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RECORD

Vol. VII.—No. 12.

DECEMBER, 1879.

{ Price in Canada \$2.00 per An.
{ United States - \$2.80 "

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INVENTIONS PATENTED.

No. 10,621. Improvements on Shingle Machines. (*Perfectionnements aux machines à bardeau.*)

William Goldie, Fentonville, Mich., U. S., 8th November, 1879, (Extension of Patent No. 10,522), for 5 years.

No. 10,622. Improvements on Baling Presses. (*Perfectionnements aux presses à empaqueter.*)

Peter K. Dederick, Albany, N. Y., U. S., 8th November, 1879, for 5 years.

Claim.—1st. The combination and connection of the truck and frame of the press, through or by means of the power shaft 1; 2nd. The combination of the sweep or horse lever with the truck and press frame connected through said sweep or horse lever; 3rd. A horizontal baling press, the power end of the same elevated and supported through or by means of the power shaft, whereby the sweep or horse lever is rotated underneath the frame of the press; 4th. In a horizontal baling press, the combination of the horse lever rotated with the arched frame or connection between the base or foot of the power and the resistance or bale chamber; 5th. In a baling press in which the horse lever or sweep is rotated underneath the frame, the rod or equivalent connection F connecting the press chamber and the power end of the press under or through the horse lever or sweep; 6th. In a baling press, the frame or gate H and pitman K, or arched pitman in combination with the reciprocating traverser; 7th. In a horizontal baling press in which the hay is pressed in sections by a reciprocating traverser, the combination of the press box A and the connection timbers D D with the hopper or feed orifice through or between them; 8th. The method of operating a baling press mounted on trucks by means of a horse lever rotated underneath the frame and pressing devices so as to bring the circuit or track of the horse between the trucks.

No. 10,623. Improvements on Carriage Movement of Saw Mills, Planers and other Machines. (*Perfectionnements au mouvement des charriots des scieries, raboteurs et autres machines.*)

Willard Lamb, Green Bay, Wis., U. S., 8th November, 1879, (Extension of Patent No. 4,359), for 5 years.

No. 10,624. Improvements on Harrows. (*Perfectionnements aux hersees.*)

Hugh McLeod, Hardwood Hill, N. S., 8th November, 1879, for 5 years.

Claim.—1st. A flexible harrow composed of the bulls A A₁ A₂ A₃ B B₁ B₂ B₃ D D₁ D₂ D₃, having teeth E linked and hinged together and arranged as described.

No. 10,625. Improvements in Switches and Signals. (*Perfectionnements aux aiguillères et aux signaux.*)

John Rourke, Kingston, Ont., 8th November, 1879, for 5 years.

Claim.—1st. The box B; 2nd. The connecting rod D with its slips and shoulders T connected with the dog lifters E; 3rd. The dogs F F, slot C, pump V and cylinder Y; 4th. The cylinder Y and pump V for pointing and signalling purposes.

No. 10,626. Improvements on Vehicle Dashes. (*Perfectionnements aux garde-crotte des voitures.*)

Benjamin J. Warden, Cincinnati, Ohio, U. S., 8th November, 1879.

Claim.—1st. An ordinary metallic frame covered with papier-mâché or its equivalent; 2nd. An ordinary metallic frame covered with papier-mâché or its equivalent and finished with japan or other water-proof polish; 3rd. The combination with an ordinary metallic frame, entirely covered with a material pressed or moulded into place to form an unstitched dash, of a rail a' tached closely to the upper edge of the covering of the dash frame, by screws or rivets passing through the rail into the top bar of the metallic frame for protecting the covering around said top bar; 4th. A device for connecting a footless dash to vehicles, by means of clips where said device is provided with downward projections, one of which fits against the corner block and the other against the front end of the box; 5th. The pivoted clip J and stationary one O, in combination with a dash foot.

No. 10,627. Improvement in Sharpening Files. (*Perfectionnements dans l'aiguillage des limes.*)

Milo A. Richardson, Bridgeport, Conn., U. S., 8th November, 1879, for 5 years.

Claim.—The method of sharpening and finishing files, by directing, against the back of the teeth, the sand blast to grind or whet the teeth and point the same

No. 10,628. Apparatus and Circuits for Signalling in District Telephone Systems. (*Appareils et circuits à signaux dans les systèmes des téléphones de districts.*)

George L. Anders, Boston, Mass., U. S., 8th November, 1879, for 5 years.

**Claim.*—1st. A series of signalling devices, placed in an electric circuit, each operated individually by a definite number of impulses from a central station or single point in the circuit; 2nd. A series of stations located in a single electric circuit, each provided with a signalling apparatus capable of being operated from a central office and of receiving its own signal, only; 3rd. The individual signalling apparatus in combination with a magneto induction apparatus for signalling the central office, only; 4th. The armature of an induction device electrically insulated from the cores of the induction coils when not in contact with said cores, whereby the coils are short circuited when not in use; 5th. A switch acting automatically to rest on the circuit through a station by replacing the telephone after use; 6th. A signal bell having a step by step obstruction operated by electro-magnetism to prevent a signal being given, excepting when it occupies a predetermined position; 7th. A signal bell having an obstructing device operated step by step by electro-magnetic impulses, locked by an automatic device and released by a change in the polarity of the exciting impulses; 8th. A series of signal bells in an electric circuit, each having an obstructing device operated step by step by electro-magnetic currents of one polarity and a locking device operating automatically to unison said obstructing devices and disconnected by a change in the polarity of the exciting currents; 9th. As a means for controlling the action of a bell hammer in the electro-magnet D with its neutral and polarized armatures, the slotted rotary disc J, and means for rotating, locking and unlocking said disc; 10th. A bell and hammer provided with rotating slotted disc for arresting the blow of the hammer when desired; 11th. A series of signal bells combined in a single electric circuit each bell being provided with an electro-magnet and means whereby the hammers of all the bells but one are prevented from striking; 12. A series of signal bells located in a single electric circuit, each bell being provided with an electro-magnet and means whereby the action of the bell hammers can be controlled, in combination with a series of magneto induction devices for signalling the central office only from each station in the series.

No. 10,629. Improvements on Springs for Platform Waggons. (*Perfectionnements aux ressorts des porte-corps.*)

Lauren M. Fitch, Rome, (Assignee of Elliott R. Fitch, Hubbardsville,) N. Y., U. S., 11th November, 1879, for 5 years.

Claim.—1st. The combination with the cross spring a and side springs b b, of the two diagonal springs c c, having their rear ends secured to the side springs b b, and their forward ends secured to the underside and at the cen

tre of the cross spring *a* by a loop or stirrup *e*, and adapted to support the bars or frame *f g h* and fifth wheel *k*; 2nd. The combination of side springs *b b* and springs *a*, and converging springs *c c* having their ends secured respectively to the end spring and side spring.

No. 10,630. Improvements on Paint Cans.

(*Perfectionnements aux bidons à peinture.*)

Henry Alexander, Alexander A. Ferguson, Robert Munro, Peter Hastie, H. J. E. Alexander, Glasgow, Scotland, and John McDougall and Robert Logie, Montreal, Que. (Assignees of Francis A. Walsh, Chicago, Ill., U. S.), 11th November, 1879 (Extension of Patent No. 10,509), for 5 years.

No. 10,631. Improvements on Paint Cans.

(*Perfectionnements aux bidons à peinture.*)

Henry Alexander, Alexander A. Ferguson, Robert Munro, Peter Hastie, H. J. E. Alexander, Glasgow, Scotland, John McDougall and Robert Logie, Montreal, Que., (Assignees of Francis A. Walsh, Chicago, Ill., U. S.), 12th November, 1879. (Extension of Patent No. 10,509), for 5 years.

No. 10,632. Improvements in Stocking Supporters. (*Perfectionnements aux bretelles à bas.*)

Clinton E. Brush, Toronto, Ont. (Assignee of Christopher C. Shelby, New York, U. S.), 12th November, 1879, for 5 years.

Claim.—1st. The spring jaw clasp A formed of a piece of metal doubled back on itself and provided with a slot extending longitudinally from the doubled end nearly to the opposite end, in combination with the button *m* and the transverse link *n*, one part of which prevents the button from sliding out of the slot, and the other part of which serves as means for attaching the supporting web; 2nd. The combined web and sliding button clasp having the web attached to the clasp and button, folded back in one continuous strip and stitched together, that is to say by passing it through the link folding it back to the point *S*, carrying it forward to the point *S* and then back to the point *S*, and stitching the parts together at *t t*; 3rd. The combination with the clasp of a stocking or other garment supporter, of the shield *S*.

No. 10,633. Improvements in Printers' Quoins

(*Perfectionnements aux coins d'imprimerie.*)

George Scott and John Young, Montreal, Que., 12th November, 1879, for 5 years.

Claims.—1st. The taper box A with the recesses *c c*; 2nd. The taper box A, in combination with the taper rack bar B and pinion key C.

No. 10,634. Machine for Dressing the Ends of Barrel Hoops. (*Machine pour tailler les bouts des cercles de barils.*)

Harvey Morris, Wallaceburgh, Ont., (Assignee of John Greenwood, Rochester, N. Y., U. S.), 12th November, 1879, for 5 years.

Claim.—1st. In a hoop dressing machine, the wheel B B, having a V shaped groove in its periphery with side cutters *i i* for forming the taper of the hoops and with curved cutters *k k* at the angle, for rounding the ends of the hoops; 2nd. The combination with the grooved wheel B B, provided with the side cutters *i i*, of the wedge-shaped guide block *p*, fitting in the groove and leaving a throat *p* between itself and the side of the groove, for the purpose of dressing the end of the hoops to a wedge form; 3rd. The combination with the grooved wheel B B, provided with the cutters *i i k k*, of the guides *m m* provided with angular tongues *m m* located on opposite sides of the wheel and resting in the groove thereof, and having angular throats *n n* extending to the inner cutters *k k*.

No. 10,635. Improvements on Car Axle Boxes.

(*Perfectionnements aux boîtes à graisse des wagons.*)

Andrew P. Case, Detroit, Mich., U. S., 12th November, 1879, for 5 years.

Claim.—1st. A car-axle box cover formed with a curve having an indefinite radius and provided at its upper end with a rearwardly or inwardly projecting flanged or curved edge, in combination with a convex front of an axle box provided with grooves or channels constructed on a curve similar to that of the cover; 2nd. In combination with an axle box having a curved or convex front, a cover of any desired curve provided at its lower end with an inwardly turning curve.

No. 10,636. Improvements on Harvesting Machines. (*Perfectionnements aux moissonneuses.*)

The McCormick Harvesting Machine Co., (Assignee of William R. Baker), Chicago, Ill., U. S., 12th November, 1879, for 5 years.

Claim.—1st. The combination of the shoe, the swivel bolt on its rear lug, the vertically slotted front lug, the two part coupling frame, the connecting bolt passing through the lugs of the coupling frame and of the shoe, and the roller on the connecting bolt playing in the slot of the front lug of the shoe; 2nd. The combination of the main frame, the double hinged brace or coupling frame, the cutting apparatus, the shoe provided with front and rear lugs, the double joint or swivelling connection between the coupling frame and the rear lug on the shoe, and the roller playing in a slot or way in the front lug of the shoe and carried by the coupling frame and partaking of its vertical movements; 3rd. The combination of the main frame, the double hinged brace or coupling frame, the shoe, the cutting apparatus, the double joint or swivelling connection between the rear lug on the shoe and the coupling frame, the vertically adjustable roller and slot connecting between the coupling frame and the front lug on the shoe, and the rocking lever mounted upon the coupling frame toward its outer end near the shoe, and flexibly con-

nected with the front lug thereon; 4th. The combination of the main frame, the stiff or rigid tongue, the two part brace or coupling frame hinged to the main frame beneath the tongue and projecting in advance of the inner driving wheel, the shoe, the cutting apparatus, the slotted lug near the point of the shoe, the heel lug on the shoe, the turning rod or bolt in said heel lug, the pivot pin passing through said rod and the coupling frame, and the roller carried by the front end of said pin and playing in the slot of the front lug on the shoe as the guards rock; 5th. The combination of the main frame, the slotted lifting lever, its bent or elbow link, the lifting chain secured at one end thereto, the roller over which it passes and the hinged brace or coupling frame to which the chain is attached at its outer end, whereby the cutting apparatus may be elevated and the lever locked by the strain on the lifting chain; 6th. The combination of the main frame having the narrow projection or arm *h*, at front, the tongue rigidly secured to said arm, the brace or coupling frame hinged to the main frame, at two points, one beneath the arm thereof and the other near the axle; and the lifting lever flexibly connected with the coupling frame inside the driving wheel, at the side of the narrow portion or front arm of the frame and near the heel of the tongue, whereby provision is made for the attachment of the draft connection and to accommodate the rocking lever; 7th. The combination of the main frame having narrow front portion or arm *h*, the hinged brace or coupling frame, the hinged cutting apparatus, the stiff or rigid tongue, the vertically rocking double tree plate or holder and the flexible draft connection between said holder and the hinged brace; 8th. The combination of the crank wheel, the wrist pin, the two armed or double sleeved pitman box, the nut, on the end of the wrist pin, overlapping the end of the wrist pin, enveloping sleeve of the pitman box and the cap on the end of said sleeve; 9th. The T-shaped pitman box or two-armed coupling sleeve U U', made in a single piece, having the annular groove or lubricating recess in one sleeve and the communicating oil chamber in the other, the one sleeve being provided with a screw thread to secure the pitman and the other with the external screw thread by which is attached the screw cap to enclose and protect the outer end of the wrist pin and its nut; 10th. The combination of the crank shaft wheel, the seat or socket thereon, the wrist pin, the two armed pitman box or coupling sleeve, the nut on the outer end of the wrist pin, the cap on the outer end of the sleeve of the pitman box which surrounds the wrist pin, and the pitman connected with the other sleeve of the box, whereby the working parts are protected and loss of oil is prevented.

No. 10,637. Improvements on Spring Mattresses. (*Perfectionnements aux matelas à ressorts.*)

George Gale, Stanstead, Que., 12th November, 1879, for 5 years.

Claim.—1st. The combination, with the side rails A and cross piece B, of the adjustable cross pin D constructed to increase or decrease the tension of the fabric C connected thereto; 2nd. The combination of the side rails A and cross piece D adjustably connected together by means of the bolts *b* and slots *a*; 3rd. In an adjustable spring mattress, the adjusting screws *c* for regulating the tension of the fabric C; 4th. The fabric C of a spring mattress made of one or more transverse series of links made shorter than those adjoining, for breaking the diagonal connection of the said links and dividing the pressure that may be applied to said fabric C among a larger number of springs S S; 5th. The combination, with the side rails A, of a spring mattress with the fabric C attached at two or more points *e*, for securing greater elasticity with less strain or any individual spring S or S'.

No. 10,638. Apparatus for Cleaning Grain.

(*Appareil pour nettoyer les grains.*)

James Higginbottom and Edward Hutchinson, Liverpool, England, 12th November, 1879, for 5 years.

Claim.—1st. In the combination of the spout A, revolving disks or ledges B B; B', the perforated casing D and fan or air propelling mechanism F; 2nd. In the spout A supplying grain freely into the disk B, the disks B B'; revolving on a central shaft E, with a small space between their outside edges and the casing D for the grain to descend, in combination with a current of air forced outward from round the central portion of the disks through the casing D; 3rd. The combination of the spout A supplying grain freely into a perforated casing against which it is kept constantly or intermittently rubbing in its descent, and a regulated delivery such as that formed by slide K, so that the machine shall be always fully supplied with grain; 4th. The combination of the revolving disks or ledges B B'; B' for retaining the grain and rubbing against the vanes H for guiding or forcing the air through the grain, and the perforated casing D for retaining the grain while allowing the dust to be sucked out by a difference in the pressure of air on the two sides of the casing; 5th. The disks B B'; B' bent upwards at an angle near their edges; 6th. The combination of the open or perforated top of the machine with the central openings G in the disks or annular ledges B B'; B', the vanes H, perforations in casing D and chamber I, and fan F causing a constant stream of air through the layers of grain and carrying off the dust and powdery particles intermixed with it; 7th. The combination, with a cleaning machine, in which grain is exposed to friction, of the exit slide K causing a constant or regulated stream of grain to escape, the vertical spout L and a suction apparatus such as a fan drawing off the air and any light particles from among the falling grain in the exit spout; 8th. The mode of cleaning grain, or separating it from dust and extraneous matters, by causing it to gradually descend between a series of revolving disk or ledges and a perforated casing through which a constant stream of air is sucked or forced from the space surrounding the central shaft or central portions of the fans; 9th. The mode of cleaning grain, or separating it from dust and extraneous matters, by allowing it freely to fill into a vertical perforated cylinder in which a series of disks or ledges revolve with great rapidity, near the cylinder, causing great friction among the particles, in combination with a regular current of air kept circulating from the open interior through the grain to the outer surface of the perforated casing; 10th. In a machine for cleaning grain in which a series of disks are kept rotating with their peripheries immersed in grain inside, a perforated cylinder through the perforations of which a current of air is continually sucked out, constructing said disks or ledges of emery composition or other abrasive material, or covering them with the same or with a polishing material such as sheep-skin or leather, or covering the upper ones with an abrasive, and the lower ones with a polishing material.

No. 10,639. Improvements on Rail'y Brakes.*(Perfectionnements aux freins des railroutes.)*

John Hardy and John G. Hardy, Vienna, Austria, 12th November, 1879, for 5 years.

Claim.—1st. In brakes operated under atmospheric pressure by the production of a vacuum in a cylinder, the employment of a vacuum cylinder formed of two flat headed or approximately flat headed truncated cones united at their bases, in combination with a loosely fitting rigid and flat piston head of a diameter approximating to the internal diameter of the smaller end of the cones, and with a flexible sack connecting such piston head with the cylinder at or about midway between the ends of the latter, so as to be supported by the same at the two extremities of each stroke of the piston, the sack being of a similar shape to but slightly smaller than one of the cones forming the cylinder; 2nd. The employment, in brakes operated under atmospheric pressure by the production of vacuum, of two separate or independent pipes or series of pipes leading from the ejector air pump or other air exhausting apparatus, or from one of them, if more than one be employed, one of such pipes connecting the exhausting apparatus with the vacuum cylinders of the carriages composing the train, and the other of such pipes connecting the exhausting apparatus with the vacuum cylinders of the engine and tender; 3rd. The combination of parts or apparatus consisting of a vacuum cylinder or cylinders, and a vacuum reservoir or reservoirs constructed, arranged and fitted with accessories, so as to operate the compound valve, or any equivalent valve; 4th. The employment of a vacuum cylinder for automatically regulating the supply of steam to the air ejectors of vacuum brakes; 5th. The combination of parts constituting brake apparatus wherein the operation of a chain brake is controlled by a system of vacuum service pipes and automatic regulating apparatus, combined so as to render the action of chain brakes simultaneous, continuous and automatic; 6th. The combination of parts whereby brakes are worked by means of a weight or weighted lever controlled by combination with a vacuum cylinder for holding the brakes out of action by atmospheric pressure during the maintenance of a vacuum in the said cylinder, the brakes being, on destruction or sensible deterioration of such vacuum, directly applied, by the descent, by the gravitation of the weight or weighted lever, such parts being combined and arranged as described.

No. 10,640. Quadruplex and Multiplex Telegraphs. *(Télégraphes à quadruple et multiple courants.)*

Alexander Muirhead, Westminster, Eng., and George K. Winter, Madras, India, 12th November, 1879, for 5 years.

Claim.—1st. The biphix relay, or relay with two tongues so arranged as to their polarity and adjustment that one leaves its contact point when the current strength has a value at one extreme of a series of four currents, while the other leaves its contact point when the current strength is at the other extreme of the series, the local circuit of the relay being completed by the tongues while the current has either of the intermediate values, and the arrangement of the tongues being such that after the first adjustment is made, further adjustment is accomplished simultaneously for both tongues by one and the same motion of the adjusting screw; 2nd. The application of the biphix relay to biphix, quadruplex and multiplex, working in the manner described; 3rd. The method of quadruplex and multiplex telegraphy, resulting from a combination of the method of sending two or more messages simultaneously in the same direction with the method of transmitting simultaneously from opposite ends, the distinctive feature of which is the introduction of the receiving apparatus between the middle of the battery and earth signalling by interchanging the true and artificial lines.

No. 10,641. Improvements on Machine Guns.*(Perfectionnements aux canons à répétition.)*

William Gardner, Cleveland, Ohio, U. S., 12th November, 1879, for 15 years.

Claim.—1st. A gun provided with a cartridge bed or carrier adapted to have an intermittent motion transverse to the axis of the barrel, said bed or carrier provided with a yielding diaphragm E₅; 2nd. A cartridge bed or carrier adapted to have an intermittent motion transverse to the axis of the barrel of a gun, a yielding diaphragm moving with said bed or carrier, a plunger, or its equivalent, having its motion in line with the axis of said barrel, and mechanism whereby said diaphragm may be depressed to permit of its passage beneath said plunger; 3rd. The laterally reciprocating cartridge bed or carrier formed with a rigid side support and vertically yielding diaphragm, the same being adapted to enclose a cartridge; 4th. The combination, with the extractor hook and the plate secured to the upper casing section, and formed with shoulders, of the plunger and the two abutments, respectively on each side thereof, the same forming a flange groove for the cartridge; 5th. A machine gun provided with the flange groove, or its equivalent, one side, or wall, only of which groove partly consists of the extractor hook; 6th. The way or groove formed by the curved or bevelled surfaces a₄ on the plate secured to the upper section, whereby the cartridge, during its longitudinal motion, is prevented from lateral displacement; 7th. The combination, with the extractor, of the upper bearing surface A₃ and the bed carrier E₅, whereby the cartridge is securely held within the grasp of the extractor and said extractor prevented from upward displacement; 8th. The plunger D₁, provided with the bevel or cam f₁, in combination with a yielding diaphragm E₆; 9th. The yielding diaphragm E₆ in combination with the cam E₇, or its equivalent, whereby said diaphragm is raised after having been depressed; 10th. The cam E₈, bar E₁ and diagonal cam slot E₂ for giving the cartridge bed or carrier its motion; 11th. The combination, with the transversely moving or oscillating cartridge bed or carrier, of the diaphragm adapted to be operated either by spring pressure, cam engagement, or both, whereby said diaphragm is adapted to return to its projected position above the level of said carrier after passing under the plunger; 12th. The combination with the shaft provided with the discharging abutments, placed in the rear of said cams and the carrier actuating cams, and adapted to receive the recoil of the gun therefrom; 13th. The combination, with the barrel connecting by a slip joint with the casing and formed with a recess in its outer side body, of a pin or key adapted to fit partly in said recess and partly in the casing wall of the barrel opening, whereby said barrel is readily removable and is also secured against longitudinal or rotary movement; 14th. The combination, with the reciprocating plunger frame, of one or more casters upon which said frame has movement.

No. 10,642. Improvements on Snow Ploughs.*(Perfectionnements aux chasse-neige.)*

Rosseel Payne, Ox Bow, N. Y., U. S., 12th November, 1879, for 5 years.

Claim.—1st. The combination, with the wheel B, revolving in the vertical plane, of the cutters E and the casing A; 2nd. The wheel A, revolving on the vertical plane provided with wings, blades H set at an angle to the wings and tapering hub F; 3rd. The combination of the wheel A, hub F, discharge opening J and M, and an apron consisting of top D, bottom S and cutters E.

No. 10,643. Improvements in Printing Presses. *(Perfectionnements aux presses d'imprimerie.)*

Charles Ellery, Albany, N. Y., U. S., 12th November, 1879, for 5 years.

Claim.—1st. The combination, with the vibrating paper holder B, of the fly F to deliver the sheets of paper into the said paper holder; 2nd. The platform A, provided with the cushions G and the fly F, in combination with a paper holder B, having the flaring sides b₁ adapted to receive a vibratory motion.

No. 10,644. Improvements on Printing Presses. *(Perfectionnements aux presses d'imprimerie.)*

Charles Ellery, Albany, N. Y., U. S., 12th November, 1879, for 5 years.

Claim.—1st. The sliding head B, arranged to reciprocate, as described, and provided with a movable cross-bar E, or other analogous device, for carrying the sliding tubes H, and adapted to move in a line at, or about, a right angle to the plane of the movement of the said sliding head, in combination with the catch pieces F, or other similar releasing device; 2nd. The combination, with the sliding head B and cross-bar E, arranged in relation to each other and to operate as described, of the wipers p₁ and catch pieces F; 3rd. The combination of the sliding head B with the buffers N and springs n₁; 4th. The combination, with the framework A, provided with the ways a₁, of the detachable paper holder S provided with the separator knives t₁; 5th. The combination, with the sliding head B having a movable cross-piece E and provided with the sliding tubes H having valves j₁ of the suction pipe K, stop cock O, and rock shaft L provided with the arms l₁ l₂; 6th. The combination of the sliding tube H, valve casing I and valve J; 7th. The combination, with the sliding head B, provided with dogs R and stops e₁, of the movable cross-bar E provided with studs e₂, arranged to engage with the pins r₁ of said dogs; 8th. The paper holder S provided with separators having the knives t₁; 9th. The combination, with a paper holder S, of the cross-bar U provided with the knives u.

No. 10,645. Improvements on Check-Rein Supports. *(Perfectionnements aux supports des fausses-rènes.)*

Asahel B. Tracy, Mayville, N. Y., U. S., 12th November, 1879, for 5 years.

Claim.—1st. The check-rein support consisting of plates A D and pulley C; 2nd. The combination, with the check-rein support, of the rosette I and button B.

No. 10,646. Improvements on Paper Files.*(Perfectionnements aux liasses à papiers.)*

Herménégilde B. Casgrain, Ottawa, Ont., 13th November, 1879, (Extension of Patent No. 150), for 5 years.

No. 10,647. Apparatus for Screening and Loading Coal. *(Appareil pour cribler et charger le charbon.)*

James W. Upson, Sallmaige, Ohio, U. S., 14th November, 1879, (Extension of Patent No. 4044), for 5 years.

No. 10,648. Lime Kiln. *(Fourneau à chaux.)*

Michael Callan, Innerkip, Ont., 14th November, 1879, (Extension of Patent No. 4040), for 5 years.

No. 10,649. Improvements on Shingle Machines. *(Perfectionnements aux machines à bardaou.)*

William Goldie, Fentonville, Mich., U. S., 14th November, 1879, (Extension of Patent No. 10,522), for 5 years.

No. 10,650. Game for Parlour Amusement.*(Jeu pour l'usage des salons.)*

William B. Cowan, Guelph, Ont., 17th November, 1879, for 5 years.

Claim.—1st. In a new game, apparatus composed of forts A C, having concentric walls A A H H D and provided with entrances B E; 2nd. The combination and arrangement of the outside walls A A with wings f, at the ends, walls H H with wings n n, at the ends, and curved extensions o enclosing a space p opposite the V-shaped projection d, walls D with extensions q enclosing a space r opposite the V-shaped projection K and entrances B E.

No. 10,651. Machine for Drawing Wire.*(Machine pour étirer le fil de fer.)*

Charles D. Rogers, Providence, R. I., U. S., 17th November, 1879, for 15 years.

Claim.—1st. The combination with the draw plate, the coiling drum, the driving clutch plate and spring bolt, which rotatively connects the clutch plate and drum and affords a free disconnection of plate and drum in the absence of tensile strain on the wire, of the presser N which controls the free end of the wire on the drum and obviates uncoiling when the drum and spindle are operatively disconnected; 2nd. The combination, with the coiling drum, the driving clutch plate and the bolt by which the drum and clutch

plate are rotatively connected, of stopping mechanism controlled by a reel stand, whereby when the reel stand is unduly displaced, the stopping mechanism slides the bolt and causes a disconnection of the drum and clutch plate.

No. 10,652. Improvements on Floor Covering.
(*Perfectionnements au pavement.*)

George P. Chiles, London, England, 17th November, 1879, for 5 years.

Claim.—In the formation of a covering for floors, walls or other surfaces by cementing or otherwise fastening thereto, geometrically cut pieces of linoleum or other similar substances to give a firm and rigid surface and to produce the effect of parquetry, panneling or tessalated pavements.

No. 10,653. Improvements in Oil Press Plates.
(*Perfectionnements aux plaques des moulins à huile.*)

George W. Campbell, West New Brighton, N. Y., U. S., 17th November, 1879, for 5 years.

Claim.—Corrugated oil press plates provided with the projections *a* and indentations *a*2 or short grooves *a*3.

No. 10,654. Improvements on Electric Lamps.
(*Perfectionnements aux lampes électriques.*)

Thomas A. Edison, Menlo Park, N. J., U. S., 17th November, 1879, for 5 years.

Claim.—1st. An electric lamp for giving light by incandescence consisting of a filament of carbon of high resistance and secured to metallic wires; 2nd. The combination of carbon filaments with a receiver, made entirely of glass, through which the leading wires pass and from which receiver the air is exhausted; 3rd. A coiled carbon filament or strip arranged in such a manner that only a portion of the surface of such carbon conductor shall radiate light; 4th. The method of securing the platinum contact wires to the carbon filament and carbonizing of the whole in a closed chamber.

No. 10,655. Improvements in Hair Pins.
(*Perfectionnements aux broches à cheveux.*)

Edward Kelly, Baby's Point, Ont., 17th November, 1879, for 5 years.

Claim.—The combination of the hair pins A A constructed in pairs secured together by elastic connections B B.

No. 10,656. Improvements on the Preservation of Boned Hams. (*Perfectionnements dans la conservation des jambons déossés.*)

Alexander Warner, New York, U. S., 17th November, 1879, for 5 years.

Claim.—1st. An improved method of preparing boned hams and shoulders, the same consisting of binding together the meat of such hams or shoulders by placing one or more bands or ties around them under the rind thereof, and then fastening the ends of the said bands or ties; 2nd. A boned ham or shoulder having the portions of its meat which have been cut for the removal of the bone secured together by one or more ties or binders which pass around the ham or shoulder, beneath the skin or rind thereof and which have their ends fastened.

No. 10,657. Improvements on Bolt Heading Machines. (*Perfectionnements aux machines à entêter les boulons.*)

Charles D. Rogers, Providence, R. I., U. S., 17th November, 1879, for 15 years.

Claim.—1st. In a machine for heading bolt or screw blanks, the combination and arrangement of the gripping jaws, a rocking saddle upon which the said jaws are mounted, a lever connected with said saddle and a cam upon the main shaft; 2nd. The combination of the gripping jaws, a rocking saddle upon which the same are mounted, a lever connected with said saddle, a cam upon the main shaft, and the tubular block through which the wire is fed; 3rd. The combination of the block to which the heading hammer is attached, the socket in the sliding head containing such block, (when such block and socket are constructed with inclined faces), a wedge or inclined plane upon which the said block is seated and rack and pinion gears, combined with the block and wedge, respectively, whereby the said block and the hammer attached thereto can be adjusted, both vertically and laterally; 4th. The combination of the vibrating gauge W, the rocking shaft to which such gauge is attached, and the adjustable reciprocating slotted plate Y and the operating cam, for timing the movements of the gauge; 5th. The combination and arrangement of the slotted plate Y adjustable on an arm which is moved by a cam, the arms *z z* and the rocking shaft to which the gauge W is attached, whereby the face of the gauge may be adjusted relatively to the faces of the jaws without disarranging the times of the movements of the gauge.

No. 10,658. Means of Attaching Stove Legs.
(*Système d'ajustage des pattes des poêles.*)

Charles M. Morris and John Clark, Jr., Albany, N. Y., U. S., 17th November, 1879, for 5 years.

Claim.—1st. The base plate A, having overhanging lugs *a* with spiral curved or turbinated faces, in combination with the leg B formed with head C and ears *b*, having spiral curved or turbinated ends or faces to correspond with the lugs, and a suitable locking device for holding the head C placed against the lugs; 2nd. The base plate A, having overhanging lugs *a* with spiral curved or turbinated faces, and the recess *d*, in combination with the leg B formed to correspond with the lugs and the shoulder *c*.

No. 10,659. Smoke Consuming Furnace for Boilers. (*Fourneau fumivore pour les chaudières.*)

Stephen M. Brinton, Covetsville, (Assignee of Cyrus Smith, Irwin's Station, Penn., U. S.), 17th November, 1879, for 5 years.

Claim.—1st. The partition *o* in combination with smoke box *n*, for covering the air opening *p* and separating the air from the gas until the air is heated; 2nd. The fan H, having the sleeve *f*, and the fan I, in combination; 3rd. The combination of the fan H, the conduit K and trunk *g*, having the gate *r*, with a boiler furnace and air chamber F, and divided smoke box *n*; 4th. The ash pit of the boiler furnace and their chamber F separated by an apertured partition D combined with the fan H and conduit K; 5th. The ash pit of the boiler furnace, divided by a vertical partition *l* and having the wide bearer *b*, in combination with the air chamber F separated from the ash pit by the apertured partition D; 6th. The ash pit doors *m* fitted with plates *m*, combined with the ash pit fitted with the inclined plates *h* and the apertured partition D of the air chamber F.

No. 10,660. Improvements on Millstone Drivers. (*Perfectionnements aux amilles des meules.*)

Arthur B. Croyple (Assignee of William T. Duvall), Georgetown, D. C., U. S., 17th November, 1879, for 5 years.

Claim.—1st. A head A, a ball C and an intermediate driving plate B, provided with and connected by ribs extending in two directions, at right angles to each other, said ribs serving the double purpose of fulcrums, for the parts to rock upon, and of driving devices to transmit rotary motion from the head to the ball; 2nd. In a millstone driver, the combination of the spindle head A, the ball C and the intermediate supporting and driving plate B, having the grooves *c* and arms *d* in one and the same horizontal plane; 3rd. The combination of a driving head, a ball and an intermediate driving plate provided with vertical interlocking studs and recesses, so as to both sustain and drive the parts and permit a universal movement of the ball, wholly upon rolling joints or bearings.

No. 10,661. Plant Box. (*Boite à plantes.*)

Charles P. Chisholm, Oakville, Ont., (Extension of Patent No. 4077), 18th November, 1879, for 5 years.

No. 10,662. Improvements on Carriages.
(*Perfectionnements aux voitures.*)

Harlow M. Welch, Cowansville, Que., 19th November, 1879, for 5 years.

Claim.—1st. The combination of the crank shaft F, reaches D D and side springs E E, to cause a uniform depression of the body H; 2nd. The body H of the carriage hung, between side springs E E, by cleats or projecting pieces I I secured to the sides of the body and bearing on the top of the springs, whereby a portion of the body will be below the top of the side springs.

No. 10,663. Improvements in Shoes. (*Perfectionnements aux souliers.*)

Joseph Tebo, 2nd, Marlborough, Mass., U. S., 21st Nov., 1879, for 5 years.

Claim.—1st. The pattern for shoe uppers composed of the vamp 1 and quarters 2 2, cut in one piece and having the cross slit *b* which partially separates the vamps from the quarters; 2nd. The vamp and quarters, cut in one piece and partially separated by the slit *b*, combined with the instep *g*.

No. 10,664. Improvements on Tallow Cups.
(*Perfectionnements aux godets à suif.*)

David H. Seymour and Henry R. A. Boys, Barrie, Ont., 21st November, 1879, for 5 years.

Claim.—The gas escape and the gauge without regard to what description of tallow cup the same may be applied to.

No. 10,665. Improvements on Camera Shutters. (*Perfectionnements aux fermetures des chambres.*)

Ferdinand Gross, Montreal, Que., 21st November, 1879, for 5 years.

Claim.—The air cylinder H and plunger J, having rod K, in combination with an elastic bulb *z* and shutter V.

No. 10,666. Improvements in Grain Cleaners.
(*Perfectionnements aux nettoyeurs des grains.*)

James A. Maloney and Gustavus Ricker, Washington, D. C., U. S., 21st November, 1879, for 5 years.

Claim.—1st. Subjecting the grain to the action of flying sand, however propelled, when forced against or through the grain; 2nd. In a machine for cleaning grain, when sand is used, the combination of the fan B, air conveying pipe C, sand supply pipe and cleaning chamber E together with the diaphragm F; 3rd. The combination of the fan B, air conveying pipe C and its sand supply pipe, cleaning chamber E, wire diaphragm F, exhaust box G, with its inclined bottom I and outlet spout H; 4th. The combination of the elevator K and shaking screen L.

No. 10,667. Improvements in Boiler Feeders.
(*Perfectionnements aux alimentateurs des chaudières.*)

Francis McGuire, Toronto, Ont., 21st November, 1879, (Extension of Patent No. 4,163), for 5 years.

No. 10,668. Furnace for Distilling Wood, &c.*(Fourneau pour distiller le bois, &c.)*

Jean A. Mathieu, Philadelphia, Penn., U. S., 21st November, 1879, for 5 years.

Claim.—1st. The combination of a retort and condenser, having a pipe which communicates with the grate chamber, with a safety apparatus intermediate between the condenser and grate chamber, whereby the passage of flame to the condenser is prevented; 2nd. The combination of the spout S and the exit pipe of the condenser with the safety apparatus, having the induction pipe T dipping into a sealing liquid, and a discharge pipe controlled by a valve; 3rd. The combination of a retort with a fan and closed grate chamber whose flues communicate with the interior of the retort, whereby the products of combustion from the grate are forced into the retort under pressure; 4th. The combination, with a lesser retort A and main retort M, of fans and closed grate chambers, having flues communicating with the main retort, and condensers D communicating through safety apparatus with the grate-chambers, whereby the non-condensable gases from both retorts are burned and the products of combustion forced into the main retort under pressure; 5th. The combination of a retort, having a concave bottom, with an arch or vault of refractory material, constructed independently of the retort but in close contact throughout with the concave surface thereof, and maintained in position thereby; 6th. The condensers D formed in two separate compartments d d, the latter communicating with the air pump or other equivalent exhausting device, whereby condensation is effected in the one compartment, by the evaporation of a volatile liquid in the other; 7th. The auxiliary lids c c in combination with the rods w, sleeves w, and wheels x y, or their equivalents; 8th. The combination of the lattice work quarter cylinders A, revolving upon the pivots q q, with the upper half cylinder f, lid b, barrel Q, rod j and sleeve j.

No. 10,669. Improvements on Blotting Pads.*(Perfectionnements aux buvards.)*

John A. Rennie and James T. Sawyer, Montreal, Que., 21st November, 1879, for 5 years.

Claim.—1st. The combination of the card board, or other suitable material a, receptacles or cuts b, with the blotting paper c; 2nd. The combination of the card board, or other suitable material a, receptacles or cuts b, blotting paper c, extra pieces of card board, or other material d e; 3rd. As a new article of manufacture, the pad constructed by the combination of the parts a b c d e.

No. 10,670. Improvements on Curry Combs.*(Perfectionnements aux étrilles.)*

Lorenzo D. Cleaveland, Benjamin F. Babcock and John H. Rea, Chicago (Assignees of Elijah Harria, Princeton, Ill., U. S., 21st November, 1879, for 5 years.

Claim.—1st. The disk A combined with a toothed spiral plate C which is held to the disk A, at intervals, whereby it is enabled to expand and contract; 2nd. The combination of the disk A, toothed spiral spring C, rod L and centre core D E; 3rd. The combination of the disk A, toothed spiral spring C, rod L and stops a a.

No. 10,671. Improvements on Steam Boilers.*(Perfectionnements aux chaudières à vapeur.)*

Warden King, (Assignee of Archibald Spence), Montreal, Que., 21st November, 1879 (Extension of Patent, No. 4682), for 5 years.

No. 10,672. Improvements in Bed Bottoms.*(Perfectionnements aux fonds des lits.)*

Robert E. Campbell, Chicago, Ill., U. S., 21st November, 1879, for 5 years.

Claim.—1st. The combination of a bed bottom with the post of a bedstead, by means of the thimble sockets D D D D; 2nd. The ratchet stands G G, recessed at K and made with bevelled bearings S S, in combination with the conical journals L L at the sides of the ratchet, the weighted pawls I placed in recesses below the ratchet H, the bolts J J, roller F, side rails A, bar E and ratchet H.

No. 10,673. Improvements on Vehicle Springs.*(Perfectionnements aux ressorts des voitures.)*

Orson S. Garton, North Brookfield, N. Y., U. S., 21st November, 1879, for 5 years.

Claim.—1st. In a waggon gear, the reach connected with the axle by a clip king bolt C, secured to the axle and pivoted between plates or bars which are fastened to the reach; 2nd. The elliptic side springs connected with the double sets of half end springs, by means of the spring bars C secured upon the elliptic side springs; 3rd. The elliptic side spring E, spring bar G, bed piece I, half springs K and clips H; 4th. The elliptic side spring E, spring bar G, bed piece I, half springs K, clips H, frame L and cross bar M.

No. 10,674. Improvements on Fountain Pens.*(Perfectionnements aux plumes-fontaines.)*

LeRoy Hooker, Quebec, Que., 21st November, 1879, for 5 years.

Claim.—1st. The metal tube A in combination with the holder; 2nd. The rubber tube D in combination with the metal tube A; 3rd. The strips of chamois leather E, or other conducting material, in combination with the rubber tube D and metal tube A; 4th. The proportions of the various parts which provide for the circulation of ink and of air in the working of the pen.

No. 10,675. Sample and Merchandise Mail Case.*(Valise à échantillons et marchandises pour la malle-poste.)*

Solon G. Howe and Charles M. Dalley, Detroit, Mich., U. S., 21st November, 1879, for 5 years.

Claim.—The body A, provided with the fastening screw B fastened to the body, and the top C, rabbeted on its edge and adapted to serve as a nut, for the point of the screw B to enter into.

No. 10,676. Galvanic Piles for Medical Purposes.*(Piles galvaniques pour des fins médicales.)*

Frances J. Tongue and Columbia Drew, Chicago, Ill., U. S., 21st November, 1879, for 5 years.

Claim.—1st. In a galvanic pad for medical application, the series of out away plates C, gradually increasing in size, in combination with the upper series of disk plates D; 2nd. In a galvanic pad, the case A, provided with a removable cover, in combination with the plates composing the pile arranged loosely within the former, and thereby held in place to form the pile; 3rd. The case A, provided with an aperture a in its bottom, in combination with the perforated disk plate B, plates C D and cover E; 4th. The case A in combination with the plates C D, composing the pile, the spring F and cover E secured to the case by a detachable fastening.

No. 10,677. Improvements on Eye Glasses.*(Perfectionnements aux lunettes.)*

John McCord and Thomas Hopkins, Philadelphia, Penn., (Assignees of James P. L. Anderson, Princeton, N. J.), U. S., 21st November, 1879, for 5 years.

Claim.—1st. The roughened nose rests F F pivoted to the curved arms or to the frames of an eye glass; 2nd. In combination with the lenses A A, studs B, screws C, spring D and curved arms E of an eye-glass, the roughened nose rests F, F; 3rd. Nose rests F F roughened on their convex surfaces, or provided with roughened strips of metal, horn, or other suitable material.

No. 10,678. Improvements in Sewing Machines.*(Perfectionnements aux machines à coudre.)*

Richard M. Wanzer, (Assignee of Joseph B. McCune and James F. Chamberlain), Hamilton, Ont., 21st November, 1879, for 5 years.

Claim.—1st. In combination with a sewing machine, two parallel shafts B E, the former working the needle bar and the latter for operating the shuttle, both being connected by the upright shaft G and bevel gears; 2nd. In combination with a sewing machine, the feed cams a b formed solid on the lower shaft E; 3rd. The bracket M, cap N, groove O, in combination with the rack bar P, pinion S and stud Q; 4th. The face plate U, resting against the four screws c, &c., in the head, in combination with a triangular needle bar for taking up the wear of the same; 5th. The combination of the tension mechanism in the shuttle, consisting of the stud f, spring h, washers g; 6th. In combination with the shuttle, the spring o to hold down the cover V; 7th. In combination with the tension mechanism of the shuttle, the hook t, to assist in giving proper tension to the thread; 8th. In combination with the shuttle, the attaching of the stud f, spring h, washers g, hook t, to the under side of the hinged cover V.

No. 10,679. Process for the Manufacture of Goods from Caoutchouc.*(Procédé pour la fabrication des objets de caoutchouc.)*

Henry Gerner, New York, U. S., 21st November, 1879, for 5 years.

Claim.—1st. Incorporating camphor, in different proportions, with caoutchouc, gutta percha and analogous gums with sulphur, or sulphur in its combinations, together with other ingredients introduced for various purposes, and exposing the compound to heat in order to vulcanize the same; 2nd. Vulcanizing such compounds, in closed vessels, by immersing them in alcohol, either alone or in combination with metallic oxides, alkaloids, &c.; 3rd. Bleaching and colouring goods and articles resulting from the vulcanization of such compounds, by immersing them in chemical baths.

No. 10,680. Improvements in Ironing Boards.*(Perfectionnements aux planches à repasser.)*

Richard Troy, Oshawa, Ont., 21st November, 1879, for 5 years.

Claim.—1st. The combination of the clamp plate C and the adjustable leg D with the supplementary board E; 2nd. The combination of the supplementary board E with the sad iron stand B.

No. 10,681. Composition of Matter for Receiving Impressions of Writing and Transferring the same on to Paper.*(Composé pour recevoir des impressions d'écriture et les transmettre sur le papier.)*

Johu H. Hugill, Guelph, Ont., 21st November, 1879, for 5 years.

Claim.—1st A pad composed of glue with glycerine, oil of cinnamon, carbonate of magnesia, carbolic acid, flake white and water, or their equivalents, used for the purpose of receiving and retransferring written impressions; 2nd. An ink composed of water, sugar, methyl violet, or other ingredient of like nature; 3rd. A pad used in combination with ink.

No. 10,681. Improvements on Fountain Pens.*(Perfectionnements aux plumes-fontaines.)*

Alonzo T. Cross, Providence, R. I., U. S., 21st November, 1879, for 5 years.

Claim.—1st. The combination of the spindle E, holder or guide F and spring rod D with an ink reservoir; 2nd. The combination of the spindle E, holder or guide F and spring rod D with an ink reservoir A, provided with an air duct within its side wall; 3rd. The ink reservoir, provided with an air duct within its side wall and combined with a metallic solid or hollow rod, serving both to support the writing spindle and to strengthen the screw for the vent valve; 4th. The side orifice N made to connect with the closed bore P of the spindle holder or guide, for the purpose of ink circulation.

No. 10,683. Composition of Matter for Multiplying Copies of the same Original. (*Composé pour produire à l'infini des copies d'un même original.*)

Edward Towe, Charles Horton and Thomas Aston (Assignees of Thaddeus J. McDermott), London Ont., 21st November, 1879, for 5 years.

Claim.—A composition of glycerine, glue, isinglass, water, sulphate of barium, carbolic acid and sugar.

No. 10,684. Apparatus for Cutting Rock and Dressing, Shaping, Planing and Turning Stone. (*Appareil pour découper le roc et tailler, former, raboter et tourner la pierre.*)

John D. Brunton and Frank H. J. Frier, Battersea, Eng., 21st November 1879, for 5 years.

Claim.—1st. Imparting to circular cutters a positive rotation providing for the self-adjustment of the cutters in their rotary motion. 2nd. The mode of constructing circular cutters, so as to admit of cutters being ground with facility upon its end face or base, in lieu of upon its conical periphery. 3rd. The combination, in a chuck or tool holder, of two or more cutters, constructed and arranged in such a manner as that they shall, in their combined action, operate upon the stone in different planes and at different depths. 4th. The combination, in a machine or apparatus for cutting rock, or dressing, shaping, planing or turning stone, of means for sharpening the cutters during the operation of the said machine or apparatus, for the purpose of maintaining them in a condition most adapted for acting upon the stone. 5th. The employment for the production of more perfect arrises in stone dressed in machines of the description referred to, of a circular rotating cutter mounted and arranged so as to operate in the manner described.

No. 10,685. Improvements on Millstone Drivers. (*Perfectionnements aux moulles des meules.*)

Fred G. Dörner Milwaukee Wis., U. S. 21st November 1879 for 5 years.

Claim.—1st. The base plate A having box B and shoulders C C provided with grooves L L and anti friction bearing G G G. 2nd. The combination of the driving ring E having longitudinal grooves C C transverse to the axis of the recessed bearings H H with the base plate A provided with box B and shoulders C C. 3rd. The base plate A having box B and shoulders C C, provided with grooves L L, in combination with the driver E having longitudinal grooves C C transverse to the axis of the recessed bearings H H and cap plate I. 4th. The oscillating bearings O having shaft P as secured to the driving ring by bolt Q.

No. 10,686. Improvements in Boats. (*Perfectionnements dans les bateaux.*)

Michael F. Davis Portland Me., U. S., 21st November 1879, for 10 years.

Claim.—1st. The combination of the swinging row-lock and the pin or standard A having an outward curvature. 2nd. A row-lock swinging or stationary having an inward convexity upon the upright and an inner. In the sill. 3rd. A row-lock, swinging or stationary, having the outwardly inclined arm J. 4th. The outrigger, consisting of the double brace D E and brace F, united at their outer ends, the said brace F being attached at its inner end, at or near the centre of the boat and perpendicularly, or nearly so, to the side of the boat and otherwise applied. 5th. In combination with a sliding seat, or traveller, having a shouldered runner, the slide with an upright and overset flange. 6th. In combination with a runner, or traveller, the rack or slide S having upward projecting flanges.

No. 10,687. Improvements on Corsets. (*Perfectionnements aux corsets.*)

Joseph S. Guthrie and Elizabeth Guthrie, St. Catharines, Ont., 21st November, 1879, for 5 years.

Claim.—1st. An abdominal supporter composed of the pieces A and straps C, or their equivalent, in combination with the corset H. 2nd. The pieces A, laced together and having straps C, in combination with the elastic straps B and corset H. 3rd. The supporting bones E, arranged in the corset H, in combination with the gore F. 4th. A properly stiffened strip I inserted beneath the back parting of the corset H, so as to form a spinal supporter. 5th. The breast pieces G, and that portion of the corset where they fit, cut in such a manner that in sewing the said pieces G into position, they will spring out to form the shape of the breast.

No. 10,688. Improvement on the "Charles Richter" process of Tanning and Dressing Furs and Skins. (*Perfectionnement au procédé pour tanner et passer les fourures et les peaux, dit "de Charles Richter."*)

John C. Burke and Charles Richter, Winnipeg, Man., 22nd November, 1879, for 5 years.

Claim.—1st. The following ingredients, viz. Blue or brick clay, common salt, wheat bran or wheat middlings and sugar of lead. 2nd. The application

of the solutions composed of water, blue or brick clay, common salt, wheat bran or wheat middlings, and sugar of lead and water, sal soda, roscaron oil and glycerine.

No. 10,689. Improvements on Mowers.

(*Perfectionnements aux faucheuses.*)

Frank Bremer, Little Falls, N. Y., U. S., 22nd November, 1879, for 5 years.

Claim.—1st. The combination of the main frame A, the rocking coupling arm D hinged to the heel of the shoe, the brace rod F, extending from said arm, hinged to the toe of the shoe, the cross-bar G, connecting the coupling arm and brace rod, and the thrust bar H, pivoted to the main frame A; 2nd. To said bracing cross-bar. 2nd. The combination of the rocking coupling arm D, the brace rod F, the shoe to which said arm and rod are hinged, the cross-bar connecting the arm and rod and the tilting apparatus acting on said cross bar to tip the cutters. 3rd. The combination of the vertically rocking and axially turning bent coupling arm D, the shoe at or near the heel of which the coupling arm is hinged, the diagonal brace rod F hinged to the shoe in advance of the cutters, and the roller M mounted on the coupling arm near its jointed connections with the shoe. 4th. The combination of the shoe, the coupling arm D and brace rod F, hinged thereto, the leading wheel M, the thrust bar H pivoted to the cross-bar connecting the coupling arm and the brace rod, and the tilting apparatus. 5th. The combination of the lifting lever K, its chain, the leading wheel M, the bent plate, to which the lifting chain is connected, turning on the coupling arm D, surrounding the leading wheel and provided with a locking toe against which the shoe abuts whereby the finger beam E is lifted horizontally by the lifting apparatus, without flexing its joints. 6th. The combination of the main frame A, the rearwardly and downwardly bent coupling arm D, jointed to the outer front corner extension of the frame, in line with the crank-shaft and in advance thereof of the shoe, the front and rear jointed connections between the shoe and the coupling arm, and its brace rod, the pitman P extending above the coupling arm and the cutting apparatus. 7th. The combination of the crank pin N, provided with the ball, and the pitman P, having the transversely slotted casing O, to give both the rocking and axially turning movements to the pitman by its jointed connection with the crank-shaft. 8th. The combination of the main frame A, having the corner extension, the crank-shaft, the pitman P, the ball and socket joint connecting the crank-shaft and pitman, and giving to the latter the capacity of both, rocking vertically and turning axially the vertically rocking and axially turning coupling arm D jointed to the main frame extension, in advance of the pitman and in line with the crank-shaft and extending downwardly and rearwardly beneath the pitman, the cutters and the shoe having jointed connections with the coupling arm, in front and in rear of the cutters.

No. 10,690. Improvements on Sash Fasteners.

(*Perfectionnements aux arrête-croisées.*)

John W. Thomas, Tyrone, Penn., U. S., 22nd November, 1879, for 5 years.

Claim.—1st. In a sash lock or fastener, the case A constructed in two parts, one part a, having an aperture d and a slight elevation p, and the part a', provided with a lateral projection or stud c. 2nd. The combination, with the case A, having the shaft or spindle D provided with the lever C and cams g g, of the springs h h and the key E, adapted to fit the spindle D and operate it, and the lever C. 3rd. The combination, with the partition of the two-part case A a', said partition being provided with a slotted aperture f, of the lever C and its feather shaft D.

No. 10,691. Improvements in Safety Lamps.

(*Perfectionnements aux lampes de sûreté.*)

John D. Shakespear, London, England, 22nd November, 1879, for 5 years.

Claim.—1st. The use of two gauze chimneys A B; 2nd. The extinguisher K, in combination with cylinder E, lamp J and wick tube J'; 3rd. The glass D, in combination with gauze flanges B' I.

No. 10,692. Improvements in Ploughs.

(*Perfectionnements dans les charrues.*)

Joseph Lane, Listowell, Ont., 22nd November, 1879, for 5 years.

Claim.—1st. The concave circular coulter E pivoted to the arm D, or its equivalent, in combination with the mould board B; 2nd. The scraper F, in combination with the pivoted concave circular coulter E.

No. 10,693. Improvements in Corsets and Pads. (*Perfectionnements aux corsets et matelas.*)

Ira de V. Warner, Bridgeport, Ct., U. S. 22nd November, 1879, for 5 years.

Claim.—1st. A series of bones extending across the hips; 2nd. The combination of hip bones, slit b, its tongue and buckle and back laced slit c; 3rd. The elastic gore f inserted in the end of the slit b; 4th. A corset in which the bones are secured by rows of stitching.

List of Patents issued to up 26th December, 1879, but not yet Officially published in the Patent Office Record.

- No. 10,694. F. Kitten, Ferdsland, Ind., U. S. A., "Threshing Machine Straw Carrier," 22nd November, 1879.
- No. 10,695. M. Johnson, Lockport, N. J., U. S. A., "Hand Truck," 27th November, 1879.
- No. 10,696. H. T. Love, Philadelphia, Penn., U. S. A., "Sewing Machine Attachment," 27th November, 1879.
- No. 10,697. J. Shaw, Toronto, O., "Churn," 27th November, 1879.
- No. 10,698. W. E. Eastman (Assignee of F. P. Baker), Boston, Mass., U. S. A., "Whitening Machine," 27th November, 1879.
- No. 10,699. C. W. Meakins, Hamilton, O., "Sash Tool," 27th November, 1879.
- No. 10,700. J. C. Wanda, Louisville, Ken., U. S. A., "Railway Car Roof," 27th November, 1879.
- No. 10,701. W. Schwendler and D. Frerice, Appleton, Wis., U. S. A., "Gate Roller," 27th November, 1879.
- No. 10,702. T. Hunter, Toronto, O., "Baker's Oven," 27th November, 1879.
- No. 10,703. Hon. E. Leonard, P. E. Leonard, and C. W. Leonard London, O., "Spark Arrester," 27th November, 1879.
- No. 10,704. W. H. Gerlock, Denison, Tex., U. S. A., "Door Fastener," 27th November, 1879.
- No. 10,705. A. M. Bell, Brantford, O. & C. Williams, Jr. Boston, Mass. (Assignees of A. G. Bell, Cambridge, Mass.), U. S. A., "Speaking Telephone," 27th November, 1879.
- No. 10,706. R. Ghurch, St. Lambert, Q., "Boat," (Re-issue of Patent, No. 10,371), 27th November, 1879.
- No. 10,707. A. Mallery, Mystic Bridge, Conn., U. S. A., "Air Closet," 29th November, 1879.
- No. 10,708. W. Wallach, New York, N. Y., U. S. A., "Copy Roller," 29th November, 1879.
- No. 10,709. S. J. Howers, Canandaigua, N. Y., U. S. A., "Horse Collar Couplings," 29th November, 1879.
- No. 10,710. J. B. Armstrong, Guelph, O., "Oil Cooling Process and Apparatus," 29th November, 1879.
- No. 10,711. J. Foley, Montreal, Q., "Art of Preparing and Tanning Hides and Skins," 29th November, 1879.
- No. 10,712. J. R. Forsyth, Brussels, O., "Car Coupler," 29th November, 1879.
- No. 10,713. D. Deshon, Bucyrus, O., U. S. A., "Portable Shower Bath," 29th November, 1879.
- No. 10,714. The American Street Light Reflector Co., Boston (Assignee of C. Robinson), Cambridge, Mass., U. S. A., "Reflector for Lamps, &c.," 29th November, 1879.
- No. 10,715. F. M. Bissell, Coldwater, Mich., U. S. A., "Grain Separator," 29th November, 1879.
- No. 10,716. H. M. Beecher, New Haven, Conn., U. S. A., "Fence Post," 29th November, 1879.
- No. 10,717. F. W. and G. F. H. Bartlett, Buffalo, N. Y., U. S. A., "Ozone Generators," 29th November, 1879.
- No. 10,718. J. A. Kappheim, Dundas, O., "Land Roller," 29th November, 1879.
- No. 10,719. A. Ungerer, Vienna, Austria, "Chronograph," 29th November, 1879.
- No. 10,720. W. P. Williamson, Quincy, Ill., U. S. A., "Car Ventilator," 29th November, 1879.
- No. 10,721. J. Hogue, St. Jean, Q., "Boot and Shoes," 29th November, 1879.
- No. 10,722. T. Smith, Westminster, O., "Buggy Top," 29th November, 1879.
- No. 10,723. M. A. C. Holmes, Boston (Assignee of F. D. Ballou), Marlboro, Mass., U. S. A., "Channelling and Sole Piercing Machine," 5th November, 1879.
- No. 10,724. C. M. Arthur, A. and E. Smart, and B. C. Shepherd, Brockville, O., "Paper Box," 5th December, 1879.
- No. 10,725. J. J. Conkier, Jr., New York, N. Y., U. S. A., "Railway Electric Signals," 5th December, 1879.
- No. 10,726. S. T. Fenn (Assignee of H. H. Allen), Oxford, Mich., U. S. A., "Fence Gate," 5th December, 1879.
- No. 10,727. E. Prescott, Hampton Falls, N. Y., and G. W. Gregory, Boston, Mass., U. S. A., "Door Hanger," 5th December, 1879.
- No. 10,728. B. E. Sergeant, Greensboro, N. Y., U. S. A., "Saw Mill Head Block," 9th December, 1879.
- No. 10,729. R. H. Monteth and J. Hunner, Eau Claire, Wis., U. S. A., "Combined Thrasher and Grain Separator," 9th December, 1879.
- No. 10,730. C. S. Piersons, C. Ferris, and W. Warren, Landy Hill, N. Y., U. S. A., "Harness," (Re-issue of Patent, No. 9627) 9th December, 1879.
- No. 10,731. D. Mortimer, Ottawa, O., "Art of Ruling Paper," (Extension of Patent, No. 4140) 9th December, 1879.
- No. 10,732. T. Barnes, Harwich, O., "Bean Picker," 9th December, 1879.
- No. 10,733. H. Gillmore, Simcoe, O., "Self-Order for Railway Car Journals," 9th December, 1879.
- No. 10,734. R. Brewer, New York, N. Y., U. S. A., "Amputation Journal Boxes for Railway Cars and Machinery," 10th December, 1879.
- No. 10,735. J. Kaiser and H. H. Stangard, St. Charles, Ill., U. S. A., "Horse Hay Rake," 10th December, 1879.
- No. 10,736. J. Campbell, Almonte, O., "Churn," (Extension of Patent No. 4,177), 10th December, 1879.
- No. 10,737. C. Ingersoll Beloit, Wis., U. S. A., "Paper Dishes &c.," 13th December, 1879.
- No. 10,738. W. N. Whiteley, Springfield, Ohio, U. S. A., "Resurfacing Machine," 13th December, 1879.
- No. 10,739. J. Grosby and J. Mills, Lancaster, England, "Method of and Machine for Framing Woodwork," 13th December, 1879.
- No. 10,740. J. Bartlett, Oshawa, Ont., "Turnip Harvester," 13th December, 1879.
- No. 10,741. W. Briggs, Montreal, Que., "Saw Plate Feeder," 13th December, 1879.
- No. 10,742. J. H. Dennis, Newark, N. Y., U. S. A., "Sled," 13th December, 1879.
- No. 10,743. J. G. Scott, Chatham, Que., "Car Coupler," 13th December, 1879.
- No. 10,744. H. H. Ham Jr., and E. G. Pierce Jr., Portsmouth, N. H., U. S. A., "Calculating Attachment to Weighing Scales," 13th Dec., 1879.
- No. 10,745. E. C. F. Atto, Peckham, England, "Bicycle," 16th December, 1879.
- No. 10,746. H. Brown, F. W. and G. A. Wagener, Charleston, S. Car., U. S. A., "Nautical Alarm Bell," 16th December, 1879.
- No. 10,747. J. Dreisinger, (Assignee of E. Rhodes, Erie, Penn., U. S. A.), "Grain Grinding Mill," 16th December, 1879.
- No. 10,748. J. P. Garden, Rochester, N. Y., U. S. A., "Self-Binding Harvester," (Extension of Patent No. 4,193), 18th December, 1879.
- No. 10,749. J. P. Garden, Rochester, N. Y., U. S. A., "Self-Binding Harvester," (Extension of Patent No. 4,193), 19th December, 1879.
- No. 10,750. W. Jones, Philadelphia, Penn., U. S. A., "Compound Bed Spring," (Extension of Patent No. 4,292), 22nd December, 1879.
- No. 10,751. D. Conboy, Uxbridge, Ont., "Turn Down Vehicle Seat," (Extension of Patent No. 4,280), 24th December, 1879.
- No. 10,752. C. G. Wells, Hartford, Conn., U. S. A., "Fifth Wheel for Vehicles," 24th December, 1879.
- No. 10,753. W. Forbes, Plainwell, Mich., U. S. A., "Sailer Windmill," 24th December, 1879.
- No. 10,754. J. Vandegrift and A. J. Brown, Langhorne, Penn., U. S. A., "Horse Shoe," 24th December, 1879.
- No. 10,755. D. W. Wittner, Plattville, Ont., "Cider Press," 24th December, 1879.
- No. 10,756. A. K. Buckhout, Kalamazoo, Mich., U. S. A., "Ammunition Case," 24th December, 1879.
- No. 10,757. F. J. Craig, Strathroy, Ont., "Reaper Table Lifting Arrangement," 24th December, 1879.
- No. 10,758. H. B. Clark, Ingersoll, Ont., "Spring Bed Head and Foot Attachments," 24th December, 1879.
- No. 10,759. M. C. Mullarky, and E. Parent, Montreal, Que., "Improved Hat," 24th December, 1879.
- No. 10,760. S. P. Tallman, Duellen, N. Y., U. S. A., "Car Brake," 24th December, 1879.
- No. 10,761. J. Brayley and H. Dempster, (Assignees of L. L. Brazner, Hamilton, Ont.), "Machine for making Cock eyes for Traces," 24th December, 1879.
- No. 10,762. H. McConnell, (Assignee of W. B. Taylor, Chicago, Ill., U. S. A.), "Head Rest," 24th December, 1879.
- No. 10,763. R. M. Wanzer, (Assignee of T. D. Wanzer, Hamilton, Ont.), "Sewing Machine," 24th December, 1879.
- No. 10,764. H. M. Small, Baldwinsville, Mass., U. S. A., "Moth Carpet Pad," 24th December, 1879.
- No. 10,765. C. F. Sann and W. Sinder, Montreal, and P. McKee, Waterloo, Que., "Railway Brake," 24th December, 1879.
- No. 10,766. J. A. Pillow and R. Hersey, Montreal, Que., (Assignees of J. B. and L. C. Clark, Plattville, Conn., U. S. A.), "Bolt Heading Machine," 26th December, 1879.

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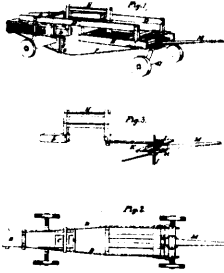
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ILLUSTRATIONS.

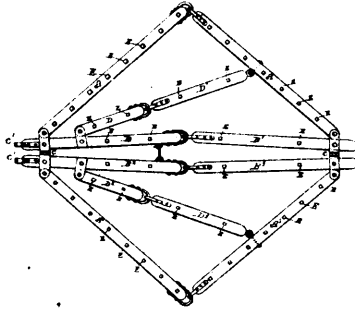
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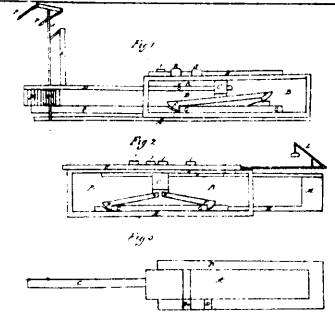
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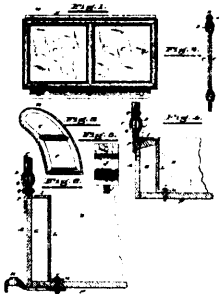
10622 Dederick's Improvements on Baling Presses.



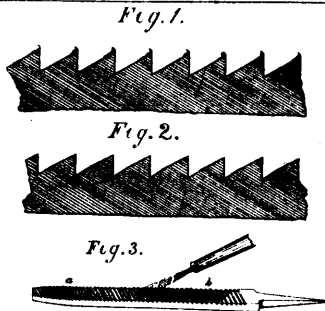
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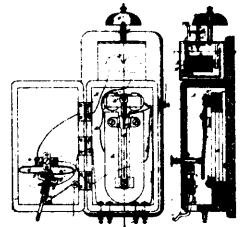
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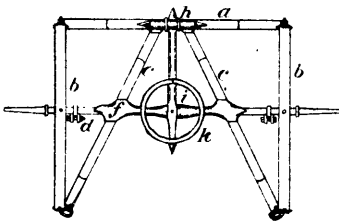
10626 Warden's Improvements on Vehicle Dashes.



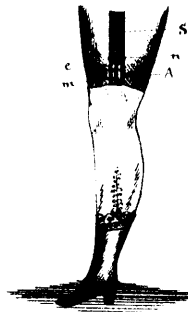
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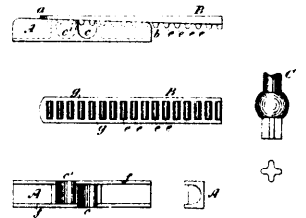
10628 Anders' Apparatus and Circuits for Signalling in District Telephone systems.



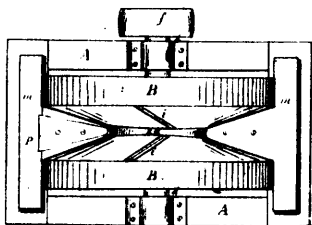
10629 Fitch's Improvements on Springs for Platform Waggons.



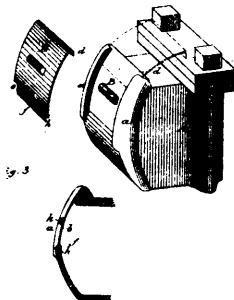
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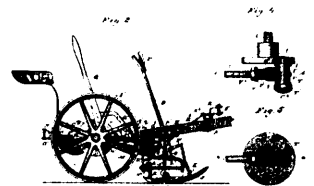
10633 Scott & Young's Improvements in Printers Quoins.



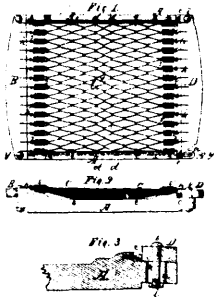
10634 Greenwood's Machine for Dressing the Ends of Barrel Hoops.



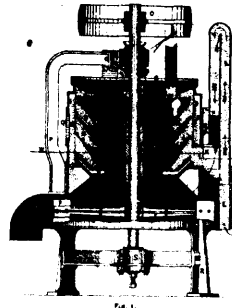
10635 Case's Improvements on Car Axle Boxes.



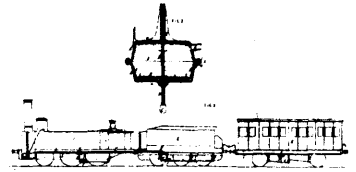
10636 Baker's Improvements in Harvesting Machines.



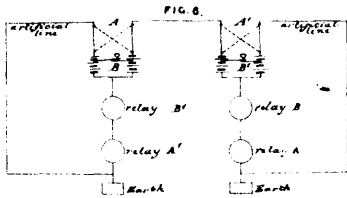
10637 Gale's Improvements on Spring Mattresses.



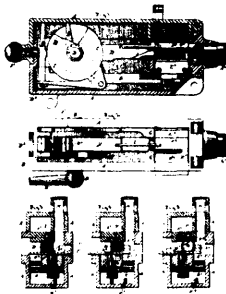
10638 Higginbottom & Hutchinson's Apparatus for Cleaning Grain.



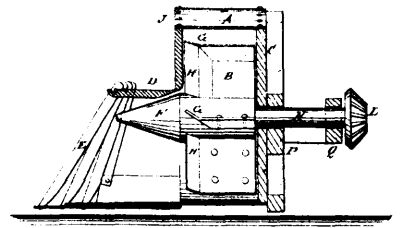
10639 Hardy's Improvements on Railway Brakes.



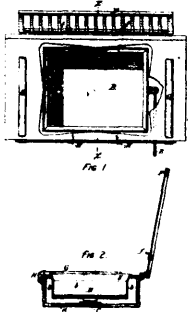
10640 Muirhead & Winter's Quadruplex and Multiplex Telegraphs.



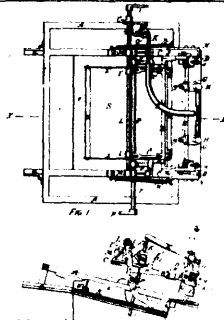
10641 Gardner's Improvements on Machine Guns.



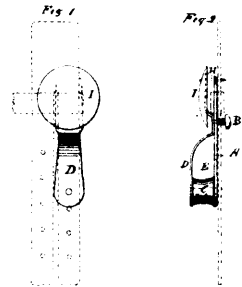
10642 Payne's Improvements on Snow Ploughs.



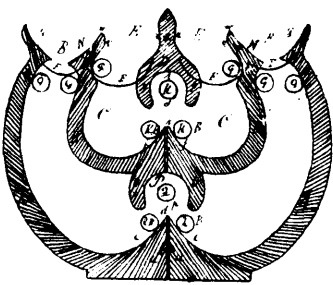
10643 Ellery's Improvements in Printing Presses.



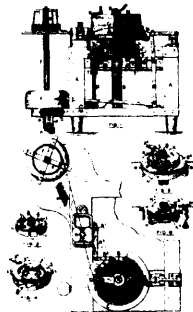
10644 Ellery's Improvements in Printing Presses.



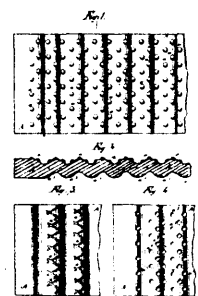
10645 Tracy's Improvements on Check-Rein Supports.



10650 Cowan's Game for Parlour Amusement.



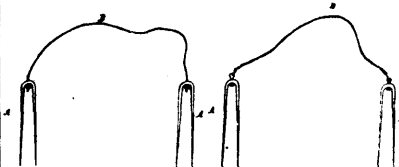
10651 Rogers' Machine for Drawing Wire.



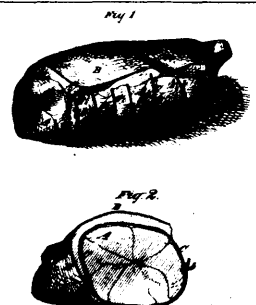
10653 Campbell's Improvements in Oil Press Plates.



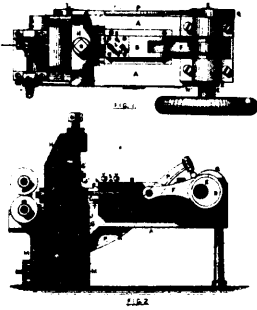
10654 Edison's Improvements on Electric Lamps.



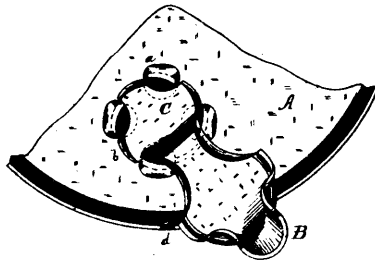
10655 Kelly's Improvements in Hair Pins.



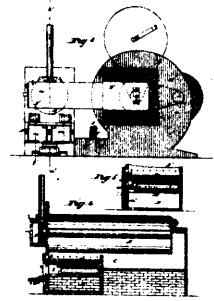
10656 Warner's Improvements on the Preservation of Boned Hams.



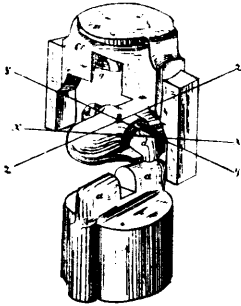
10657 Rogers' Improvements on Bolt Heading Machines.



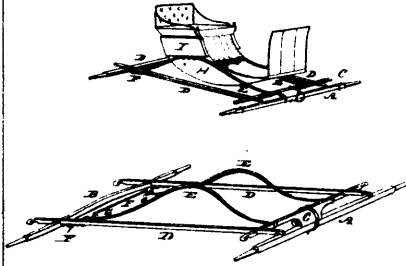
10658 Morris & Clark's Means for Attaching Stove Legs



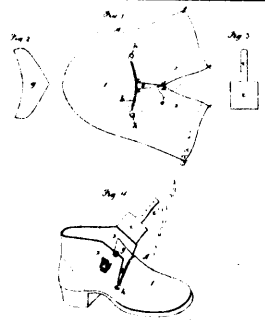
10659 Smith's Smoke Consuming Furnace for Boilers.



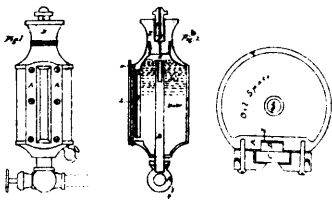
10660 Duvall's Improvements on Millstone Devices.



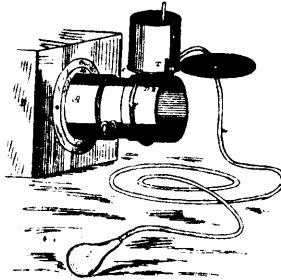
10662 Welch's Improvements on Carriages.



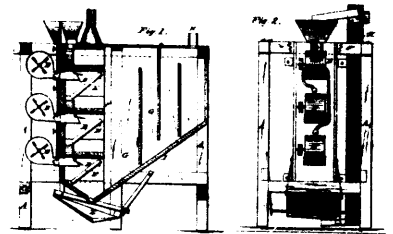
10663 Tebo's Improvements in Shoes.



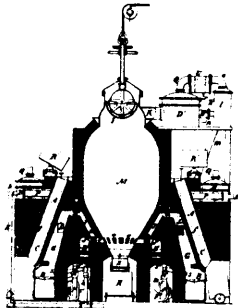
10664 Seymour & Boys' Improvements on Tallow Cups.



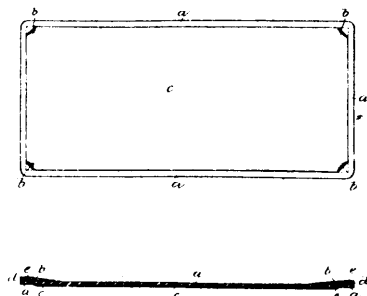
10665 Gross' Improvements on Camera Shutters



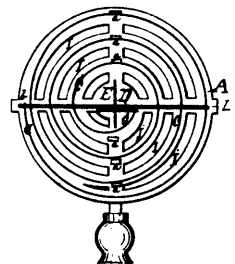
10666 Maloney & Ricker's Improvements in Grain Cleaners.



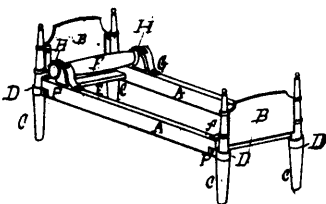
10668 Mathieu's Furnace for Distilling Wood, &c.



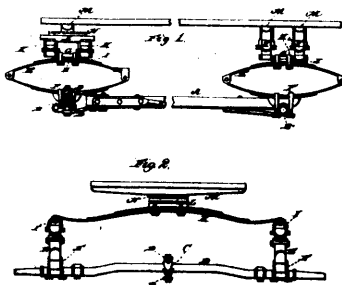
10669 Rennie & Sawyer's Improvements on Blotting Pads.



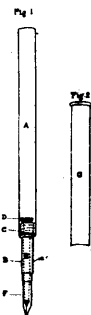
10670 Harris' Improvements on Curry Combs.



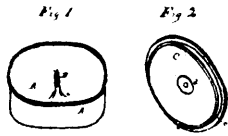
10672 Campbell's Improvements in Bed Bottoms.



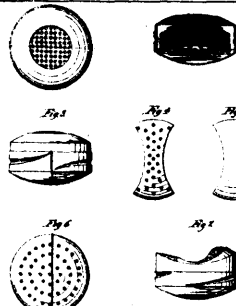
10673 Garton's Improvements on Vehicle Springs.



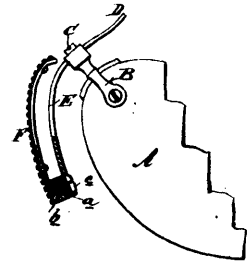
10674 Hooker's Improvements on Fountain Pens.



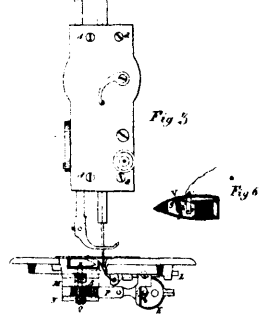
10675 Howe & Dailey's Sample and Merchandise Mail Case.



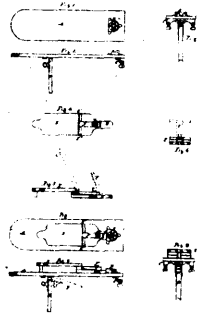
10676 Tongue & Drew's Galvanic Piles for Medical Purposes



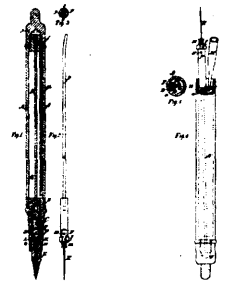
10677 Anderson's Improvements on Eye Glasses.



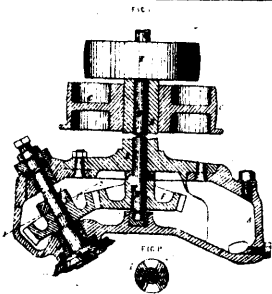
10678 McCune & Chamberlain's Improvements in Sewing Machines.



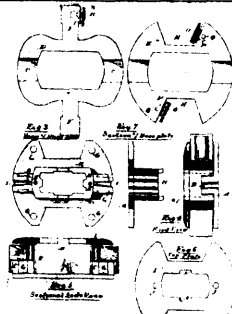
10680 Troy's Improvements in Ironing Boards.



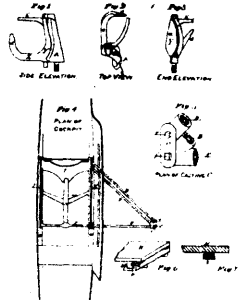
10682 Cross' Improvements on Fountain Pens.



10684 Brunton & Frier's Apparatus for Cutting Rock and Dressing, Shaping, Planing and Turning Stone.



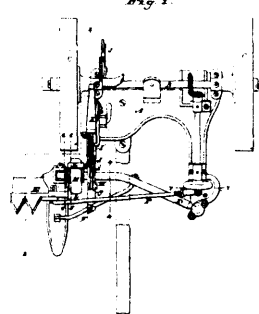
10685 Dorner's Improvements on Millstone Drivers.



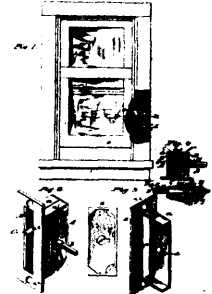
10686 Davis' Improvements in Boats.



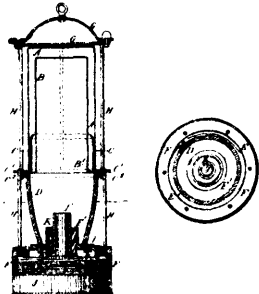
10687 Guthrie's Improvements on Corsets.



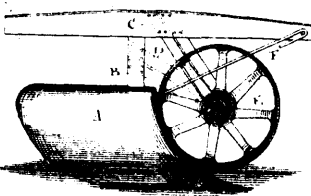
10689 Bremer's Improvements on Mowers.



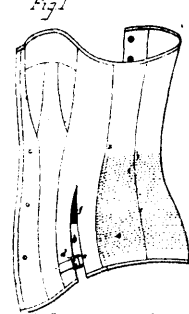
10690 Thomas' Improvements on Sash Fasteners.



10691 Shakespear's Improvements in Safety Lamps.



10692 Lane's Improvements in Ploughs.



10693 De Varner's Improvements in Corsets and Pads.