L. Maltby, Montreal, Que., "Roofing Cement," 18th June, 1883.

No. 17,013. E. How, Erin, Ont., "Double-trees," 18th June, 1883.

No. 17,014. J. H. Whitney, Brooklyn, N. Y., "Sewing machines," 18th June, 1883.

No. 17,015. G. L. Full, Charlottetown, P. E. I., "Starch drying house," 18th June, 1883.

No. 17,016. W. Groves, Welland, Ont., "Process for reducing crude and inferior oils," 18th June, 1883.

No. 17,017. M. Brisbois, Peterborough, Ont., "Machines for stretching wire in the construction of wire fencing of other application of extended wire or wire rope," 18th June, 1883.

No. 17,018. M. Patterson, Stratford, Ont., "Spark arresters," 18th June, 1883.

No. 17,019. G. Thomson, Dillonson, Que., "Process of treating copper pyrites for the purpose of extracting the metals contained therein," 18th June, 1883.

No. 17,020. W. D. Gray, Milwaukee, Wis., "Machines for the gradual reduction of grain," 21st June, 1883.

No. 17,021. H. A. Johnson, Medina, N. Y., "Apparatus for making paper vessels," 21st June, 1883.

No. 17,022. T. A. Heintzman, Toronto, Ont., "Music desks for upright pianos," 21st June, 1883.

No. 17,023. N. C. Newell, Springfield, Mass., "Buttons," 21st June, 1883.

No. 17,024. N. C. Newell, Springfield, Mass., "Buttons," 21st June, 1883.

No. 17,025. H. C. Marchand, Allegheny, Penn., "Measuring pumps," 21st June, 1883.

No. 17,026. C. Thomas, Terre Haute, Ind., "Screw drivers and screw adjusters," 21st June, 1883.

No. 17,027. J. DuBois, DuBois, Penn., "Movable dams," 21st June, 1883.

No. 17,028. J. Cassidy, Cambridge, Mass., "Clogs or shoes," 21st June, 1883.

No. 17,029. A. Woodward, Shelburne Falls, Mass., "Combined milk bucket and stool," 21st June, 1883.

No. 17,030. O. Rose, Manchester, Eng., "Heating by electricity and apparatus," 21st June, 1883.

No. 17,031. G. W. Cottingham, Little Rock, Arkansas, "Ironing machine," 21st June, 1883.

No. 17,032. G. Powley, Toronto, Ont., "Black leaf check books and covers," 21st June, 1883.

No. 17,033. H. M. Carlen, Cleveland, Ohio, "Binding poles and chains," 21st June, 1883.

No. 17,034. M. R. Dowlin, North Adams, Mass., "Saw-irrigators," 21st June, 1883.

No. 17,035. J. Goldie and H. McCall, Galt, Ont., "Roller mills," 21st June, 1883.

No. 17,036. S. Richards, Philadelphia, Penn., "Portable combined fire arresters and fire escapes," 21st June, 1883.

No. 17,037. J. G. Irving, Markdale, Ont., "Pumps," 21st June, 1883.

No. 17,038. G. W. Hunt, Philadelphia, Penn., "Devices for lighting the steps of cars," 21st June, 1883.

No. 17,039. J. Bates, Thornbury, Ont., "Manual powers," 21st June, 1883.

No. 17,040. J. F. Gilliland, Indianapolis, Ind., "Gearing," 21st June, 1883.

No. 17,041. D. Lihenfield, Kalamazoo, Mich., "Pumps," 21st June, 1883.

No. 17,042. H. W. Southworth, Springfield, Mass., "Electrical signalling apparatus," 21st June, 1883.

No. 17,043. C. N. Chadwick, Brooklyn, N. Y., "Corsets," 21st June, 1883.

No. 17,044. H. Pietsch, Flatbush, N. Y., "Stench straps," 21st June, 1883.

No. 17,045. G. W. Baer, Dayton, Ohio, "Brackets," 21st June, 1883.

No. 17,046. J. W. Dexter and E. W. Rathburn, Deseronto, Ont., "Lath bundling machines," 21st June, 1883.

No. 17,047. J. F. Lamping, Cincinnati, Ohio, "Stop waste cocks," 21st June, 1883.

No. 17,048. I. Strouse, New Haven, Conn., "Corsets," 21st June, 1883.

No. 17,049. G. A. Marsh, Brunswick, Maine, "Machines for heading corn," 21st June, 1883.

No. 17,050. F. Payzant, Lockport, N. S., "Machines for extracting oil from fish livers, and fish blubber," 21st June, 1883.

No. 17,051. N. Sleeman, Birmingham, Conn., "Gas pressure regulators," 21st June, 1883.

No. 17,052. C. H. Miller, Montreal, Que., "Hoists," 21st June, 1883.

No. 17,053. W. M. Campbell, Mount Clemens, Mich., "Apparatus for forming continuous pipes or tubes of concrete, or like material," 21st June, 1883.



No. 17,051. J. W. and T. F. Giles, South Avington, Mass., "Wrenches," 21st June, 1883.

No. 17,055. J. W. Bennett, Halifax, N.S., "Stencil holder," 22nd June, 1883.

No. 17,056. A. R. Yost and T. Wilson, Somerset, Ohio, "Combined sheeps and calf racks and troughs," 22nd June, 1883.

No. 17,057. A. C. Searr and D. D. Smith, Hamilton, Ont., "Combined Harrows and seeders," 22nd June, 1883.

No. 17,058. W. McKay, Winnipeg, Manitoba, "Cement," 22nd June, 1883.

No. 17,059. D. Conboy, Uxbridge, Ont., "Carriage top," 22nd June, 1883.

No. 17,060. D. Conboy, Uxbridge, Ohio, "Buggy tops," 22nd June, 1883.

No. 17,061. W. F., J. P. and J. G. Aldert, San Francisco, Cal., "Velocipedes," 22nd June, 1883.

No. 17,062. J. Brady, North Chelmsford, Mass., "Circular knitting machines," 22nd June, 1883.

No. 17,063. W. Neracher, Cleveland, Ohio, "Fire extinguishers and alarm apparatus," 22nd June, 1883.

No. 17,064. A. McKillop, London, Ont., "Fruit pickers," 22nd June, 1883.

No. 17,065. J. B. Grand and T. Barfoot, Toronto, Ont., "Printing ink for cheques, bills, etc.," 22nd June, 1883.

No. 17,066. L. Walkup, Rockford, Ill., assignee, "Pigment distributors," 22nd June, 1883.

No. 17,067. J. B. Rouillard, Montreal, Que., "Matches," 22nd June, 1883.

No. 17,068. A. B. Farm, Strattonville, and J. E. Dean, Reynoldsville, Penn., "Wagon jacks," 22nd June, 1883.

No. 17,069. G. P. Travers, N. Y., assignee, "Ham-mock," 22nd June, 1883.

No. 17,070. The Worcester Barb Fence Company, Worcester, Mass., "Machine for applying barbs to fence wires," 22nd June, 1883.

No. 17,071. The Vulcan Iron Works Company, Oswego, N.Y., assignee, "Friction clutch or loose pulleys," 22nd June, 1883.

No. 17,072. E. B. Attwell, Leesburg, Vir., "Sash fasteners," 22nd June, 1883.

No. 17,073. C. R. Chute, Minneapolis, Minn., "Rein guards for horses," 22nd June, 1883.

No. 17,074. C. E. Hurn, Barnston Corner, Que., "Butter workers," 22nd June, 1883.

No. 17,075. E. Thomson, New Britain, Conn., "Electric arc lamps," 22nd June, 1883.

No. 17,076. T. A. Edison, Menlo Park, N.Y., "System of electrical distribution," 22nd June, 1883.

No. 17,077. T. A. Edison, Menlo Park, N.J., "Electrical generators and motors," 22nd June, 1883.

No. 17,078. J. H. Lancaster, New York, "Pipe cutter with wrench and bur scraper attachments," 22nd June, 1883.

No. 17,079. J. Green, Wilnot, Ont., "Adjustable drier off lugs, taps and cocks," 22nd June, 1883.

No. 17,080. E. Wilkinson, Paterson, N. J., "Clutches," 22nd June, 1883.

No. 17,081. J. F. Gilliland, Ind., Ind., "Cylinders for the rotary armatures of magneto electric generators," 22nd June, 1883.

No. 17,082. T. P. Tucker, Batesville, Arkansas, "Tanning of skins," 22nd June, 1883.

No. 17,083. A. Meyers-ahm, Hamilton, Ont., "Machine for perfecting cigars," 22nd June, 1883.

No. 17,084. W. H. Carmont, Manchester, Eng., "Tires for wheels," 22nd June, 1883.

No. 17,085. W. L. Cassaday, Southbend, and F. D. Smith, New Carlisle, Indiana, "Oars," 22nd June, 1883.

No. 17,086. J. Shaw, Hindermarsh, S. Australia, "Leather," 25th June, 1883.

No. 17,087. W. J. Tanner, London, Eng., "Machine for separating gold and silver," 25th June, 1883.

No. 17,088. A. Hellhoff, Mayence, Germany, and H. Gruson, Buckau, Prussia, "Explosive matter," 25th June, 1883.

No. 17,089. R. J. Gulcher, Bieltz Blaha, Austria, "Electric lamps," 25th June, 1883.

No. 17,090. G. W. Mowry, Rochester, N. Y., "Preserving eggs and fruit," F. W. Storms, assignee, 25th June, 1883.

No. 17,091. H. B. Murdock, Detroit, Mich., "Injectors," 25th June, 1883.

No. 17,092. N. Kaiser, Grellingen, Switzerland, "Sorting machines for wood and pulp," 25th June, 1883.

No. 17,093. M. B. Navin, Kileaddy, Scotland, "Manufacture of linoleum," 25th June, 1883.

No. 17,094. B. T. Steber, Utica, N. Y., "Machine for making match splints," 25th June, 1883.

No. 17,095. M. J. Baxter, Aurora, Illinois, "Telephonic transmitters," assignee, 25th June, 1883.

No. 17,096. M. L. Baxter, Aurora, Illinois, "Telephonic receivers," assignee, 25th June, 1883.

No. 17,097. M. Gross, New York, N. Y., "Retorts for gas," 25th June, 1883.

No. 17,098. W. Bushell and W. T. Haydon, Dover, Eng., "Machinery for expressing oil," 25th June, 1883.

No. 17,099. F. Jacob, Wollwick, Eng., "Electrical conductors," 25th June, 1883.

No. 17,100. C. Pieper, Berlin, Prussia, "Wire Fence," 25th June, 1883.

No. 17,101. W. S. Lamson, Lowell, Mass., "Cash carriers," 25th June, 1883.

No. 17,102. B. R. Welch, Wolf Creek, Penn., "Brakes," 25th June, 1883.

No. 17,103. J. H. Lackey, Wabasha, Minn., "Claw bars," 25th June, 1883.

No. 17,104. A. Davis, Montreal, Que., assignee, "Berths," 25th June, 1883.