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The Canadian Patent Office Record

Vol. VII—No. 5. MAY, 1879. Price in Canada $2.00 per An. United States - $2.50 "

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INVENTIONS PATENTED.

No. 9804. Acid Pump and Syphon. (*Pompe et siphon pour les acides.*)

Francis Nichols, New London, Ct., U. S., 31st March, 1879, (Extension of Patent, No. 3260) for 5 years.

No. 9805. Process for the Manufacture of Steel. (*Procédé de fabrication de l'acier.*)

Ogden Bolton, Canton, Ohio U S., 3rd April, 1879, (Extension of Patent, No. 9752) for 5 years.

No. 9806. Process for the Manufacture of Steel. (*Procédé de fabrication de l'acier.*)

Ogden Bolton, Canton, Ohio U S., 4th April, 1879, (Extension of Patent, No. 9752) for 5 years.

No. 9807. Fuel, Gravel and Macadamizing Material. (*Matériel à combustible, gravier et empierrement.*)

Thomas F O Brien, Montreal, Que., 4th April, 1879, for 5 years.

Claim—1st The fuel composed of a base of blue clay containing the componeat elements, and having one fifth part of its bulk in coal or an amount of inflammable material, to produce corresponding results, mixed therewith; 2nd. The material for roofing gravel, macadam or walling composed of the clay base and inflammable substance aforesaid, with admixture of one twentieth part (1-20) of sand and treated as set forth. 3rd The substitute for stone composed of the clay base inflammable compound and one twentieth (1-20) part of cement with or without admixture of sand, 4th. The material for plastering composed of the clay base, worked to the proper consistency, and one twentieth (1-20) part of lime cement or other plaster.

No. 9808. Improvements on Propelling Apparatus. (*Perfectionnements aux appareils de propulsion.*)

Joseph Gooderich, Henry, Ill., U. S., 4th April, 1879, for 5 years

Claim.—1st. Blades arranged to turn freely, or without undue friction, upon central axial pivots, and to be borne by carriers through a resisting fluid, or to be acted upon by said fluid. 2nd. Blades arranged to turn without undue friction on central axial pivots having bearings, in flexible endless carriers arranged upon pulleys or chain wheels, and the said pulleys arranged to be rotated so as to cause the blades to move through a resisting fluid, 3rd Blades arranged to turn on central axial pivots having bearings in endless flexible carriers, arranged upon pulleys and provided with longitudinal guides, as shown, for feathering the blades upon the return side, while they are permitted to turn freely on their axis, without mechanical constraint on the working side, 4th The combination of the shafts B B, pulley D D, endless, flexible carriers E E and pivoted blades F F, when so arranged that the axis of the blades are perpendicular to the water or nearly so, 5th. The curved feathering guards *d d* arranged to guide the blades, as they pass from the working to the return side, 6th. The flexible carriers bearing the axially pivoted blades, arranged to move in guides or keepers *b b*, 7th The device for assisting to maintain the returning blade with its edge opposed to the resisting fluid consisting of a rib in the keeper *b* arranged to take into a groove in the lower pivot *a* of the blade, 8th The arrangement of the endless carrier, pulleys or chain wheels, axially pivoted blades free to rotate on their axis without restraint on their working side and the casing or trunk adapted to form a blower

No. 9809. Improvements on Pumps. (*Perfectionnements aux pompes.*)

Philip Grant, Guelph, Ont, 4th April, 1879, for 5 years.

Claim.—1st. The combination of the check valve seat I, with the chairs J J and the cross piece K; 2nd. The combination of the block E, with the slot F.

No. 9810. Apparatus for Grinding Reaper-Knives. (*Appareil à rémoudre les couteaux des moissonneuses.*)

Isaac Shupe, New-Market, Ont, (Assignee of James Wilber, New York U. S.) 4th April, 1879, for 5 years

Claim.—1st. The holder A, with suitable clamping devices to hold the sickle bar and the two hinged plates or sections *h h* so connected with the holder as to allow proper joint action of the holder, 2nd. The combination with the holder A, provided with the notch *g* of the longitudinal wires *c*, the clamps *d d* and the cam *f*.

No. 9811. Electric Induction Apparatus. (*Appareil d'induction magneto-électrique.*)

John L. LeConte, Philadelphia, Penn., U. S., 4th April, 1879, for 5 years.

Claim.—1st. An apparatus, for producing induced currents of electricity, at different points along the circuit of the current of dynamo electric or other electric machine, which is composed of two long bands of metal wrapped with two interposed layers of insulating material, each of said bands of metal being provided, at both ends, with a conducting wire, said bands of metal and layers of insulating material being spirally rolled into cylindrical form around a small hollow cylinder; 2nd. A broad band of metal and a series of narrower strips of metal together with interposed layers of insulating material, the whole wrapped in helical form, and the band and strips respectively provided near their several extremities with conductor wires, those of the band being for the main current and those of the strips for the several induced currents, 3rd. A broad band of metal and a series of narrower strips of metal together with interposed layers of insulating material, the whole wrapped in helical form upon a central hollow cylinder, adapted to receive a soft metal core, and the bands and strips respectively provided near their several extremities with conducting wires those of the band being for the main current and those of the strips for the several induced currents.

No. 9812. Machine for Dressing Staves. (*Machine à tailler les douves.*)

Horace H. Miller, Lyndonville, Vt, U. S., 4th April, 1879, for 5 years.

Claim—1st. The lever G, having the spring pawl K, in combination with the ratchet or tooth wheel F upon the shaft of the cylinder or vessel rotating belt, and the cam H upon the plane arm *f*, 2nd. The supports or standards J J having the sockets *r r*, in combination with the eyes or sockets J_1 J_1 and set or adjusting screws J_2 J_2. 3rd In the stave holding device or clamp composed of a frame with axes or trunnions *q q*, stationary and movable jaws *m n* and mechanism for operating the movable jaw, 4th The stave holding device or clamp I, in combination with the supports or standards J J having the upper and lower sets of sockets *r r*; 5th The device or clamp I, for holding the staves, in combination with the standards or supports J J having the sockets *r r*, and the plane K having upper and side bits.

No. 9813. Improvements on Fifth Wheels. (*Perfectionnements aux ronds d'avant train.*)

William H Morrison, Aylmer, Ont., 4th April, 1879, for 5 years.

Claim.—1st A "fifth wheel" constructed with the upper half A having flanges *a a* on its two edges and shaped to accommodate the V-shaped upper side of the lower half B and in combination therewith, 2nd. In combination with the described "fifth wheel," the adjustable clips C C passing through cored sockets in lugs D D to connect same to axle bed E, the bolts *e* attaching the device to the head block G, and the circle keep H H attaching it to the reach I.

No. 9814. Improvements on Reciprocating Motors. (*Perfectionnements aux moteurs à mouvement de va-et-vient.*)

Adam Knecht, Quebec, Que., 4th April, 1879, for 5 years.

Claim.—1st. The combination of the two cylinders A B connected or separate, the two pistons C D, tube E and valves F G whether the springs I, M be used or not, 2nd A tappet or shifting cam T on the crank pin Q; 3rd. The combination of the hollow piston rod N, piston connecting rod P, valve connecting rod S, tappet or shifting cam T, crank pin Q, slotted loose disk or pulley V, slotted fast pulley X, sliding block Y and swivel screws Z and spiral springs B, with each other, with the driving shaft W and with or without the two cylinders A B, the two pistons C D, tube E and valves S G; 4th. A reciprocating apparatus or motor, having valves in its pistons and shifted automatically by the extended stroke of the piston or by the valve rod.

No. 9815. Improvements in Water Turbines.

(*Perfectionnements aux turbines hydrauliques.*)

Edwin R. Stilwell, Dayton, Ohio, U. S., 4th April, 1879, for 5 years.

Claim.—1st. A turbine water wheel composed of buckets whose faces are inclined and which extend centrally to the shaft, from thence downward, rearward and outward, forming a combined vertical and centrifugal system of discharging of the water acting on the wheel 2nd. A turbine water wheel, the buckets of which occupy the entire area of the wheel, from the shaft outward, and which form the combined vertical and outwardly discharging series of orifices; 3rd. A turbine water wheel, the buckets of which occupy the entire area of the wheel, from the shaft outward, with the face inclined to a vertical line which receives the water centrally upon the outer faces and which discharges the same downwardly therefrom; 4th. A turbine water wheel whose buckets occupy the entire area of the wheel from the shaft outward, and in which the lower portions of the buckets, which are below the chutes, are of larger circumference and have between their faces orifices, for discharging the water outwardly from the buckets; 5th. A turbine water wheel whose buckets occupy the entire area of the wheel, from the shaft outward, which have inclined faces and project outwardly below the chute, and overlapping each other so as to form an outwardly discharging orifice beneath the chute, 6th. A water wheel, the buckets of which have inclined faces and which project outwardly and under the chute case, and which are inclined rearwardly to overlap each two buckets next in rear, and forming a combined outward and downward discharge for the water.

No. 9816. Combined Umbrella and Cane.

(*Canne-parapluie.*)

John Boyd, Antigonish, N. S., and Robert D Kirk, Arthur, Ont, 8th April, 1879, for 5 years.

Claim.—The combination and arrangement of the several parts namely: the runner B, hanger A, notchet C, ribs D, stretchers E, screw point F ferrule K and knob I in connection with the hollow tube G, in the detachable rib tips H in connection with the detachable cover.

No. 9817. Picking Motion for Shuttles.

(*Chasse-navette.*)

William H. Dyson, Sherbrooke, Que., 8th April, 1879. for 5 years.

Claim.—The socket and buffer A and B, the picker F, with the rubber C, also the picking lever and hook E with the holes *h* and rocker L.

No. 9818. Improvements on Ventilating Millstones. (*Perfectionnements dans le mode de rafraichir les meules.*)

Harvey A Manderson, Maria, Que., 8th April, 1879, for 5 years.

Claim.—1st. The runner stone A provided with a peripheral band E having wings F; 2nd The casing D provided with an internal peripheral hoop G to intermediately contract the air space above the band and wings; 3rd. The combination, with the stone B, of the runner A provided with peripheral band E having wings F, the casing D provided with an internal peripheral hoop or projection G and the spout H; 4th The wings F pivotally connected to the band E for increasing or diminishing the air suction by adjustment.

No. 9819. Improvements on Waggon Tops.

(*Perfectionnements aux soufflets des voitures.*)

Samue T. S. Wicks, London, Ont., 8th April, 1879, for 5 years.

Claim.—The buggy and waggon top A constructed of rods B B1 with union C, ribs D G. stays E I, sliding ferrules F J, plate K, key projection *b*, cap L and curtains M.

No. 9820. Improvements on Ice Creepers.

(*Perfectionnements aux crampons à glace.*)

Edward D. Austin, Erie, Penn., U. S., 8th April, 1879, for 5 years.

Claim.—The plate A concaved long tudinally and transversely, or either way only, and provided with a shank a^2 having upon its end a rectangular head a^2 with pivots a^3 upon its sides, and the spring B, formed of a single strip of steel, having its end parts bent back upon itself and its ends bent forward and perforated to receive the pivots a^3 of the shank head a^2, and having holes formed through it near its bends to receive the fastenings screws, to adapt the device to be attached to a boot or shoe heel.

No. 9821. Improvements on Gas Shade-Holders. (*Perfectionnements aux porte abat-jour.*)

Joseph Breeden, Birmingham, England, 8th April, 1879, for 5 years.

Claim.—1st. Mounting the arms of gas, and other globes and shade-holders to work on pivots or axis, in a support on the burner tube so that the arms shall be free to describe arcs of circles; 2nd. In a gas and other globe and shade holders, the combination, with the arms mounted to work on pivots and provided with toothed sectors, of the worm mounted to rotate and gear with said sectors.

No. 9822. Improvements in Soap Compositions. (*Perfectionnements aux compositions de savon.*)

William C. Macartney, West-Flamboro, Ont., 8th April, 1879, for 5 years

Claim.—The combination of alcohol and rosin, in the proportions given

No. 9823. Improvements on Fire Kindlers.

(*Perfectionnements aux allumoirs.*)

William H Banfield, Quebec, Que., 8th April, 1879, for 5 years.

Claim.—As an improved article of manufacture, the described fire kindler consisting of the two parts A B, having perforations C and flanges *a b* secured together, filled with a non combustible absorbent material, and provided with a handle E.

No. 9824. Improvement in Curtain Cord Tighteners. (*Perfectionnement aux arrêts cordons des rideaux.*)

Frederick E. Porter, Baltimore, Md., and David A. Beatson, New York, U. S., 8th April, 1879 for 5 years.

Claim.—1st. The slotted sheet metal plate A struck up, and having perforated end pieces *a*, screw *b*, block C and roller D; 2nd. In combination with the sheet metal strip A, having slot a^1, and struck up to form end tangs *a* perforated, the milled head screw B, block C, roller D and disk C1.

No. 9825. Improvements on Mechanical Movements. (*Perfectionnements aux mouvements mécaniques.*)

James D. Foster (Assignee of John W. Mullins), London, Ken., U. S., 8th April, 1879, for 5 years.

Claim.—The combination with the wheel A, having an annular recess B in each face, the limb C in the centre of the wheel, provided with an annular groove around each end, the curved levers D D, one being placed on one side of the wheel and the other on the other side, and extended from one side of the recess to the other, the brakes E pivoted to the levers D, and having their ends placed in the grooves in the hub, the springs *a a* and the bars G G connecting the free ends of the levers D D.

No. 9826. Combined Churn and Butter Worker. (*Baratte et batte-beurre combinés.*)

Henry A. Rideout, Oliver B Rideout and Martha P. Rideout, Calais, Me., U. S., 8th April, 1879, for 5 years.

Claim.—1st. The circular board A, supporting a turn-table and having a handle projecting from its edge; 2nd. The combination, with the circular board A having handle, of the turn table C having raised centre grooved edge C^1, pipe C^2 and the anti friction rollers *a*; 3rd. The combination, with the turn table C, of the projecting strip B, having side *b* for supporting the lever standard, 4^{th} The standard D, having pivoted swivel E and pivoted ring *e*; 5th. The combination, with the strip B and sides *b*, of the pivoted standard D, the braced and removable pin d^1, 6th. The knife G having inwardly turned lower edge *g*; 7th. The combination, with the swivel standard and ring, of the rod F and removable knife G; 8th. The combination, with the swivel standard and the rod F, of the devices G and K1 for working and printing butter, each having a hole and thumb-screw for attaching it separately and removably to said rod; 9th The combination with the handle h^1 and plate I, having stud I^1, of the crank J and lever K; 10th. The combination, with the lever, crank, and dash metal plate and stud, handle and cover, of the turn-table C having rim C^1, grooved edge c^1 and pipe c^2.

No. 9827. Improvements on Valves.

(*Perfectionnements aux soupapes.*)

George H. Little, Peabody, and James S Smart, Salem, Mass., U. S., 8th April, 1879, for 5 years.

Claim.—1st. A valve provided with an expansion chamber of diameter greater than the valve opening, and with a plug or stem adapted to fit tightly in such chamber; 2nd A double seated valve, having one opening for both seats, and both seating surfaces adapted to seat simultaneously, in combination with a tight or nearly tight fitting plug for the chamber between such seats; 3rd. The two valve seats *c* and *d*, and the expansion chamber provided with the opening B therein; 4th. The plug valve *g*, constructed with its two seating surfaces *h* and *i*, and the tight fitting plug portion *g* in combination with the spindle for operating the valve, 5th. A valve having a tight fitting plug in an expansion chamber, located above the valve opening, 6th A valve provided with an opening, or chamber *e*, of larger diameter than that of the hole through the valve, and provided with a tight, or nearly tight, fitting plug, operating to prevent the steam from passing beyond it, until it is removed from such expansion chamber, 7th. A double seated valve and plug, either with a bevel seat or a flat seat, and provided with an expansion chamber between the seats, 8th. A valve, with an expansion chamber, having one seat instead of two, and with the plug either above or below the seat.

No. 9828. Safety Paper and Ink. (*Papier et encre de sûreté.*)

Gilbert P. Girdwood, Montreal, Que., 8th April, 1879, for 5 years.

Claim.—1st. A certificate of value printed upon fibrous unsized paper, and having the amount, signature, &c., written in ink, composed mainly of pure carbon or other material not acted upon by aid of alkalies; 2nd. A certificate of value printed upon fibrous unsized paper, and having the portion upon which the important parts are written, covered partially with devices printed in sensitive colours, so as to give an intermittent protection to the absorbent paper, and allow the ink to be absorbed only in a series of dots.

No. 9829. Lever Feed for Shingle Machines.

(*Levier alimentateur pour les machines à bardeau.*)

Robert Smallwood, Charlottetown, P.E.I., 8th April, 1879 (Extension of No. 3292), for 5 years.

No. 9830. Machine for Washing Clothes.

(Machine à laver le linge.)

Abner R Giles, (co inventor with James A Tupper,) Ottawa, Ont., 10th April, 1879 (Extension of No. 3276), for 5 years

No. 9831. Improvement in Eye Shades.

(Perfectionnement aux garde-vue.)

John B. Ricketts, William A Wilson and George A. Kennard, St. Joseph, Mo., U. S., 12th April, 1879, for 5 years.

Claim—Two concave-convex surfaces of suitable material connected by a nose piece or bridge.

No. 9832. Improvements on Candlesticks.

(Perfectionnements aux chandeliers.)

Andrew J. Smith and Elias A Bonine, Ukiah, Cal., U. S., 12th April, 1879, for 5 years.

Claim—1st. The sleeve, or cylinder D, with spring finger C, forming spring socket to clasp the candle, in combination with the cylinder or socket piece C, connected with the bottom A, directly or by slipping it over another socket or standard 2nd The cylindrical box B, rising from the bottom A and adapted to receive the matches, in combination with the cylinder, or sleeve C and cylinder D, with spring finger C, forming spring socket to clasp the candle

No. 9833. Improvements in Sash-Holders.

(Perfectionnements aux arrête-croisées.)

Osborn R Cooke, Chicago, Ill., U. S., 12th April, 1879, for 5 years.

Claim.—1st An upright stationary rod C attached to the window frame, in combination with a pair of catches or dogs pivoted to the sash, with their inner ends embracing the rod, and constructed and arranged so that when these ends are closed together they will slide freely on the rods, and when opened will bite or gripe the latter in opposite directions, 2nd. The stationary rod C attached to the window frame, in combination with the sash B, having a groove *b*, the pivoted catches E and a separating spring G, 3rd The shield F, provided with a projection or stop *f*, in combination with the pivoted catches E and the spring G; 4th. The bent rod C, having its lower bent end flattened and widened, in combination with the keeper D, provided with an elongated slot *d*.

No. 9834. Improvements in Pumps.

(Perfectionnements dans les pompes.)

John Coleman and George Brett, Toronto, Ont., 12th April, 1879, for 5 years

Claim—1st The pump handle, divided at or before the point of its pivotal connection with the pump head into two sections, which spread apart and extend along opposite sides of the pump head, in combination with the connection rods D D and pump rod B, 2nd The divided pump handle C and bolt F, in combination with the pump head provided with a bearing extending the full width of the pump head, 3rd. The combination of the divided handle C, bearing E, bolt F, rods D D and the pump rod B.

No. 9835. Improvements on Vehicle Tops.

(Perfectionnements aux soufflets des voitures.)

Theodore F. Hayes and James H. Hayes, Spring Green, Wis., U. S., 12th April, 1879, for 5 years.

Claim—The combination with an adjustable buggy-top, of the cylinder or knob C, bolt D, thumb-screw F and hinged brace I.

No. 9836. Improvements on Force Pumps.

(Perfectionnements aux pompes foulantes.)

Norbert Legros and Albert Drouillard, Windsor, Ont., 12th April, 1879, for 5 years.

Claim—1st. The cylinder A with outlets O O, &c.; 2nd. The cylinder A_1, chambered and constructed as described; 3rd. The lever B, with the ends of its several arms attached by connecting rods C C, &c., of suitable lengths to lifting valves D D, &c; 4th. A crank rotating the end of a lever such as described 5th The combination of cylinder A with cylinder A_1, lever B, crank I and connecting rods C C.

No. 9837. Improvements on Brakes for Perambulators. *(Perfectionnements aux freins des voitures d'enfants.)*

Alexander McRonald and George Dingwall, Toronto, Ont., 12th April, 1879, for 5 years.

Claim—1st. The combination with any wheel of a perambulator, of a brake attached in a fixed or adjustable manner to the pivoted adjustable lever C_1, and operated from the slotted finger bar D, 2nd The adjustable pivoted lever C_1, provided with a brake head and retaining stops *c c*, in combination with the stirrup F and slotted finger bar D; 3rd The slotted lifting bar D, provided with notches *d d*, in combination with the handle E_2, provided with the studs *d d*; 4th. The brake C, lever C_1, stirrup F and finger bar D, in combination with the wheels, body and handle of a perambulator.

No. 9838. Art of Manufacturing Boots.

(Art de fabriquer les bottes.)

William R Miller and Miller R. Creighton, Baltimore, Md., U. S., 12th April, 1879, for 5 years.

Claim.—1st. A counter protector for a boot, consisting of a piece of leather arranged to cover and protect the counter, secured either forward or in the rear of the eye, or side seams of the boot, and fastened with the back, or the front and back, to the sole of the said boot, 2nd. A counter protector extending from a point in front of one of the eye or side seams, over the said seams, to a point in front of the opposite eye or side seam. 3rd. The eye or side seams of a boot protected by a stay strip, one side or edge of which strip is secured in the said seam, the other side or edge of the said strip being folded over the said seam, and stitched or otherwise fastened to either the front or back of the boot; 4th In combination with the front and back of a boot, a counter protector forming a part of the said boot, the lateral edges of which counter protector are covered and secured to the said front and back by means of stay strips covering the eye or side seams of the said boot, 5th In a boot, the combination of the counter protector with a side seam protecting strip covering the side seams.

No. 9839. Improvements on Animal Powers.

(Perfectionnements aux manèges.)

William Josiey n. Bedford, and William H. Smith, St. Armand, Que., 12th April, 1879, for 5 years.

Claim.—1st. The wheel D, mounted to rotate on a fixed arbor C; 2nd. The latching bar E, secured to the fixed arbor C, in combination with a wheel D, mounted to rotate, 3rd. The wheel D, constructed of bent follies F boards G, supported in grooves therein, and tied by bolts or rivets I; 4th. The provision to the inner periphery of the wheel J, on the floor G of a fabric a and slats *e*, to give a foothold for the animal. 5th The brake or band wheel J, constructed of bent wood and applied as set forth, 6th. The brake lever K fulcrumed to a post A, the brake block L pivoted to said lever, and operating against the inner periphery of the brake and band wheels J; 7th The provision to the wheel of removable bars or weights M 8th. The walking beam N oscillating on the fixed arbor C in combination with pitman O crank wheel P, band S and hand-wheel T, secured to the thread-wheel D, mounted on the stationary arbor; 9th. The provision to the wheel D, of he gear wheel W, to be used as set forth.

No. 9840. Apparatus for Granulating Grain.

(Appareil pour concasser le grain.)

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

Claim—1st The use of bed plates with true running surfaces rigidly attached to and revolving with the millstones, in combination with and running upon carrying plates, and bearings having true bearing surfaces, such carrying plate and bearings being fixed or supported on an outer casing surrounding the millstones, or in any other suitable manner, 2nd Forming the true running surfaces of the bed plates, which are rigidly attached to the millstones, and the true bearing surfaces of the carrying plates and bearings fixed to and carried by the casing or otherwise so that they are truly parallel with each other, and also parallel to the grinding or working faces of the millstones; 3rd. The use of an outer casing surrounding the millstones preferably in two parts, each part having its carrying plates and bearings, the joint between the two parts being adjustable by means of a screw or other mechanical equivalent, so that the two parts may be set nearer or further apart without disturbing the parallelism of the running and bearing surfaces, 4th The combination of millstones with bed plates, bearings, plates, and an outer casing in two parts, with an adjustable screwed joint, 5th The use of an oil chamber H, attached to either part of the casing, in combination with the projecting drip flange L, the side bearings I and the annular bed plate E, the plates F F and bearing G with oil chambers or grooves, 6th Arranging the pulleys R R for receiving motion, so that the belts shall be opposite to the side bearings, so that the strain upon the belts shall have the least possible disturbing effect upon the true running of the millstones, 7th. The mode of working a pair of millstones, in combination with the rigid bed plates running on bearings, whether such millstones run in the same direction or in opposite directions, or whether one of the millstones is stationary and the other revolving.

No. 9841. Improvements on Spring Beds.

(Perfectionnements aux lits à ressorts.)

Chauncey S Terwillegar (Assignee of Enos C. Healy), East Whitby Ont 12th April, 1879, for 5 years.

Claim.—The mode of constructing the upper surface of spring beds, with upper cross bars B B divided and re jointed with iron or steel straps C C, rivetted through the cross-bars B B on which the longitudinal slats A A are fastened.

No. 9842. Improvements on Vehicle Springs.

(Perfectionnements aux ressorts des voitures.)

John Krehbiel, Williamsville, N. Y., U. S., 12th April, 1879, for 5 years.

Claim—1st. In a waggon, car, &c., having its bolster provided with the convex bearing piece A_1, a series of independent differently-curved leaf springs D and the spring board C, 2nd. The combination, with the bolster A and spring board C or its equivalent, of a series of independent leaf springs D, said springs being arranged in relation to one another, and the spring board secured to the bolster by the bolts or clips E; 3rd. In vehicles, a series of independent leaf springs arranged in relation to one another, in such manner that the deflection of one spring will bring into action the next succeeding spring, 4th The socket G having the double prismatic projections *g* engaging the ends of the spring D.

No. 9843. Improvements on Shaft Bearings.

(Perfectionnements coussinets des arbres de couche.)

George W. Thomas, Bear River, N. S., 12th April, 1879, for 5 years.

Claim—1st. The combination of the rollers B, bars E and roller rings D with the shafts and bearings of mill and factory construction, or with the axles and boxes of railway cars; 2nd The combination of the rollers B bars E and roller rings D with the hubs of vehicles or agricultural implements; 3rd. The combination of the collars H with the hub.

No. 9844. Improvements on Boots.

(Perfectionnements aux bottes.)

Olivier Durocher, Ottawa, Ont., 12th April, 1879, for 5 years.

Claim.—1st. In an Alexis boot the upper *a* made in one continuous piece; 2nd. The arrangement and combination of the upper *a* with the gusset *c* and the lappels *b* having the slits *o*. 3rd In a boot or shoe, the lappels *b* cut either by the firm lines *p r s*, or as having the curved edge *p r* substituted by the angular shape indicated by the dotted lines *p q r*.

No. 9845. Improvements on Pantaloon Suspenders. (*Perfectionnements aux bretelles de pantalons.*)

Henry Turner and William Turner, Montreal, Que., 12th April, 1879, for 5 years.

Claim.—The combination of the shoulder strap A provided with rear and side loop G H connected together with a single ended front loop E.

No. 9846. Improvements on Hollow Augers. (*Perfectionnements aux évidoirs.*)

Ryerson Porter, Bothwell, Ont., 16th April, 1879 (Extension of Patent No 3298), for 5 years.

No. 9847. Improvements on Vises and Anvils. (*Perfectionnements aux étaux-enclumes.*)

William J Clokey, Newcastle, Ont., 17th April, 1879, for 5 years

Claim — The combination of the V-slide E travelling through the anvil A, the screw G working in journals at each end of the V-slide E and the half nut J on the anvil A.

No. 9848. Improvements on Sink Fittings. (*Perfectionnements aux garnitures des éviers.*)

Lemuel W Scott, Montreal, Que., 17th April, 1879, for 5 years.

Claim.—In combination with any sink or waste outlet, the apparatus composed of receptacle A with cover, spout and perforated bottom, and stand or vessel D with outlet for liquid.

No. 9849. Improvements on Steam Radiators. (*Perfectionnements aux radiateurs à vapeur.*)

John H Mills Boston, Mass., U. S., 17th April, 1879, for 5 years

Claim 1st A steam or water heating chamber or section, composed of a thin oblong main body crossed at regular distances by a vertical chamber and encircling ribs and having a central passage, the main body and side chamber being formed of elliptical lines, 2nd. A steam or water heating chamber or section, having but one vertical and central passage which, being screw-threaded and provided with a tubular nipple, constitutes the means of uniting and combining such sections into radiators, and thus employing but a single joint between each pair of sections; 3rd. In combination with one or more heating chambers, the employment of a hollow foot or pedestal connected to the steam piping from which the radiator is supplied, and to which the water of condensation is returned, a central supply and return passage being effected through the foot and chambers; 4th. In combination with but one general supply pipe to a building and branch piping, conveying the steam downwards, the connection of the radiators to such vertical supply and return lines by a single pipe and valve, through which the steam enters the radiator and the waters of condensation also find exit; 5th In combination with water heating sections, the employment of a hollow foot or pedestal having two chambers into the centre, one of which a supply pipe is screwed conducting the water to the top of the radiator, the other and surrounding chamber being the one to which the return pipe is connected; 6th In combination with heating sections arranged as indirect surface and enclosed in boxes, the employment of two drums for combining and working such sections; 7th In combination with a suitable hot air chamber the radiators G G and drums H I, the drum H having the openings *r s*, and the drum I the opening *t*. 8th. The arrangement of radiators with the inlet and outlet pipes *w v* and hollow pedestal or support K; 9th. The hollow foot B, as constituting the valve chamber for admission of steam and to permit of escape of condensed water, and as constituting the only steam supply of the radiator. 10th The construction of each section, as composed of the main chamber A, auxiliary or supplement chambers *m*, at right angles to the first fins or ribs *n* and channels *e*.

No. 9850. Improvements on Middlings Purifiers. (*Perfectionnements aux épurateurs des grumeaux.*)

William J. Fender, Minneapolis, Minn., U S., 17th April, 1879, for 5 years

Claim.—1st. In a middlings purifier, the combination of the chambers D₁ G divided by partition F and conveyor H with the suction fan B; 2nd. The chambers D₁ G, partition F, having pivoted slats *f* and air spaces between them, in combination with the suction fan B, whereby much of the light dust is taken from the middlings, 3rd. The spring hangers K, attached to the shaker frame by the studs *j5* or *j6*, washers 2 3 4 5 and bolt 1, in combination with the plate L, having slots *l¹ l²* and bolt *l³*. 4th The eccentrics *j*, vibrating eccentric straps *j¹*, having arms or shanks *j¹¹* and eyes *j²*, in combination with the attaching studs *j3*, projecting guide stud *j5* and the shaker frame I. 5th The combination of cords U pulleys *t t¹*, of unequal diameters and the brush N. 6th In a middlings purifier, the brush N operating across the under side of the screen, one end moving faster than the other and obliquely to the direction of the flow of middlings on the screen; 7th. The combination of cords U, pulleys *t t¹* of equal diameters and the brush N, 8th The combination of the worm wheel P, toothed wheel Q, connecting rod R, segmental gear S, pinion *s*, shaft T, pulleys *t t¹* and cords U with the brush N; 9th. The series of pivoted valves *x*, inclined partition *w* and regulating rod *y*, in combination with the suction fan M, 10th. In a middlings purifier, the combination of a suction fan M, shaker I screen D and brush N, sweeping the under side of the screen at an obtuse angle with the flow of the middlings on the screen and reversing its movement while off the cloth.

No. 9851. Improvements on Watch Barrels. (*Perfectionnements aux barillets des montres.*)

Frederic Pitt, Ottawa, Ont., 17th April, 1879, for 5 years

Claim —1st A closed watch going barrel A provided with dogs or catches *a a a*, on its inner plate inside of its rim or periphery, 2nd The combination of the closed watch going barrel A, having dogs *a a a* and central annular recess *d*, with the flanged great wheel B having bevelled perforations *b b b* and central raised cylindrical boss *c*.

No. 9852. Improvements on Railway Draw-bars. (*Perfectionnements aux ressorts à traction des rail-routes.*)

John F. Crackett, Laconia, N. H., U S., 17th April, 1879, for 5 years.

Claim.—As an improved article of manufacture, a cast-iron draw bar for locomotives and cars, provided with horizontal opening *b* extending transversely through said draw-bar, into which opening is placed, during the process of casting, a wrought-iron link.

No. 9853. Improvements on Hitching Bars. (*Perfectionnements aux attaches.*)

Amos Whitney, Hartford, Conn., U. S., 17th April, 1879, for 5 years.

Claim —1st. A hitching bar composed of the fixed plate A for attachment to a post, house or other object, and the hinged part B D E turning vertically through about ninety degrees of arc, 2nd The combination of the plate A, the socket B, the bar D and the chain E; 3rd. In a hitching bar, the socket and disk B D₁, whereby a slight lateral movement is allowed to the outer end; 4th A hitching bar, furnished at one end with a device for attaching it to a post or other object, to which it is jointed so as to confine its movement to nearly a vertical arc, and provided at the other end with a means of attachment to the bridle of a horse.

No. 9854. Improvement on Photographic Studios. (*Perfectionnement aux ateliers photographiques.*)

Edwin C. Thompson, Williamsburg, N. Y., U. S., 17th April 1879, for 5 years.

Claim —1st In combination with a photographic studio B, having an open end or side D, a movable background E or K, arranged to be interposed or removed from between the sitter or sitters, and an open air scenery chosen for background at the will of the operator, 2nd In combination with a photographic studio or gallery B provided with a skylight C and having an open end D the curtain E; 3rd In combination with a photographic studio or gallery B, provided with a skylight C and having open end or ends, the sliding door K having its vertical slot L.

No. 9855. Connector for Battery Carbons. (*Communicateur pour les carbones des batteries.*)

Adam C. Kreis, New York, U. S., 17th April, 1879, for 5 years.

Claim.—In an improvement in connectors for battery carbons, the non corrodible non conducting blocks *a a¹*, interposed between the battery carbon B₁ and the corrodible metal attachments of the battery, in combination with carbon B₁ copper conducting disk *c*, screw clamp C and connecting strap *b* of good conducting non-corrodible metal.

No. 9856. Improvements on Photographic Negatives. (*Perfectionnements aux négatifs photographiques.*)

John J. Wolf, Columbus, Ohio (Assignee of George W Singleman, Richmond, Ind., U. S.), 17th April, 1879, for 10 years.

Claim.—1st. Coating photographic negatives, with a gelatine or other varnish, insoluble in balsam of fir or equivalent substance, and attaching to the varnished and untouched surface of said negative a plate of clear glass, by heating both negative and clear glass to prevent breakage, and pouring, upon one or the other of them, a quantity of balsam of fir, or equivalent substance, and pressing and retaining said plates together, while kept heated, to exclude air bubbles, remove unevenness between them and dry the varnishes, 2nd A photographic negative, prepared by coating an ordinary negative with a gelatine, or other varnish, insoluble in balsam of fir, or equivalent substance, and attaching to the varnished and untouched surface a plate of clear glass, by heating both negative and clear plate to prevent breakage, and pouring, upon one or the other of them, a quantity of balsam of fir, or other equivalent substance, pressing and retaining said plates together, while kept heated, to exclude air bubbles, remove unevenness and dry the varnish.

No. 9857. Improvements on Washboards. (*Perfectionnements aux planches à savonner.*)

Ezra B Eddy (Assignee of George H. Millen,) Hull, Que., 17th April, 1879, for 5 years.

Claim.—A washboard plate having a rubbing surface, broken by alternate depressions A, and raised portions B, forming square sided channels and sharply indented crosswise thereto on the lines *a b*, whereby parallelogramic sections *d* are produced, having rounded edges, both sides of the plate being uniformly alike.

No. 9858. Improvements in Circular Saws. (*Perfectionnements aux scies circulaires.*)

George F. Simonds, Daniel Simonds and Alfred A. Marshall, Fitchburg, Mass., U. S., 17th April, 1879, for 5 years

Claim —The improved circular saw made firm with reference to its radius, but loose with reference to its diameter.

No. 9859. Improvements on Fences. (*Perfectionnements aux clôtures.*)

Peter Fraser, Fredericksburgh Ont., 17th April, 1879, for 5 years

Claim —The construction of standards b c having mortises *e*, braces a having mortises *e¹* and notched head *g*, key board *d* having pin holes *f*, rails H H H, locking rail H₁, and stake I having wire hook K.

No. 9860. Improvements on Broad Cast Sowers. (*Perfectionnements aux semoirs à la volée.*)

John Whelan, Woodhouse, Ont., 17th April, 1879, for 5 years

Claim The combination of the levers A A with the wheels B B, attached thereto worked by the spokes C of the main wheel, with the rod G, passing through the cylinder H, supported by brackets.

No. 9861. Station Indicator (*Indicateur des stations.*)

David C Morency, Charles W Carrier, Levis, and John M. Mackay, Quebec, Que., 17th April, 1879, for 5 years.

Claim —1° L'emploi d'un ressort pour faire mouvoir les rouleaux R R en sens contraire et, par conséquent, tenir la toile constamment tendue, et permettre d'employer une bande de papier ou de toile d'une longueur considérable. 2° La disposition de la roue C, de la canne D, de l'aiguille N, des ressorts E et des goupilles F F qui fait que par un mouvement toujours semblable de la pièce H, on obtient, par un simple demi tour de l'aiguille N, un mouvement sûr et régulier de la toile, soit dans un sens ou dans l'autre, les goupilles F F rendant le rouleau A parfaitement stationnaire.

No. 9862. Process and Apparatus for Amalgamating Ores. (*Procédé et appareil pour amalgamer les minerais.*)

Charles E. Ball, Philadelphia, Pa., U. S., 17th April, 1879, for 5 years.

Claim.—1st. The method or process of amalgamation, consisting in mingling mercury and ore, travelling together in a chamber or tube, in vacuo or under exhaust, and. The method or process of amalgamation, consisting in mingling the mercury and ore in a hamber or tube, in vacuo or under exhaust, while the amalgam is detained in said chamber, and causing the ore to be drawn by suction through such detained amalgam; 3rd. The method for effecting amalgamation by drawing ores through a body of mercury held in suspension, by means of suction exerted above said body of mercury, the ore being admitted on the under side of said body on the side opposite to that in which the suction is produced. 4th. The combination, with a chamber or tube A, mercury holder B and ore hopper C, of a steam nozzle I, or equivalent exhaust apparatus, located between said hopper and the discharge end of said tube or chamber A; 5th. The amalgamating apparatus consisting of chambers composed of tubes A E G, mercury holder B, ore hopper C and steam nozzle or suction appliance I.

No. 9863. Machine for Testing Eggs. (*Machine pour mirer les œufs.*)

Aczel Williams and Henry S. Dustan, St. John, N. B., 17th April, 1879, for 5 years.

Claim —The combination of the pint O O, tube J, opening K, mirror or reflector M, wires W W W, cleats C C and handle H.

No. 9864. Improvements on Gas Retorts. (*Perfectionnements aux cornues à gaz.*)

Edwin M. Moore, London, Ont., 17 h April, 1879, for 5 years.

Claim.—In a gas retort, the combination of chambers F F, vapourizing pan C, rim I, cover J, loose bottom H, rods P P and lead joints T T.

No. 9865. Improvements in Portable Boats. (*Perfectionnements aux canots portatifs.*)

James B Luckerhoff, Trois-Rivières, Q. c., 17th April, 1879, for 5 years

Claim.—The combination, with the central compartment A and the end compartments B B, of a portable sectional boat, air tight bulk heads C C water tight spaces *c c*, eyes *d d*, connecting bolts or rods *e e* and slip or sliding bolts *f f*.

No. 9866. Improvements in Oil Bearings. (*Perfectionnements aux coussinets à huile.*)

George Bradford, Toronto, Ont., 22nd April, 1879, (Extension of Patent, No 3374) for 5 years.

No. 9867. Machine for Cutting Metal. (*Machine pour tailler les métaux.*)

Frederick Cook and Hugh Campbell, Exeter, Ont., 22nd April, 1879, for 5 years

Claim —1st A metal cutting machine, consisting substantially of standard B, with broad flat head C, broad guide piece D, lever handle E and flat draw arms F in combination with knives A I; 2nd. In combination with the above described parts, the block J having recesses K L; 3rd. In combination with the above, the adjustable holder G and bolts and nuts H.

No. 9868. Improvements on Curd Agitators. (*Perfectionnements aux ménoles.*)

Edward Tyhurst, Chatham Ont., 22nd April, 1879, for 5 years.

Claim —1st The vat A fitted with blocks *b*, at both ends, to conform to the peripheral sweep of the cylinder agitating arms *d*; 2nd. The combination of the vat A, having strainer B, and the rotary and traveling cylinder D, having agitator arms *d* for breaking the curd. 3rd. The wheels G and H having cog pinions E E meshing with a horizontal rack F, on opposite sides of the vat A, for operating the cylinder D; 4th. The fan wheel J, casing K, with doors M enclosing a cylinder D having arms *d* for discharging a current of air into the curd; 5th. The combination of the screw L, fan shaft N, movable journal bearing O, for effecting the engagement and disengagement of the pinion I and cog wheel H, 6th. The reinforcing strip *a*, bent and nailed to the rabbeted edge of the bottom of vat A and secured to the strainer B by soldering.

No. 9869. Improvements on Railway Jacks. (*Perfectionnements aux crics de rail ways.*)

James Guilford and John P. Donnelly, Moore, Ont., 22nd April, 1879, for 5 years

Claim.—The combination of the column A, jack screw D, nut C and lever K.

No. 9870. Improvements on Bee Hives. (*Perfectionnements aux ruches.*)

Peter Fisher and Robert B. Scott, Colborne Ont., 22nd April, 1879, for 5 years.

Claim —1st A hive having one, two or more entrances, subdivided between the honey frame G by glass partition J, removably inserted for dividing the hive into working and non working sections of any desired capacity, 2n. The removable supplementary boxing C C attached to the hive, to preserve uniformity of heat during the spring months, to afford protection during the winter months and to allow of the employment of saw dust or other suitable packing, 3rd. The provision, to the entrance of the hive, of gularly placed boards D D to direct the bees to the entrance.

No. 9871. Process for Clarifying the Juices of Sorghum Maize. (*Procédé pour clarifier le jus du Sorgo.*)

Francis L. Stewart, Marysville, Penn., U. S., 22nd April, 1879, for 5 years.

Claim —1st The final depurating process applied to maize and sorghum juice, additional to and directly following defecation by the action of lime and heat, and neutralization of the excess of lime by sulphurous oxide and consisting, first: in the reduction of the temperature of the previously heated juice to 140° Farenheit, second, the admixture, with it, of sulphurous oxide, in sufficient quantity to make it strongly acidulous, third the addition of albumen to the juice, in sufficient quantity, fourth the rapid heating of the juice to the boiling point and the immediate removal of the scum, and fifth: the subsequent addition, at intervals to the strup boiling at the atmospheric pressure of sulphurous oxide, in sufficient quantity to preserve it in an acid condition to the close of the evaporation, 2nd A compound for defecating saccharine liquids, consisting of a solution of tannic acid united with liquid sulphurous acid, and with hydrate of alumina,

No. 9872. Improvements on Saw Guards. (*Perfectionnements aux garde-scies.*)

Isaac N. Kendall, Buckingham, and Richard Hall, Gatineau-Mills, Que., 22nd April, 1879, for 5 years.

Claim.—1st. The metallic liners and slab guards applied to saws for the purpose of preventing them, when in motion, from deviating from a straight line, 2nd. In combination with the metallic liners and slab guards I and P, the metallic or glass slips *ff*; 3rd. The combination of the metallic liners and slab guards with the slips *ff* and backings *g g*.

No. 9873. Improvements on Hydro-Carbon Lamps. (*Perfectionnements aux lampes à hydro-carbure.*)

Thomas Walsh, Montreal, Que., 22nd April, 1879, for 5 years.

Claim —1st The combination of the supply pipe D and air or steam pipe B, with the pipe H, provided with the burner I, whereby the pipe H becomes a combined retort and duct, 2nd The combination of the pipe D having cocks E and F, pipe B having cock C, pipe H and burner I; 3rd The burner I composed of a pipe having a lip or plate L at its bottom extremity, turned in an upward direction, and having the opening K arranged to deliver the gas, &c., upon the plate L.

No. 9874. Process of Purifying Illuminating Gas. (*Procédé pour purifier le gaz d'éclairage.*)

Orazio Lugo, Flushing, N.Y., U.S., 22nd April, 1879, for 5 years.

Claim —1st. The process of purifying gas, which consists in passing the same through animal charcoal or bone black wet with water, 2nd. The process of purifying and enriching gas at a single operation, which consists in passing the same through animal charcoal or bone black, which has been impregnated or saturated with a suitable hydro-carbon; 3rd. The process of purifying illuminating gas by passing the same, mixed with air, through animal charcoal; 4th. The purification of illuminating gas by animal charcoal, the process of preventing absorption of illuminants of the gas by charging the gas with a suitable correlative of such illuminants; 5th The composition to be used in the purification of gas, consisting of animal black bone black, or char and coal tar.

No. 9875. Improvements on Printing Presses. (*Perfectionnements aux presses d'imprimeries.*)

Charles Ellery, Albany, N. Y., U. S., 22nd April, 1879, for 5 years.

Claim.—1st. The sliding head C, having an adjustable cross-bar D carrying the sliding tubes E provided with elastic cushions *e* and springs *e*, and connected by the flexible tubes *f*, to the suction pipe F, in combination with a paper holder H, having a vertically vibrating motion; 2nd. The combination, with the paper holder H and shaft L provided with the arm *l* and wiper l_1, of the sliding rod K, hub K, with pin K_3 and springs K_4 K_5; 3rd. The combination, with a paper holder H, having a vertically vibrating movement, and provided with spring fingers *h* arranged at the side of said holder, of the sliding head C, provided with the sliding tubes E, connected to an exhausting device for producing a vacuum in said tubes, 4th. In a paper feeding device, the combination, with the sliding head C, provided with the sliding tubes E, having the elastic cushions *e* and springs *e*, of the vibratory paper holder H, shaft L provided with arm *l* and wiper l_1, and the sliding rod K provided with the hub K_2 and springs K_4 K_5.

No. 9876. Telegraphic Recording Apparatus.

(*Récepteur télégraphique.*)

Robert K. Boyle, Brooklyn, U. S., 22nd April, 1879 for 5 years.

Claim.—1st The combination, with a telegraphic line or cable, of a receiving device or magnetic needle, a secondary or opposing battery and an automatic switch, to change the cable or line connection, at each movement of the needle or receiving device, from such receiving device and earth to the secondary or opposing battery and earth, for clearing the line or cable of its surplus electricity; 2nd. The combination, in a telegraphic receiving apparatus, of two coils L Lº, a needle mounted on a bent arm, a fork for guiding said bent arm, a fibre for supporting the bent arm, two permanent magnets for keeping the needle at zero, and two or more metallic fingers s_1 s_2; 3rd. The combination, with a telegraphic line or cable, of two electric magnets G Gº, an armature common to both, contact screws c cº, a secondary or opposing battery and a recording device; 4th. The combination, with a telegraph line or cable, of an automatic switch, a receiving device, a recording device and an induction coil; 5th. The combination, with a telegraph line or cable, of two electro-magnets G Gº, an armature common to both, contact screws c cº, an induction coil, or other equivalent source of electricity, for charging the electro-magnets G Gº, and a receiving device, which serves to change the current of the induction coil, or other source of electricity, from one electro-magnet to the other.

No. 9877. Improvements in Cooking Stoves.

(*Perfectionnements aux poêles de cuisine.*)

William A. Greene, Elizabethport, N.J., U. S., 22nd April, 1879, for 5 years.

Claim.—1st. In a stove or range, for culinary purposes, the fire box or chamber, provided with a pendent partition arranged transversely across the same, under the long centre, between two sets of pot holes, so as to form two fuel chambers for slow and fast cooking, and arranged to cut off communication between the two divisions, except under the bottom; 2nd. In a stove or range for culinary purposes, a pendent partition D arranged transversely across the fire box, so as to divide it into two parts, the said partition being inclined, so as to give the chamber E a hopper shape, and avoid choking the passage from the chamber E F; 3rd. The combination of the refractory side lining plates *a a* with the refractory partition D, the ends of the latter being arranged to rest in recesses in the former; 4th. The refractory partition D, having its lower posterior edge rounded or bevelled and arranged to stand inclined in the fire chamber, with its lower edge to the front; 5th. The combination of the stove front provided with a hole or holes *d d*, the poker *e* having a flattened end, a perforated fire bed, having a smooth and substantially flat surface, and the pendent partition D; 6th. A suitable fire bed in combination with the partition D, and the stove holes *h i* arranged on opposite sides of the said partition; 7th. The perforated door in combination with the perforated fire bed and pendent partition D; 8th. The chamber J, provided with a door or registered aperture *m*, and having apertures *l l* in its roof, in combination with the fire box or chamber divided into two parts E F; 9th. The combination of the fire box or chamber, divided into two parts E F, by means of a partition D, with the oven B and flue C arranged around the same; 10th. A tube or duct I, or its substantial equivalent, arranged in or behind the partition D, and adapted to draw air from the outside of the stove and deliver it in jets into the secondary chamber F; 11th. In a stove, the covers of the pot holes *i i* and the cross centres between them, one or more, perforated to admit air to the interior of the stove; 12th. The pendent partition D, constructed of two or more pieces with V-joints, or other equivalents, and a longitudinally arranged rod or bolt extending through all, so as to secure them firmly together without itself being exposed to the direct heat of the fire; 13th. In combination with a stove having a partition or pendent ledge D, the gridiron K provided with grooved or hollowed bars and handle, and a suitable lug or other equivalent stop to catch upon the lower edge of the door opening.

No. 9878. Improvements on Horse Shoes.

(*Perfectionnements aux fers a cheval.*)

John Bigg, London, England, 22nd April, 1879, for 5 years.

Claim.—The method of attaching roughs to horse-shoes, by forming them of two separate parts, which parts embrace the edges of the shoe, both above and below, and are adjusted and forced against and round them by means of a screw, levers or wedges.

No. 9879. Improvements in Corsets.

(*Perfectionnements aux corsets.*)

David Campbell, New York (Assignee of John K. Ross, Newark, N.J.), U. S., 22nd April, 1879, for 5 years.

Claim.—1st. The laced corset joint constructed with the eyelet strip *b* on the edge of the part B, and the eyelet strip *a* set back from the edge of the part *a*, the edge *i* being stiffened by ribs *c*.

No. 9880. Combined Steam and Air Engine.

(*Machine à vapeur et atmosphérique combinée.*)

James M. Whiting and Thomas C. Hennessey, Providence, R. I., U. S., 22nd April, 1879, for 5 years.

Claim.—The chamber or cylinder C, for the reception and mixture of steam and air, connected and in combination with a steam boiler A, air pump E and cylinder F of an engine.

No. 9881. Improvements on Draw-bars.

(*Perfectionnements aux ressorts de traction.*)

John F. Crackett, Laconia, N. H., U. S., 22nd April, 1879, for 5 years.

Claim.—1st. As a new article of manufacture, a draw-bar, for locomotives and cars, cast whole and of such a shape that, after casting, it is, without the application of any additional device or appliance whatever, adapted, by its shape alone, to hold a bail for shackling purposes; 2nd. The draw-bar $a^1 a^2 a_{11}$ provided with the openings *d* and rearward inclined slots d_1.

No. 9882. Improvements on Washing Machines. (*Perfectionnements aux machines à laver.*)

William T. Bunnell, Ottawa, Ont., 22nd April, 1879 (Extension of Patent No. 3355), for 5 years.

No. 9883. Improvements in Umbrellas.

(*Perfectionnements aux parapluies.*)

Alexander MacMillan, London, England, 22nd April, 1879, for 5 years.

Claim.—1st. The construction and employment of the improved runner *a*; 2nd. A runner provided with a spring box *g*; 3rd. The construction and employment of the improved top notch *i*; 4th. In constructing the ends of the stretchers and ribs of umbrella frames, with necks *e* and rollers *n* for fitting and working in the slotted hollow boxes *b j* of the runners *a* and top notches *i*, respectively, so as to dispense with the use of the ordinary wires; 5th. The combination of the rollers *d n* and necks *e l*, on the ends of the stretchers *t* and ribs *m*, with the slotted hollow boxes *b j* of the runners *a* and top notches *i*; 6th. The construction and employment of the slotted hollow tips *q*, for fixing the umbrella covering on the ends of the ribs *l*; 7th. The combination of the several parts forming an improved frame for umbrellas and other like weather protectors.

No. 9884. Improvements on Smoke-Stacks for Locomotives. (*Perfectionnements aux cheminées des locomotives.*)

John R. Fish, Grand Rapids, Mich., U. S., 22nd April, 1879, for 5 years.

Claim.—1st. As an improvement in locomotive smoke-stacks, the deflector C fixed within the shell of the stack and extending from about the lower angle of the shell nearly to the top thereof, forming thus, with the shell, a space *o* where the sparks and cinders, carried upward by the draught, are received; 2nd. The openings *b* in the bottom flange *a* of said deflector C, for the passage of the sparks and cinders from space *o* back into stack A; 3rd. The combination and arrangement of deflector C with openings *b* in the bottom flange *a* thereof, for the passage of the cinders and sparks, the cone B and crown B_2 forming the shell of the stack, the pyramidal deflector D and stack A; 4th The spark arrester E, in combination with the deflector C and the shell of the stack; 5th. The annular concave deflector *l* over space *n*, between deflector C and the spark arrester, in combination with deflector C and the shell of the stack, whereby the sparks and cinders, carried through space *n*, impinging upon deflector *l*, are deflected beyond deflector C into space *o* and fall thence back into the stack A; 6th. The wings *p*, dividing the space within the spark arrester E diametrically, in combination with spark arrester E and shield F, to prevent interference with the draught by the exhaust steam, and back draughts from currents of air drawn into the stack.

No. 9885. Improvements on Cart Saddles.

(*Perfectionnements aux sellettes à fardeaux.*)

William Dickie, Pugwash, N. S., 22nd April, 1879, for 5 years.

Claim.—In a cart saddle, the combination of the parts C E F with the cover having gusset B.

No. 9886. Improvements on Carriage Springs.

(*Perfectionnements aux ressorts des voitures.*)

Edward Spaulding, Brooklyn, N.Y., U. S., 22nd April, 1879, for 5 years.

Claim.—1st. A metallic curved or concave spring, springing towards the curved or concave side, the tension being exerted towards the raised or convex side; 2nd. A carriage spring composed of one or more curved plates; 3rd. As a part of a spring, an elastic metallic plate curved and tapering at its edges; 4th. A carriage spring composed of a series of curved springs, tapering at the ends and at the edges; 5th. A spring of equal thickness, adapted for combination with a carriage body, constructed with a varying curvature in the cross-section flattened towards the ends of the spring, and adapted to sustain the tension on the convexity thereof.

No. 9887. Improvements in Reaping Machines. (*Perfectionnements aux moissonneuses.*)

Lebbens Sweet, Wellsville, N. Y., U. S., and John Watson, Ayr, Ont., 22nd April, 1879, for 5 years.

Claim—1st. The striking block D, pivoted on the tripping plate of a rake-head and arranged in such manner that the operator can throw it out of adjustment, in order to vary the operation of the set-rake; 2nd. The combination of the block D provided with downwardly projecting wing D_2, retaining spring E, pivoted lever F and tripping plate C; 3rd. The tripping plate C, provided with an adjustable striking block D, in combination with the set-rake arm of a reaping machine; 4th. A seat hinged to its support, in such manner that it can be turned up to, or beyond an angle of ninety degrees, for the purpose of enabling the machine to pass through limited openings, to avoid obstructions and for the convenience of handling and transportation; 5th. The bed piece H_2 with bracket H4, in combination with standard H_1, bracket H_3 and bolt H_5: 6th. The bracket H_3, extending in a stirrup form under the bed piece of seat and provided with a retaining shoulder H_6.

No. 9888. Improvements in Wringing Machines. (*Perfectionnements aux essoreuses.*)

John Kinleyside and Matthew Wilson, Hamilton, Ont., 22nd April, 1879, for 5 years.

Claim.—1st. The eccentric strap G, in combination with the eccentrics C, cam D and lever shaft E; 2nd. The combination of a cam or eccentric with a lever; 3rd. The hinged apron H working on the bar I, at back of the machine.

No. 9889. Improvements on Mangles.

(Perfectionnements aux calandres)

Charles Reese, Baltimore, Md., U. S., 26th April, 1879, for 5 years.

Claim —A mangle, formed of the bed block or box A made with a concave top or face, the upright frames B, the oscillating pressure block D, made with a convexed bottom or face, and the roller E.

No. 9890. Improvements on Vehicle Springs.

(Perfectionnements aux ressorts des voitures.)

William Michael, Harrison, Pa., U. S. 26th April, 1879, for 5 years.

Claim —1st. The combination with the spring G, of the superposed head block I clipped thereto and cast integrally with the lower section of the fifth wheel, crowning at the centre through the upper section having arms K clipped to the spring bar L, and king bolt M passing through the same. 2nd In that class of vehicles, in which the body is supported on a combination of semi elliptical and C shaped springs, the semi elliptical spring G curved inward at its ends and pivoted within the heads of the C shaped end spring F the latter being curved inward, from their heads and secured to the axle in such manner that the combined springs shall have both an outward and downward movement when weight is applied.

No. 9891. Improvements on Envelopes.

(Perfectionnements aux enveloppes)

William L. Benham, Detroit, Mich., U. S., 26th April, 1879, for 5 years

Claim.—1st. The bag or envelope A having the central partition B and the single reversible flap C, 2nd A double pocket envelope or bag provided with a reversible flap, 3rd. In an envelope or bag, the cut-away sides to expose the address upon the body of the partition.

No. 9892. Improvements in Saw Mills.

(Perfectionnements dans les scieries.)

James A Tripp and Hartwell M Ballou, Union-Centre, N Y., U S, 26th April, 1879, for 5 years.

Claim —1st. In combination with the roller blocks E, the anti-friction roller *b* and connection rod F, 2nd The combination of the hinged blocks E E, carrying the anti-friction rollers *b b* and the connection rod F, with the pivoted lever B provided at its outer end with the hook A, the rope *h* friction rollers D D, lever C carrying an arm having the slotted bearing *d*, the cord *e* and weight *g*.

No. 9893. Improvements on Bridle Bits.

(Perfectionnements aux mors des brides.)

David C Carleton, New-York, U. S., 26th April, 1879, for 5 years.

Claim.—1st. The combination, with the upper jaw bit A and nose-band *c*, of the strap *g* connected to *c* and passing to the crown piece of the bridle; 2nd In combination with the upper jaw bit A, the strap *h* passing from the nose-band, at each side, around the lower jaw; 3rd. In a bridle fitted with an upper jaw bit, the runners *f* attached to the forward billet of the crown piece.

No. 9894. Improvements on Cooking Stoves.

(Perfectionnements aux poêles de cuisine)

Theodore H Roberts, Detroit, Mich., U. S., 26th April, 1879, for 5 years.

Claim —1st A reservoir casing C, wherein the reservoir proper E is encased, resting upon the flanges *a* and secured in place by the top G; 2nd. A removable encased water reservoir, so constructed that either the reservoir, or reservoir and casing together, can be removed, 3rd A casing C within which a reservoir E is confined with its front wall cut away, to fit the projection on the rear vertical plate of a cooking stove, 4th. In combination with a cooking stove, provided with a warming closet and a flue extension through the top thereof, an encased reservoir, so constructed as to be interchangeable with any pair of boiler holes in the stove.

No. 9895. Improvements in Tuyeres.

(Perfectionnements aux tuyères.)

John S. Miller, Middletown, Ct., U S, 26th April, 1879, for 5 years.

Claim —1st. A tuyere having a wind chest A and, within the same, an axial tube D having its exterior wall inclined toward the discharge opening *b* of said wind chest, and its bore of equal diameter with said opening at its upper end and increasing in conical form to its lower end or mouth, 2nd In a tuyere, the combination, with the wind chest having the axial blast opening *b* and neck B, of the axial tube D, adjustable upon inclines in said neck and having its upper exterior wall of conical form converging toward said blast opening.

No. 9896 Composition of Matter to be used Medicinally and as Food. *(Composé médicinal et alimentaire.)*

John L. Johnston, Sherbrooke, Que., 26th April, 1879 (Re-issue of Pat., No. 6104.)

Claim —A combination of pulverized meat or animal albumen and fibrine or generally the insoluble constituents of animal food, in whole or in part, with extract or essence of meat or beef tea, or generally the soluble constituents of animal food with or without the addition of albumen and gelatine separately prepared

No. 9897. Improvements on Fare Registers.

(Perfectionnements aux régistres à billets.)

Archibald Hance (Assignee of William H. Hornum), New York, U. S., 26th April, 1879, for 5 years.

Claim —1st The combination, in a fare register, of a registering device, an alarm composed of a bell and hammer, a prime mover common to both and a hammer guard; 2nd. The combination of a cam slot *a*° with the prime mover, the anchor and the escapement wheel which transmits the motion of the prime mover to the registering device, 3rd. The combination, with a full fare, or main registering device, an alarm and prime mover common to both, of a secondary or half fare registering device, and mechanism for throwing this second ry registering device in or out of gear with the prime mover of the main registering device, said prime mover serving to actuate simultaneously both registering devices, whenever it is coupled to the secondary register, 4th The combination of a secondary alarm with the coupling mechanism, for throwing the secondary register in gear with the prime mover, 5th. The combination of a locking mechanism with the coupling mechanism which serves to throw the secondary registering device in gear with the prime mover, and mechanism for automatically releasing said coupling device after one half fare has been registered 6th The combination, with the alarm bell and with the prime mover, of a damper which, when the prime mover is in a state of rest, bears against the surface of the bell, and prevents the same from being sounded by external blows, and which is withdrawn by the action of the prime mover at the time the hammer strikes, 7th The combination in a fare register, of a registering mechanism adapted to be set to zero at will another indicator adapted to be moved step by step (entirely independent of the registering mechanism), and so constructed that the said registering mechanism cannot be changed, independent of its actuating mechanism or prime mover, without first moving the indicator one full step, 8th. The combination, in a fare register, of a registering disk or index adapted to be set to zero, at will, by hand, a slide or prime mover for imparting motion to said registering disk or index, a zero guard for arresting the registering disk or index at zero when the same is turned by hand, an indicator adapted to be moved step by step, entirely independent of the registering device and mechanism for locking the prime mover, whenever said indicator is moved one step, and for releasing the prime mover when the registering disk or index is turned to zero, by hand 9th. The combination, with the independent indicator Q^2, with the registering disk or index and with the mechanism for locking and unlocking the prime mover, of a trip dial T^2, 10th The combination, with the independent indicator Q^2 of a stop connected to and operated by the mechanism for locking the prime mover, for preventing said indicator from being moved more than one step at a time.

No. 9898. Improvements in Water Turbines.

(Perfectionnements aux turbines hydrauliques.)

Ashley D Cole, Toronto, Ont., 26th April, 1879 (Extension of Patent No. 3370), for 5 years

No. 9899. Improvement on Cigars. *(Perfectionnement aux cigares.)*

Mona Lesser, Montreal, Que., 29th April, 1879 (Extension of Pat., No. 4760), for 5 years.

No. 9900. Improvement on the Manufacture of Cigars. *(Perfectionnement dans la fabrication des cigares.)*

Mona Lesser, Montreal, Que. 29th April, 1879 (Extension of Pat., No. 4751) for 5 years.

No. 9901. Cramping Machine. *(Serre-joint.)*

Charles E. Wood, Oakville, Ont., 29th April, 1879, for 5 years.

Claim —The application of cams C C C, shaft F, ratchet wheel and catch *c* and lever H, in combination with the cramps B B B which are provided with racks, the head and tail blocks D D D E E E.

No. 9902. Improvements on Wheel-barrows.

(Perfectionnements aux brouettes.)

Hollis Clark, Rock Island, Que., 29th April, 1879, for 5 years.

Claim —1st. The single wheel B, having its axle journalled to the bearings K and placed beneath the forward end of the frame A, 2nd. A single wheeled vehicle, having the wheel B placed beneath the forward end of the frame A, in combination with the frame A and braces *h j*, 3rd In combination with a single wheeled wheel barrow having a wheel B, the vertically inclined pieces *i* carrying, at their upper parts, the end-board C and their lower extremities resting on the bearing K.

No. 9903. Combined Car Brake and Starter.

(Frein et impulseur de wagon combinés.)

Albert White, Yarmouth, Ont., 29th April, 1879, for 5 years.

Claim.— In a car starter, the bevel wheels B B feathered on axle A and having ... ved circular racks B² fitted to their back, and meshing into toothed sectors L having shafts F *f*, in combination with bevel wheel C, on shaft K, 2nd. The movable hollow cone K sliding on shaft H, lever T attached to belt *y* and connected with springs I I by chains J J

No. 9904. Improvements on Carriage Dashes.

(Perfectionnements aux garde-crottes.)

Benjamin J. Warden, Philadelphia, Penn., U. S., 29th April, 1879, for 5 years.

Claim.—1st. A duplex metallic frame for a carriage-dash the interior surfaces of which are concave, or of semi tubular form adapted to clamp and secure the dash leather in position, 2nd. A dash for carriages, composed substantially of the duplex metallic frames A, the fibrous material C and dash rail B, having its ends secured between upper end projections of the clamping frames; 3rd. In combination with the duplex metallic carriage dash frames A and panel C, the whip socket N secured by band G.

No. 9905. Improvements on Scale and Measuring Straps for Last Makers.

(Perfectionnements aux courroies graduées et aux échelles pour les formiers.)

John Kimball, Boston, Mass., U. S., 29th April, 1879, for 5 years

Claim.—1st. In a device for indicating upon a last or last block, the correct position of the instep, waist and ball in relation to the heel, and in relation to

each other, or either of them, consisting of a scale for determining the position of these sections, a pin, pencil, or other device used, in connection with said scale, for marking, upon the last or last block, the same, and an indicating figure or other device for each length of last to which the scale is applied, 2nd. A series of measuring straps, bearing indicating marks for determining the various dimensions which a last of a given size shall possess, printed or marked upon paper, cloth, or other flexible material, and adapted to be severed into independent straps of varying lengths.

No. 9906. Improvements on Portable Boats.

(Perfectionnements aux canots portatifs.)

Charles De Cazes, Winnipeg, Man., 29th April, 1879 for 5 years.

Claim.—1st. In a portable boat the sections A B C having the bulk heads *a*, bottom *b* and grooves *c*, 2nd In a portable boat, the combination of the sections A B C with the tie rod or rope, or any approved substitute therefor, plates *o* and bolts *p*; 3rd. The combination of a portable boat, composed of several sections, with the rack composed of the rails A_1 and pins C_1.

No. 9907. Improvements on Animal Powers.

(Perfectionnements aux manèges.)

James J. Heenan, Ops, Ont., 29th April, 1879, for 5 years.

Claim.—1st. The combination of the driving roller B, the latch H the construction of the frame A and the friction roller G G attached to the ends of frame, 2nd. The combination, with the driving roller B, latch H and frame A, of the shaft C, pulley J attached to the end thereof and outside the balance wheel I and the platform D

No. 9908. Improvements on Curtain Fixtures.

(Perfectionnements aux ajustages des rideaux.)

John S. Henry, North-Bellevernon, Penn., U. S., 29th April, 1879. for 5 years.

Claim.—1st In an improvement on curtain fixtures, the cylinders C with longitudinal slots D, passed over the roller and the folded end of the curtain thereon, to fasten it to the roller, in combination with the roller and curtain, 2nd. The brackets F with curved end H, in combination with eyes G, attached to the window frame in which they are entered, and pivots E on the ends of cylinders C, 3rd. The combination, with the curtain roller having ratchet wheel *g* and cord *j*, of the bracket E and suspended hook, or ring *h*, pivoted at its upper end in front of the roller and extended below the ratchet to form an eye or loop for the cord.

No. 9909. Improvements on Car Replacers.

(Perfectionnements aux enrailleurs des wagons.)

Elisha Newcomb, Westbrook, Me., U. S., 29th April, 1879, (Extension of Patent, No. 3531) for 5 years

No. 9910. Improvements on Gas Apparatus.

(Perfectionnements aux appareils à gaz.)

John Hanlon, New York, U. S., 29th April, 1879, for 5 years.

Claim.—1st In a gas apparatus, a boiler and super heater D, provided with an upper and lower longitudinal chamber communicating at the rear, in combination with a series of boiler tubes E_1 and water supply pipes F; 2nd. The boiler and super heater D, in combination with the retorts E, provided with the longitudinal chambers *a b c*, chamber H and pipes G F; 3rd The retort E, provided with the chamber *f* having elongated spiral ribs, in combination with the boiler and super heater D and connecting pipe F. 4th. The retort E, provided with the discharge pipe *s*, in combination with the washer I and supporting frame *r*, provided with the friction rollers *m*, 5th. The adjustable dipcup, in combination with the operating worm screw P and washer I, and its supporting frame mounted on friction rollers *m*.

No. 9911. Improvements on Wardrobe Bedsteads.

(Perfectionnements aux couchettes garde-robes.)

Harlan P. Blackman and Charles S. Greene (Assignees of Frederick Caulier) Philadelphia, Penn., U. S., 1st May, 1879, for 5 years

Claim.—1st. In a wardrobe bedstead, the rail *b*, centrally of the bottom of the portion C, in combination with the hinged sections D D; 2nd. The wardrobe bedstead having convertible hinged sections D D_1 D_{11}; 3rd The counterbalance mechanism of the bedstead portion C consisting of coiled springs F and mandrels E, 4th. The portion C, in combination with the mandrels E, springs F and jointed arms *d*.

No. 9912. Improvements on Sewing Machines

(Perfectionnements aux machines à coudre.)

John C Love (Assignee of James F Snediker) Philadelphia, Penn, U. S., 1st May, 1879, for 5 years

Claim — 1st A sewing machine attachment in which a slotted dog, having a pointed projection with inclined sides is combined with a pin *f* and with a needle carrying plate having an arm or lever for acting on and being acted on by the dog; 2nd. The combination, in a sewing machine attachment, of a needle carrying plate having an arm or lever, a reversible dog, a spring for acting on said dog and device for operating the same, 3rd. The combination of the needle bar B and its block D, having the sliding plate *a* and arm or lever F, with the plate J carrying the slotted dog *e*, 4th. In the combination of the needle bar B, the carrying plate *a*, the arm or lever F, the pin *f* and the slotted dog *e*, having a projection *s*, 5th The combination of the plate J, having a recessed arm *f* and pin *s*, with the slotted dog *e* having a pin *y*, 6th The combination of the needle bar B, the sliding plate *a* having lugs *c c*, and the lever F having a set screw *z*

No. 9913. Improvements on Car Axle Boxing.

(Perfectionnements aux moyeux des roues de wagons.)

James S. Hodgins, Simcoe, John K. McLennan, Charles H. Kilmaster, Charles F. Sinden Samuel Sinden, Joseph P Graves, Walsingham, and Samuel Wright, London, (Assignees of Lewis H Montross Simcoe,) Ont., 1st May, 1879, for 5 years

Claim —1st. The combination of the box or casing H, provided with a half boxing or keeper E_1 E_1, with the axle A, single bearing wheel B_1 set to one side of, or obliquely to the axle and shoulder wheel B_2, 2nd The casing I provided with the reservoirs F G and ducts *f g*, in combination with the friction wheels B_1 B_2 and shafts C C_1.

No. 9914. Improvements on Spoke and Felloe Joints.

(Perfectionnements aux joints des rais et des jantes.)

Charles E Kennedy, Hatley, Que., 1st May, 1879, for 5 years.

Claim —1st. The combination of the socket B, having the plates by which it is secured to the felloe C, and which serve to increase its bearing surface with the convex ears *a* and rivet *b*. 2nd A socket B having a large bearing surface, and secured by bolts to the felloe C, 3rd In a carriage wheel the socket B having ears *a* riveted to the opposite sides of the felloe C, and serving as a bearing for the nuts and bolts, to bind it and the tire securely to the wheel.

No. 9915. Process for Preserving Meat.

(Procédé de conservation de la viande.)

Arthur A. Libby, Chicago, Ill, U. S, 1st May, 1879, for 5 years

Claim —The process of preserving raw meat in ordinary hermetically sealed cans or boxes, which consists in coating the said meat with a solution of bi-sulphite of lime, salicylic acid, or any equivalent substance or some adhesive gummy substance, or both, coating the interior of the cans or boxes also with the adhesive or gummy substance, then preferably placing the coated meat in cans or boxes without contact with the interior of the same, and then placing the can or box and contents where they will not be disturbed until the germs of fermentation are deposited.

No. 9916. Process for Preserving Meat.

(Procédé de conservation de la viande.)

Arthur A Libby, Chicago, Ill., U. S., 1st May, 1879, for 5 years.

Claim.—The process of preserving raw meat and retaining the juices of the same, which consists in treating the exterior surface of the meat placing it in a can or box preferably without contact with the interior thereof, closing the said can or box with the exception of the inlet and the outlet for air, forcing through said can or box a current of calcined air, and then hermetically sealing the can or box.

No. 9917. Process for Preserving Meat.

(Procédé de conservation de la viande.)

Arthur A Libby, Chicago, Ill, U S., 1st May, 1879, for 5 years.

Claim.—The process of preserving raw meat from decomposition or putrefaction, which consists in cooling the meat in order to eliminate the animal heat, cutting it into pieces of the proper size, brushing it or bathing it in a solution of bi sulphite of lime or salicylic acid, drying the solution upon the meat, placing the meat in a vessel coated on the interior, and containing an inlet and outlet aperture, but being otherwise hermetically sealed, submitting the meat to a current of cool air previously calcined, and then closing the two apertures of the can or vessel.

No. 9918. Improvements on Hay Rakes.

(Perfectionnements aux râteaux à foin)

Henry A. Connell and Alexander Dunbar, Woodstock, N. B., 1st May, 1879, 5 years.

Claim.—1st. The socket S and the connecting thereby of the bent lever F to the axle stock M, 2nd. The attaching of the draught bar E, with the bent lever F; 3rd. The foot catch B.

No. 9919. Improvements on Plough Coulters.

(Perfectionnements aux coutres des charrues.)

John Clayton, Brainerd, Minn., U. S., 1st May, 1879, for 5 years

Claim.—The combination of the axle B made with a flaring journal or bearing surface, the flanged washer or cap C, the hub E made with a tapering cavity or bearing surface, the clamping plate H, the set screw I, the nuts J D with each other, and the rotary coulter F for connecting the said coulter with its hanger.

No. 9920. Improvements on Mail Bags.

(Perfectionnements aux valises à lettres.)

Jesse G Thompson, Clarion, Pa., U. S., 1st May, 1879, for 5 years

Claim.—The pouch A, surrounded with the stiff flange B, provided with openings *a*, in combination with cover C, having flange D, fastening hooks I and strap S

No. 9921. Improvements on Window Frames.

(Perfectionnements aux châssis des fenêtres)

Richard Kelly, Picton, Ont., 1st May, 1879, for 5 years.

Claim —The grooves A A.

No. 9922. Improvements in Telephones.

(Perfectionnements aux téléphones.)

Thomas A Edison, Menlo Park, N. J, U. S., 1st May, 1879, for 5 years

Claim —1st The combination with a resonant case or support of the carbon, or similar material the lever *c*, disk *k*, and circuit connections 2nd The combination of two moving plates or diaphrams *p k*, with finely divided carbon, or similar material intervening, and the circuit connections passing through the same, 3rd. The combination, with a resonant case, of two diaphragms, or plates *p k*, upon which sound or other vibrations operate, and a circuit regulator of finely divided carbon, or other material placed between such plates *k p* and the circuit connections; 4th. The combination, with an electro-magnet in one circuit of an armature, and finely divided conducting material in another circuit, whereby the variable magnetic attractions are translated into electric waves, 5th. The receiver R, provided with the

helices ... cores and magnet H, 6th. The transmitter A1, provided with a thin metallic plate or plates, with roughened surface, in combination with the diaphragm, and electric circuit passing through such plates, 7th The combination, with the tympan arranged to respond to the human voice, of two or more contact points operated by such tympan and the electric circuits, whereby the current passing upon the line is pulsated in unison with the vibrations of the tympan, and its volume proportionately increased or decreased; 8th. The combination, with the resonant case and tympan, of two or more contact points, and rheostats adjusted to regulate the strength of the electric pulsations passing upon the line; 9th The combination, with the diaphram and resonant tube, of an electro-magnet and a spring armature *m b*, that is supported at both ends, 10th In an acoustic telegraph apparatus, the combination of two stationary electrodes immersed in two cells, a conducting fluid in said cells, and a fluid connection between such cells, and mechanism actuated by a sound vibrating body for varying the dimensions of such liquid connection, and the conductivity of the same, 11th The combination, with the acoustic telegraph and diaphragm, of a roller that receives a revolving motion, and contains an electrolytic material, and a spring or presser connected with the diaphragm, and resting upon the roller, 12th. The combination in an acoustic telegraph, of a moving surface containing electrolytic material, a diaphragm, a presser or spring extending from the diaphragm, and resting on such surface, a screw through a fixed support, acting upon the presser to vary or adjust the friction between the moving surface and the presser, 13th The combination with the moving surface containing electrolytic material, and the electric connections thereof, a case enclosing the said moving surface to exclude atmospheric influence, 14th. The roller a_{11} revolved by power, and the presser g_{11} and diaphragm d_{11}, in combination with the receptacle n_{11} for liquid, and the transfer roller r_{11}, 15th The arrangement of local circuit magnetic call telephone receiver, telephone transmitter, switch and line connections, whereby the call and the receiving instruments are in the line circuit, and the local battery is also put upon the line

No. 9923. Improvements on Telephones.

(*Perfectionnements aux telephones.*)

Thomas A Edison, Menlo Park, N J, U S., 1st May, 1879, for 5 years.

Claim.—1st. The combination of transmitter A, coils D E, switch C, polarized relay E, bell H, battery K and circuits; 2nd. In combination with a telephonic and the primary circuit of an induction coil, the bottom of lamp black carbon placed in the primary circuit; 3rd. In combination with a receiving telephone instrument having a diaphragm and electro-magnet, a swinging lever placed with its moving end in contact with the receiving diaphragm, and a switch or key for increasing the electric current, and operating the lever as a sound or call upon the diaphragm, 4th In combination with the telephone transmitter B^1 and receiver A_1, the induction coil C_1 D_1, battery Q_1, local circuit, switch s_1 and circuit connections, 5th In combination with the main line circuit, local circuit, and the telephonic instrument, the induction coil composed of two wires, the largest of which is surrounded by a finer insulated wire wound helically, the two being then wound into a helix to form the induction coil; 6th. The combination, with an induction coil, of a diaphragm that is acted upon by such induction coil, and gives out sonorous vibrations, 7th. In combination with the balanced circuits, a telephonic instrument included in one circuit, and acting to vary the electric condition of the line by the resistance that is controlled by the sound vibrations, 8th. A transmitting telephone containing a variable resistance in the electric circuit, and a body acting by inertia, to vary the resistance in proportion to the sound vibrations, 9th. Transmitting signals, that can be received on a telephone, in a closed circuit containing a permanent current, by reversing the position therein of an electro-magnet, or similar inductor; 10th A Morse apparatus and a telephonic receiver operated independently of each other in combination with keys and means for transmitting signal waves of different forms; 11th The method of compensating in one circuit for inducted currents from adjacent circuits, consisting in setting up a re-actionary induction by an induction coil connected with the adjacent circuit or circuits.

No. 9924. Improvements on Elevated Railways. (*Perfectionnements aux railroutes aériens.*)

Cornelius Donkersley, New York, U. S., 1st May, 1879, for 5 years.

Claim.—1st. The stretcher B, formed of corrugated metallic plate supported at intervals upon suitable bearing surfaces *a*, in combination with longitudinal side bars or braces C secured to the said plate; 2nd. The standard A, having a recess or opening at its upper end to form the central surface *a* and the side post a_1, in combination with the corrugated stretcher B and the longitudinal side braces C, 3rd The continuous plank D, with or without a non-conducting covering, in combination with the corrugated stretcher B, and the longitudinal side braces C, to form a bed for supporting the grooved rail E upon the said stretcher, and to reduce the noise; 4th. The rail E, provided with one or more V grooves *e*, having bottom channels e^1, in combination with the drive wheel F, having circumferential annular V, shaped webs *f* provided with flattened faces f^1, 5th. The single grooved rail E, having central bottom channelled V-groove *e*, and bevelled outer edges e^2, 6th A single rail elevated railway track, formed by the combination, with a single grooved rail, of a severally grooved rail, to increase traction on an ascending grade; 7th. In an elevated single rail railway, the combination of the bevelled safety rails I, and the bevelled smooth-faced side wheels G, supported by bearings H attached directly or indirectly to the body or frame of car or locomotive; 8th. The relief spring *h*, in combination with the shaft *g*, wheel and bearing G H and the bevelled safety rail I.

No. 9925. Improvements on Ploughs.

(*Perfectionnements aux charrues.*)

John Clayton, Clayton, Minn., U. S., 1st May, 1879, for 5 years.

Claim.—1st. The head block A having a hole formed through its upper part, to receive a plough beam and grooves, and slots formed in its lower part, and provided with the plate C and screw D for clamping the plough beam, with the bolts G and the bearings H for the wheel shafts or axles; 2nd The combination of the side brackets N with the side bars or rods of the head block A and with the plough beam B.

No. 9926. Manufacture of Hydrogen Gas.

(*Production du gaz hydrogène.*)

John A. Stephan, Worcester, England, 1st May 1879, for 5 years.

Claim.—1st Vapourizing the sewage, or sewage deposit, decomposing the steam whereof by hot metallic surfaces ... ing the resulting hydrogen gas with carbonic acid gas by passing the ... metal carbonates and finally converting the carbonic oxide, and at the same time enriching the gas by passing the same through heated hydrocarbons

No. 9927. Improvements on Fire-Escapes.

(*Perfectionnements aux sauveteurs d'incendie.*)

Edward M Ball, Stanstead, Que., 1st May, 1879, for 5 years.

Claim.—1st. The threaded spool *b*, in combination with the sliding disc *c*, and mechanism for operating them upon their shaft and frictional bearing surface *d*, 2nd. The threaded spool *b* having flange *e*, in combination with the spring *f* lenticular disc *c* and frictional bearing surface *d*, 3rd. The spool *a*, in combination with the threaded spool *b*, lenticular sliding disc *c* and mechanism for operating them upon their shaft and frictional bearing surface *d*, 4th. The combination of the spring *h*, gearing *i u*, pulleys *a b*, lenticular sliding disc *c* frictional bearing surface *d* and spring *f*.

No 9928. Barrel Hoop Cutting Machine.

(*Machine pour couper les cercles.*)

William D. Johnson, Elmore, Ohio, U. S., 1st May, 1879 for 5 years.

Claim.—1st. The reciprocating angular knife E, gauge bar G connected to and acting in concert with said knife, in combination with the vibrating table K, pitman M and eccentric L constructed and arranged to operate conjointly 2nd The ratchet wheel and pawl *c f* gearing N O, eccentric L and pitman, arranged in relation to, and in combination with the table K; 3rd The combination of the cam E, lever A, links S, arms Q ratchet wheel and pawl *c f*, gearing N O, eccentric L, pitman M and table K.

No. 9929. Improvements on Boiler Injectors.

(*Perfectionnements aux injecteurs des chaudières.*)

William Sellers. (Assignee of George R. Buckman), Philadelphia, Pa., U.S., 1st May, 1879, for 5 years.

Claim.—1st. An air chamber in communication with the water supply pipe, in combination with an air chamber in communication with the overflow chamber. 2nd In combination an injector case which supports the nozzles of a self-adjusting injector in position, a water chamber, an air chamber in connection therewith, and an air chamber in connection with the over-flow chamber.

No. 9930. Work Table Implement.

(*Auxiliaire de table à ouvrage.*)

Edwin S Heath, Clintonville, Pa., U S., 1st May, 1879, for 5 years.

Claim.—1st. The paper weight A, 2nd. The combination, with the paper weight A, of the pin cushion B and scissors sharpener D. 3rd The mode of application of the tape line C and glass-cutter wheel E.

No. 9931. Improvements in Milk Cans.

(*Perfectionnements aux bidons à lait.*)

Thomas S Evans and John M Nunns, Kingsey, Que., 1st May, 1879, for 5 years.

Claim.—An inclined apron, extending partially across the can, which allows the cream to rise readily from the body of milk below at the same time that it permits of the cream being easily drawn off from the upper part of the can, without coming in contact with the sediment at the bottom the can.

No. 9932. Improvements in Gas Governors.

(*Perfectionnements aux régulateurs à gaz.*)

Miles Lees, Providence, R. I., U. S., 1st May, 1879, for 5 years

Claim.—1st. In a gas pressure governor, the combination, with the annular mercury channel, of the dome d provided with a contracted central aperture provided with the guard *e*, 2nd The combination, in a gas pressure governor, with the valve *b*, diaphragm *c* and valve stem *f*, of the spring *g* and adjustable thumb-screw *h* arranged to regulate the pressure; 3rd. The combination, with the diaphragm, valve and valve stem, of the disk K and cord *l*, provided with the weights *m* arranged to regulate the weight of the diaphragm; 4th The combination, with the annular mercury chamber provided with the dome d, of the dome *o* provided with the neck *p*, 5th. The combination, with the valve and diaphragm of a gas pressure regulator, of an annular mercury cup made of glass, or protected by an enamel arranged to be inserted or removed, 6th. The combination, with a regulating valve, of a reliefe valve arranged to relieve any sudden pressure.

No. 9933. Improvements on Invalids' Rests.

(*Perfectionnements aux appui-malades.*)

Cyprien Fortin, Beauharnois, Que., 1st May, 1879, for 5 years.

Claim.—The combination of the reclining frame A A with the sliding frame B B C C and the action of the clamp screw F, and the bands G in shortening, lengthening and holding in place the sliding frame B B C C, as well as the action of the supports E F and the cross-bar H joining them.

No. 9934. Improvement on Stove Linings.

(*Perfectionnement aux doublures des poêles.*)

Robert D Sandiland, Lyons, Iowa, U. S, 1st May, 1879, for 5 years.

Claim.—In an adjustable stove back lining, the inclined lots D D.

No. 9935. Improvements in Power Hoists.

(Perfectionnements aux élévateurs à manège.)

Phillip Sykes, Providence, R. I., U. S., 1st May, 1879, for 5 years.

Claim – 1st. The combination, with the rope *a*, of the revolving grooved pulley *d*, the counterbalanced lever *f* and loose pulley *g*, 2nd The combination, with the hand hoist provided with an endless rope, of two grooved driving pulleys and two pressure pulleys, arranged to drive the hoist in either direction, 3rd. The combination, with a hand hoisting gear, of a power driven shaft provided with grooved pulley and frictional contact pulleys, by means of which either side of the rope can be operated.

No. 9936. Improvements in Telephones.

(Perfectionnements aux téléphones.)

Thomas Ahearn, Ottawa, Ont., 1st May, 1879, for 5 years.

Claim.—1st. The spring L and metal points P P_1, in combination with telephone stand S and ground wire G W; 2nd. The combination of a closed circuit push button H_1, points K K_1, wires G G_1; 3rd. The combination of a closed circuit push button H, points C_1 C_2, with wires C C_3; 4th. The combination of spring L, points P P_1, stand S, standard S_1, wires R O F_3 E D, push button H, points C_1 C_2 C_3 and C, magnets M M, circuit "make and break" points F_1 F_2, wires G G_1, push button H_1, points K K_1.

No. 9937. Machine for Making Heel Stiffeners. *(Machine pour faire les contre-forts des talons.)*

Joseph Kieffer, Montreal, Que., 1st May, 1879, for 5 years.

Claim.—1st. Making heel counters, by shaping the blank intermittently fed forward on one die by repeated blows from the other; 2nd. The combination of the feed rollers E F operating intermittently, the female die working alternately with these; 3rd. The male die and rollers M M; 4th. In a heel counter machine, a female die, having the part forming the up turn made to increase gradually, from nothing at point of entrance of the blank, to full width at point of exit.

No. 9938. Machine for Facing Millstones.

(Machine pour rhabiller les meules.)

Daniel Brubaker and Moses Merick, Oswego, N. Y., U. S., 1st May, 1879, for 5 years.

Claim.—1st. Ground Australian or California quartz, or any other quartz suitable for millstone facing, in combination with the solution of equal parts of nitro muriatic acid, ammonia and alum; 2nd. The tool B C, in combination with the crystalized quartz and solution.

No. 9939. Improvements on Fire-Escapes.

(Perfectionnements aux sauveteurs d'incendie.)

William S. Hunter, Stanstead, Que., 1st May, 1879, for 5 years.

Claim.—1st. A box A having the candle-holders *c d* and match receptacle *f*, secured to the inner bottom of the same and containing the U-shaped pins B; 2nd. In combination with a box A, having the suspension ring *b*, at one end, and containing the pointed U-shaped pins B, the horizontal candle holder *c*, vertical handle *d*, match receptacle *f* and candle *e*; 3rd. In combination with a box A, containing the pointed U-shaped pins B, the spool D and weight or plummet *h*, horizontal candle-holder *c*, candle *e* vertical candle-holder *d*, match-holder *f* containing the matches *g*; 4th. The U-shaped pins B as a means of escape from fire, by pinning together two or more articles of bed clothing; 5th. As a means of communication below, the spool of twine C and weight or plummet *h*, combined with the box A and pins B

No. 9940. Improvements on Dumping Waggons. *(Perfectionnements aux wagons à bascule.)*

James H. Nelson, Wayne, Wis., U. S., 1st May, 1879, for 5 years

Claim.—1st. The combination of the frame A having cross-bars *f*, boards *j*, cross-bar in boards O O, doors *g* g_1 and end gates *s* s_1; 2nd. The combination of the box C having the end gate W, cleats h_1 h_1 e_1 e_{11}, roller g_{11} and frame A; 3rd. The combination, with the frame A having extension piece *k* of the box D having the side cleats *m*.

No. 9941. Improvements on Foot Warmers.

(Perfectionnements aux chaufferettes.)

Osborn Conrad (Assignee of Maria E. Beasley), Philadelphia, Pa., U. S., 1st May, 1879, for 5 years.

Claim.—1st. The body A with water chamber B_1, lamp chamber C, water pipe *b*, steam pipe *c* and smoke pipe *d*; 2nd. The body A with tread *a* water chamber B_1, lamp chamber C, pipes *b d e* and self-righting lamp or lamps D.

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

No. 9942. H. Whiteside, jr., Ottawa, Ont., "Folding Bed," (Extension of Patent No. 3397) May 1st, 1879.

No. 9943 Jas. Carpenter, Southampton, Eng., "Boat Lowering Apparatus," (Extension of Patent No. 3404), May 3rd, 1879.

No. 9944. R. D. Ewing, Toronto, Ont., "Furnace," (Extension of Patent No. 3412), May 7th, 1879.

No. 9945 H. B. Clark (Assignee of M. C. Clark, Ingersoll, Ont.), "Bed Spring, (Extension of Patent No. 3423), May 7th, 1879.

No. 9946. J. A. Bucher (Assignee of S. Wright et al., Hillsboro, Ont., "Step Ladder," (Extension of Patent No. 3439), May 8th, 1879.

No. 9947 J. W. McLean, Mahone Bay, N. S., "Row Lock," 12th May, 1879.

No. 9948 L. Loiselle, Valleyfield, Que., "Refrigerator," 12th May, 1879.

No. 9949. P. Malhiot, St. Alexis, Que., "Seed Planter," 12th May, 1879.

No. 9950. C. Stout, Bootle, and W. P. Thompson, Liverpool, Eng., "Sawing Machine," May 12th, 1879.

No. 9951. L. Laurent, Montreal, Que., "Rope Fastener," May 12th, 1879.

No. 9952. D. Darvil, London, Ont., "Brick and Tile Machine," May 12th, 1879.

No. 9953. C. Tyson, Philadelphia, Pa., U. S. A., "Pump," May 12th, 1879.

No. 9954. J. M. Davies, Hamilton, Ont., "Washboard," May 12th, 1879

No. 9955. W. F. Sawdon, H. North and W. G. Cragg, Dresden, Ont., "Metallic Hubs," May 12th, 1879.

No. 9956. T. Seaman, Listowel, Ont., "Waggon," May 12th, 1879

No. 9957. W. T. Warner Plattsburgh, N. Y. U. S. A., "Bucket," May 12th, 1879.

No. 9958. E. B. Eddy (Assignee of G. H. Millen), Hull, Que., "Washboard," May 12, 1879.

No. 9959. O. H. Taylor, Brooklyn, N. Y., U. S. A., "Sewing Machine Treadle," May 12th, 1879.

No. 9960. C. E. Hovey and E. D. Macpherson, Clinton, Ont., "Conveyor for Threshing Machines, &c.," May 12th, 1879.

No. 9961. D. Bickford, New York, U. S. A., "Knitting Machine (Extension of Patent No. 3454). May 13th, 1879.

No. 9962. L. J. Dart, Albion, Ca., U. S. A., "Compound for the Cure of Cancers, &c" May 13th, 1879.

No. 9963. T. S Marshall, Millbrook, Ont., "Reaping Machine," May 13th, 1879.

No. 9964 C. H. Wyman, St. Louis, Miss., U. S. A., "Egg Tester" May 13th, 1879.

No. 9965. E. Gordon, Hyde Park, and I. A. Duggan, Quincy, Mass U. S. A., "Railroad Switch," May 13th, 1879

No. 9966. W. H. Smyth, San Francisco, Cal., U. S. A., "Portable Sawing Machine," 13th May, 1879.

No. 9967. P. P. Timofeef, St. Petersburgh, Russia, "Illuminating Gas" 13th May, 1879.

No 9968. C. E. Ramage, Toronto, Ont., "Suspender Clamp," 13th May 1879.

No. 9969 G. McBride, Dover Hill, Ind., U. S. A., "Tellurion," 13th May, 1879.

No. 9970. E. Tyhurst, Chatham, Ont., "Curd Agitator," (Extension of Patent No. 3868), 16th May, 1879.

No. 9971. E. Tyhurst, Chatham, Ont., "Curd Agitator," (Extension of Patent No. 3968), 17th May, 1879

No. 9972. P. Cardiff and J. M. Adams, Marshfield, Oregon, U. S. A. "Matching Machine," 17th May, 1879.

No. 9973. G. E. Gray and C. W. M. Smith, San Francisco, Cal., U. S. A "Spiral Springs for Railway Cars," 17th May, 1879

No. 9974. T. A. Ellis, Fredericton, N. B., "Preservative of Animal Matter, Fish, Vegetables, &c.," 19th May, 1879.

No. 9975. G. S Williams, Eggleston's Springs, Va., U.S.A., "Compound for Hog Cholera," 26th May, 1879.

No. 9976. T. Goodall, Sanford, Me., U. S. A., "Improvement in Nap or Plush Goods," 26th May, 1879

No. 9977. T. Cuthbertson, Bright, Ont., "Cider Mill," 26th May, 1879.

No. 9978. J. E. W. Currier, Ottawa, Ont., "Table and Box," 26th May, 1879.

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No 9980. W. Young, Belfast, England, "Method of Preventing Colliery Explosions in Coal Mines," 26th May, 1879

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No 9988 E Smith, Portland, Me., U. S A., "Snow Shoes," 26th May, 1879

No. 9989 G. Grieve, Palmyra, N.Y, U S. A., "Baker's Oven Furnaces," 26th May, 1879

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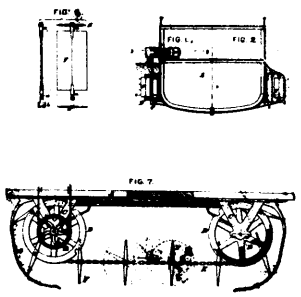

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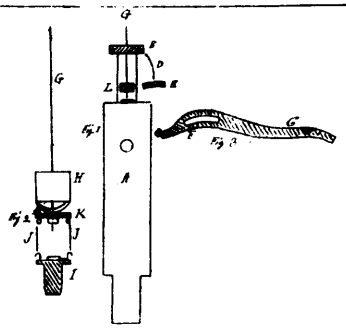

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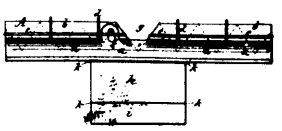

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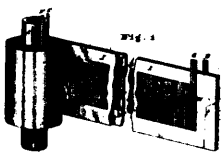

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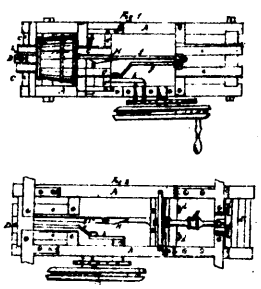

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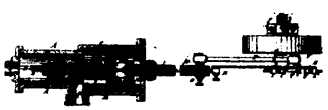

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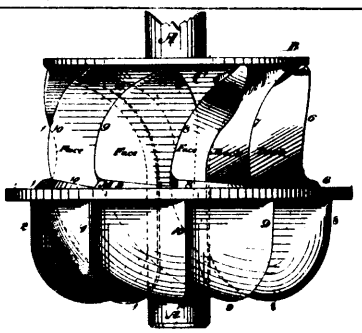

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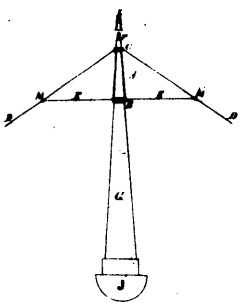

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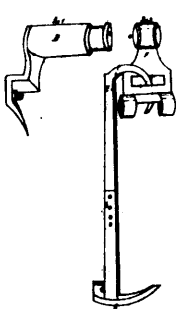

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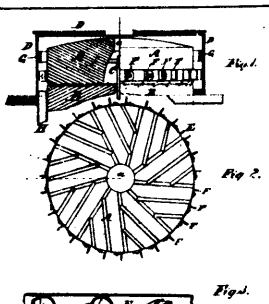

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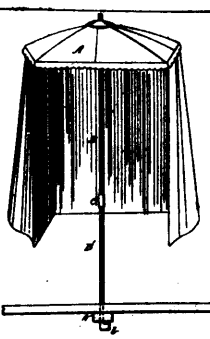

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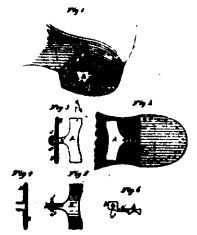

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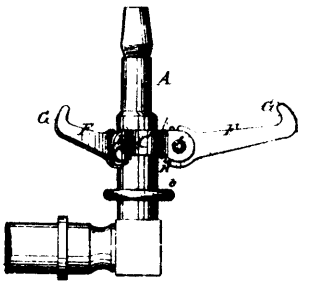

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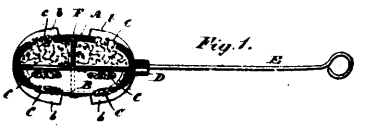

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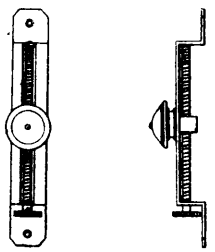

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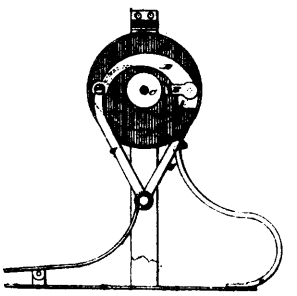

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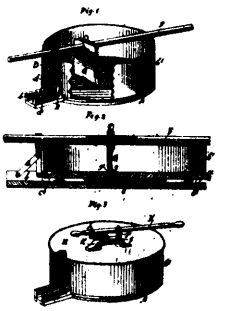

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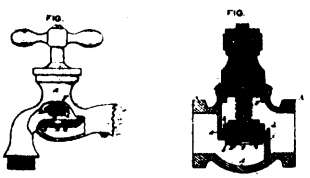

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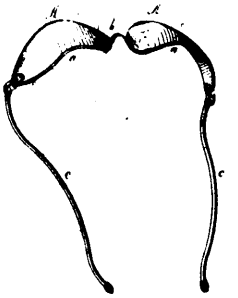

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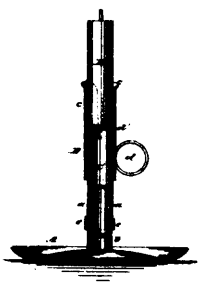

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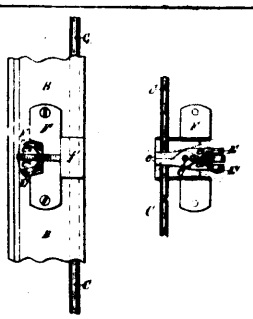

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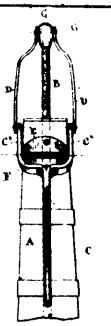

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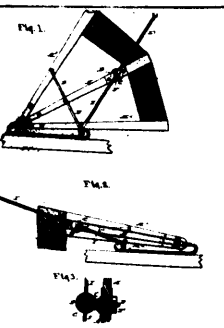

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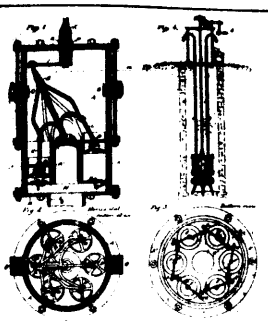

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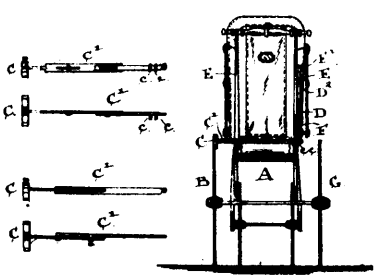

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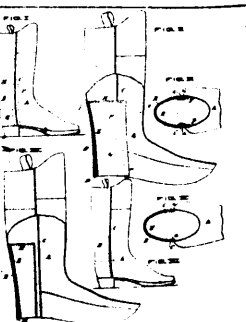

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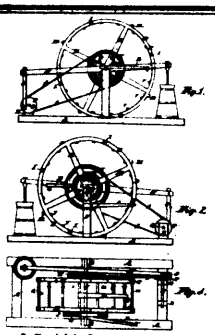
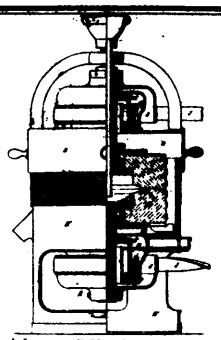
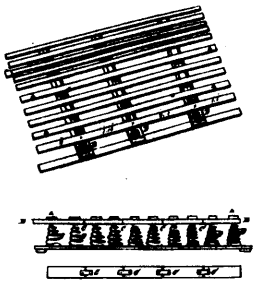


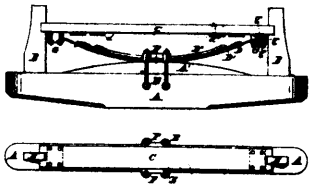
9839 Josleyn & Smith's Improvements on Animal Powers.



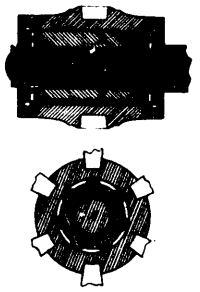
9840 Higginbottom & Hutchinson's Apparatus for Granulating Grain.



9841 Terwillegar's Improvements on Spring Beds.

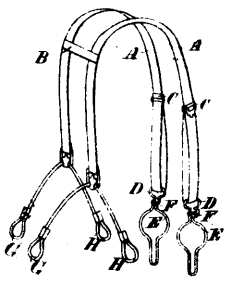


9842 Krehbiel's Improvements on Vehicle Springs.

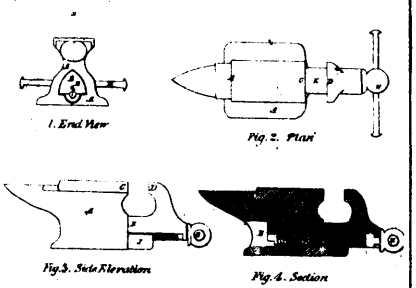


9843 Thomas's Improvements on Shaft Bearings.

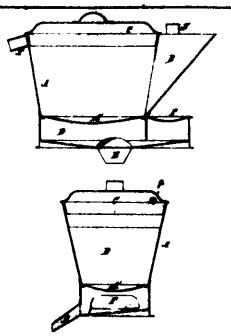
9844 Durocher's Improvements on Boots



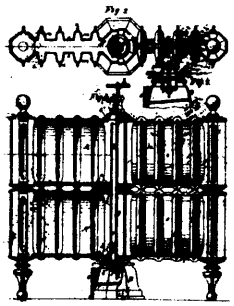
9845 Turner's Improvements on Pantaloon Suspenders



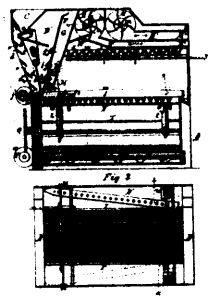
9847 Clokey's Improvements on Vises and Anvils.



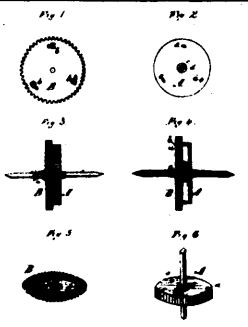
9848 Scott's Improvements on Sink Fittings.



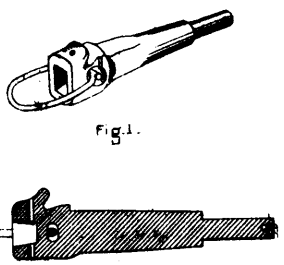
9849 Mills's Improvements on Steam Radiators,



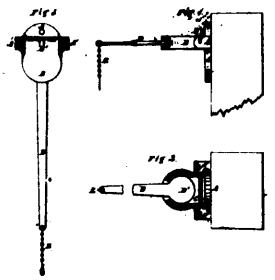
9850 Fender's Improvements on Middlings Purifiers.



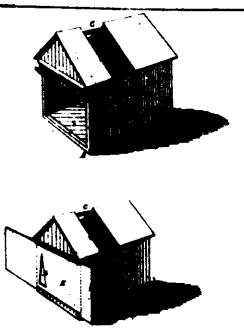
9851 Fitt's Improvements on Watch Barrels.



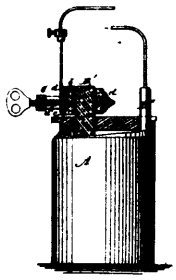
9852 Crackett's Improvements on Railway Drawbars.



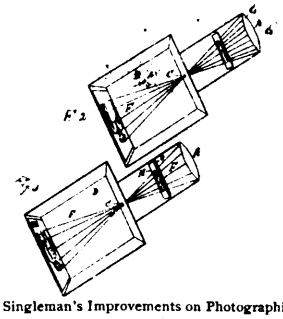
9853 Whitney's Improvements on Hitching Bars,



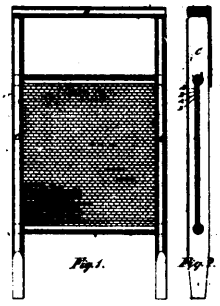
9854 Thompson's Improvement on Photographic Studios.



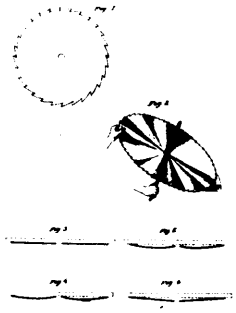
9855 Kreis' Connector for Battery Carbons.



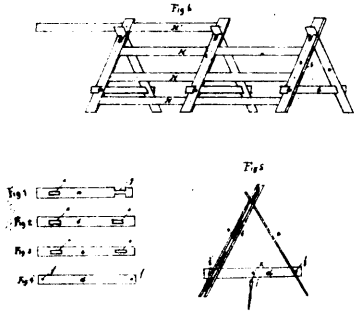
9856 Singleman's Improvements on Photographic Negatives.



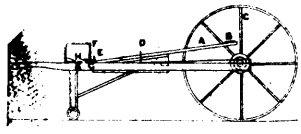
9857 Millen's Improvements on Washboards.



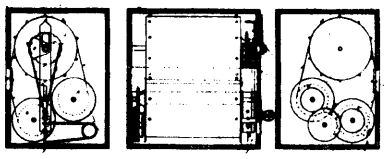
9858 Simonds & Marshall's Improvements in Circular Saws.



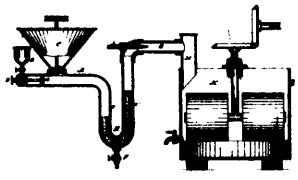
9859 Fraser's Improvements on Fences.



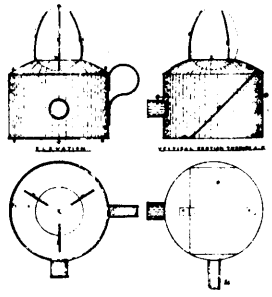
9860 Whelan's Improvements on Broadcast Sowers



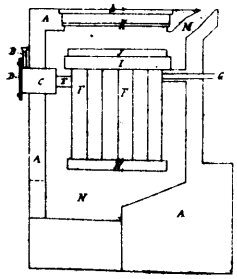
9861 Morency, Carrier & Mackay's Station Indicator.



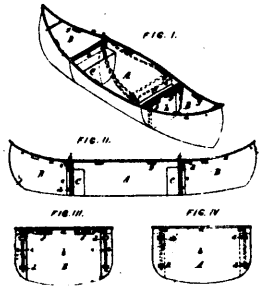
9862 Ball's Process and Apparatus for Amalgamating Ores.



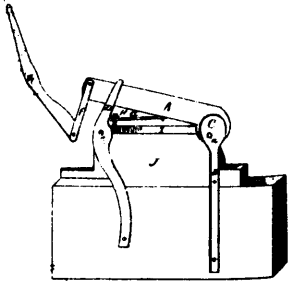
9863 Williams & Dustan's Machine for Testing Eggs.



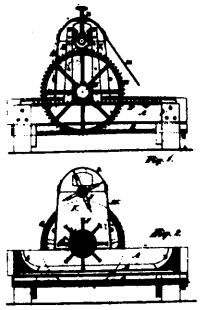
9864 Moore's Improvements on Gas Retorts



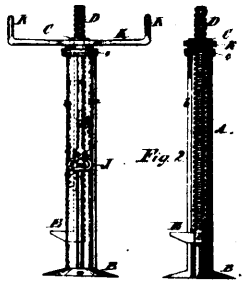
9865 Luckerhoff's Improvements in Portable Boats



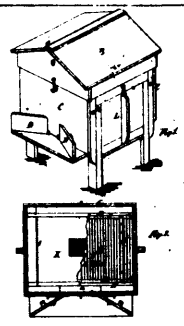
9867 Cook's Machine for Cutting Metal.



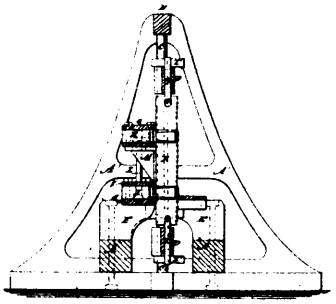
9868 Tyhurst's Improvements on Curd Agitators.



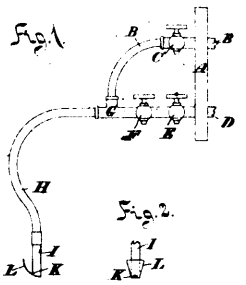
9869 Guilford & Donnelly's Improvements on Railway Jacks.



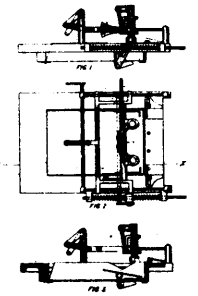
9870 Fisher's Improvements on Bee Hives.



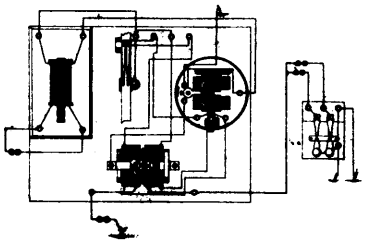
9872 Kendall & Hall's Improvements on Saw Guards



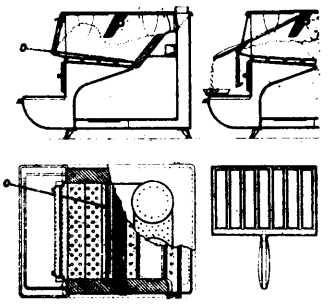
9873 Walsh's Improvements on Hydro-Carbon Lamps.



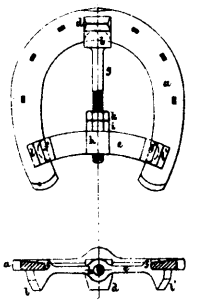
9875 Ellery's Improvements on Printing Presses.



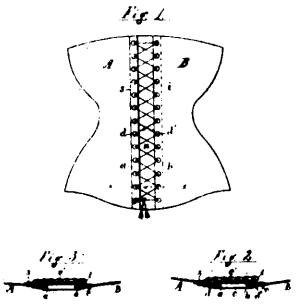
9876 Boyle's Telegraphic Recording Apparatus.



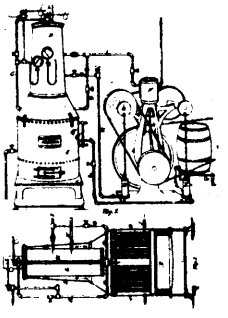
9877 Greene's Improvements in Cooking Stoves.



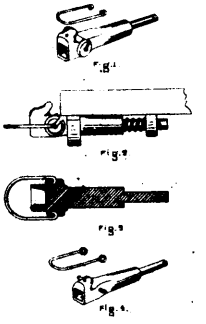
9878 Bigg's Improvements on Horse Shoes.



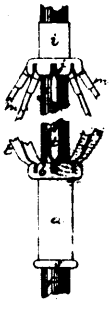
9879 Ross' Improvements in Corsets.



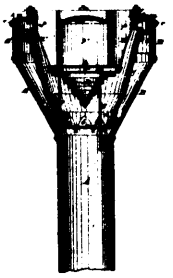
9880 Whiting's Combined Steam and Air Engine.



9881 Crackett's Improvements on Draw-bars.

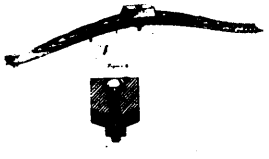


9883 MacMillan's Improvements in Umbrellas.

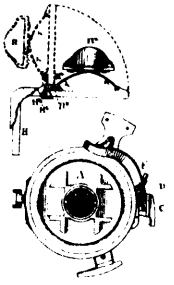


9884 Fish's Improvements on Smoke-Stacks for Locomotives.

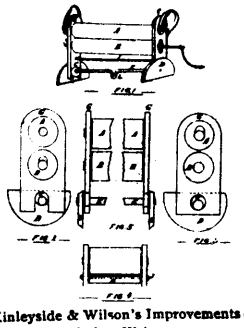
9885 Dickie's Improvements on Cart Saddles.



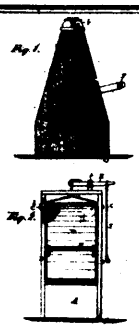
9886 Spaulding's Improvements on Carriage Springs.



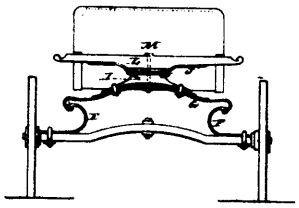
9887 Sweet & Watsón's Improvements in Reaping Machines.



9888 Kinleyside & Wilson's Improvements on Clothes Wringers.

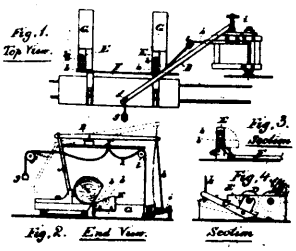


9889 Reese's Improvements on Mangles.

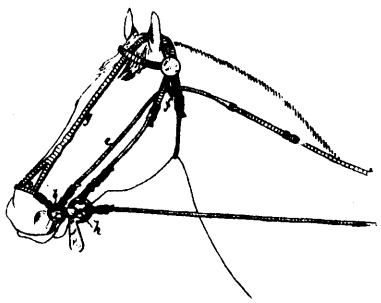


9890 Michael's Improvements on Vehicle Springs.

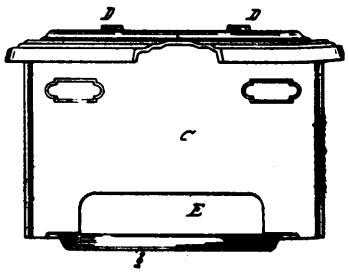
9891 Benham's Improvements on Envelopes.



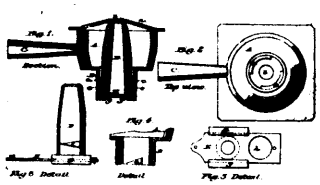
9892 Tripp & Ballon's Improvements in Saw Mills.



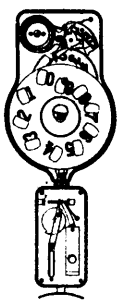
9893 Carleton's Improvements on Bridle Bits.



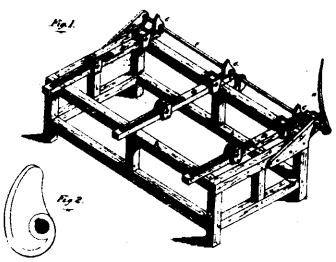
9894 Roberts' Improvements on Cooking Stoves.



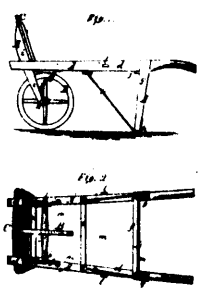
9895 Miller's Improvements in Tuyeres.



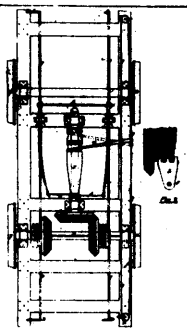
9897 Hornum's Improvements on Fare Registers.



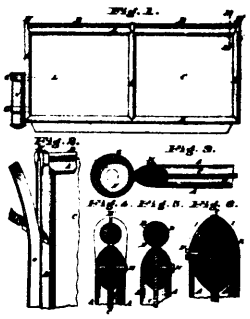
9901 Wood's Cramping Machine.



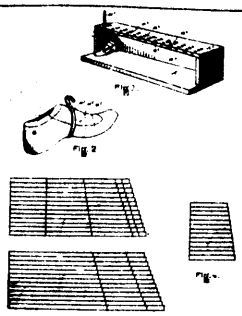
9902 Clark's Improvements on Wheel-barrows.



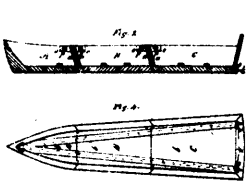
9903 White's Combined Car Brake and Starter.



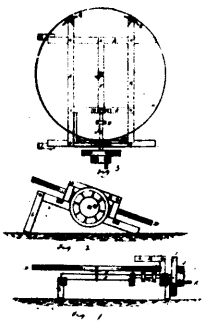
9904 Warden's Improvements on Carriage Dashes.



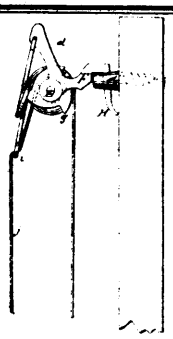
9905 Kimball's Improvements on Scale and Measuring Straps for Last Makers.



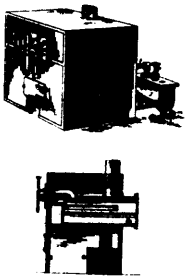
9906 De Cazes' Improvements on Portable Boats.



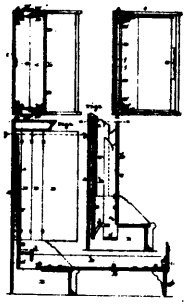
9907 Heenan's Improvements on Animal Powers.



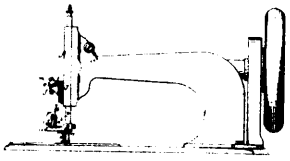
9908 Henry's Improvements on Curtain Fixtures.



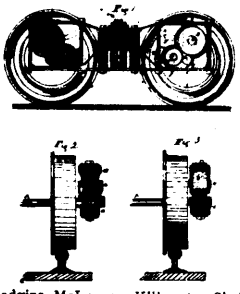
9910 Hanlon's Improvements on Gas Apparatus.



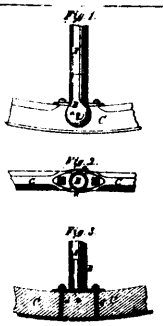
9911 Blackman & Greene's Improvements on Wardrobe Bedsteads.



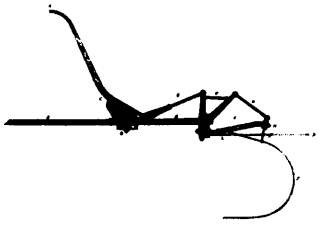
9912 Snediker's Improvements on Sewing Machines.



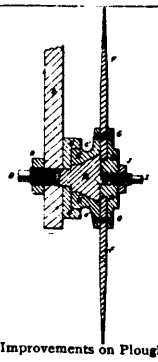
9913 Hodgins, McLennan, Killmaster, Sinden, Graves & Wright's Improvements on Car Axle Boxing.



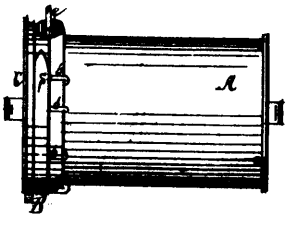
9914 Kennedy's Improvements on Spoke and Felloe Joints.



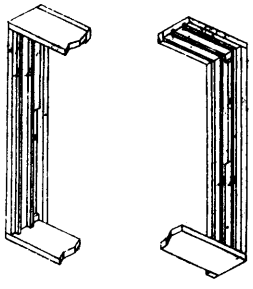
9918 Connell & Dunbar's Improvements on Hay Rakes.



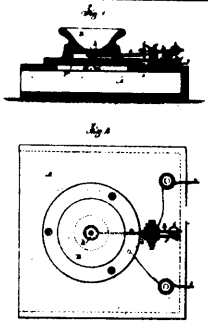
9919 Clayton's Improvements on Plough Coulters.



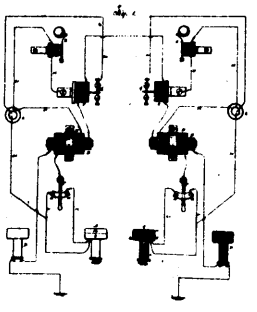
9920 Thompson's Improvements on Mail Bags.



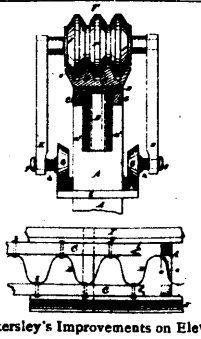
9921 Kelly's Improvements on Window Frames.



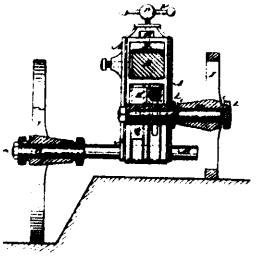
9922 Edison's Improvements in Telephones.



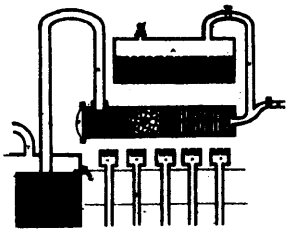
9923 Edison's Improvements on Telephones.



9924 Donkersley's Improvements on Elevated Railways.

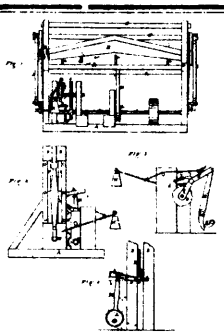


9925 Clayton's Improvements on Ploughs.

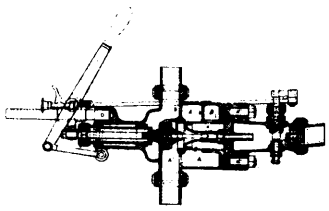


9926 Stephan's Manufacture of Hydrogen Gas.

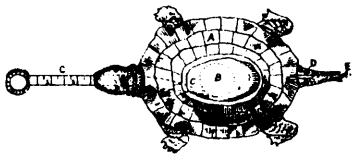
9927 Ball's Improvements on Fire-Escapes.



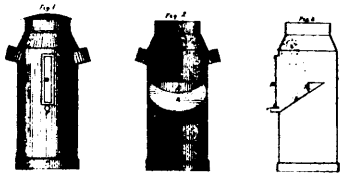
9928 Johnson's Barrel Hoop Cutting Machine.



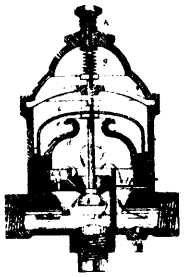
9929 Buckman's Improvements on Boiler Injectors.



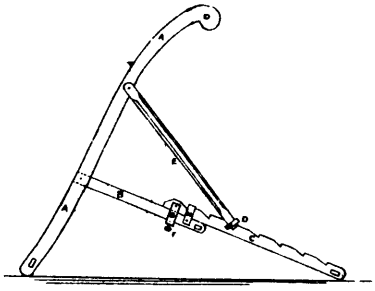
9930 Heath's Work Table Implement.



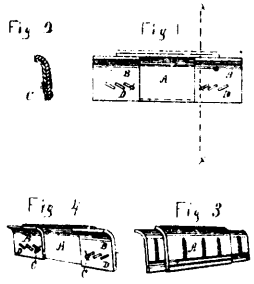
9931 Evans's Improvements in Milk Cans.



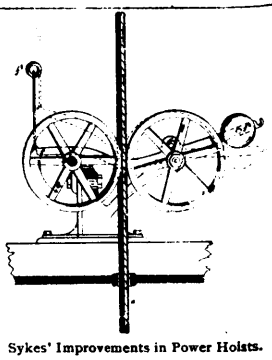
9932 Lees' Improvements in Gas Governors.



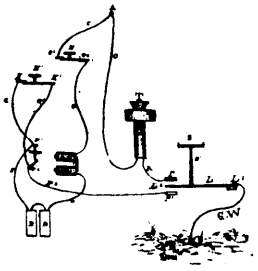
9933 Fortin's Improvements on Invalids' Rests.



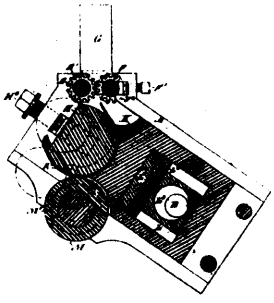
9934 Sandiland's Improvement on Stove Linings.



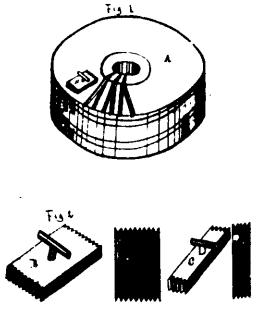
9935 Sykes' Improvements in Power Hoists.



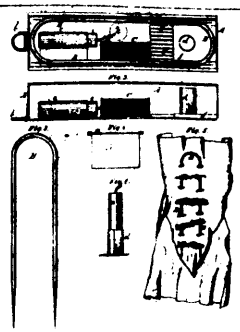
9936 Ahearn's Improvements in Telephones.



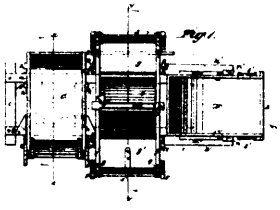
9937 Kieffer's Machine for Making Heel Stiffeners.



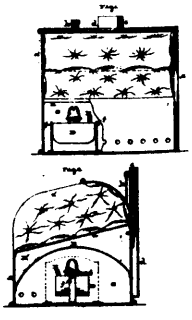
9938 Brubaker's Machine for Facing Millstones.



9939 , Hunter's Improvements on Fire-Escapes.



8940 Nelson's Improvements on Dumping Waggons.



9941 Beasley's Improvements on Foot Warmers.