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### INVENTIONS PATENTED.

#### No. 11,510. Improvements on Feather Dusters. (*Perfectionnements aux plumeaux.*)

Leonard A. Watson, Ashtabula, Ohio, (Assignee of Gilbert M. Richmond, Chicago, Ill.,) U. S., 19th July, 1880; for 5 years.

*Claim.*—A duster made of feathers with the outer portions of their shafts split, or split and withed, or split, withed and rasped to make them soft and pliable, and the inner or quill portions of their shafts left tubular, that they may stand firmly in the head to hold their plumes outspread, thus combining the firmness of the unsplit feather duster with the pliability of the split feather duster.

#### No. 11,511. Improvements on Calculators for Interests and Time. (*Perfectionnements aux calculateurs d'intérêts et de temps.*)

William J. Gurd, Sarnia, Ont., 19th July, 1880; for 5 years.

*Claim.*—1st. The combination of the two concentric discs A and B, one having in concentric circles calculations of interest for one year of a uniform sum, at one or more rates, and having a concentric circle numbered with 365 divisions, the other disc having names of months and figures of days, and a pointer C transversely subdivided and denominating the concentric circles. 2nd. The combination of the two discs A B overlying each other, having in concentric circles, calculations of interest for one year of a uniform sum at one or more rates, and a margin having a concentric circle with divisions of days 1 to 365, and the other disc subdivided to indicate the month and day divisions thereof, both discs attached at the centre by an eyelet or other fastening, whereby they can be revolved. 3rd. The combination of the revolving discs A B, one having 365 divisions consecutively numbered on the margin and the other subdivided on the margin with 12 divisions, named with the months, each subdivision divided to the number of days in each month and consecutively numbered, whereby by relatively adjusting the disc the number of days from one period to another period is ascertainable.

#### No. 11,512. Improvement on Iron Roofing. (*Perfectionnement des toitures en fer.*)

Griffith B. Thomas, Point Pleasant, W. Va., U. S., 19th July, 1880; for 5 years.

*Claim.*—In combination with edge *a* and cap *b* formed by the extended edge of the sheet A, the clips B, one end fastened to the sheathing under the sheet having cap *b*, while the other is carried under and over the outside of the cap to fasten it to the edge *a* and thus firmly secure the two together.

#### No. 11,513. Improvements in Blasting Powder. (*Perfectionnements dans la poudre à miner.*)

Charles Felhoen, New York, U. S., 19th July, 1880; for 5 years.

*Claim.*—The composition of matter consisting of the component parts of common gunpowder mixed with nitro-naphthaline.

#### No. 11,514. Improvements on Waggon Racks. (*Perfectionnements aux râteliers des wagons.*)

Sylvester Day, Otterville, Ont. (Assignee of Cyrenus Graham, Sturgis, Mich., U. S.), 19th July, 1880; for 5 years.

*Claim.*—1st. The bent pieces A in combination with the end framing B & C and the centre piece D. 2nd. The sides or wings E E hung to bottom by hinges F, and kept in position by bars G & H.

#### No. 11,515. Improvements on Car-Couplings. (*Perfectionnements aux attelages des chars.*)

Alexander Bartlett, Chatham, Ont., 19th July, 1880; for 5 years.

*Claim.*—The combination of draw head A, hinged weight B, link C and bolt D, the whole forming a convenient, simple, strong and effective automatic car-coupling.

#### No. 11,516. Improvements on Bed Bottoms. (*Perfectionnements aux fonds des lits.*)

Dallas Knowlton, Brantford, Ont., 19th July, 1880; for 5 years.

*Claim.*—1st. The slat H having the two outside slats F fastened to it, and the others passing under it, and worked by springs E, kept in position by guide K, the ends of the slats being coloured with magenta. 2nd. The combination of brace M, with bar B.

#### No. 11,517. Improvements in Wrenches. (*Perfectionnements aux clés à écrous.*)

Francis S. Gilbert, Oshawa, Ont., 19th July, 1880; for 5 years.

*Claim.*—The combination of the two jaws A A with the plates B B, flanges C C, teeth D D, slats E I, toothed handle I, guide pin K, and washers K K arranged to operate both the upper and lower jaws of the wrench simultaneously.

#### No. 11,518. Electric Signalling Apparatus for Railways. (*Appareil à signaux électriques de chemins de fer.*)

Frank L. Pope, Elizabeth, N. J., U. S., 19th July, 1880; (Extension of Patent No. 5,011.)

#### No. 11,519. Improvements on Pads for Horses' Hoofs. (*Perfectionnements aux bourrelets pour les sabots des chevaux.*)

Andrew J. Lockie, Martin J. Hurd and Thomas H. Titus, Rochester, N.Y., U. S., 19th July, 1880; for 5 years.

*Claim.*—The combination, with the shoe A, of sheet B and elastic pad or sponge C, and stiffening piece D. 2nd. Shoe A, having lugs A A, in combination with sheet B and stiffening piece D, both of which are attached to said lugs. 3rd. A sheet B, stiffening piece D and brace E, with suitable packing for the pocket in said sheet. 4th. The stiffening piece D, placed on the top of sheet B, and attached thereto or to lugs *a a*.

#### No. 11,520. Improvements on Electric Lamps. (*Perfectionnements aux lampes électriques.*)

Thomas A. Edison, Menlo Park, N. J., U. S., 19th July, 1880; for 10 years.

*Claim.*—1st. The method of forming electric lamps, consisting in separately forming the enclosing globe and the supporting bulb for the incandescent conductor attaching the wires and incandescent conductor thereto, and then hermetically uniting the parts prior to the formation of the vacuum. 2nd. The method of hermetically sealing a vitrified vacuum chamber which consists of, first sealing in vacuo and then sealing in the air. 3rd. The clamps and wires, made of platinum or metals of the platinum group or conductors of electricity not affected by influences within the lamp. 4th. In a system of generation distribution and translation of electricity for purposes of light, the method of diminishing the amount of metal required in a given length of main conductors by increasing the resistance of the lamps. 5th. An incandescent conductor formed of several separate conductors joined together. 6th. An incandescent conductor formed of a long strip doubled up on itself, so as to increase the resistance and maintain a given radiating surface. 7th. An incandescent conductor formed of a single carbonized fibre. 8th. An incandescent conductor having a body formed of a single fibre, with enlarged ends made of paper wrapped upon the ends of the fibre and carbonized. 9th. A separate electric lamp adapted to be readily removed from, or placed or replaced upon or within a suitable holder. 10th. The combination of a separate removable electric lamp and a suitable holder. 11th. The combination of a separate removable lamp, a suitable holder and electric conductors which complete the circuit, when desired, to said lamp, but are not attached thereto. 12th. An electric lamp consisting of a globe substantially of one piece of glass her-

metically sealed and enclosing, in a vacuum, material capable of being rendered incandescent by an electric current and provided at its base with contact pieces. 13th. The combination in an electric lamp of a glass globe enclosing in a vacuum material capable of being rendered incandescent by an electric current, an insulated base, spring contact and conductors therefrom, to the incandescent material. 14th. A socket or holder for electric lamps consisting of an insulating cylinder formed to receive and support the lamps, and provided with two contact plates and a circuit controlling device for controlling the circuit to one of the contact plates. 15th. The combination, with a bracket or chandelier arm, of a socket or holder adapted to receive and support an electric lamp. 16th. The combination of a holder, bracket or chandelier arm with a socket or holder adapted to be received thereon, and to receive and support an electric lamp and conductors passing through the arm to contact plates in the holder. 17th. The combination with a socket or holder provided with suitable contact plates, of a lamp provided with corresponding contact springs upon its exterior.

**No. 11,521. Printing Machine.** (*Machine à imprimer.*)

Edward Hely, Dublin, Ireland, 21st July, 1880; (Extension of Patent No. 5,020.)

**No. 11,522. Improvements on Grates.** (*Perfectionnements aux grilles.*)

Edward Card, Pawtucket, R. I., U. S., 21st July, 1880; for 5 years.

*Claim.*—1st. The pivoted dumping frames A, in combination with the bars B B having both ends loosely and similarly connected to the rods d d, and operated to rise and fall independently of each other, by means of cams arranged as described and connected to the dumping frame, so that the whole combination may be turned to dump the coal and ashes without disturbing the parts in their relation to each other. 2nd. The independent grate bars B B and dumping frame A, in combination with a cam C arranged for operation at or near the middle of the bars. 3rd. The cams C combined with the independently moving grate bars.

**No. 11,523. Improvements on Horse Power Links.** (*Perfectionnements aux chaînes des manèges.*)

Jasper A. Rouse, East Berkshire, Vt., U. S., 21st July, 1880; for 5 years.

*Claim.*—1st. The combination of the plate A, plate E having ends F vertical to the body of the same, and plate H having ends I forming wedges between the plates A and E. 2nd. The combination of the plates A and E with the plate H having ends I, forming wedges therewith.

**No. 11,524. Improvements in Bung Bushes.** (*Perfectionnements aux bouches des boudes.*)

George B. Cornell, Chicago, Ill., U. S., 21st July, 1880; for 5 years.

*Claim.*—A frusto-conical shaped exterior surface without a flange and screw threaded from end to end of the bush, in combination with a like shaped interior surface, only when such interior surface is smooth and unbroken from end to end of the bush by any screw thread, or indentation or projection of any kind thereon.

**No. 11,525. Improvements on Machines for Barbing Wire Fences.** (*Perfectionnements aux machines à barbler les clôtures métalliques.*)

Alanson Cary, New York, U. S., 21st July, 1880; for 5 years.

*Claim.*—1st. The stationary jaw V made with a straight grooved face, the movable jaw W made with an inclined face, and the bracket T with the pulley E having a hollow hub for wrapping a slitted strip S of sheet metal around a wire C. 2nd. The combination of the stationary hollow spindle B, the rotary sleeve D, the grooved feed rollers N O and their driving gearing, the pulley E, the jaw bracket and jaws T V W and the reel R with each other.

**No. 11,526. Improvements on Machines for Heating Sad Irons.** (*Perfectionnements aux machines à chauffer les fers à repasser.*)

Harrison H. Brown, Ladoga, Wis., U. S., 21st July, 1880; for 5 years.

*Claim.*—The heater a having fulera e, slotted lid b provided with ears b<sub>2</sub> on its sides, and bail d hinged to the ears b<sub>2</sub>.

**No. 11,527. Mode of Utilization of Electricity for Light, Heat or Power.** (*Mode d'utilisation de l'électricité pour la lumière, la chaleur et la force.*)

Thomas A. Edison, Menlo Park, N. Y., U. S., 21st July, 1880; for 10 years.

*Claim.*—1st. The combination of means at a central station for generating the electricity and for indicating and regulating its pressure, means for distributing the electricity and devices for translating it into light or motive power. 2nd. A combination of means at a central station for generating the electricity and for indicating and regulating its pressure, means for distribution, means for translating and means for measuring the amount used by each consumer. 3rd. The method of regulating the electro motive force or pressure in the main conductors by regulating the strength of the field of force, magnets of the main magneto-electric machines, so that variation of pressure upon the connection or disconnection of translating devices may be prevented. 4th. The method of regulating the amount of effect at the translating devices by regulating the field of force current of the generators. 5th. The method of regulating the generative capacity of one or a battery of magnets, electric or dynamo electric machines, by regulating the current passing through the field of force magnets. 6th. The method of regulating the generative capacity of one or a battery of magnets, electric or dynamo electric machines, by varying the resistances of the circuit passing around the field of force magnets. 7th. The method of operating a battery of magneto-electric machines by using the entire current of one machine of the battery, to supply the field of force current of the remainder and throw-

ing the entire current of the latter into a circuit for use. 8th. The combination, with one electrical circuit, of a number of separate translating devices. 9th. The combination, with one main electrical circuit, of a number of separate translating devices arranged therein upon the multiple arc system. 10th. The combination, with a number of translating devices, of one regulator placed at a central station and regulating all the said devices. 11th. The combination, with one or a battery of generators and a number of translating devices, of means for constantly indicating the electric pressure upon the translating devices. 12th. The combination of a number of generators and a number of translating devices, all arranged upon derived circuits or multiple arcs. 13th. The combination with means for constantly indicating the electric pressure of a battery for testing the indicating means.

**No. 11,528. Improvements in Gas Apparatus.** (*Perfectionnements aux appareils à gaz.*)

George Ramsdell, Oswego, N. Y., U. S., 21st July, 1880; for 5 years.

*Claim.*—1st. The combination, with the super-heating and the wood and oil retorts, of three intersecting pipes, forming a communication between said retorts, a three-way valve, located at the intersection of said pipes, two of said pipes connecting with the lower portions of the wood and oil retorts, and converging at their upper ends, forming an inverted V. 2nd. The combination, with an oil and air tank, of an oil pipe leading from the lower end of the oil tank upwardly and connected with a vertical pipe, which communicates at its lower end with the oil retort. 3rd. The combination, with the vertical oil feed pipe, of a cylinder surrounding the same and pipes for supplying the cylinder with water. 4th. The combination, with the cylinder having its lower end fitted to the top of the oil retort, of the vertical feed pipe screwed into the lower end of said cylinder, the lower end of said pipe being seated in the retort. 5th. The combination, with the cylinder arranged vertically upon the oil retort, of the oil feed pipe located within the cylinder and extending below the lower end thereof, and an opening in the retort to admit the lower end of the oil feed pipe, and an oil passage extending into the retort, said passage being equal in diameter to the inner diameter of the oil feed pipe. 6th. The combination, with the oil pipe connecting with the oil tank, of the vertical oil feed pipe provided with a T-connection at its upper end to one arm of which the oil pipe is secured, while the vertical arm or branch has a screw plug inserted therein. 7th. The combination, with the vertical oil feed pipe and cylinder surrounding the same, of set screws for retaining the pipe against lateral or axial displacement. 8th. The combination, with the vertical oil feed pipe, of a cylinder surrounding the same and secured at its lower end to the retort of a water supply pipe which extends down nearly to the bottom of said cylinder, and a discharge pipe communicating with the upper end of said cylinder. 9th. The combination, with the pipes E E' F, of the combined gas mixing and valve chambers, and rotary valve located therein. 10th. The pipes E E' F provided with a combined valve, and gas mixing and valve chamber, at three points of intersection and with flanges at their outer ends, said parts being cast in single pieces. 11th. The combination, with the hydraulic main, of dip pipes connecting with the wood and oil retorts, and a dip pipe communicating with the super-heating retort, the dip pipe of the latter having a lighter seat than the former. 12th. The combination, with the super-heating retort, of a combined oil and air tank. 13th. The stand pipes formed like an inverted V at their upper ends.

**No. 11,529. Improvements on Grain Cars.** (*Perfectionnements aux chars à grain.*)

William S. Hanson, Mount Pleasant, Iowa, U. S., 21st July, 1880; for 5 years.

*Claim.*—As an improvement in dumping cars or vehicles, the body A having hopper-shaped compartments D provided with spouts F, and slide-doors G having arms J provided with openings K, guides or cleats H, cross bars I having notches L and keys M.

**No. 11,530. Improvements on Lacing Hooks for Boots and Shoes.** (*Perfectionnements aux crochets à lacer les chaussures.*)

Mellen Bray, Newton, (Assignee of George Van Horne, Boston,) Mass., U. S., 21st July, 1880; for 15 years.

*Claim.*—A lace hook formed from a single piece of wire bent to form the eye a, neck b and prongs e.

**No. 11,531. Improvements on Fire Extinguishers.** (*Perfectionnements aux extincteurs d'incendie.*)

Charles Barnes, Dayton, Ky., U. S., 21st July, 1880; for 5 years.

*Claim.*—1st. The combination of case A, valve C and cam shaft B with flange D, weighted lever E and fusible jointed releasing wire as G. 2nd. The combination of a system of pipes, a supply valve for said system with two or more independent valve actuating devices, each of which is held by an independent wire passing to a different part of the building, either one of which wires, when released, will release a lever to throw the supply valve open. 3rd. In wires G, lever H and fusible jointed slide, or the equivalent of either. 4th. The combination, with a perforated distributor attached to the end of a discharge pipe, of a valve located within said perforated distributor and held to its seat by fusible solder. 5th. The combination of a perforated distributor, a valve located within said distributor and having a stem which projects through the shell of the distributor, and a lever as K, to hold the valve to its seat within the distributor, until its fusible joint is released by heat. 6th. The combination of a perforated distributor provided with a valve, the stem of which projects through the distributor, with a jointed lever K and a latch K', said latch resting upon a projection of the distributor, and secured thereto by fusible solder, to hold the valve to its seat until fused by heat. 7th. The combination of a perforated distributor, a valve to control the supply of water to said distributor, said valve being provided with a two-part stem and an elastic cushion between the parts, to hold the valve to its seat by elastic pressure until the fusible solder joint is released. 8th. The combination of a perforated distributor attached to the end of a discharge pipe with a perforated screen intervening between the ends of the discharge pipe and the perforated shell of the distributor. 9th. The combination of the water pipe, the automatic valve and the fire extinguishing liquid containing reservoir, connected with the water pipes, so that its contents will be discharged with and by the flow of the water.

**No. 11,532. Improvements in Piston Packing.** (*Perfectionnements aux garnitures des pistons.*)

Josiah A. Osgood, Grantville, Mass., and Edwin P. Munroe, New York, U. S., 24th July, 1880; for 5 years.

*Claim.*—1st. In packing devices for valve or piston rods, the rigid or non-compressible sliding chook for the packing cup. 2nd. In combination, in a packing device, for valves or piston rods, a rigid or non-compressible sliding chook G, a spring F and follower D. 3rd. In combination, the rigid non-compressible sliding chook G, spring F, follower D, packing cup *a* and a packing.

**No. 11,533. Improvements in the Process of Making Whiskey.** (*Perfectionnements aux procédés de fabrication de l'eau de vie.*)

Marshall J. Allen, New York, and William E. Bradley, Frankfort, Ky., 24th July, 1880; for 5 years.

*Claim.*—In the manufacture of whiskey, the process of saving the sugar and starch contained in a waste product, and utilizing the same, which consists in freeing the slop from the bran, chaff and coarse particles of grain, and introducing the liquid thus obtained in place of water, in the succeeding operations with fresh grain.

**No. 11,534. Improvements on Asphaltum Pipes.** (*Perfectionnements aux tuyaux en asphalte.*)

Thaddeus H. Walsh, New York, U. S., 24th July, 1880; for 5 years.

*Claim.*—1st. A pipe for conveying water, gas and other fluids, consisting of smooth sheet metal rolled in volute form and provided with intervening and covering layers of asphaltum or similar material. 2nd. The bands *a* combined with asphaltum pipe as a covering at the ends. 3rd. Asphaltum pipe having the bands *a* fitted to its ends, in combination with sleeve D, having soft metal lining.

**No. 11,535. Improvements on Lacing Hooks for Boots and Shoes.** (*Perfectionnements aux crochets pour lacer les chaussures.*)

Mellen Bray, Newton, (Assignee of George Van Horne, Boston,) Mass., U. S., 24th July, 1880; for 15 years.

*Claim.*—1st. A lacing hook-head composed of two loops or eyes *b d* arranged one above and parallel, or nearly so, to the other and connected together by a neck *c* located eccentrically to, or at one side of, said loops or eyes, in combination with a tubular rivet, inserted through one of said eyes and adapted to secure said hook head to the material. 2nd. A lacing hook head composed of two loops or eyes *b d* arranged one above and parallel, or nearly so, to the other and connected together by a double neck *c* located eccentrically to, or at one side of said loops or eyes all made from a single piece of wire, in combination with a tubular rivet *a* inserted in one of said eyes, as a means of securing said hook head to the material.

**No. 11,536. Improvements on Refrigerating Apparatus.** (*Perfectionnements aux appareils frigorifiques.*)

Gustavus F. Swift, Chicago, Ill., (Assignee of Andrew J. Chase, Boston, Mass.,) U. S., 24th July, 1880; for 5 years.

*Claim.*—1st. In a refrigerating apparatus, the air-condensing chamber arranged within the refrigerating tank and formed with corrugated walls in order to present an extended cooling surface. 2nd. The air condensing chamber having corrugated walls, in combination with a surrounding refrigerating tank also formed with corrugations. 3rd. The refrigerating tank I provided near its base with a hand hole, to facilitate the removal of sediment, said hand hole being closed by a suitable plug or stopper.

**No. 11,537. Improvements on Plane Beveling Gauges.** (*Perfectionnements aux guide robots à chanfreiner.*)

Cyrus Kinney, Windsor, and Anthony Neville, Hamilton, Ont., 24th July, 1880; for 5 years.

*Claim.*—The hinged plate C, groove F, thumb screw G, extension piece H I and set screw *j* for attaching to a plane.

**No. 11,538. Improvements on Hand Hoes.**

(*Perfectionnements aux sarcloirs.*)

Robert L. Turner, Hartland, Ohio, U. S., 24th July, 1880; for 5 years.

*Claim.*—A handle A having the main portion C of its blade offset from the longitudinal axis of the handle in a plane parallel therewith, and curved portion D terminating in oblique extremity E.

**No. 11,539. Improvements on Grinding Mills.**

(*Perfectionnements aux moulins à moudre.*)

John Stevens, Neenah, Wis., U. S., 24th July, 1880; for 5 years.

*Claim.*—1st. The combination of rolls geared to revolve at different peripheral rates of speed and having a dress composed of parallel grooves with rounded dividing ribs trending lengthwise of the rolls. 2nd. The combination of rolls geared to revolve at different peripheral rates of speed and having a dress composed of parallel grooves and rounded dividing ribs laid so as to cross each other on the contiguous surfaces of the rolls. 3rd. The combination of rolls geared to revolve at different peripheral rates of speed and having a dress composed of parallel spiral grooves with rounded dividing ribs running in the same direction on each roll. 4th. The combination of a series of sets of rolls, provided with the grooved dress and graded in respect to fineness of dress, with bolts intermediate between each set and the succeeding set of rolls. 5th. The process of reducing grain to flour in passing it through sets of rolls graded in respect to fineness of dress, and through rolls intermediate between each set and the succeeding set of rolls.

**No. 11,540. Improvements on Dust Pans.**

(*Perfectionnements aux porte-ordures.*)

George A. Pierce, Stanstead, Que., (Assignee of Mary F. Pierce, Boston, Mass., U. S.,) 24th July, 1880; for 5 years.

*Claim.*—1st. The flat portion or bottom B, the protector C and slipper A. 2nd. The combination of a dust pan and a slipper shaped attachment. 3rd. The combination with a dust pan a foot piece extending beneath the dust protector.

**No. 11,541. Apparatus for Moistening the Atmosphere.** (*Appareil pour humecter l'atmosphère.*)

James G. Garland, Biddeford, Me., U. S., 24th July, 1880; for 5 years.

*Claim.*—The combination of the water pipe A, air or steam pipe B or C, branch pipes *a b* and branch air or steam pipes *e*, said parts being arranged in relation to each other and connected to the water supply and to the steam or air supply.

**No. 11,542. Improvements in Stump Pullers.**

(*Perfectionnements aux arrache-souches.*)

Bradford S. Miles, Gray's Summit, Mo., U. S., 24th June, 1880; for 5 years.

*Claim.*—1st. The combination, in a stump extractor, of a frame provided with two capstans connected, by means of suitable chains, to a pulley mounted on a shaft carrying a windlass having oppositely wound lifting chains, whereby said windlass may be operated alternately in opposite directions. 2nd. The combination, in a stump extractor, of the supporting and guide wheels, the capstans and pulley mounted on the windlass shaft, the windlass and its oppositely wound lifting chains and the drums on the capstans and windlass.

**No. 11,543. Improvements on Grinding Mills.**

(*Perfectionnements aux moulins à moudre.*)

John Stevens, Neenah, Wis., U. S., 24th July, 1880; for 5 years.

*Claim.*—1st. The combination of rolls geared to revolve at different peripheral rates of speed and having a dress composed of fine parallel grooves laid near together with appreciable plane surface between, and so as to cross each other on the contiguous surfaces of the rolls. 2nd. The combination of rolls geared to revolve at different peripheral rates of speed, and having a dress composed of fine parallel grooves laid near together with appreciable plane surface between and running in the same direction on each roll.

**No. 11,544. Improvements on Boots and Shoes.** (*Perfectionnements aux chaussures.*)

William H. Hannaford, Chicago, Ill., U. S., 24th July, 1880; for 5 years.

*Claim.*—1st. The elastic middle sole D provided with air chambers, in combination with the insole B having apertures *b b'*, and the air duct H situated above the vamp, whereby air is alternately forced into, and expelled from the interior of the shoe. 2nd. The elastic middle sole D provided with apertures *d* and bottom channels *d'*, in combination with the insole and a single flexible air duct provided with a valve *h* and communicating both with the interior of the shoe and with the outside air. 3rd. The elastic heel lift L provided with apertures *l'*, communicating with the interior of the shoe by apertures *b'* at the heel thereof. 4th. A boot or shoe having a middle elastic sole D with channels and perforations formed therein, an insole having perforations *b b'*, a supplementary inner sole K perforated and channelled and air ducts H *l l'*.

**No. 11,545. Improvements on Carpet Sweepers.** (*Perfectionnements aux balayuses des tapis.*)

Henry S. Wing, Detroit, Mich., U. S., 24th July, 1880; for 5 years.

*Claim.*—1st. In a carpet sweeper, the combination, with a case having its top provided with the transverse slot or slots and a handle projecting through the latter, of the pivotal bearings secured directly to the interior of the sweeper case. 2nd. The combination, with a case whose top is provided with a transverse slot or slots, and a handle which projects through the latter, of the bearings depending from the case top and to which the handle is pivoted. 3rd. The combination, with one or both of the drive wheels, of journal bearings, which bearings slide to and from the friction roller in suitable slots or on suitable pins, and in connection therewith, a spring so connected with the slide bearing and the case as by its retraction to force the drive wheels against the friction roller. 4th. The combination with a slide bearing, of a spring attached at its middle portion to the bearing in connection with studs projecting from the case above and below the bearings, and engaging with the ends of the spring whereby the bearing is forced toward the friction roller. 5th. The combination, with a dust pan pivoted at one side of its longitudinal centre to the casing or chamber, of the tilting levers and the connecting rods, whereby they are connected with the dust pans. 6th. The combination, with a revolving brush and dust pans located on opposite sides thereof, each of said dust pans being pivoted at one side of its longitudinal centre to the casing or chamber, of jointed levers, the lower arms of which are pivoted to the ends of the dust pans, while their upper arms extend upwardly above the chamber or casing and in close proximity to each other, to enable both pans to be emptied simultaneously by forcing the upper free ends of the levers toward each other by the thumb and fingers of the hand. 7th. The combination, with the revolving brush and casing, of the dust pan, said dust pan provided at each end at points outside of its longitudinal centre to the casing, said dust pan provided with one side piece and two end pieces, and its bottom formed to extend beneath the side of the chamber or casing. 8th. A dust pan made to extend upward and from one side of the sweeper case, said dust pan being hinged at its upper edge. 9th. A case consisting of end pieces, with a central upper piece connecting the ends and provided with dust pans, the backs of which extend upward forming the sides of the case and hinged at their upper portions to opposite sides of said top. 10th. The combination, with the top piece and a spring secured thereto, of a dust pan forming one side end of the case and hinged at its upper portion to said top piece and the pan being provided with

a projection against which the outer end of the spring bears and thereby maintains said pan firmly in closed position. 11th. The combination, with a top piece and two bottom bars or abutments extending between the end walls on opposite sides of the brush roller of the dust pans forming the sides of the case, said pans having their upper portions hinged to opposite sides of said top piece, and their lower portions bearing against the outer sides respectively of the bottom bars. 12th. The combination, with an end wall having a recessed upper portion and a spring plate fitted over said recess, of a handle arm pivoted in the vertical opening formed by the recess and plate and adapted to have detent and eye engagement with the upper extremity of said spring plate or latch. 13th. The combination, with two transverse walls connected together, and drive wheels secured to one of them, of a top piece provided with tilting pans and a transverse wall, which latter encloses the drive wheels, said parts being adapted to permit the top piece with its pans and wall to be readily attached to or detached from the connected transverse walls and drive wheels. 14th. The combination with a pivoted plate on which a drive wheel is journaled and a spring which engages with a lug formed on said plate of a handle arm adapted, when in an inclined position, to bear against said spring so as to maintain the wheel in close contact with the friction roller.

**No. 11,546. Mode of Preventing Bearings from Heating.** (*Mode d'empêcher les coussinets de chauffer.*)

James Dempsey, Lewiston, Me., and Lysander Flagg, Central Falls, R. I., U. S., 24th July, 1880; for 5 years.

*Claim.*—The mode of preventing bearings from overheating, by means of metallic clothing arranged and operating to dissipate the heat.

**No. 11,547. Improvements on Pillow Sham Holders.** (*Perfectionnements aux portemimitation d'oreillers.*)

Mary A. Steers, Kalamazoo, and Eliza A. Brown, Breedsville, Mich., U. S., 24th July, 1880; for 5 years.

*Claim.*—1st. A pillow sham supporter or holder composed of bars B B having looped and hooked ends, hooks *e e* and clip C having holes *t t*. 2nd. A rectangular frame formed of bars having bowed ends lapping past each other at the sides and ends of the frame and clips securing together the said lapping ends of the bars, which bars are adjustable in said clips.

**No. 11,548. Improvements in Combined Churns and Washers.** (*Perfectionnements aux barattes-lavouses.*)

Cloero D. Van Allen, Gusolph, Ont., 24th July, 1880; (Extension of Patent No. 5,063.)

**No. 11,549. Process for Manufacturing Lubricating Oils.** (*Procédé de préparation des huiles à lubrifier.*)

Thomas J. Gordon, Delos H. Bumpus and William H. Keeler, Rouseville, Pa., U. S., 24th July, 1880; (Extension of Patent No. 5,035.)

**No. 11,550. Peat Machine.** (*Machine à tourbe.*)

Franklin Dodge, Benjamin J. Denton and James M. Hart, Oswego, N. Y., U. S., 24th July, 1880; (Extension of Patent No. 5,028.)

**No. 11,551. Hay Press.** (*Presse à foin.*)

Peter K. Dederick, Albany, N. Y., U. S., (Assignee of Charles G. C. Simpson, Montreal, Que.), 24th July, 1880; (Extension of Patent No. 932.)

**No. 11,552. Improvements on Grain Binders.** (*Perfectionnements aux lieuses à grain.*)

Moses G. Hubbard, jr., Morristown, Pa., U. S., 28th July, 1880; for 5 years.

*Claim.*—1st. In a wire twister for a grain binder, the combination of the single slotted twister pinion with its movable knife or cutter held stationary while cutting the wire. 2nd. In a binder for grain, the combination of the segment C provided with a single rack D and cam E, head B carrying the slotted pinion F, cutter H and spring J. 3rd. The slotted twister pinion F, in combination with the cutter H and spring J. 4th. The combination of cutter H having cutting edge I and bevelled edges *h h* with segment C provided on one side with the cam projection E and, on the opposite side, the slot E<sub>1</sub> having bevelled edge *e*.

**No. 11,553. Ornamental Fountain.** (*Jet d'eau.*)

Rudolf Mylius, Berlin, Oat., 24th July, 1880; for 5 years.

*Claim.*—The construction of the cock K, the spigot L and the connection therewith of the tubes B C H I, and the reversible bulb reservoirs G G.

**No. 11,554. Apparatus for Purifying and Ageing Liquors.** (*Appareil pour épurer et vieillir les liqueurs.*)

Amos L. Wood, Boston, Mass., U. S., 28th July, 1880; for 5 years.

*Claim.*—1st. An apparatus for purifying and ageing liquor, the combination of the barrel or package for containing the liquor to be purified and aged, and the perforated pipe located within said barrel and connected to a pipe leading therefrom, of a saving or overflow chamber directly connected with the barrel. 2nd. A saving or overflow chamber serving to arrest and condense any portion of the liquor which by agitation may be caused to rise thereto, in the form of vapor or spray, and return the same in liquid form, thus preventing waste of the liquor and material lowering of its proof. 3rd. The combination of the saving or overflow chamber *e* provided with a contracted nozzle or spout and eduction pipe *h*, the hot air pipe *g* passing through said chamber and terminating in a perforated bent portion, below the nozzle or spout thereof, the heater, the heating pipe *f* passing through said heater and connecting with the hot air pipe *g*, a suitable air forcing apparatus con-

neoted with the said heating pipe, the condenser and the pipe terminating therein and connected with the eduction pipe *h*. 4th. The combination, with the saving or overflow chamber *e*, of the hooked adjustable extension rods.

**No. 11,555. Improvements in Envelopes.** (*Perfectionnements dans les enveloppes.*)

Emery O. Bicknell, Boston, Mass., U. S., 28th July, 1880; for 5 years.

*Claim.*—An envelope having aniline lines or markings, plain or ornamental, arranged on the outside of the flaps A B and a little back from the edges thereof, said lines or markings being adapted to change colour if the envelope is tampered with by the application of steam or moisture.

**No. 11,556. Improvements on Clothes Wringers.** (*Perfectionnements aux essoreuses à linge.*)

Benjamin Hershey, Erie, Pa., U. S., 28th July, 1880; for 5 years.

*Claim.*—1st. In combination with the standards of a clothes wringer and the lower roller thereof, journaled in fixed bearings, an upper roller journaled at each end between friction rollers journaled at the upper ends of the respective standards, and similar friction rollers in the levers pivoted to the said standards, the said levers being connected at their outer ends to a suitable spring by means of links whereby a uniform pressure may be maintained upon the rollers respective of the thickness of the body of clothes passed between them. 2nd. In combination with the upper and lower rollers of a wringing machine, the friction rollers at the lower part of the standards forming fixed bearings for the lower roller, the friction rollers at the upper ends of the standards, and the friction rollers journaled in the respective levers forming yielding bearings for the upper roller, the links secured to the ends of said levers, and the spring connected to said levers by means of links with mechanism for regulating its tension.

**No. 11,557. Improvements on Kitchen Safes.** (*Perfectionnements aux armoires de cuisine.*)

George W. Reid, Port Dalhousie, Ont., 28th July, 1880; for 5 years.

*Claim.*—1st. In kitchen safes, the combination of the hinged pastry board and flour box cover D, the flour box A and the scrap box E. 2nd. The combination of the flour box A, combined cover and bake board D, scrap box E, the cup board B and the drawer C.

**No. 11,558. Road Scraper.** (*Eboueur.*)

Jesse Stubbs, (Assignee of Frederick W. Schulz), Mount Pleasant, Iowa, U. S., 28th July, 1880; for 5 years. (extension of Patent No. 5,032.)

**No. 11,559. Improvements on Fanning Mills.** (*Perfectionnements aux tarares cribleurs.*)

John Herson, Florence, Ont., 28th July, 1880; for 5 years.

*Claim.*—The shoe or case H and screws B B<sub>1</sub> B<sub>2</sub> having a bottom formed of a series of troughs E F G, in combination with the shoe of a fanning mill or thrashing machine.

**No. 11,560. Improvements on Car Couplers.** (*Perfectionnements aux attelages des chars.*)

William C. Perry, Battleborough, Vt., U. S., 28th July 1880; for 5 years.

*Claim.*—1st. In drawheads A H provided with coupling bar orifices B B, slots C C, link opening E E and recessed faces *b b*, coupling bars D D, springs C<sub>1</sub> C<sub>1</sub> and spring catches F F. 2nd. The drawhead A provided with coupling bar orifice B, coupling bar slot C having spring C<sub>1</sub>, link opening E, recessed face *b* and spring actuated bevelled catch F. 3rd. The combination with the coupling bar D and catch F, or the rope or chain G and brake shaft H. 4th. The combination with the catch F of the rope or chain G and levers L N, whereby said cars may be uncoupled from the sides or top of a car. 5th. As a means for holding the cars coupled, the pivoted catch F actuated by spring F<sub>1</sub>.

**No. 11,561. Improvements on Clothes Wringers.** (*Perfectionnements aux essoreuses à linge.*)

Richard Dudley, and Benjamin Hershey, Erie Pa., U. S., 28th July, 1880; for 5 years.

*Claim.*—1st. In combination with the upper roller of a clothes wringer, the spring secured to the rear of the wringer frame, having its ends bent downward and to the front of the frame, and provided in the bearings for the upper roller, whereby an automatically regulated yielding pressure is brought to bear upon the clothes irrespective of the thickness of the body or the same when passed between the rollers. 2nd. In combination with the upper roller and the spring which carries the same, the arm or loop on said spring and adjusting mechanism, whereby the tension of the spring may be adjusted. 3rd. In combination with the spring carrying the upper roller, the boxes secured to said spring at their ends carrying friction rollers or balls, forming bearings for the journals of the upper roller. 4th. In combination with the back board of the wringer and the lower roller thereof, the drip-plate whereby the water is directed back into the tub or vessel as the clothes pass between the rollers. 5th. In combination with the base of a clothes wringer, the swivelled clutches, screw connecting rod and screw nut, whereby said clutches can be drawn towards each other and cause to bind upon the edge of a tub or other vessel.

**No. 11,562. Improvements in Glove and Shoe Clasps.** (*Perfectionnements aux agrafes de gants et de souliers.*)

Henry O. Lothrop, Boston, and Frank B. Lothrop, South Acton, Mass., U. S., 28th July, 1880; for 5 years.

*Claim.*—1st. A glove fastening consisting of the spring B and the parts K K in one piece, and the part C. 2nd. The combination of the spring B and the parts K K in one piece, with the parts C D, all arranged and combined to operate as specified.

**No. 11,563. Improvements on Buttons.** (*Perfectionnements aux boutons.*)

Theodore L. Snyder, Montclair, N. J., U. S., 28th July, 1880; for 5 years.

*Claim.*—A button composed of a body of solid inflexible material having a dovetailed recess in its under side, and provided with a flexible shank secured within said recess.

**No. 11,564 Method of, and Apparatus for removing and Treating Fœces.** (*Méthode pour enlever et traiter les excréments, et appareil pour cet objet.*)

Friedrich Breyer, Vienna, Austria, 28th July, 1880; for 5 years.

*Claim.*—The method of removing fœces and waste materials from buildings, by means of compressed air or steam directly acting upon said fœces and waste materials collected in self-closing vessels. 2nd. The process of drying and disinfecting fœces and waste materials, by causing heated gas or steam to act directly upon the fœcal mass, previously fed into a filtering apparatus. 3rd. The general construction and arrangement of an apparatus for collecting fœces and waste materials and converting same into dry and almost inodorous article of commerce, free from infectious matter, consisting of the collecting vessel, valve apparatus, filtering apparatus, and pipe connections. 4th. The combination of the collecting vessel arranged beneath a privy pipe or sink hole, with its hollow valve C, with pipe 4, with its central pin d, with the valve apparatus and pipe 5. 5th. The combination with the collecting vessel of pipe 1 and filtering apparatus. 6th. The combination with the filtering apparatus of the valve 1, pressure pipe 2, filtering plate K, pipe 3 and valve apparatus. 7th. In the filtering apparatus, the combination of the boiler with the movable filtering plate E, cylinder m, hollow piston o, tube z, and a wire rope or chain fastened at the filtering plate and the plate p of the piston o and guided by pulleys. 8th. In the filtering apparatus, the arrangement for raising and lowering the filtering plate and consisting of right and left-handed screws X X, wedge-shaped nuts X' X' bearing against corresponding wedge-shaped projections on the under side of the frame of the filtering plate, of the hand wheel z' and gearing y y.

**No. 11,565. Improvements in Lock Gates.** (*Perfectionnements aux portes des écluses.*)

Thomas Milette, Trois Rivières, Que., 28th July, 1880; for 5 years.

*Claim.*—1st The combination of pulleys *f g e e d* for operating the lock gates. 2nd. The water wheel mechanism for operating the gates. 3rd. The double bottom of the lock composed of rectangular frames F placed side by side with interstices K between their upper sides, for the passage of the water, said double bottom thus forming a sluice G under the lock chamber.

**No. 11,566. Improvements on Pumps.** (*Perfectionnements aux pompes.*)

Adolph Toeltner, Milwaukee, Wis., U. S., 28th July, 1880; for 5 years.

*Claim.*—1st. The combination of sectional rod flexible connection, bell crank lever and the adjustable lever. 2nd. The combination, in a pump-plunger, of the chamber and valve seat, the latter cast with a stirrup and a tube which passes up through the top of the chamber, to connect by a coupling M, with the rod section B. 3rd. The valve plate clamped between the seat and chamber, in combination with the tube and coupling.

**No. 11,567. Washing and Cleansing Powder.** (*Poudre à laver et nettoyer.*)

Harvey H. Vansickle, Onondago, Ont., 28th July, 1880; for 5 years.

*Claim.*—A washing and cleansing powder composed of soda ash, sal soda, muriate of ammonia, borax and alum.

**No. 11,568. Improvements on Traction Mechanism for Propelling Machinery.** (*Perfectionnements aux mécanismes de traction pour les appareils de propulsion.*)

George E. Burt, Harvard, Mass., U. S., 28th July, 1880; for 5 years.

*Claim.*—1st. The method of transmitting motive power by a ring and its contracting arcs, and a series of traction rolls resting in contact with each other and the arcs of the ring below the centre provided with recesses and flanges, arranged and covered within the periphery of the ring. 2nd. The regulating screws *jj* and the oblong box-seats *E*, in combination with traction rolls B B' B'' and the ring A. 3rd. The projecting casing K K' K'' in combination with the traction rolls B B' B'', the ring A and frame C.

**No. 11,569. Improvement in Mail Bags.** (*Perfectionnements dans les valises à lettres.*)

John H. Bartlett and Peter D. Macintyre, Ottawa, Ont., 28th July, 1880; for 5 years.

*Claim.*—1st. A metal or other clasp of three links N E F, linked together and pivoted to the lock O at one end, and to the clutch L at the other end, forming an oblong or square. 2nd. A metal clutch L having recesses K K' and shoulders D D, with seal slide. 3rd. A square or other shaped key P, having a conical or pyramidal-shaped point R. 4th. In combination with the lock O, clutch L and links E F N, the square seal of paper, lead, wood or other material with the required inscription.

**No. 11,570. Process of Treating Vegetable Fibrous Substances.** (*Procédé de traitement des substances végétales fibreuses.*)

William Courtney, New York, U. S., 30th July, 1880; for 5 years.

*Claim.*—1st. The utilization of scrap vulcanized fibre, waste paper, cotton rags and other vegetable fibrous substance, by an admixture of the same, either separately or together, with either of the chlorides named or the mother waters thereof, and subjecting the same to heat, kneading and pressure.

2nd. The treatment of these vegetable fibrous substances to a bath of dilute sulphuric acids, before the admixture of the same, in a comminuted form, with the metallic chlorides, to render them more susceptible to the treatment proposed and produce a greater or less degree of gelatinization. 3rd. The admixture of graphite, resin, gums, and other foreign substances, with the comminuted fibrous matter before the treatment with metallic chlorides, said admixture not being possible with paper in the sheet, as now usually treated. 4th. The method of controlling the contraction of the goods moulded, by admixture therewith of suitable foreign substances. 5th. The method of refining these moulded goods in hot dies or rolls, to give them a gloss, and by partial fusion of the resinous gums, to render them impervious to moisture. 6th. As a new article of manufacture, the goods prepared under these various methods of ground or comminuted vulcanized fibre and other vegetable substances. 7th. The method of coloring the substances, by the admixture of any coloring matter, which will not affect the chemical action of the chlorides.

**No. 11,571. Improvements on Refrigerating Apparatus.** (*Perfectionnements aux appareils frigorifiques.*)

Andrew J. Chase, Boston, Mass., U. S., 30th July, 1880; for 5 years.

*Claim.*—1st. In a refrigerator, the combination with the receptacle containing the refrigerating material of one or more pipes or air conduits passing diagonally, through the same, and communicating with their upper and lower ends with the air outside of said chamber, so as to cause a circulation of air downward through said pipes. 2nd. In combination with the vessel or receptacle for containing the refrigerating material, of a vessel below communicating with said receptacle, in which the liquid resulting from melting of the ice is collected and held and utilized to assist in the refrigerating process before being discharged. 3rd. In combination with receptacle for containing the refrigerating material, and the vessel for collecting the liquid resulting from the melting of the ice, one or more pipes or air conduits passing through said liquid and communicating with the air outside of the same, whereby a current of air may be passed through the body of the refrigerating material. 4th. The combination with the vessel for containing refrigerating material and the pipe or pipes extending through the same, of the dividing partition F having openings at the top and bottom.

**No. 11,572. Improvements on Postal Paper.** (*Perfectionnements au papier-enveloppe.*)

William E. Cornell, Toronto, Ont., 30th July, 1880; for 5 years.

*Claim.*—A new article of manufacture, a postal sheet adapted to be folded, and provided with gummed flaps for fastening and having a revenue stamp printed on the back of one of the folded sections.

**No. 11,573. Improvements on Calk Plates for Boots and Shoes.** (*Perfectionnements aux plaques à crampons pour les chaussures.*)

John B. Weir, Otsego Lake, Mich., U. S., 30th July, 1880; for 5 years.

*Claim.*—1st. The heel M constructed with a screw orifice K in combination with the recessed sole G, the plate A having lugs F and a fastening screw Q. 2nd. The plate A constructed with a heel bend a, whereby when the plate is applied to the sole and the lugs are pushed forward into their recesses, the rear part of the plate A may be locked by the heel bend a against the heel M.

**No. 11,574. Improvements on Washing Machines.** (*Perfectionnements aux machines à laver.*)

Honoré Mounsey, Iberville, Que., 30th July, 1880; for 5 years.

*Resumé.*—Les combinaisons de la roue H, de son couvercle h, des planchettes br, des plaques x y x' z y' z' et des cavités z y x y' x' et des broches h' h' h' h'.

**No. 11,575. Improvements on Telephones.** (*Perfectionnements aux téléphones.*)

Thomas A. Watson, Everett, Mass., U. S., 30th July, 1880; for 15 years.

*Claim.*—1st. In a telephonic circuit, the spring hook D adapted to support the weight of the hand telephone, in combination with the contact springs s1 s2 s3 connected with the transmitter, hand telephone and a signalling circuit. 2nd. The spring hook D adapted to support the weight of the hand telephone, in combination with contact spring s1 s2 and their connections, to automatically establish the primary local circuit through the transmitter and, at the same time, bring into the main line the circuit through the hand telephone and secondary circuit through the transmitter, by taking the telephone from the hook. 3rd. The lever D' connected with the main line of a telephonic circuit and having a positive movement in either direction, in combination with the contact springs s1 s2 s3, the transmitter, the hand telephone, a signalling circuit and suitable connecting wires.

**No. 11,576. Improvements in Telephones.** (*Perfectionnements dans les téléphones.*)

Robert M. Lookwood, Samuel H. Bartlett and Charles F. Livermore, New York, U. S., 30th July, 1880; for 5 years.

*Claim.*—1st. The diaphragm or sounding board formed upon or secured to a reduced or spring extension of the pole of the magnet. 2nd. The curved or V-shaped arm made in one piece with, and forming a reduced extension of one pole of the magnet and having the diaphragm formed upon or secured to it. 3rd. The diaphragm connected with one pole of the magnet by means of the reduced arm or spring extension of, and arranged relatively to said pole. 4th. The combination with the diaphragm or sound board of a telephone receiver, of a magnet having its helix provided with the metallic enclosing sleeve. 5th. The combination of a magnet having the diaphragm secured to, or formed upon a reduced extension of one of its poles, a helix and a metallic sleeve surrounding said helix.

### No. 11,577. Improvements on Knitting Machines. (*Perfectionnements aux machines à tricoter.*)

John Bradley, Lowell, and William W. Manning, Cambridge, Mass., U. S., 30th July, 1880; for 15 years.

*Claim.*—1st. The combination with a series of barbed needles, the stitch wheel and a pattern mechanism, of two yarn-guides, a cutting device for severing the yarns and a device for holding the end of the severed yarn, both located in rear of the stitch wheel and connecting mechanism between said pattern mechanism and the yarn guides and the cutting devices. 2nd. The combination with the stitch wheel support, of the cutting blade O, the movable cutter blade P, means for operating said movable cutter blade and the thread plate y, provided with the retaining spring g and horn d. 3rd. The thread plate y provided with a horn d and spring g, to retain the yarn after it is severed.

### No. 11,578. Improvements in Safety Pockets. (*Perfectionnements aux poches de sûreté.*)

John M. Hunter, Morristown, N.Y., U.S., 30th July, 1880; for 5 years.

*Claim.*—1st. The combination of bow spring a, band c and enclosed sack d. 2nd. In combination with the bow spring a, band c and enclosed sack d, the locking devices consisting of the cord f passed through the end of elastic band g and eyelet h to ring i for attachment to button K. 3rd. In combination with bow spring a, band c and enclosed sack d, the metal fabric pocket with guard springs t and edge binding W having an inner lining z of some suitable textile or other soft protecting material. 4th. The combination of bow spring a and of band c made of metal or other resistant non-elastic material and enclosing sack d.

### No. 11,579. Improvements in Closets. (*Perfectionnements dans les latrines.*)

John Turner, Bury, Eng., 30th July, 1880; for 5 years.

*Claim.*—1st. The combination of the lip or channel h and a bib or spout c with the guard A. 2nd. The combination of the false perforated bottom l with the pail j and the vertical perforated ribs k. 3rd. The combination of the tank g with the closet. 4th. The combination of the abutment p with the pail j for fixing the pail in position.

### No. 11,580. Improvements in Telephones. (*Perfectionnements dans les téléphones.*)

William A. Childs, New York, U.S., 30th July, 1880; for 5 years.

*Claim.*—1st. In a telephone exchange system, an office circuit O; for the use of a listening operator O interposed between the table-operator and the switch board operators, for the purpose of conveying orders *seriatim* between them for the making and breaking of connections. 2nd. A telephone exchange system consisting of two or more connected central offices and inter-office circuit O<sub>4</sub>, for the use of listening operators O<sub>3</sub> interposed between two or more central offices and the table and switch board operators of each for the purpose of conveying orders *seriatim* between them, for the making and the breaking of connections between the subscribers' wires of each central office. 3rd. As an improvement in the method of operating a telephone exchange central office, locating a listening operator O between the table operators and the switch board operators, to transmit the orders and notices between them. 4th. The office circuits O<sub>1</sub>, the inter-office circuits O<sub>4</sub>, the trunk lines between central offices I 2 3, suitable switch boards at each office, indicator circuits L<sub>1</sub> L<sub>2</sub> H H<sub>1</sub>, table operator circuits L<sub>2</sub> and subscriber circuits 101, 102, &c., combined in one system.

### No. 11,581. Improvements on Corsets. (*Perfectionnements aux corsets.*)

Harriet A. Schandaoyl, East Sangus, Mass., U. S., 2nd August, 1880; (Extension of Patent No. 5,048.)

### No. 11,582. Improvements on Carriages. (*Perfectionnements aux voitures.*)

Orrin B. Thompson, White Ash, and William W. Grier, Hutton, Penn., U.S., 2nd August, 1880; (Extension of Patent No. 5,075.)

### No. 11,583. Improvements on Electric Motors and Generators, and Current Regulators. (*Perfectionnements aux moteurs et générateurs électriques, et aux régulateurs de courant.*)

William W. Griscom, Philadelphia, Pa., U. S., 2nd August, 1880; for 5 years.

*Claim.*—1st. In an electro-magnetic motor or dynamo-electric machine, the combination of a rotary magnetic armature with a magnet or a pair of magnets, each having its opposite poles on opposite sides of the armature, in line with the axis of rotation while the entire body of each magnet, in connection with its poles, closely envelopes or surrounds a portion of the armature in the direction of its rotation. 2nd. A machine in which a rotary armature is combined with a pair of electro-magnets, steel magnets or common iron of such form as practically to surround the armature with an uninterrupted field of iron or steel. 3rd. A machine in which a rotary electro-magnetic armature is combined with field magnets having the ends of their wires electrically connected to each other, for the purpose of utilizing the induced currents. 4th. The combination of magnets with a rotary armature whose bar or bars are Z-shaped in section. 5th. The combination of the motor frame and the rotary armature having a pulley and belt, with the adjustable bracket. 6th. The combination of the motor with devices for suspending the same, whereby the said motor may be moved in any desired direction. 7th. The combination of a motor with devices for suspending the same, whereby the said motor may be moved in any desired direction and remain in the position to which it has been adjusted. 8th. The combination of a cell, or group of cells, containing the liquid, positive and negative plates, and a lever connected thereto for regulating their immersion with devices for automatically removing the plates from the liquid, when the said lever is released. 9th. Positive and negative plates, devices for immersing

the plates in, and for automatically removing them from the liquid, in combination with braking mechanism constructed to act in conjunction with the automatic device for raising the plates.

### No. 11,584. Improvements in Stove Pipes. (*Perfectionnements aux tuyaux de poêles.*)

Henry M. Wells and Thomas R. Fuller, Toronto, Ont., 2nd August, 1880; for 5 years.

*Claim.*—1st. A stovepipe joint fastener composed of a fixed projection upon each adjacent section of pipe such projections having an enlarged head or terminus, and of a flexible wire wound upon such projections and held to place by such heads, and secured as shown. 2nd. A stove pipe joint fastener constructed as shown.

### No. 11,585. Composition for Whitewash. (*Composé pour blanchir à la chaux.*)

John G. McHenry, (Assignee of Archibald H. Kerr), Midway, Texas, U. S., 2nd August, 1880; for 5 years.

*Claim.*—A composition for whitewash composed of lime, whiting, plaster of Paris, glue, carbonate of soda, borax and sulphate of soda.

### No. 11,586. Hide Tanning and Condensing Processes and Compositions. (*Procédés et compositions pour le tannage et la condensation des peaux.*)

Heinrich Trenk, Berlin, Prussia, Jean Ballaschano and Constantin Ballaschano, Bucharest, Roumelia, 2nd, August, 1880; for 5 years.

*Claim.*—1st. A solution of chromate of alumina in wood vinegar or chromic alum in wood vinegar diluted with water. 2nd. A concentrated, or nearly once treated solution of raw tartar, with a small addition of a salt, such as chloride of tin, hydrochlorate of ammonia, chloride of nickel, chloride of calcium or the like. 3rd. The application of double salts of tin iron, chrome, nickel, manganese or the like, with calcium in an acetic solution. 4th. The application of glue, in combination with oxalic acid, or other acids which do not coagulate the glue, with the addition of glycerine and acetate of alumina. 5th. The application of wood vinegar and analogous acids for tanning purposes, the use or application of either of the aforesaid compositions for the purpose of my invention, the mixture or combination of the above mentioned baths or solutions, or any of them, with each other in any desired proportions, for the purpose of regulating the aforesaid baths, the tanning of hides or skins in a manner adapted to the requirements of each particular kind of the same, the improved leather produced by either of the above described processes or methods.

### No. 11,587. Compound for Protecting Animal Hair and Skins Against Insects. (*Composé pour protéger le poil et la peau des animaux contre les insectes.*)

Jean Wickersheimer, Berlin, Prussia, 2nd August, 1880; for 5 years.

*Claim.*—1st. A compound for protecting animal hair and skin consisting of methyl alcohol, carbolic or phenic acid, or creosote and thymol and a solution of common salt, saltpetre and alum, alum being the chief ingredient. 2nd. An animal hair and skin protecting compound, consisting of methyl alcohol, carbolic or phenic acid or creosote and thymol, and a solution of common salt, saltpetre and alum. 3rd. The protection of animal hair and skin by treating it according to its condition with the described compound No. 1 or 2 (as the case may require).

### No. 11,588. Improvements on Gate Hangings. (*Perfectionnements aux ferrures des barrières.*)

Andrew D. Cox, Cardinal, 2nd August, 1880; for 5 years.

*Claim.*—1st. The combination of the tumbler latch A and bed plate B, or their equivalents, having a projecting bar or rest C C C, rivetted or cast on a bed plate to support the latch on outside plate or casing I, and the pivot P, or their equivalents. 2nd. The combination of the straight or curvilinear stud pin E, and the plate G, to which it is rivetted, or their equivalents, in combination with the tumbler latch, bed plate, bar or rest and pivot aforesaid.

### No. 11,589. Improvements in Garments. (*Perfectionnements dans les vêtements.*)

Albert N. Horner, Baltimore, Md., U.S., 2nd August, 1880; for 5 years.

*Claim.*—1st. A garment formed with sleeve terminating above the elbow and provided with means for attachment of a lower sleeve. 2nd. In combination with a garment made with short sleeves or other cylindrical parts of such garment, a detachable sleeve or cylindrical portion having a cuff or flounce, etc., etc., permanently attached thereto with device for connecting the two parts. 3rd. In combination with a short sleeve etc., or cylindrical part permanently attached provided with a row of buttons C at its lower end and with a detachable sleeve, etc., having two rows of button holes, one E and the other F. 4th. In combination with a sleeve, etc., the cut L, and hole in the lower part and button or buttons above. 5th. The combination in a sleeve, etc., of a button arranged at some convenient point in the sleeve and of a button hole or holes arranged in the line below said button, whereby the sleeve, etc., may be shortened and the cuff held up. 6th. The combination of the sleeve, etc., with button A<sub>1</sub>, tape C<sub>2</sub>, button hole B. 7th. The sleeve B, in combination with the sleeve A and buttons G.

### No. 11,590. Improvements in Telephones. (*Perfectionnements dans les téléphones.*)

Robert M. Lockwood, Samuel H. Bartlett and Charles F. Livermore, New York, U.S., 2nd August, 1880; for 5 years.

*Claim.*—1st. A block of non-resonant material, having plates or bars of carbon, or other conducting material, either wholly or partially imbedded within it. 2nd. The block of non-resonant material, having conductors imbedded within it and wires extending therefrom, for connecting them with the main line circuit. 3rd. The block of non-resonant material having the

conducting bars or plates imbedded within it, in combination with the interposed button. 4th. The non-resonant block in which the conducting bars or plates are imbedded, in combination with the enclosing metallic case. 5th. The combination, with the non-resonant block having the conducting bars or plates imbedded in it, of the metallic enclosing case and the flexible non-resonant cover thereto.

**No. 11,591. Method of, and Apparatus for Calendering Paper.** (*Méthode et appareil pour calenderer le papier.*)

Moses Newton, Holyoke, Mass., U. S., 2nd August, 1880; for 5 years.

*Claim.*—1st. The method of calendering paper by subjecting the same to the action for calendering surfaces upon which a constant supply of steam is delivered. 2nd. In combination with a roll for calendering papers, a pipe or conductor arranged to deliver steam upon the outer surface of the same. 3rd. The combination of the calendering rolls supplied with running water by pipes communicating with the interior of the rolls, and steam pipes arranged to discharge upon the exterior of the rolls.

**No. 11,592. Improvements on Carpet Cleaners.** (*Perfectionnements aux balayuses des tapis.*)

Thomas Ferry, Wilmington, Del., U. S., 2nd August, 1880; for 5 years.

*Claim.*—1st. A cage or drum provided with axial bearings upon which it may be rotated and having an open periphery formed by a series of inwardly extending panels. 2nd. In combination with an open cage or drum, peripheral flanges arranged to cause air to be forced inward into the same.

**No. 11,593. Improvements in Hot Air Engines.** (*Perfectionnement aux machines à air chaud.*)

James H. McNain, Toronto, Ont., (Assignee of Alexander K. Rider, Walden, N.Y., U.S.), 2nd August, 1880; for 5 years.

*Claim.*—1st. The compression cylinder arranged to extend downward into the cooler and form an air passage leading from the regenerator chamber to the bottom of the compression cylinder. 2nd. The compression cylinder arranged to extend downward into the cooler and form an annular air passage extending from the regenerator to the compression chamber in the lower open end of the compression cylinder. 3rd. The compression cylinder arranged to extend above and below the regenerator, and an annular air passage connecting the regenerator chamber with the lower and open end of the compression cylinder. 4th. The connecting rod connected to the piston by means of a knuckle having a broad base, and adapted to be adjusted circumferentially. 5th. The fire box formed of removable sections to allow of the ready removal and replacement of the heater. 6th. The fire-box made in sections, each section provided with an inwardly projecting flange, and lined with refractory metal. 7th. A heater composed of hard white cast iron. 8th. The compression chamber S located below the compression cylinder and communicating with the regenerator by an air passage, which allows the air to flow upwardly into said compression chamber from an annular air passage surrounding the compression cylinder.

**No. 11,594. Spring Washer.** (*Rondelle élastique.*)

John W. Grover, Westminster, Eng., 3rd August, 1880; (Extension of Patent No. 5,112)

**No. 11,595. Improvements on Car Couplers.** (*Perfectionnements aux attelages des chars.*)

William V. Perry, Kokomo, Ind., U. S., 3rd August, 1880; (Extension of Patent No. 6,393.)

**No. 11,596. Improvements in Pruning Implements.** (*Perfectionnements aux outils à élaguer les arbres.*)

Converse Cole and Frank L. French, Meriden, N. H., U. S., 4th Aug., 1880; for 5 years.

*Claim.*—1st. The combination of the blade *e* provided with projection *o* and pivoted with blade *a* and its shank extension and means of operating the blade. 2nd. The combination of the blades *a* and *e*, the latter being provided with a projection *o*, the tongue or shank of the blade, the connecting rod, and the handle having a ferrule enclosing the spring.

**No. 11,597. Improvements in Springs for Locomotives, Railway Cars, &c.** (*Perfectionnements aux ressorts pour les locomotives, chars de chemins de fer, &c.*)

Charles C. Hearle, Montreal, Que., 4th August, 1880; for 5 years.

*Claim.*—As a part of a spring, an elastic plate, the cross section of which embraces one or more angles.

**No. 11,598. Improvements on Ploughs.** (*Perfectionnements aux charrues.*)

Horace F. Malcolm, Scotland, Ont., 4th August, 1880; for 5 years.

*Claim.*—1st. The combination of beam B and land slide E. 2nd. The combination of mould board A, land slide B, with guard F of cast iron.

**No. 11,599. Method of Bleaching Wood Pulp.** (*Mode de blanchiment de la pâte de bois.*)

Nicolaus Kaiser, Grellinger, Switzerland, 4th August, 1880; for 5 years.

*Claim.*—1st. In the bleaching of wood pulp, subjecting the pulp in its original damp, moist, or wet condition to the action of sulphurous acid in the form of vapour or gas and then banking it up. 2nd. As an article of manufacture, wood pulp bleached in the manner set forth.

**No. 11,600. Improvements in the Extraction of Precious Metals, especially Gold, from their Ores.** (*Perfectionnements à l'extraction des métaux précieux, notamment de l'or, de leurs minerais.*)

Paul G. L. G. Desigolles, Paris, France, 4th August, 1880; for 5 years.

*Resumé.*—1o. Le système d'amalgamation électro-chimique obtenu et réalisé pratiquement au moyen de l'action mécanique et chimique développée par l'appareil décrit. 2o. Dans l'application à cet usage du bichlorure de mercure en dissolution additionnée de chlorure de sodium, de préférence aux autres sels solubles de mercure susceptibles d'être décomposés par l'action électro chimique. 3o. La disposition spéciale d'appareil de broyage et d'amalgamation entièrement en fer constitué par un tonneau à boulets avec disposition pour faciliter l'entrée et la sortie des matières à traiter. 4o. La disposition spéciale d'appareil à fixer l'amalgame, consistant essentiellement dans un système de plateaux tournants en métal amalgamé alternant avec des plateaux fixes concaves également amalgamés et disposés de façon à réunir à plusieurs reprises la matière à traiter, et contenus dans une enveloppe qui peut être complètement close.

**No. 11,601. Improvements on Condensers.** (*Perfectionnements aux condensateurs.*)

William McIntyre, Carrollton, Mo., U. S., 4th August, 1880; for 5 years.

*Claim.*—A condenser composed of a series of chambers connected with each other by means of a series of pipes and each chamber provided with a fan, which is rotated by the passage of steam to be condensed. 2nd. A condenser composed of a series of connected chambers, the lower one of which is provided with pipes for the escape of air, and means whereby the water of condensation can pass to a tank or receiver. 3rd. A condenser provided with vertical pipes or tubes for the passage of steam to be condensed, which tubes have an increased diameter between their ends. 4th. The herein before described condenser, consisting of the casing *a* at *a*, each provided with one or more fans *F*, the connecting pipes *B B*, the inlet pipe *C*, the outlet pipe *D d* and the air pipes *E*.

**No. 11,602. Improvements in Mechanical Movement.** (*Perfectionnements au mouvement mécanique.*)

Daniel Abrey, Greenville, Mich., U. S., 4th August, 1880; for 5 years.

*Claim.*—1st.—The running of an endless band, rope, or chain *C*, two or more times around two drums, in combination with the tightener pulley *B* or one or more tightener pulleys. 2nd. The running of a rope, band or chain, having ends two or more times around two pulleys. 3rd. The running of a rope, band or chain *C*, two or more times around the two drums *F F*, in combination with the pinions *R R E*.

**No. 11,603. Improvement on Rotary Churns.** (*Perfectionnement des barattes rotatoires.*)

Lewis W. Murch, Kennedy, N.Y., U. S., 4th August, 1880; for 5 years.

*Claim.*—1st. A rotary churn body formed of end pieces grooved upon their faces to receive staves and shoulder pieces that are arranged together with the cover, to form a cylinder secured together by the legs, cap piece and brace rods. 2nd. The cylindrical churn body formed of a series of staves held at their ends, in circular grooves, in the end pieces of the casing and bound together at their middle by metal straps secured at their upper ends to the end or shoulder pieces, and secured at their lower ends to metal plates that are drawn together by set screws. 3rd. In a churn dasher, the combination of the end pieces *G G* connected by stretchers *G<sub>2</sub> G<sub>3</sub>* formed with double convex sides and arranged upon the end pieces, to impart to the cream an undulating or wave-like motion, and supplied at its ends only. 4th. The combination, in a churn having a horizontal cylindrical body, of a dasher formed of end pieces having their faces bevelled to form feather edges, that bear against the faces of the ends of the churn to clear them of cream, the end pieces being connected together by stretchers, the outer ones of which will scrape the cylindrical surface of the churn body. 5th. The combination, in a churn having a cylindrical body, a cover forming a segment of such cylinder, and provided with openings communicating with the outer air, and a dasher formed of double convex-shaped end pieces connected by stretchers, one of the faces of which are flattened to fit snugly the interior of the churn body, and provide an enclosed air space between the outer surface of the dasher and the inner surface of the churn. 6th. The metal plates *H H* formed with bearings for the spindles of the rotary churn dasher and a bowl arranged immediately below the bearing to catch the drip therefrom, and also provided with projecting ears by means of which the plates may be secured to the end pieces. 7th. The metal bearing plate *H* provided with a bowl having a notch *h* in its rim, the stud pin *I* provided with a cranked end that engages with the notch of the rim and a pivoted latch piece *K* that holds the pin in place. 8th. The combination with a churn body of the metal bearing plate *H*, the crank *L* provided with a grooved shaft and the vertically adjustable plate *M* that fits in the groove and embraces the shaft and is held in place by set screws that pass through a slot in the plate. 9th. The combination with the rotary churn dasher of a short crank secured to the dasher, and provided with a square crank pin, the sides of which are arranged in combination with a removable crank arm that fits upon the pin, in the several positions to lengthen and shorten the throw of the crank.

**No. 11,604. Improvements on Harrows.** (*Perfectionnements aux herbes.*)

Thomas E. Nichols, Morpeth, Ont., 4th August, 1880; for 5 years.

*Claim.* The form of cast iron jaws for holding the teeth, and the mode of attaching the jaws to frames of wood or iron harrows.

**No. 11,605. Improvements in Lifting Jacks.** (*Perfectionnements aux crics.*)

Hiram R. Ferris, Cleveland, Ohio, U. S., 4th August, 1880; for 5 years.

*Claim.* 1st.—A lifting jack consisting of the combination with the hollow standard, of an arm *A* attached rigidly thereto, lever *F* pivoted to the arm



and lifting collar and nut D C, the whole combined with a lifting shaft tapped through the said nut. 2nd. The combination of a lever fulcrumed to the standard, loose collar D and nut C, with the screw lifting shaft B, whereby the shaft may be run up and down without turning about its axis by simply turning the said nut C. 3rd. The combination with a lever fulcrumed to the standard, a screw threaded lifting shaft and means for connecting the short arm of the lever with the lifting shaft of a nut G located between the standard and point of connection of the lever and screw-shaft. 4th. The combination with the lever, the screw-shaft and nut G, of an adjustable point of application of the power at C, whereby the weight may be lifted through several strokes of the lever. 5th. The combination with a lever fulcrumed to the standard and a screw threaded lifting shaft, of a nut engaging with the lifting shaft, a collar surrounding said nut, a set screw for securing the collar to the nut, and a toggle-arm, one end of which is pivoted to the short arm of the lever and the other end to said collar. 6th. The combination with a lever fulcrumed to the standard, a screw threaded lifting shaft and a toggle-arm connecting the lever and nut on the lifting shaft, of a grapple hook H and swivel nut H.

### No. 11,606. Improvements on Sewing Machines. (*Perfectionnements aux machines à coudre.*)

Frederick Jacob, Newark, N. J., U. S., 4th August, 1880; for 5 years.

*Claim.*—1st. The combination in a sewing machine of an oblique cylinder mounted firmly on the main shaft, a vertical rock shaft carrying a fork which straddles the oblique cylinder, a pin projecting from the bottom of the fork and engaging with a circular groove in the oblique cylinder, a lever firmly secured to the vertical rock shaft and a shuttle carrier provided with an arm which is pivoted to the outer end of said lever and which turns loosely on said rock shaft. 2nd. The combination of an eccentric firmly mounted on the main shaft, a lever which receives a vibrating motion by the action of said eccentric and acts on the feed lever, an oblique cylinder which is firmly mounted on the main shaft, a vertical rock shaft provided with a fork, which straddles the oblique cylinder, an arm mounted on the vertical rock shaft and moving with the same and a pin engaging with the feed lever. 3rd. The combination of a main shaft, an oblique cylinder and an eccentric, both being firmly mounted on said main shaft, a vertical rock shaft provided with a fork which straddles the oblique cylinder, a shuttle lever which is connected to the vertical rock shaft, a pin secured in said shuttle lever and engaging with a slot *f* in the feed lever, a vibrating lever which receives the motion from the eccentric mounted on the main shaft and the lower end of which engages with a slot *l* in the feed lever, and a feed dog connected to the latter. 4th. The combination of the main shaft A, oblique cylinder D, vertical rock shaft F, eccentric *h*, vibrating lever J, arm G mounted on and receiving motion from the vertical rock shaft, feed lever I, pin *e* secured in the arm G, slots *fl* in the feed lever, one to engage with pin *e* and the other with lever J and provided with the inclined plane *m*, the feed dog K and spring O.

### No. 11,607. Improvements in Electric Signaling Apparatus for Railways. (*Perfectionnements aux appareils à signaux électriques pour les chemins de fer.*)

William Robinson, Boston, Mass., U. S., 4th August, 1880; for 5 years.

*Claim.*—1st. The combination of a constant circuit, a magnet or magnets operated or controlled without actually opening the circuit of said magnets, and an electro-mechanical railway signal or signals. 2nd. An electro-mechanical visual or semiphonic signal, in combination with a constant circuit composed in part of a rail or rails of a railroad track. 3rd. In combination, a constant circuit composed in part of a section of railroad track and two electro-mechanical signals placed one at each end of said section. 4th. The key G in combination with the conductors *k*, *n*, the rail sections *e*, *f* and the stationary battery B connected to said rail sections, whereby the current of said battery will be short circuited by manipulating said key and thus be prevented reaching the signal magnet. 5th. In an electro-mechanical movement the detents W and W<sub>1</sub> so related to each other as to relieve the pressure upon the armature lever E. 6th. In an electro-mechanical movement, the cranks *u* with the connecting rods *o*, *g* (either or both) and suitable guides *s*, *t*, the whole in combination with the shaft C. 7th. An electric signal mechanism in connection with Figs 4, 5 and 6. 8th. An electro-mechanical battery changer in connection with Fig 7. 9th. A switch or drawbridge electrical connection consisting of the series of springs 1, 2 and 3, 4 (either series or both) with suitable connecting plugs 5, 6 in combination with an electric signal or signals. 10th. The wire A, in combination with the rails B<sub>1</sub> B<sub>2</sub> and securely fastened thereto. 11th. In combination, the wire A, the rails B<sub>1</sub> B<sub>2</sub> and the rails A<sub>3</sub> A<sub>4</sub> for the purpose of securing electrical continuity between said rails. 12th. In combination, the insulating material *d*, the truss or base plate C<sub>3</sub> and the rails D<sub>1</sub> E<sub>1</sub>, whereby metallic contact is prevented between said base plate and the bottoms of said rails. 13th. In combination, the insulating material *e*, *f* placed between the flanges of the rails and the forelocks *g*, *h* for the purpose of preventing metallic contact between said rails and said forelocks. 14th. In combination, the insulating material *d*, *e*, *f*, the base plate C<sub>3</sub>, the forelocks *g* and the rails D<sub>1</sub> E<sub>1</sub> for the purpose of securely insulating the rails D<sub>1</sub> E<sub>1</sub> from each other. 15th. The method of operating electric signals in connection with Fig 14. 16th. The method of operating electric signals in connection with Figs 15, 16 and 17. 17th. The method of operating a road crossing or other signals by means of a train approaching on either track, in connection with Fig 18. 18th. A magnet suitably arranged on board of a locomotive or car, for the purpose of actuating or controlling a signal on said locomotive or car, said magnet depending for its operating current on a stationary battery connected to a section of rails. 19th. The rail or metallic plate H electrically connected to the rail section *f*, in combination with said rail section *f* and the stationary battery B also connected to said section *f*, whereby a current from said battery passing through said rails *f* and H<sub>1</sub> will actuate or control a signal on board of a locomotive or car when the latter makes connection with said rail H<sub>1</sub>. 20th. The rail sections *e*, *f* and the stationary battery B, in combination with the magnet M<sub>5</sub> on the locomotive or car L<sub>5</sub>, the whole arranged so that the magnet M<sub>5</sub> will be actuated by a current passing from said battery through said rail sections *e*, *f*. 21st. The block or stationary signal actuated or controlled by a current passing through a circuit formed partly of the rail sections *e*, *f*, in combination with a signal actuated or controlled by the mag-

net M<sub>5</sub> on a locomotive or car. 22nd. A section of railroad track and two batteries placed at opposite ends thereof and electrically connected thereto, in combination with each other and with a signal operating magnet M<sub>5</sub> on board of a locomotive or car, the whole arranged in such manner that when said locomotive reaches one end of said section of track it will cut off the battery at that end of the section by short circuiting or by opening the circuit (either or both) and at the same time receive an electric current through said magnet M<sub>5</sub> from the battery, at the opposite end of said section of track. 23rd. The supplemental rail or plate H<sub>2</sub> permanently connected to the rail section C<sub>3</sub> and portably connected to the rail section C<sub>6</sub> by the circuit *h*.

### No. 11,608. Improvements on Corsets. (*Perfectionnements aux corsets.*)

Moses R. Bortree, Jackson, Mich., U. S., 6th August, 1880; (Extension of Patent No. 5,363.)

### No. 11,609. Improvements on Corsets. (*Perfectionnements aux corsets.*)

Moses R. Bortree, Jackson, Mich., U. S., 7th August, 1880; (Extension of Patent No. 5,363.)

### No. 11,610. Air Brake. (*Frein atmosphérique.*)

The Standard Empire Vacuum Brake Co'y, (Assignee of Joseph Steger,) New York, U. S., 7th August, 1881; (Extensions of Patent No. 5,080.)

### No. 11,611. Improvements on Locks. (*Perfectionnements aux serrures.*)

Xiste Viger, Longueuil, Que., 7th August, 1880; for 5 years.

*Résumé.* 1o. Dans le pêne *b* ouvert, deux mortaises par le centre de manière à y placer le ressort *d* et le cliquet double *h* avec son double ressort *q*. 2o. Le cliquet double *h* monté sur un essieu *i* et est composé de deux anneaux *a* concentriques *h*, *h*, pouvant opérer séparément ou simultanément par le moyen des clefs. 3o. La clef avec la broche mobile *r* et la dent fixe *q*. 4o. La clef avec les deux dents fixes *q*, *r*.

### No. 11,612. Improvements on Wire Drawing Machines. (*Perfectionnements aux filières mécaniques.*)

Charles D. Rogers, Providence, R. I., U. S., 7th August, 1880; for 15 years.

*Claim.* 1st. The combination of the coiling drum, two or more arms projecting outwardly beyond the vertical wall of said drum, and suitable mechanism for raising and maintaining said arms in an elevated position. 2nd. The combination of the slotted coiling drum, the driving shaft for the same, two or more arms passing outwardly through said drum, two or more cams loosely mounted on said shaft and suitable mechanism for causing a partial rotation of said cams. 3rd. The combination of the slotted coiling drum, the driving shaft for the same, two or more arms passing outwardly through said drum, an annular disc loosely mounted on said shaft and provided with cams, and suitable mechanism for partially rotating said disc. 4th. The combination of the slotted coiling drum A, shaft B, hinged arms C, multiple cam disc E, and rotating mechanism F *f*.

### No. 11,613. Improvements on Harness Tugs, (Shaft Bearers.) (*Perfectionnements aux bracelets des harnais.*)

George R. Suingley, Fredericktown, Ohio, U. S., 7th August, 1880; for 5 years.

*Claim.* The metallic holder A provided with outwardly and inwardly projecting side flanges *a* a removable exterior packing *c*, strap *e* passing around the same, buckle *g* fitting in the recesses of the flanges, metallic plate *h* for securing said buckle in position, and metallic or stiffening plate *j* interposed between the ends of the strap *e*.

### No. 11,614. Improvements in Street and other Lamps. (*Perfectionnements aux lampes des rues et autres.*)

Edward S. Piper, Toronto, Ont., 7th August, 1880; for 5 years.

*Claim.* 1st. The supporting standard G G and socket G<sub>1</sub> formed of a single piece of metal. 2nd. The combination of the standards G G and socket G<sub>1</sub> formed in a single piece, with the rim C and the lamp post. 3rd. The combination, with the supporting flange of a glass lamp globe, of a rubber or other packing inserted between the glass and metal.

### No. 11,615. Improvements on Potato Picking Machines. (*Perfectionnements aux machines à trier les patates.*)

Louis Lavoie, St. Martin, Que., 7th August, 1880; for 5 years.

*Résumé.* La combinaison des parties essentielles de la machine à trier les patates savoir: la trémie B, les cloîtres C D E, les oribles *c*, *d*, *e*, le tablier *f*, la manivelle et le volant I, la barre *i* et la manivelle ou tambour G avec la charpente A.

### No. 11,616. Improvements on Windmills.

(*Perfectionnements aux moulins à vent.*)

Napoléon Prince, St. Boniface, Man., 7th August, 1880; for 5 years.

*Résumé.*—L'emploi de volants comme régulateur d'une machine à vent, laquelle régularisation sera produite au moyen de volants *b* *b* attachés aux pièces *x* imprimant mouvement au tube *t*, lequel fait mouvoir les leviers *f* et *k* qui transmettront le mouvement aux verges *v* *v*. cette régularisation de la vitesse acquise se fera par la machine elle-même en laissant libre l'extrémité inférieure du levier *l*, ce qui permet d'utiliser les vents même les plus orageux.

### No. 11,617. Improvements on Gilding Process. (*Perfectionnements aux procédés de dorage.*)

Leonard Laurence, (Assignee of Nicholas C. N. Laurence and Ernest G. Matzka,) Detroit, Mich., U. S., 7th August, 1880; for 5 years.

*Claim.*—1st. The process of applying gilding and bronzing powders to mouldings, &c., which process consists in first mixing the gilding or bronzing powders with a solution of chlorine, alcohol, turpentine, diluted acetic acid or any liquid or liquid compound with which the powders can be incorporated, in then adding thereto glue, isinglass, gelatine or other soluble adhesive substance, and in then applying the mixture with a brush. 2nd. The process of gilding which consists in applying, with a brush, to the whitened surface of the object to be gilded or bronzed, the bronzing or gilding powder incorporated with chlorine, alcohol, turpentine, diluted acetic acid or other liquid, or liquid compound to which glue, isinglass, gelatine or other soluble adhesive substance has been added, and in burnishing the said gilt or bronze when dry. 3rd. The process of gilding which consists in applying with a brush, to the whitened surface of the object to be gilded or bronzed, the bronzing or gilding powder incorporated with chlorine, alcohol, turpentine, diluted acetic acid or other liquid, or liquid compound to which glue, isinglass, gelatine or other soluble adhesive substance has been added, and in burnishing the said gilt or bronze when dry and then applying a gold laquer.

### No. 11,618. Process of Depositing Gold from its Aqueous Solutions. (*Procédé pour séparer l'or de ses solutions aqueuses.*)

Edward N. Dickerson, jr., New York (Assignee of William M. Davis, Philadelphia, Pa.), U. S., 7th August, 1880; for 5 years.

*Claim.*—1st. The process of commercially depositing gold from its solution by means of carbon. 2nd. The process of depositing gold from its solution by causing a current of such solution to flow past or through carbon. 3rd. The process of obtaining gold from its solution by bringing said solution in contact with carbon, and thereby depositing the gold upon it and of subsequently obtaining the gold from the carbon by calcination, or other equivalent means.

### No. 11,619. Improvements on Lathes. (*Perfectionnements aux tours à tourner.*)

Lewis H. Broome, (Assignee of James Davis and Foster B. Chidester,) Jersey, N. J., U. S., 7th August, 1880; for 10 years.

*Claim.*—1st. In a turning lathe, or similar structure, constructed and operating to revolve a blank, a revolving saw arranged to move along the line of, and operating to cut away the blank, in combination with a device attached to the head or carried to clamp the blank, while the saw is operating upon it. 2nd. A revolving saw and clamping device, both arranged to move along the line of the blank, in combination with mechanism by which the saw is adjusted relatively to a pattern bar or guide to cut the blank to varying depths. 3rd. A revolving saw in combination with a trimming cutter and a clamping device when all are attached to a head or carrier, and where such saw and cutter move with, and in advance of such head or carrier between the spindles of a lathe. 4th. A revolving saw in combination with a shaping cutter and a clamping device when all are attached to a head or carrier, and when such saw and cutter move with and in the rear of such head or carrier between the spindles of a lathe. 5th. In a turning lathe, a head or carrier arranged to move in the line of the spindles, in combination with an automatically expanding ring to clamp the work near the point where the cutters operate. 6th. An adjustable cutter D in combination with the automatically expanding ring F, when such cutter and ring are attached to a movable carrier of a lathe. 7th. The combination of the expanding ring F, the cutter E pivoted to the movable head or carrier C, and the form or pattern bar L. 8th. The combination in a lathe, of the pivoted cutter E, the adjustable block v, the stops s s and the pattern bar L. 9th. In combination with a holder M provided with an aperture for the exit of the shavings, a cutter m and gauge n, both of substantially the reverse shape of the moulding desired. 10th. A cutter holder M hinged upon a rod at the rear of the lathe and capable of longitudinal adjustment thereon, and provided with a cutter m and gauge n beneath an aperture in the holder for the escape of shavings. 11th. The combination in a lathe, of moulding cutters and gauges attached to a holder and detached from the movable cutter head or carrier. 12th. The combination of a moulding cutter holder and a cutter provided with saw teeth, when constructed and arranged to form a moulding and kerf at the same time. 13th. In combination with the gauge n, a cutting spur R to form a smooth vertical cut. 14th. In combination with a cutter holder M, a gauge R operating to limit the depth of the cut of a cutter m.

### No. 11,620. Improvements in Car Brakes. (*Perfectionnements aux freins des chars.*)

John F. Curtice, Fort Wayne, Ind., U. S., 7th August, 1880; for 5 years.

*Claim.*—1st. A composite car brake shoe consisting of but two parts, the one a rigid curved bar of wrought iron, or other suitable metal or material, backed and preferably bound by the other part made of cast iron and united to the former part. 2nd. A composite car brake shoe consisting of but two parts, the one of cast iron, having the other, of wrought iron or other suitable metal or material, imbedded therein in the form of a rigid curved bar provided with one or more perforations, wherein the cast iron is moulded, thereby tying and firmly securing the two parts of the shoe together. 3rd. A composite car brake shoe consisting of but two parts and provided with a face, one part whereof is a rigid curved bar of wrought iron, or other suitable metal or material, and the remainder of said face and shoe of cast iron, backing and preferably bounding said bar and perforating entirely through the same, at one or more points, whereby the proper strength and durability of the shoe is effected and maintained, glazing of its face prevented and the adhesive or frictional brake efficiency thereof increased.

### No. 11,621. Process for Preserving Timber. (*Procédé pour conserver le bois équarri.*)

Waldemar Thilmany, Cleveland, Ohio, U. S., 11th August, 1880; for 5 years.

*Claim.*—The treatment of timber to arrest decay by two successive sepa-

rate impregnations, namely: first, with a solution of sulphate of lead, iron, tin or zinc; and secondly, with a solution of chloride of barium or vice versa.

### No. 11,622. Improvements in Machines for Coiling Springs. (*Perfectionnements aux machines à rouler les ressorts.*)

James Anderson, New York, U. S., 11th August, 1880; for 5 years.

*Claim.* 1st. In combination with the mandrel on which the bar is wound, a worm carried adjustably in slotted bearings formed in frames secured to the heads. 2nd. The shaft F with adjustable sleeve and stop carried thereon. 3rd. The combination with the mandrel B, of the guide E. 4th. The combination with the heads A, A', of the mandrel drawn through same and carried in projecting bearing A<sub>3</sub>.

### No. 11,623. Improvements on Rock Tunneling and an Apparatus Therefor. (*Perfectionnements dans le percement des tunnels dans le roc et aux appareils pour cet objet.*)

Herbert N. Penrice, Hatfield, Eng., 11th August, 1880; for 5 years.

*Claim.* 1st. The construction of apparatus, for rock tunnelling, with a bed frame a, so formed as to lie in the bottom of the leading cavity A, and with rock boring cylinders d mounted on the bed frame a in such manner as to bore holes in directions inclined to it at a small angle, such boring cylinders d also being adjustable on the bed a so that they may remain aligned with the bore holes when the bed frame a, carrying them, is moved forward. 2nd. The modification of the method adopted for forming a tunnel, when the tunnel to be formed is a vertical one.

### No. 11,624. Improvements on Pegging Machines. (*Perfectionnements aux machines à cheviller.*)

George W. Copeland, Malden, (Assignee of Erastus Woodward and Matthias Brock, Boston, Mass., U. S., 11th August, 1880; for 5 years.

*Claim.*—1st. In a pegging machine, the combination of the driven pulley A having a base bearing upon the shaft a, and a movement thereon to and from the cam disk B, and adapted to engage therewith with said cam disk B. 2nd. The combination of the driven pulley A, the cam disk B operating theawl driving, peg severing and peg driving mechanism, and disengaging mechanism, whereby, after the driving of each peg, the said pulley is disengaged from the said cam disk. 3rd. The combination of the standard e<sub>3</sub> pivoted at e<sub>5</sub> to one end of the yoke S and supporting theawl driving, peg driving, feeding and severing mechanism, with the edge cam b<sub>1</sub>, on the disk B and suitable connecting mechanism, and the spring f, all adapted to operate in effecting the alternate transfers of theawl and peg driver in relation to the foot G. 4th. The combination of the feed wheel b, presser h<sub>3</sub> and the pinion h<sub>1</sub>, all provided with a lateral movement upon the end of the standard e<sub>3</sub>, with a pawl h<sub>2</sub> pivoted to the stationary bracket d, whereby by the movement of the standard in effecting a transfer, the peg strip is fed to the severing mechanism, and a peg to a position in the feed-way under the driver by the movement of the pinion in relation to the pawl. 5th. The combination of the driven pulley A, the clutch lever C, the latch o<sub>1</sub> and the cam n, all arranged to operate in unshipping the driven pulley from the operating disk. 6th. The combination of the driven pulley A adapted to engage with the cam operating theawl and peg driving mechanism, for automatically disengaging said pulley from said operating cam disk, at stated intervals, and a tripping device for disengaging said mechanism from said pulley. 7th. The combination of the cam n, the latch o<sub>1</sub> and the spring o<sub>11</sub>, with the clutch lever C, spring o<sub>3</sub>, catch o tripped by the thumb piece o<sub>6</sub>, and suitable connecting mechanism. 8th. The combination of the pulley A and the clutch lever C provided with a catch, with the cam n and spring o<sub>11</sub>. 9th. The combination of the thumb piece o<sub>6</sub>, the latch o and suitable connecting mechanism for tripping the same. 10th. The combination of the constantly revolving driven pulley A adapted to engage with, and to operate the cam disk B which actuates theawl, the driver, the peg feeding and severing mechanism and transferring devices, with the mechanism for automatically disengaging said pulley from the said disk after the driving of each peg. 11th. The combination of the cam n, the projection e<sub>7</sub> upon the driving bar and suitable connecting mechanism, whereby the said driving bar is slightly lifted before the movement of standard e<sub>3</sub> is effected. 12th. As a means for suspending a pegging machine, the combination of the yoke S adapted to be attached at one end to a suitable support, with said support and with the pegging mechanism supported at its other end. 13th. A suspended pegging machine having the two handles P P, one of which supports the device for operating the peg driving mechanism. 14th. In combination with a power pegging machine, the means for suspending the same in relation to the work support, whereby the machine is provided with universal adjustment in relation to the work support while in operation, consisting of the yoke S adapted to lay hold of the pegging mechanism, its supporting counterbalanced tilting bar S<sub>1</sub>, the supporting rod s<sub>6</sub> and the hanger s<sub>7</sub>. 15th. In a suspended power pegging machine, the combination of the yoke S provided with a swivelling connection in its support, said support and said pegging machine, whereby the said machine is provided with oscillating movement at right angles to the longitudinal axis of the yoke. 16th. The combination of a tilting bar supporting, at one end, a pegging machine, and, at its other end, a counterbalance, with a swinging frame arranged to lay hold of said bar and support the same, whereby the pegging machine is provided with vertical adjustment in relation to its work support. 17th. As a means for providing a power pegging machine with movement to and from its work support, the hanger s<sub>7</sub>, the rod s<sub>6</sub> and the bar s<sub>2</sub>, one end of which bears a counterbalance and the other end of which supports the yoke carrying the pegging machine. 18th. As a means for suspending a power pegging machine, the combination of the swinging hanger s<sub>7</sub>, the rod s<sub>6</sub> having a swivelling connection with said hanger, a balance bar S<sub>2</sub> supported by said rod and arranged to swing upon its support, and a yoke carrying the power pegging machine, having a swivelling connection with the end of the bar s<sub>2</sub>. 19th. As a means of communicating power to a suspended power pegging machine, the combination of the driven pulley t<sub>1</sub> on the shaft t<sub>2</sub>, the intermediary pulley t supported by the hanger S<sub>6</sub>, the movable driven pulley A on the shaft a of the pegging machine, and their connecting belts. 20th. As a means for supporting the peg wood in a suspended power pegging machine, the peg reel S<sub>2</sub> suspended from the tilting bar s<sub>2</sub>.

**No. 11,625. Improvements in the Method of Making Railway Rails.** (*Perfectionnement dans la méthode de fabriquer les lisses des chemins de fer.*)

Horace H. C. Sintzenich, Toronto, Ont., 11th August, 1880; for 5 years.

*Claim.*—1st. The process of rolling, grooving or chamfered rails by bending ridges of metal. 2nd. The combination with a train of rail rolls, of the rolls. 3rd. A rolled railway rail with ridges formed by rolling and bent into position.

**No. 11,626. Improvements in Cackle Separators.** (*Perfectionnements aux séparateurs de l'avoine.*)

Henry Stevens, (Assignee of Herman Kurth,) Hamilton, Ont., 11th August, 1880; for 5 years.

*Claim.*—1st. In a cackle separator, a perforated revolving metallic cylinder B in combination with an endless belt G, for the purpose of forming a consolidated jacket in the lower part of said cylinder, so as to form cavities, pockets or cells from said perforations on lower part of said revolving cylinder. 2nd. A perforated revolving cylinder being supported by an endless belt on two or more rollers for the purpose of receiving single kernels of cackle and carry them up to the upper part of said rollers, and discharging the cackle to the outside of said cylinder B. 3rd. A perforated revolving cylinder which has, at the bottom, cavities, cells or pockets, and perforated holes at top, in combination with a brush N, endless belt G, guide rollers D E F, said cylinder, &c., also may be used in combination with a suction draft and oat separator constituting a complete grain cleaner.

**No. 11,627. Steam Drill.** (*Drille à vapeur.*)

Addison C. Rand, (Assignee of George E. Nutting and Joseph C. Gibbens,) New York, U. S., 11th August 1880; (Extension of Patent No. 5,001.)

**No. 11,628. Improvements in Curtain Rollers.** (*Perfectionnements aux rouleaux des rideaux.*)

Walter B. Noyes, Boston, Mass., U. S., 11th August, 1880; for 5 years.

*Claim.*—1st. The combination, with a hollow curtain roller, of the spindle A cut away at one end, the hollow plug G having the end of the spindle free to move endwise therein but locked from rotating movement by the pin f and stop h, the springs D E and the tube F interposed between the springs, so that one will be entirely inclosed thereby and the other pass over the outside of the tube. 2nd. The arrangement and combination of the roller H, journal piece c, spool a having the pivot b<sub>1</sub>, dogs m and bracket C having the bearing d.

**No. 11,629. Improvements on Grinding Mills.**

(*Perfectionnements aux moulins à moulin.*)

John Stevens, Neenah, Wis., U. S., 11th August, 1880; for 5 years.

*Claim.*—1st. A dress for cylinder and concave consisting of a series of parallel rounded flutes with rounded dividing ridges. 2nd. The combination of a cylinder having a dress composed of a series of parallel rounded flutes, with rounded dividing ridges and a concave having a similar dress.

**No. 11,630. Improvements on Printing Ink.**

(*Perfectionnements à l'encre d'imprimerie.*)

LeRoy Hooker, Quebec, Que., 11th August, 1880; for 5 years.

*Claim.*—1st. Printers' ink composed of coal tar, or the residuum of distillation of coal and lampblack. 2nd. Printing ink composed of coal tar and lampblack, deodorized, or the odor of which is masked by the incorporation of gun camphor, in a liquid or pulverized state.

**No. 11,631. Improvements on Apparatus for Generating and Applying Electricity.** (*Perfectionnements aux Appareils à produire et appliquer l'électricité.*)

Charles F. Brush, Cleveland, Ohio, U. S., 11th August, 1880; for 5 years.

*Claim.*—1st. The wire or helix E, having a comparatively high resistance and kept constantly in close circuit while the machine is running, in combination with the magnet wire or helix F, as commonly employed. 2nd. A dynamo-electric machine in which the coils around the field of force electro-magnets are included in the main or operative circuits, the combination of such main circuit with a constantly closed differential circuit of prescribed resistance, for the purpose of maintaining the flow of the current through the coils surrounding the electro-magnets in the machine, when the main or operative (external) circuit is broken. 3rd. A dynamo-electric machine constructed or combined with suitable device for primarily varying the strength of the current exciting its field of force electro-magnets. 4th. The combination, with one or more of its inducing or field of force electro-magnets, of an adjustable resistance, whereby the strength of the current applied to said magnets may be determined and governed, and varied. 5th. The combination with one or more of its inducing or field of force electro-magnets, of a shunt circuit, within which is included an adjustable resistance for varying the strength of the current applied to said magnets. 6th. The combination, in a single circuit, of two or more electric lights, each of which is provided with an upper carbon point, having mechanism connected therewith for releasing the carbon holder and allowing it to be fed by gravity, and a lower carbon, the position of which is regulated by the resultant force of axial magnetism caused by the passage of electricity through a helix on the main circuit, and a helix on a shunt circuit. 7th. The combination with a carbon holder, of a magnet surrounded by two helices, one helix located in the main circuit, and the other in a shunt circuit, the main and subsidiary currents passing through said helices in opposite directions. 8th. The combination with a movable core supporting a carbon point and upheld by suitable springs, of a helix surrounding the core and connected with the main circuit and a supposed subsidiary helix also surrounding the movable core and connected with a shunt circuit. 9th. The combination with a movable core supporting one of the carbon points and a main and

subsidiary helix surrounding said core and respectively connected with a main and shunt circuit, of the upper carbon point and suitable intervening mechanism, whereby the upper carbon point is fed downward by the action of the lower carbon point. 10th. The combination with the upper and lower carbon points thereof, of a helix in the main circuit and a helix in a shunt circuit, both of said helices surrounding a movable core with which one of the carbon points is connected, and clamping mechanism connected with the upper and lower carbon points. 11th. In an electric lamp, the combination with a moving carbon holder, of a tube C<sub>6</sub>, said tube constituting the body of cylinder and a moving element of the dash pot. 12th. In an electric lamp, two or more pairs or sets of carbon, in combination with mechanism constructed to separate said pairs dissimultaneously or successively. 13th. In an electric lamp two or more pairs or sets of carbons, in combination with mechanism constructed to separate said pairs dissimultaneously or successively and establish the electric lig<sup>t</sup> between the members of but one pair (preferably the pair last separated) while the members of the remaining pair or pairs are maintained in a separated relation. 14th. In an electric lamp having more than one pair or set of carbons, the combination with said carbon sets or pairs of mechanism constructed to impart to them independent and dissimultaneous separating and feeding movements, whereby the electric light will be established between the members of but one of said pairs or sets at a time, while the members of the remaining pair or pairs are maintained in a separated relation. 15th. In a single electric lamp, two or more pairs or sets of carbons all placed in circuit, so that when their members are in contact the current may pass freely through all said pairs alike, in combination with mechanism constructed to separate said pairs dissimultaneously or successively. 16th. In an electric lamp wherein more than one set or pair of carbons are employed, the lifter D<sub>6</sub>, or its equivalent, moved by any suitable means, and constructed to act upon said carbons or carbon holders dissimultaneously or successively. 17th. In an electric lamp wherein more than one pair or set of carbons are employed, a clamp C<sub>7</sub>, or its equivalent, for each said pair or set, said clamps C<sub>7</sub> adapted to grasp and move said carbons or carbon holders dissimultaneously or successively. 18th. In an electric lamp, the combination with a carbon holder and the mechanism moving said carbon holder, of a lifter or support K<sub>3</sub>, or its equivalent constructed to operate in compelling the said moving mechanism to sustain the weight of the carbon holder after its carbon is sufficiently consumed or removed. 19th. In an electric lamp, a carbon having a jointed or flexible connection with said lamp, and one or more guides partially or completely surrounding said carbon for the purpose of directing it to a proper position with its fellow or opposite carbon. 20th. In an electric lamp, a carbon provided with the described inclosed conductor made of pliable material and projecting beyond the end of the carbon, said conductor being adapted to serve as a universal joint for centering the carbon in the regulator. 21st. The combination of one or more guides A<sub>7</sub>, adapted to impinge against or to surround a carbon of an electric lamp, with a flexible or jointed connecting or attaching device between said carbon and electric lamp.

**No. 11,632. Improvements on Pianofortes.**

(*Perfectionnements aux Piano-fortes.*)

Caroline Carothers, Toronto, (Assignee of Thomas Kater, Hamilton, Ont., 13th August 1880; (extension of Patent No. 5,050.)

**No. 11,633. Window Blind Fasteners.** (*Arrête persiennes.*)

Henry M. Wells, Toronto, Ont., 13th August, 1880; (Extension of Patent No. 5,052.)

**No. 11,634. Machines for Clamping Window Sashes.** (*Machines à embotter les croisées des fenêtres.*)

William Abercrombie, Hamilton, Ont., 13th August, 1880; (Extension of Patent No. 5055.)

**No. 11,635. Improvements on Refrigerators.**

(*Perfectionnements aux garde-manger.*)

Joseph Sissons, Montreal, Que., 14th August, 1880; for 5 years.

*Claim.*—1st. A refrigerator constructed with its sides formed completely of sheets of glass H I having space K, between them, with frame G. 2nd. A refrigerator constructed with its sides formed of sheets of glass H I, and having space K, with frame G, in combination with the ice cage D. 3rd. A refrigerator constructed with its sides formed completely of sheets of glass H I, and space K, with frame G, in combination with thermometer M.

**No. 11,636. Improvements on Furniture Castors.** (*Perfectionnements aux roulettes des meubles.*)

Charles T. Schoen and Charles Soott, Philadelphia, Penn., U. S., 14th August, 1880; for 5 years.

*Claim.*—A castor composed of a bearing spring, a ball, or roller and fastenings to which the ends of the spring are attached, said fastenings forming, respectively, the socket for the bill or roller and the medium of attachment to the piece of furniture or its socket, and said spring being the sole connection between said fastenings.

**No. 11,637. Improvements on Reaping Machines.** (*Perfectionnements aux moissonneuses.*)

John Watson, Ayr, Ont., 14th August, 1880; for 5 years.

*Claim.*—1st. A pivoted plate C, with a cam-shaped slot a cut in it, in combination with the shank b. 2nd. A pivoted plate C, with a cam-shaped groove a cut in it and operated by a rod B, in combination with a pivoted sticking block F. 3rd. A pivoted plate C, with a cam-shaped groove a cut in it and provided with a spring G, in combination with a pivoted sticking block F, and tripping lever E, provided with a spring H. 4th. A pivoted plate C, with a cam-shaped groove a cut in it and operated by a foot lever a, and rod B, in combination with a tripping device. 5th. In a reaping machine having a single driving wheel and only one pair of bevel gear used to impart motion to the knife, a frame I, supporting an axle box K, and adjust-

ble seat, in combination with a hinged foot stick L. 6th. A lifting lever N, supported by the frame I and connected to a shieve quadrant R, in combination with a chain T, passing over a shieve pulley U and connected to the table S. 7th. A reaping machine having a single driving wheel and only one pair of bevel gear used to impart motion to the knife, the rod V, fastened to the bracket W, and arranged to slide in bearings on the frame I.

**No. 11,638. Improvements in Oil Cans.** (*Perfectionnements dans les bidons d'huile.*)

Edwin R. Deverall, Cincinnati, Ohio, U. S., 14th August, 1880; for 5 years.

*Claim.*—1st. A detachable tube I, having a conical base J, an aperture K being formed through the base beneath which aperture a frusto-conical tube K<sub>1</sub> containing a ball valve is soldered to said base, the upper end of the discharge spout being curved or bent to the same side on which said aperture is placed. 2nd. The threaded cup C, having a flange B<sub>1</sub> turned inwardly at the base, which forms a seat for the base of the discharge spout, said cup C being soldered to the top of the can A. 3rd. The threaded cylindrical cap D, having on its upper end a head centrally depressed and with an opening therein into which is soldered a thimble H, part of which projects above and part below said head, said cylinder being further provided with an opening thereon with an annular flange projecting inwardly, and which rests on the base of the discharge spout I, when the cylindrical head is screwed home. 4th. The combination of the can A, provided with a threaded cup C, and having a threaded cylindrical cup D and thimble H, with a discharge spout I having a conical base J provided with an aperture K, frusto-conical tube K<sub>1</sub> containing ball valve, with the upper end of said discharge spout curved toward the side of the spout on which the aperture K is placed.

**No. 11,639. Improvements on Refrigerators.** (*Perfectionnements aux garde-manger.*)

John Alexander, Toronto, Ont., 14th August, 1880; for 5 years.

*Claim.*—1st. An air chamber i, separated from the ice chamber by an open rack and connected by the flues J G to the provision chamber B. 2nd. An open ice rack C, in combination with a water shed D, and trough E. 3rd. An ice rack C, water shed D, trough E and slanting boards A, in combination with the flues J G, arranged as described, for the purpose of securing the full benefit of the ice in the chamber A, for cooling the chamber B without the air used for that purpose coming in contact with the ice in the said chamber A.

**No. 11,640. Improvements in Dentists' chairs** (*Perfectionnements aux fauteuils des dentistes.*)

Elilm Barritt, Elgin, Ill., U. S., 14th August, 1880; for 5 years.

*Claim.*—1st. The combination of two foot levers C D and an automatic detent m, acting upon a toothed or raked column G, provided with two sets of teeth. 2nd. The combination of a base B carrying the body of the chair and mechanism for adjusting the same, and revolving upon the shot i, in the base A. 3rd. The combination of a rod g, hinged to the chair body, the two loosely coiled spiral springs upon the rod g, the friction joint linking the rod g to the lug h, and the foot lever E, for locking the rod in any desired position. 4th. The combination of a supplemental foot rest N, with slot s, segment of a circle t, bolt r and rod p, with two coiled spiral springs. 5th. The combination of the back frame I, the lugs K<sub>1</sub>, the bolt K, and thumb nut n, the slotted link c l and the upholstered back K.

**No. 11,641. Improvements on Anchors.** (*Perfectionnements aux ancres.*)

Hypolite Martin, Ottawa, Ont., (Assignee of Edwin Buckland, New Glasgow, N. S.) 14th August, 1880; for 5 years.

*Claim.*—The double shoulders G on the boss of the flukes, acting in combination with plate J, the shoulders G working in the recesses D, and the plate J in oblong hole H.

**No. 11,642. Process for Chlorinating Ores.** (*Procédé pour chlorer les minerais.*)

The Mears Chlorination Co'y, (Assignee of James H. Mears,) Philadelphia, Penn., U. S., 14th August, 1880; (Extension of Patent No. 10,834)

**No. 11,643. Process for Chlorinating ores.** (*Procédé pour chlorer les minerais.*)

The Mears Chlorination Co'y (Assignee of James H. Mears,) Philadelphia, Penn., U. S., 16th August, 1880; (Extension of Patent No. 10,834)

**No. 11,644. Improvements on the Manufacture of Illuminating Gas.** (*Perfectionnements dans la fabrication du gaz d'éclairage.*)

Charles W. Isbell, New York, U. S., 18th August, 1880; for 5 years.

*Claim.*—1st. The process for utilizing, by their conversion into permanent gas, various hydro-carbons existing in the tar which passes over from the retorts in which coal is distilled for the manufacture of gas, such process consisting in first subjecting the tar to the combined action of the hot gas from the retorts and steam, thereby separating and vaporizing such hydro-carbons, and subsequently passing the vapours so obtained, along with the gas from the retorts, through a converter heated by the waste heat from the retorts. 2nd. The combination of a retort or bench of retorts and its hydraulic main, and a steam scrubber into which are introduced the hot gas from the retorts and tar from the hydraulic main of a converter, which is heated by the waste heat from the retort furnace and into which the steam, gas and hydro-carbon vapours pass from the steam scrubber. 3rd. The combination with the converter for changing the hydro-carbon vapours obtained from tar in the distillation of coal or other bituminous substance into permanent gas, and with the flues of a bench of retorts used in distilling such coal, of slides or dampers for controlling the escape of the heated gaseous products of

combustion from said bench to, through or around said converter, or out of the way thereof. 4th. The steam scrubber constructed as described.

**No. 11,645. Improvements in Rotary Engines.** (*Perfectionnements aux machines rotatives.*)

Henry Thibault and Thomas Hawkins, New York, U. S., 18th August, 1880; for 5 years.

*Claim.*—1st. The case R provided with the steam ports or channels F F<sub>1</sub>. 2nd. The case R provided with the steam ports F F<sub>1</sub> and connected with the steam chest B. 3rd. The revolving drum L provided with eight sliding pistons M and springs N. 4th. The packing springs S, provided with the springs I and adjusted by means of the set screws J. 5th. The face packing or springs G. 6th. The arrangement of the case R provided with the steam ports F F<sub>1</sub>, with the drum L provided with the pistons M and springs N, so as to form the steam spaces V V. 7th. The combination of the case R, provided with the steam ports F F<sub>1</sub>, the drum L provided with the sliding pistons M and springs N, and packing ring S. 8th. The combination of the case R, provided with the steam ports F F<sub>1</sub>, the drum L provided with the sliding pistons M and springs N, steam spaces V and packing rings S. 9th. The combination of the case R provided with steam ports F F<sub>1</sub>, the drum provided with the sliding pistons M and springs N, steam spaces V, packing rings S and face packing G. 10th. The combination of the case R provided with the steam ports F F<sub>1</sub>, the drum L provided with the sliding pistons M and springs N, steam spaces V, packing rings R and guide band K.

**No. 11,646. Improvements on Churns.** (*Perfectionnement dans les barates.*)

William H. Baldwin, Ottawa, Ont., 18th August 1880; for 5 years.

*Claim.*—1st. A churn conducting the course of the cream by a horizontal and vertically undulating movement, through the path of an elongated figure of eight. 2nd. In a churn of an oblong or elliptical shape, the deflecting pieces J. 3rd. The supporting hinged levers A A pivoted at one end to the frame F, and at the other end to the bottom of the churn H. 4th. The crank L fitted to the frame G and to the part O of the bottom of the churn H. 5th. The frames F G inside of which oscillate the hinged levers A A.

**No. 11,647. Improvements on Car Springs.**

(*Perfectionnements aux ressorts des chars.*)

Allan Middleton, Philadelphia, Pa., U. S., 18th August 1880; for 5 years.

*Claim.*—A car spring in which inclined spirals are combined with, and interposed between plates.

**No. 11,648. Improvements on Gauge Lathes.**

(*Perfectionnements aux tours à jauge.*)

William Lester, Sherbrooke, Que., 18th August, 1880; for 5 years.

*Claim.*—1st. The combination, in a gauge lathe or lathe of any description, of the guides F F with the flanges F<sub>1</sub> F<sub>2</sub> of the bed of the same. 2nd. In the saddle of a lathe, or more especially those known as gauge lathes, the combination of the bead cutter holders H H and a swivelled sliding angle piece P, with the saddle frame C following tools A A and sizing tool T.

**No. 11,649. Improvements on Balance Valves.** (*Perfectionnements aux soupapes d'équilibre.*)

James Livingston and John Kennedy, Toronto, Ont., 18th August, 1880; for 5 years.

*Claim.*—1st. The combination with an enclosing valve case having a cylindrical chamber provided with steam inlet and exhaust ports connecting with engine cylinders, of the packed piston heads C C attached to a reciprocating spindle, said piston heads being continuously exposed on their outer faces to the full pressure of the steam. 2nd. The valve casing provided with the steam supply passage G, inlet exhaust ports and a cylindrical chamber extending beyond the stroke of the valve, at each end, in combination with the double packed piston head valve C C.

**No. 11,650. Improvements on Yard or Garden Gates.** (*Perfectionnements aux portes cochères ou barrières de jardins.*)

Robert H. Higgins, Watby, Ont., 18th August, 1880; for 5 years.

*Claim.*—1st. The combination of the hinge a b with the projections S S s. 2nd. The combination of the latch plate O, 1st-h guard H C, latch I J, together with the latch lifter g and pin n, or its equivalent.

**No. 11,651. Improvements in the manufacture of Boots and Shoes.** (*Perfectionnements dans la fabrication des chaussures.*)

Joseph Hogan, St. Jean, Que., 18th August, 1880; for 5 years.

*Résumé.*—1o. La nouvelle manière de tailler ce genre de chaussures pour que la couture soit dans le côté du quartier. 2o. La manière de tailler cette chaussure pour qu'elle soit lacée sur le dessus du pied, en tenant un bout du dessus de l'empeigne b b. 3o. La manière de tailler cette chaussure pour la faire lacée dans le côté du quartier au lieu de dessus le pied e e.

**No. 11,652. Improvements in Wheel Tires and Shoes for Sleigh Runners.** (*Perfectionnements aux bandages des roues et aux semelles des patins de traîneaux.*)

Louis Bredannaz, Montreal, Que., 18th August, 1880; for 5 years.

*Résumé.*—Dans les fers pour bandage de roues et de semelles de patins de traîneaux, le triple métal A A A<sub>2</sub> A<sub>3</sub> et les exubérances E.

**No. 11,653. Improvements in Gate Hinges.***(Perfectionnements aux pentures des barrières.)*

Thomas Crane, Fort Atkinson, Wis., U. S., 18th August, 1880; for 5 years.

*Claim.*—1st. The combination of link E journalled upon post A and provided with eye F and pintle H secured firmly to the gate stile. 2nd. The pintle M having its upper portion bent at an oblique handle, in combination with bracket L having eye N. 3rd. The bracket I, with or without notches K and forming one piece with journal link E, in combination with pintle H and plate G, all arranged in relation to each other.

**No. 11,654. Improvements on Velocipedes.***(Perfectionnements aux vélocipèdes.)*

Alfred Viok, Mount Carmel, Ct., U. S., 18th August, 1880; for 5 years.

*Claim.*—1st. A velocipede so constructed that it may be steered by the feet or hand. 2nd. The body A with reach C connected to the running gear B, the hind wheels D whereof are mounted, independent of each other, the operating chain or belt E passing through the body A, the spur or belt wheels F mounted on the body A, independent of each other and provided with cranks b and a front wheel. 3rd. The body A in combination with the front wheel J, the depending post K, and the pedal L adjustably fitted to said post K. 4th. The body A in combination with the wheel J convertible into a post or pilot and castor wheel. 5th. The body A in combination with the wheel J having turning post or axis H, the side standards c having spreading pieces e, and the bolt e.

**No. 11,655. Improvements in Lacing Hooks.***(Perfectionnements aux crochets à lacer.)*

Henry A. Church, Providence, R. I., U. S., 18th August, 1880; for 5 years.

*Claim.*—1st. Forming the slits b b in the blank, to facilitate the forming of the eyelet or tubular rivet, then stamping the cup c of larger diameter than the diameter of the tubular rivet, drawing and finishing the rivet or eyelet, stamping the raised rib g and button f and bending the hook. 2nd. The art of forming the tubular rivet by separating the metal out of which the tube is to be formed by slits: 3rd. A lacing hook made of steel or refined iron in which the tubular rivet is formed by first separating the metal by slits. 4th. The combination, with the tubular rivet d separated into three or more parts by the slits b b, of the neck stiffened by the raised rib g. 5th. A lacing hook made of steel or refined iron.

**No. 11,656. Improvements on Grain Binders.***(Perfectionnements aux lieuses à grain.)*

Alexander Kay, Ayr, Ont., 18th August, 1880; for 5 years.

*Claim.*—1st. In combination with a rake arm reaping machine, an auxiliary table or frame M carrying any suitable binding mechanism operated by the rake arm, when sweeping the table Q. 2nd. In connection with a rake arm reaping machine, a shaft A carrying the binding arms P and supported by the bracket B, and extension arm C. 3rd. In connection with a rake arm reaping machine, a shaft A connected to the shaft D by the belt or chain E, in combination with a clutch coupling H operated by the clutch bar N and lever O or their equivalent. 4th. In connection with a rake arm reaping machine, a loose pulley F connected to the tumbling shaft, or other suitable part of the machine, by the belt or chain G, in combination with the clutch

coupling H, spiral spring h and clutch bar M for forcing the clutch out of gear and operated by the rake arm. 5th. In connection with a rake arm reaping machine, the grooved quadrant I fastened to the shaft D, in combination with the rod J and crank rod K operating the fingers L.

**No. 11,657. Improvements on Paper Files.***(Perfectionnements aux serre-papiers.)*

James S. Shannon, Chicago, Ill., U. S., 18th August, 1880; for 5 years.

*Claim.*—1st. The combination with the base, of the two fixed receiving wires B B and the two curved transfer wires C C arranged to form two parallel and equal arches, the said transfer wires being adapted to rotate in the axes of their vertical portions, to open and close their connection with the fixed wires, and so connected as to rotate simultaneously by force applied to one of them. 2nd. The combination with the fixed wire B and the curved vibrating wire C, the latter adapted to turn in the axis of its vertical portion, of an arm K rigid with the wire C and a spring S arranged to bear upon said arm, whereby the arch composed of said fixed and said vibrating wire may be held either open or closed. 3rd. The combination in a double arch file of a base, fixed wires B B, curved vibrating wires C C having crank arms K K and connecting rod R, whereby the free ends of the wires C C may be simultaneously swung horizontally to open and close the arches. 4th. The base A, fixed wires B B and curved vibrating wires C C arranged to form two upright parallel arches adapted to be opened and closed, combined with the crank arms K K oppositely directed, and connecting rod R, whereby the said vibrating wires turn in opposite directions as they open and close the arches. 5th. The combination, in a double arch file, of a base, fixed wires B B, curved vibrating wires C C having crank arms K K, rod R connecting the cranks, and spring S. 6th. A paper file of the class having receiving wires on which the papers are to be strung, provided with a punch affixed to the file, in convenient position for use, and adapted to cut holes in the sheets to be filed in place to admit the several receiving wires. 7th. In combination with the base board of a file having receiving wires thereon for the reception of papers a suitable punch secured to the edge of the base in position to admit papers to be punched when covered with papers already filed. 8th. In combination with a file having wires for the reception of papers, a punch affixed to the file, adapted to perforate the papers to receive said wires and provided with a gauge, whereby, when the papers are filed, their upper edges will be even. 9th. The paper file provided with receiving wires and a suitable punch, said file being also provided with a gauge for the punch and a corresponding gauge for the receiving wires, whereby the papers punched may be more readily applied to the receiving wires.

**No. 11,658. Improvements on Steam Generators.***(Perfectionnements aux générateurs de vapeur.)*

Frederick A. Gardner, Robert Dunbar and George H. Dunbar, Buffalo, N. Y., U. S., 19th August 1880; for 5 years.

*Claim.* 1st. The combination of a fire place, a chamber above the same, and within said chamber a series of volute coils arranged horizontally, each connected by a pipe exposed to the direct action of the heated gases to the adjacent coil, and said coils increasing in diameter from the bottom upwards. 2nd. The combination with the series of horizontal connected coils of increasing diameter, of the circulating pipe E. 3rd. A tubular coiled steam generator having the two extremes of the horizontal and communicating coils connected at the top and bottom to a circulating tube E.

## List of Patents issued up to 9th October, 1880, but not yet Officially published in the Patent Office Record.

No. 11,752. Henry Waudly, of Toronto, Ont., "Stove-pipe Stone Mould," (Extension of Patent No. 603), patented Sept., 14th, 1880.

No. 11,753. George R. Hamlin, Willimantic, Conn., "Vehicle Springs," patented Sept. 15th, 1880.

No. 11,754. William F. Cook, of Joy Mills, Penn., "Transmitting and Receiving Telephones," patented Sept. 15th, 1880.

No. 11,755. Anthony W. Burke, of Stayner, Ont., and Asa L. Burke, of Orangeville, Ont., "Washing and Wringing Machines," patented Sept. 15th, 1880.

No. 11,756. Robert G. McLellan, of Guelph, Ont., "Coat Measure," patented Sept. 15th, 1880.

No. 11,757. Jules J. Lenoir, of Turcoing, France, and Ernest Posselt and Rudolph Peters, of Bradford, Eng., "Dyeing Process," patented Sept. 15th, 1880.

No. 11,758. Sylvester T. Andrew, of Caintown, Ont., "Washing Machines," patented Sept. 15th, 1880.

No. 11,759. Moses H. Grubb, of Vincent, Pa., "Nut and Bolt Lock," patented Sept. 15th, 1880.

No. 11,760. William Church, of West Haven, Conn., "Washing Machine," patented Sept. 15th, 1880.

No. 11,761. Charles E. Lavesque, of St. Jerome, Que., and Charles E. Labege, of Montreal, "Car Coupling," patented Sept. 15th, 1880.

No. 11,762. William Nunn, of Nixon, Ont., "Cultivator," patented Oct. 15th, 1880.

No. 11,763. Henry A. Kiltz, of Kalamazoo, Mich., "Harrow," patented Sept. 15, 1880.

No. 11,764. John Hoover and Isaac N. Van Sickle, of Crawfordsville, Ind., "Pump," patented Sept. 15th, 1880.

No. 11,765. George W. Pressy, of Hammonctown, New Jersey, "Blade Fastening," patented Sept. 15th, 1880.

No. 11,766. Antoine Hervie, J. Durrien, (Assignee of Jules C. Jarnin, of Paris, "Electric Lamp," patented Sept. 15th, 1880.

No. 11,767. John West, of West Port, Oregon, and Robert D. Hume, of San Francisco, Cal., "Can Filling Apparatus," patented Sept. 15th, 1880.

No. 11,768. Robert G. McLellan, of Guelph, Ont., "Trowsers Measure," patented Sept. 15th, 1880.

No. 11,769. Zadock S. Washburn, of Chelsea, and Lucius W. Washburn, of Boston, "Car Wheel," patented Sept. 15th, 1880.

No. 11,770. Nelson W. Green, of New York, N. Y., "Water Supply System," patented Sept. 15th, 1880.

No. 11,771. John McMurchy, of Gananoque, Ont., "Oval Top Plain Ferrule," patented Sept. 15th, 1880.

No. 11,772. John Maxwell (Assignee of Albert Cunningham, of Milwaukee, "Saw Mill Dog," patented Sept. 15th, 1880.

No. 11,773. William Randolph McDonald and Willis Elden McAllister, of Calvia, Me., "Padocks," patented Sept. 17th, 1880.

No. 11,774. Robert McLaughlin, of Oshawa, Ont., "Fastening for Carriage Springs," patented Sept. 17th, 1880.

No. 11,775. Lysander Flagg, of Central Falls, Rhode Island, U. S. A., "Sewing Thread," patented Sept. 17th, 1880.

No. 11,776. Daniel Feindel, of Middleton, N. S., "Fire Upsetter," patented Sept. 17th, 1880.

- No. 11,777. Julia C. Smith, of Ashton, Ill., "Washing Machines," patented Sept. 17th, 1880.
- No. 11,778. Wm. E. Lincoln, of Warren, Mass., "Apparatus for Obtaining Cream from Milk," patented Sept. 17th, 1880.
- No. 11,779. Alma B. Richmond, of Meadville, Penn., "Locks," patented Sept. 17th, 1880.
- No. 11,780. Henry Richmond and Uriah K. Arnold, San Francisco, Cal., "Rock Drilling Apparatus," patented Sept. 17th, 1880.
- No. 11,781. François R. Dubuc, and Moïse Patenaude, of Ange Gardien, "Procédé de Foule les Fers," breveté le 17 Sept., 1880.
- No. 11,782. Joseph W. Batty, of Baltimore, and Garland H. Davison, of Baltimore, "Bearing for Mill Stones," patented Sept. 17th, 1880.
- No. 11,783. Fulton Henderson, of Toledo, "Incrustation Preventative," patented Sept. 17th, 1880.
- No. 11,784. Lewis Baxter, of Brantford, Ont., "Bolting Chest Purifier," patented Sept. 20th, 1880.
- No. 11,785. John Van Vorst Booraem, of Brooklyn, "Sugar Washing Process and Apparatus," patented Sept. 20th, 1880.
- No. 11,786. Charles J. McCallum, of Warren, Me., "Rotary Valve," patented Sept. 20th, 1880.
- No. 11,787. David Maxwell, of Paris, Ont., "Horse Rake" patented Sept. 20th, 1880.
- No. 11,788. Nathaniel F. Brent and Elias R. Brown, of Chicago, "Car Coupler," patented Sept. 20th, 1880.
- No. 11,789. Henry G. Ashton, of Somerville, Mass., "Safety Valve," patented Sept. 20th, 1880.
- No. 11,790. Frederick G. Vedova, Asia Minor, "Tanning Hides and Skins," patented Sept. 20th, 1880.
- No. 11,791. Richard J. Doyle, of Owen Sound, Ont., "Fruit Package," patented Sept. 20th, 1880.
- No. 11,792. Charles Boeckh, Toronto, Ont., "Brushes," patented Sept. 20th, 1880.
- No. 11,793. Obra Peck, of Rowe, Mass., "Bit Stocks," patented Sept. 20th, 1880.
- No. 11,794. Jules J. Lenoir, of Turcoing, France, and E. Posselt & Co., of Bradford, England, "Dyeing Cotton Warps, and Aniline Black," patented Sept. 20th, 1880.
- No. 11,795. Walter M. Jackson, of Providence, R. I., "Machines and Process for Carbureting Gas and Air," patented Sept. 20th, 1880.
- No. 11,796. Wm. H. Thayer, of Ottawa, Ont., "Household Combination," patented Sept. 22nd, 1880.
- No. 11,797. Stephen Webster, of St. Catharines, Ont., "Oil Tank," (Extension of Patent No. 5,195,) patented Sept. 22nd, 1880.
- No. 11,798. Alexander Betts, of Warrensburg, Missouri, "Heating Stove," patented Sept. 23rd, 1880.
- No. 11,799. Edwin Appleton, of Vienna, Ont., "Cultivator," patented Sept. 23rd, 1880.
- No. 11,800. William S. McLeod, of Kingsville, Ont., "Hydraulic Pump," patented Sept., 23rd 1880.
- No. 11,801. Frederick E. B. Baumont, London, Eng., "Motor Engines," patented Sept. 23rd, 1880.
- No. 11,802. Thomas H. Hicks, Brantford, Ont., "Medical Batteries," patented Sept. 23rd, 1880.
- No. 11,803. Gilbert Merritt, Scotland, Ont., "Field Fences," patented Sept. 23rd, 1880.
- No. 11,804. Henry Springer, Vicksburg, Mich., U. S. A., "Cultivators and Seeders," patented Sept. 23rd, 1880.
- No. 11,805. William L. Fisher, South Saginaw, Mich., U. S. A., "Car Couplers," patented Sept. 23rd, 1880.
- No. 11,806. Peter A. Ryckman, Duntroon, Ont., "Churns," patented Sept. 23rd, 1880.
- No. 11,807. Donald McMillan and Henry R. A. Alves, Barrie, Ont., "Heater and Purifier," patented Sept. 23rd, 1880.
- No. 11,808. George S. Woodruff, Toronto, Ont., "Gas Regulators," patented Sept. 23rd, 1880.
- No. 11,809. Sir Henry Scholfield, Guatemala, "Apparatus for Drying Coffee," patented Sept. 23rd, 1880.
- No. 11,810. Henry Whiteside, Sussex Vale, N. B., "Cot Beds," patented Sept. 23rd, 1880.
- No. 11,811. Daniel Cilley, Grand Rapids, Mich., U. S. A., "Saw Mills," patented Sept. 23rd, 1880.
- No. 11,812. James B. Bonsack, Bonsacks, Va., U. S. A., "Cigarette Machines," patented Sept. 23rd, 1880.
- No. 11,813. Frank B. Howard, Etchmin, Que., "Washboards," patented Sept. 27th, 1880.
- No. 11,814. Dosithe Duprat, Ste. Scholastique, Que., "Nut Locks," patented Sept. 27th, 1880.
- No. 11,815. Hiram R. Ferris, Cleveland, Ohio, U. S. A., "Lifting Jacks," patented Sept. 27th, 1880.
- No. 11,816. Alfred Monnier, San Francisco, Cal., U. S. A., "Explosive Compounds," patented Sept. 27th, 1880.
- No. 11,817. Charles C. Keene, Marengo, Iowa, U. S. A., "Neck Yokes," patented Sept. 27th, 1880.
- No. 11,818. Leslie E. Keeley, Dwight, Ill., U. S. A., "Glass Bottles," patented Sept. 27th, 1880.
- No. 11,819. George Rosquist, Brooklyn, N. Y., U. S. A., "Drawing Apparatus," patented Sept. 27th, 1880.
- No. 11,820. Caleb McK. Talcott, Hartford, Conn., Aaron W. C. Williams, Brookfield, Conn., and George J. Capewell, Cheshire, Conn., "Horseshoe Nails," patented Sept. 27th, 1880.
- No. 11,821. Henry Helmka and James Clark, Bowmanville, Ont., "Windmill," patented Sept. 27th, 1880.
- No. 11,822. Edwin J. Hardy, Buffalo, N. Y., U. S. A., "Street Sign," patented Sept. 27th, 1880.
- No. 11,823. Francis Culham, Township of Burford, Ont., "Hub," patented Sept. 27th, 1880.
- No. 11,824. Joseph Thorne, Port Richmond, N. Y., U. S. A., "Type Setter and Distributor," patented Sept. 29th, 1880.
- No. 11,825. Robert Mitchell, Montreal, Que., "Screw Cutting Die Holder," patented Sept. 29th, 1880.
- No. 11,826. Robert Mitchell, Montreal, Que., "Adjustable Gripping Check," patented Sept. 29th, 1880.
- No. 11,827. John Bestwick, Dedham, Mass., U. S. A., "Hose Pipe," patented Sept. 29th, 1880.
- No. 11,828. George B. Dixwell, Boston, Mass., U. S. A., "Steam Engines," (Extension of Patent No. 5,311) patented 29th Sept., 1880.
- No. 11,829. Samuel Peters, Sydney, N. S., "Fastening Horse Collars," patented 29th Sept., 1880.
- No. 11,830. William G. Hughes, Churnbusco, Indiana, U. S. A., "Wagon Spring," patented 29th Sept., 1880.
- No. 11,831. William H. Bartels, Carthage, Ill., U. S. A., "Rooking Chairs," patented 29th Sept., 1880.
- No. 11,832. Daniel N. Stewart, Cobourg, Ont., "Churn Dash Hinge," patented 29th Sept., 1880.
- No. 11,833. Gregory S. Thompson, Port Hope, Ont., "Threshing Machines," (Extension of Patent No. 5,221) patented 30th Sept., 1880.
- No. 11,834. Laurens E. Dewarn, Inventor, Philadelphia, Penn., U. S. A., (Extension of Patent No. 5,220) Jeremiah Fogarty and Timothy F. Fogarty, Assignees, patented 30th Sept., 1880.
- No. 11,835. William Newlin, Attica, Indiana, U. S. A., "Wheel," patented 30th Sept., 1880.
- No. 11,836. Mellen Bray, Newton, Mass., U. S. A., "Shoe Lace Studs," patented 30th Sept., 1880.
- No. 11,837. Andrew McFarra, jr., and Charles Field, Toronto, Ont., "Sliding Seat," patented 30th Sept., 1880.
- No. 11,838. Marion W. McCann, Dublin, Indiana, U. S. A., "Car Coupling," patented 30th Sept., 1880.
- No. 11,839. Peter H. McIntosh, L'Original, Ont., "L'Original Can," patented 30th Sept., 1880.
- No. 11,840. David Maxwell, Paris, Ont., "Feed Cutters," (Extension of Patent No. 5,234,) patented 2nd Oct., 1880.
- No. 11,841. John Fleming, Toronto, Ont., "Leads and Slugs for Printing," (Extension of Patent No. 11,267) patented 2nd Oct., 1880.
- No. 11,842. John Fleming, Toronto, Ont., "Leads and Slugs for Printing," (Extension of Patent No. 11,267,) patented 4th Oct., 1880.
- No. 11,843. Henry S. Havil, Paris, Ont., Assignee of W. Barrett, Sedatia, Wis., U. S. A., "Straw Cutter," patented 4th Oct., 1880.
- No. 11,844. George R. Prowas, Montreal, Q., "Boiler," patented 4th Oct., 1880.
- No. 11,845. Chas. I. Becketl and F. M. Homier, Muncie, Indiana, U. S. A., "Mail Pouch," patented 4th Oct., 1880.
- No. 11,846. Geo. Brooks, Detroit, Mich., U. S. A., "Fanning Mill," patented 4th Oct., 1880.
- No. 11,847. S. G. Collinfield, Dresden, Germany, Assignee of N. Yagn, St Petersburg, Russia, "Feeding Apparatus, for Steam Boilers," (Extension of Patent No. 5,257,) patented 4th Oct., 1880.
- No. 11,848. James Mallinson, Welwyn, Eng., (Extension of Patent No. 5,419,) patented 9th Oct., 1880.
- No. 11,849. Charles W. King, and Alfred Cliff, London, Eng., "Gas and Air Motor Engines," patented 9th Oct., 1880.
- No. 11,850. Thomas Hibbert, Cochran, Ind., U. S. A., patented 9th Oct., 1880.
- No. 11,851. David Egbert Bangs, Medford, Mass., U. S. A., "Vapor Burners for Oil Stoves," patented 9th Oct., 1880.
- No. 11,852. George W. Pressey, and Edwin L. Crowell, Hammon, N. J., U. S. A., "Velocipedes," patented 9th Oct., 1880.
- No. 11,853. George W. Simmons, St. Catharines, Ont., "Gates and Doors," patented 9th Oct., 1880.
- No. 11,854. Thomas Hibbert, Cochran, Ind., U. S. A., "Car Bumpers," patented 9th Oct., 1880.
- No. 11,855. Jacob Cornwell, Cadillac, Mich., U. S. A., "Grain Process," patented 9th Oct., 1880.
- No. 11,856. Frederick Benoit, Rockton, Ill., U. S. A., "Sweat Pads," patented 9th Oct., 1880.
- No. 11,857. Thomas A. Edison, Menlo Park, N. J., U. S. A., "Electric Machines and Motors," patented 9th Oct., 1880.
- No. 11,858. James McAllister, Chicago, Ill., U. S. A., "Sewing Machines," patented 9th Oct., 1880.
- No. 11,859. William H. Stowe, Chicago, Ill., U. S. A., "Wood Pavement," patented 9th Oct., 1880.
- No. 11,860. Augustus B. Wood, Hamburg, Ark., U. S. A., Moses A. Rice, Hamburg, Ark., U. S. A., and William A. Wood, Monticello, Ark., U. S. A., "Steam Engines," patented 9th Oct., 1880.
- No. 11,861. David B. Comly, Adena, Ohio, U. S. A., "Stirrups for Saddles," patented 9th Oct., 1880.
- No. 11,862. Jacob Ratz, Wilmot, Ont., "Wagon Racks," patented 9th Oct., 1880.
- No. 11,863. Renselaer A. Cowell, Cleveland, Ohio, U. S. A., "Car Platforms," patented 9th Oct., 1880.
- No. 11,864. Harvey Hall, London, Ont., "Fire and Water Proof Paint," patented 9th Oct., 1880.

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# THE CANADIAN PATENT OFFICE RECORD.

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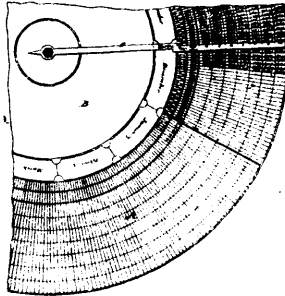
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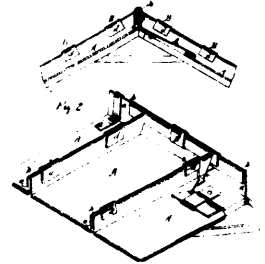
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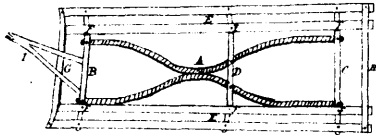
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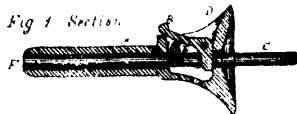
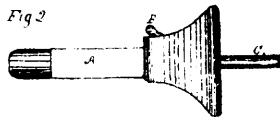
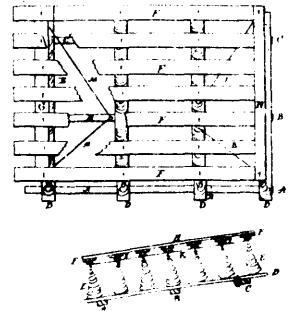


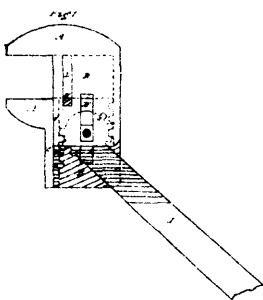
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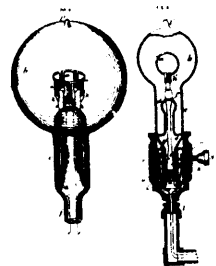
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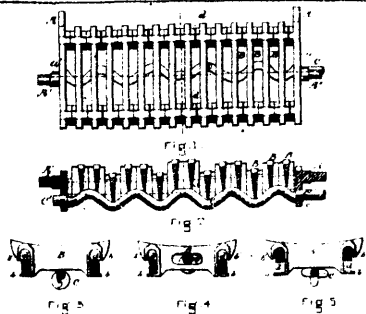
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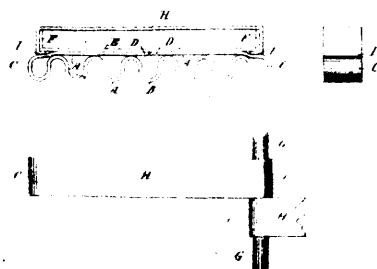
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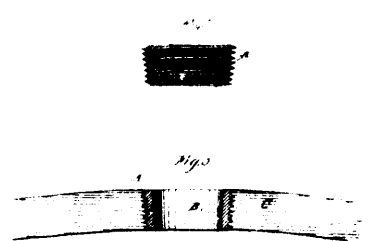
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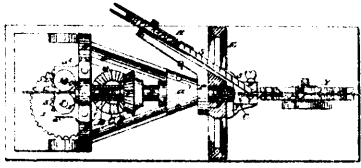
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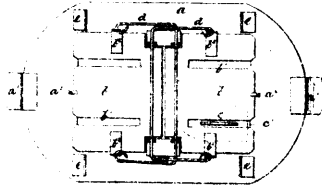
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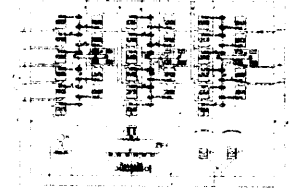
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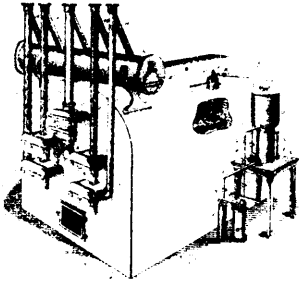
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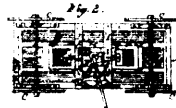
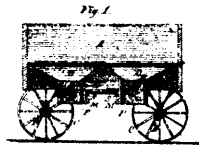
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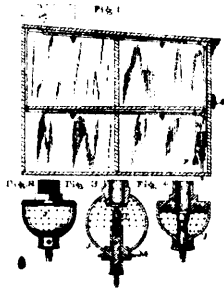
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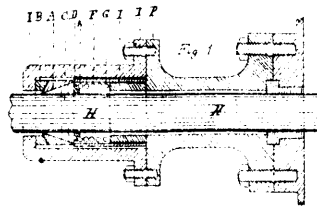
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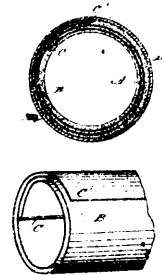
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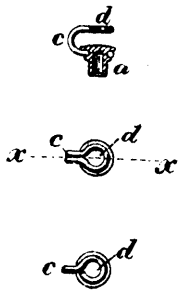
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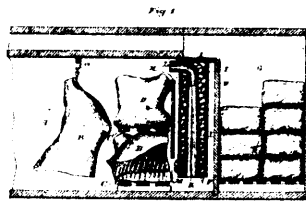
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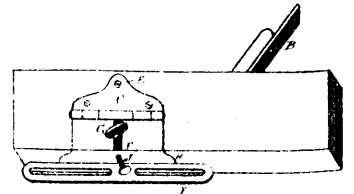
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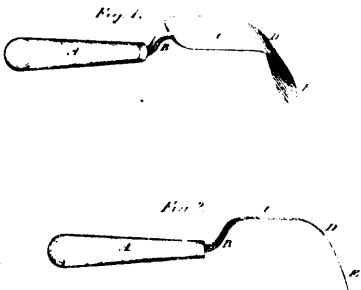
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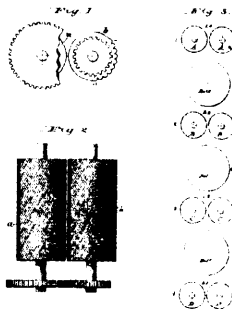
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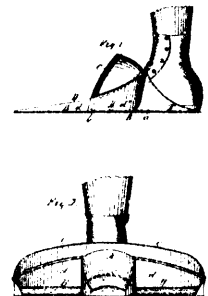
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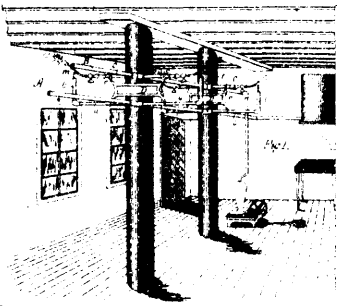
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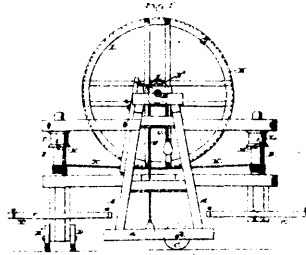
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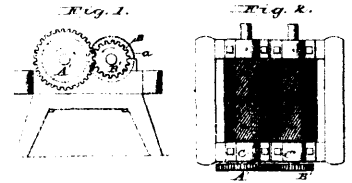
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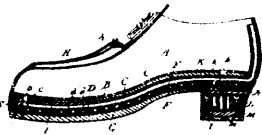
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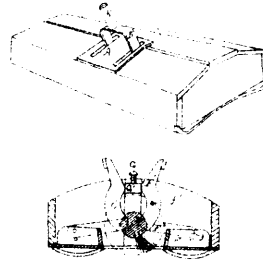
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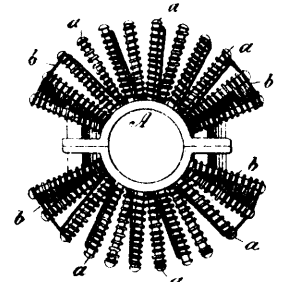
11543 Stevens's Improvements on Grinding Mills.



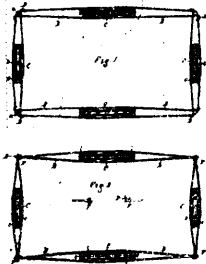
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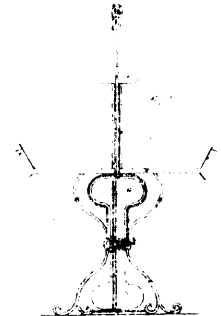
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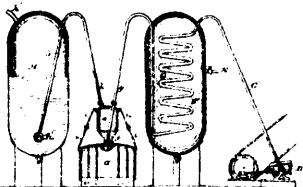
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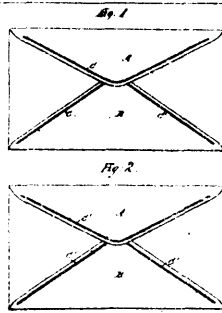
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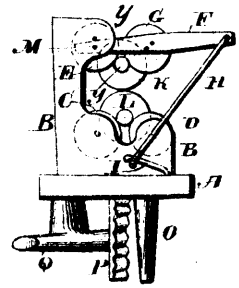
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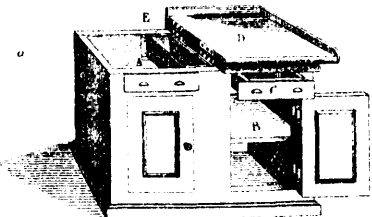
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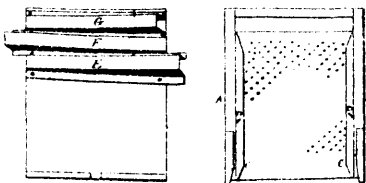
11555 Bicknell's Improvement in Envelopes.



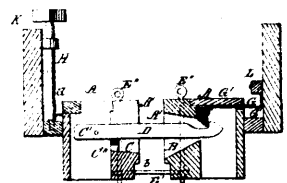
11558 Hershey's Improvements on Clothes Wringers.



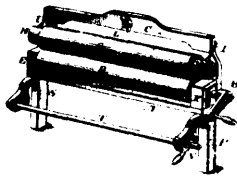
11557 Read's Improvements on Kitchen Safes.



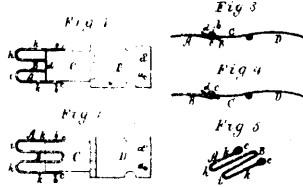
11559 Herson's Improvements on Fanning Mills.



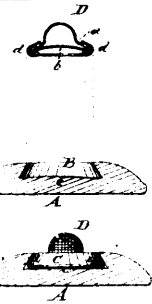
11560 Perry's Improvements on Car-couplers



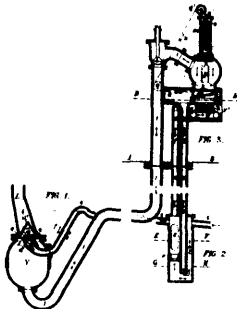
11561 Dufley & Hershey's Improvements on Clothes Wringers.



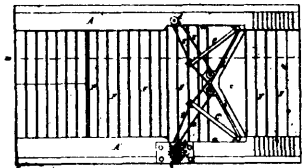
11562 Lothrop's Improvement in Glove and Shoe Clasps.



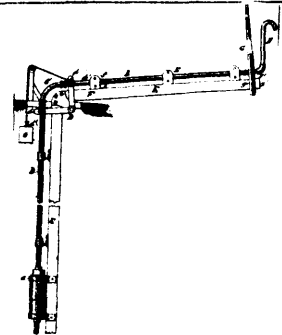
11563 Snyder's Improvements in Buttons.



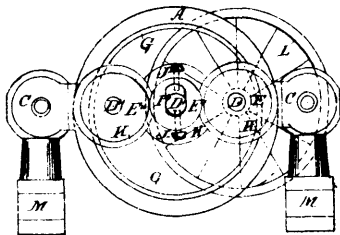
11564 Breyer's Method of, and Apparatus for Removing and Treating Forces.



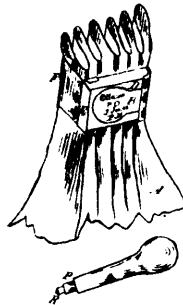
11565 Milette's Improvements in Lock Gates.



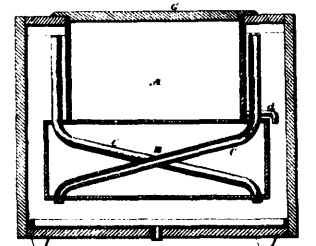
11566 Tollner's Improvements on Pumps.



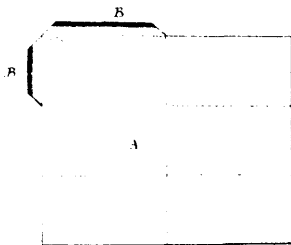
11568 Burt's Improvements on Traction Mechanism for Propelling Machinery.



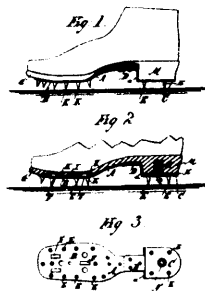
11569 Bartlett's Improvement in Mail Bags.



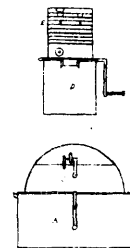
11571 Chase's Improvements on Refrigerating Apparatus.



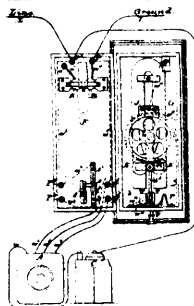
11572 Cornell's Improvements on Postal Paper.



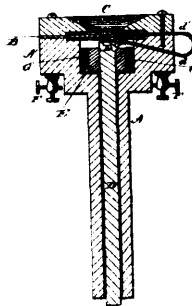
11573 Weir's Improvements on Calk Plates for Boots and Shoes.



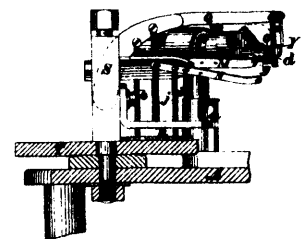
11574 Mounsey's Improvements on Washing Machines.



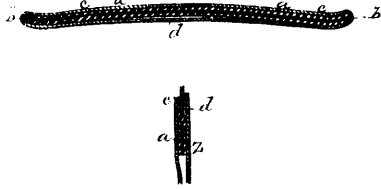
11575 Watson's Improvements on Telephones.



11576 Lockwood & Bartlett's Improvements in Telephones.



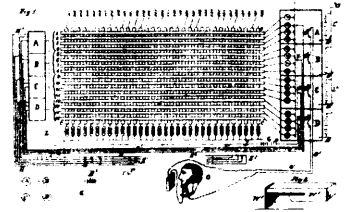
11577 Bradley's Improvements on Knitting Machines.



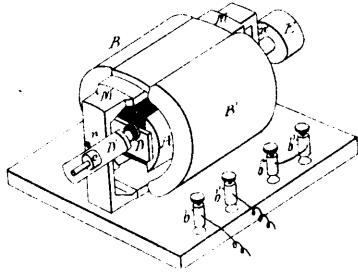
11578 Hunter's Improvements in Safety Pockets.



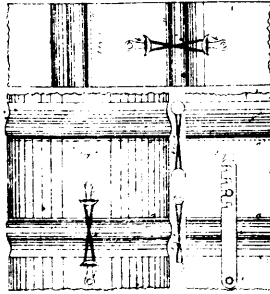
11579 Turner's Improvements in Closets.



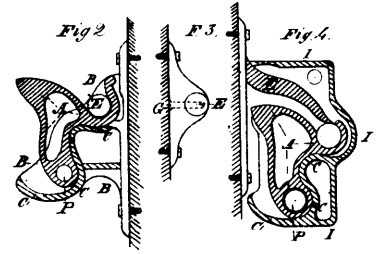
11580 Childs's Improvements in Telephones.



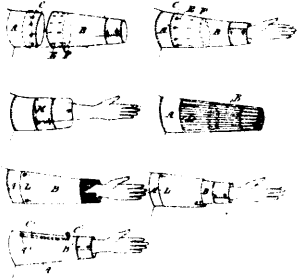
11583 Griscom's Improvements on Electric Motors and Generators, and Current Regulators.



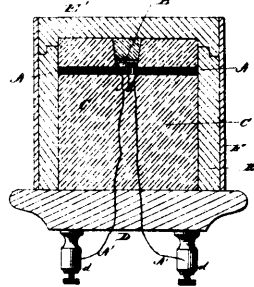
11584 Wells's Improvements in Stove Pipes.



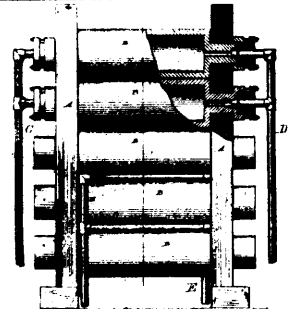
11588 Cox's Improvements in Gate Hangings.



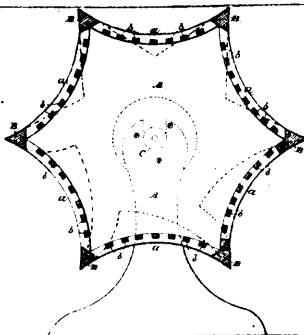
11589 Horner's Improvements in Garments.



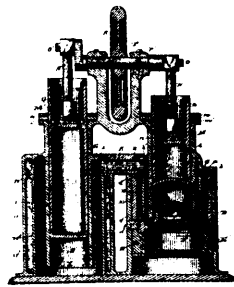
11590 Lockwood & Bartlett's Improvements in Telephones.



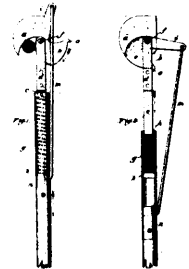
11591 Newton's Method of, and Apparatus for Calendering Paper.



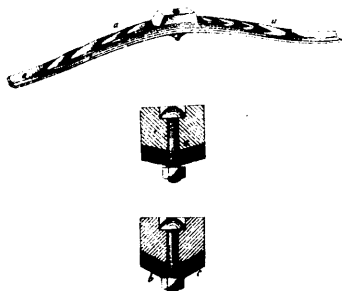
11592 Ferry's Improvements on Carpet Cleaners.



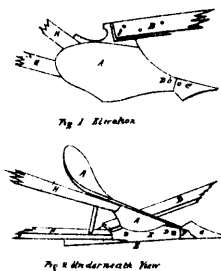
11593 Rider's Improvements on Hot Air Engines.



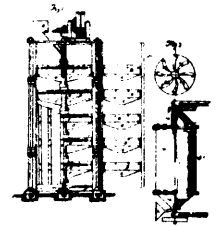
11596 Cole & French's Improvement in Pruning Implements.



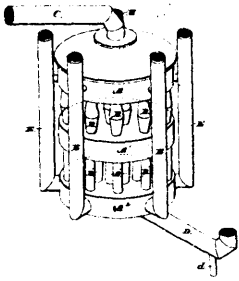
11597 Hearle's Improvements in Springs for Locomotives, Railway Cars, &c.



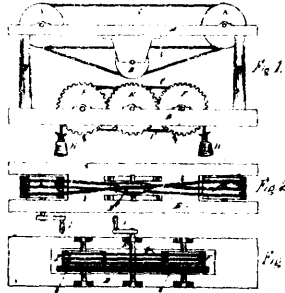
11598 Malcolm's Improvements on Ploughs.



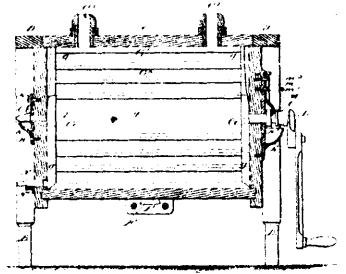
11600 Designolles's Improvements in the Extraction of Precious Metals, Especially Gold, from their Ores.



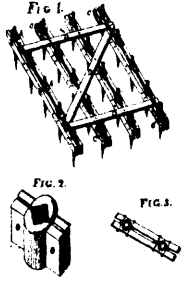
11601 McIntyre's Improvements on Condensers.



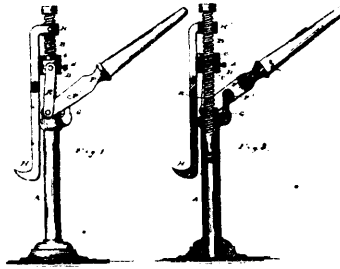
11602 Abrey's Improvements in Mechanical Movement.



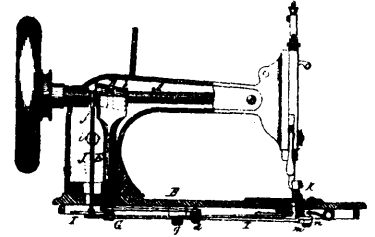
11603 Murch's Improvements on Rotary Churns.



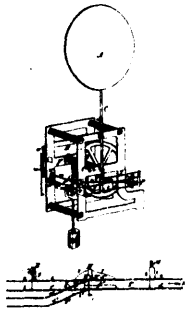
11604 Nichols's Improvements on Harrows.



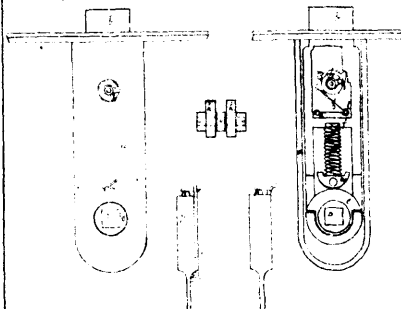
11605 Ferris's Improvements in Lifting Jacks.



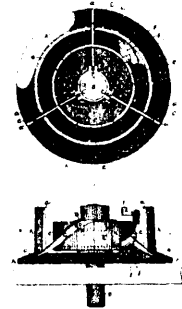
11606 Jacob's Improvements on Sewing Machines.



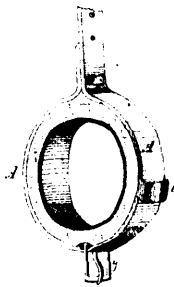
11607 Robison's Improvements in Electric Signaling Apparatus for Railways.



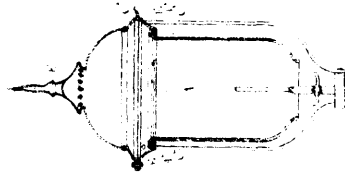
11611 Viger's Improvements on Locks.



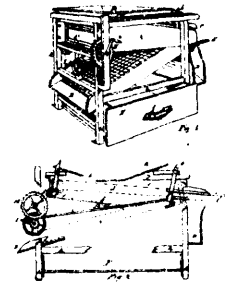
11612 Rogers's Improvements on Wire Drawing Machines.



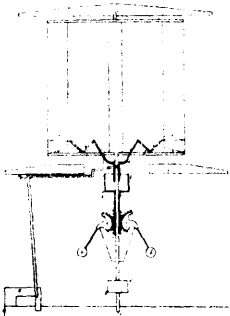
11613 Suingley's Improvements on Harness Tugs.



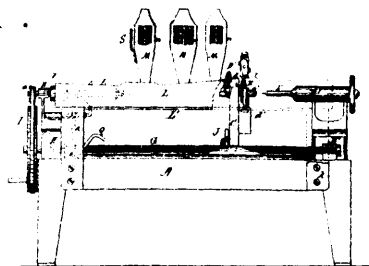
11614 Piper's Improvements in Street Lamps.



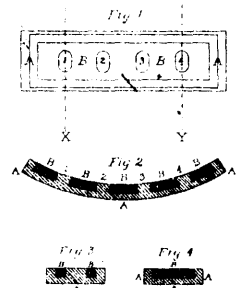
11615 Lavoie's Improvements on Potato Picking Machines.



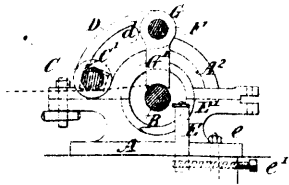
11616 Prince's Improvements on Wind Mills.



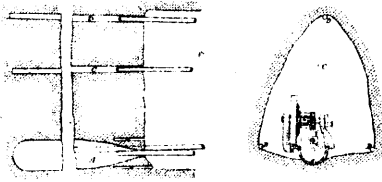
11619 Davis & Childster's Improvements on Lathes.



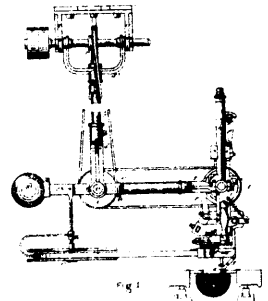
11620 Curtice's Improvements in Car Brakes.



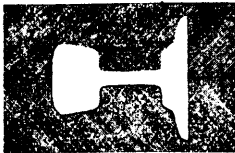
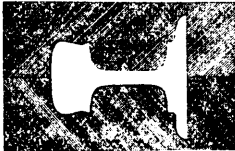
11622 Anderson's Improvements in Machines for Cutting Springs.



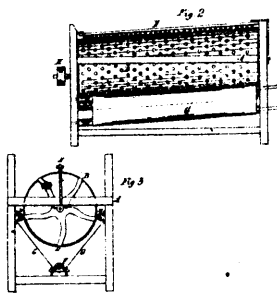
11623 Penrice's Improvements on Rock Tunnelling and on Apparatus therefor.



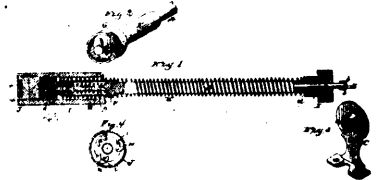
11624 Copeland's Improvements on Pegging Machines.



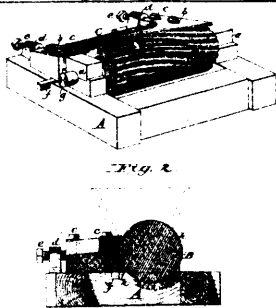
11625 Sintzenich's Improvements in the Method of Making Railway Rails



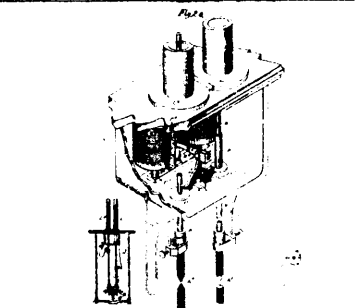
11626 Kurth's Improvements in Cockle Separators.



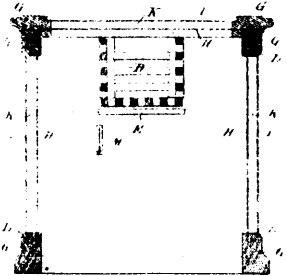
11628 Noyes's Improvements in Curtain Rollers.



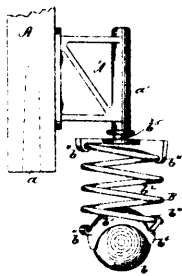
11629 Stevens's Improvements on Grinding Mills.



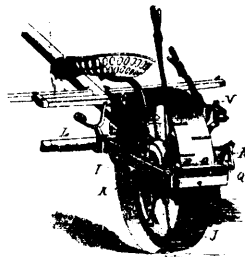
11631 Brush's Improvements on Apparatus for Generating and Applying Electricity.



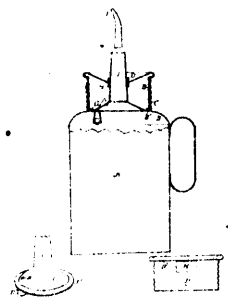
11635 Sissons's Improvements on Refrigerators.



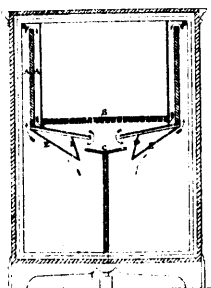
11636 Schoen & Scott's Improvements on Furniture Castors.



11637 Watson's Improvements on Reaping Machines.



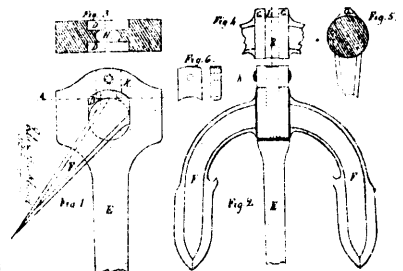
11633 Deverall's Improvements in Oil Cans.



11639 Alexander's Improvements on Refrigerators.

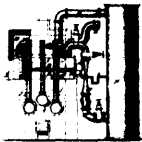


11640 Burrill's Improvements in Dentist's Chairs.

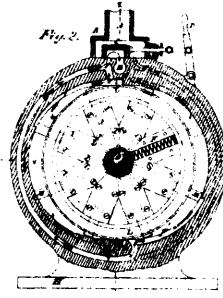
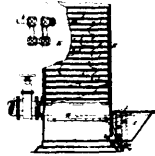


11641 Martin's Improvements on Anchors.

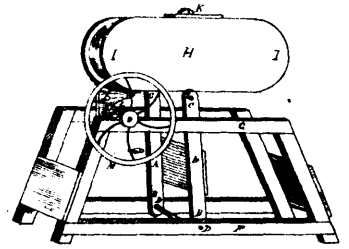




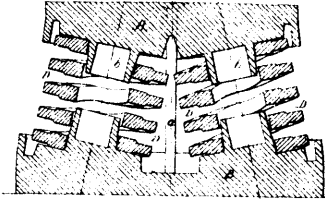
11644 Isbell's Improvements on the Manufacture of Illuminating Gas.



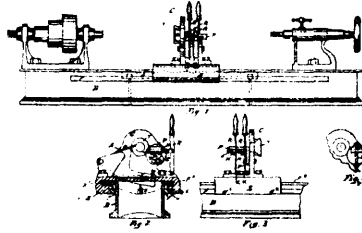
11645 Thibalt & Hawkins's Improvements in Rotary Engines.



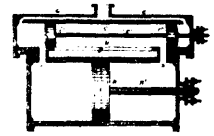
11646 Baldwin's Improvement on Churns.



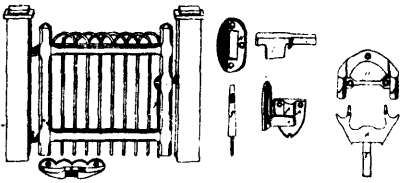
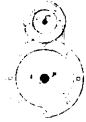
11647 Middleton's Improvements on Car Springs.



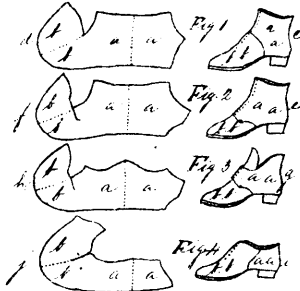
11648 Lester's Improvements on Gauge Lathes.



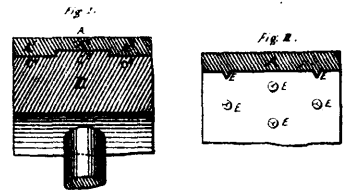
11649 Livingstone & Kennedy's Improvements on Balance Valves.



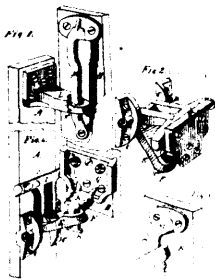
11650 Hudgins's Improvements on Yard or Garden Gates.



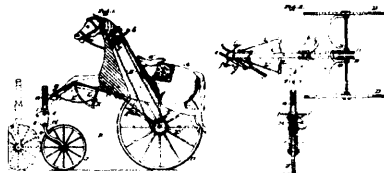
11651 Hogue's Improvements in Boots and Shoes.



11652 Bredannaz's Improvements in Wheel Tires and Shoes for Sleigh Runners.



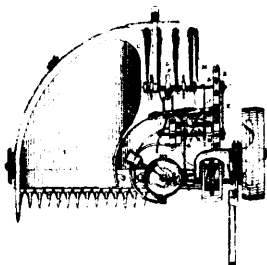
11653 Crane's Improvements in Gate Hinges.



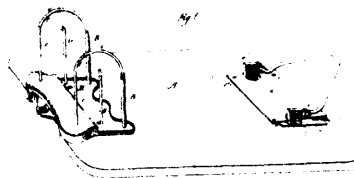
11654 Vick's Improvements on Velocipedes.



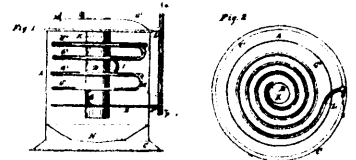
11655 Church's Improvements in Lacing Hooks.



11656 Kay's Improvements on Grain Binders.



11657 Shannon's Improvements on Paper Files.



11658 Gardner's Improvements on Steam Generators.