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The Canadian Patent Office Record

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CONTENTS.

INVENTIONS PATENTED.

No. 9673. Improvements on Car Replacers.

(*Perfectionnements aux enrailleurs des wagons.*)

David Russell, London, England, 18th February, 1879, for 5 years.

Claim.—A car replacer made of tapered channel iron, "Bell Mouth" shaped, with sides splayed or bevelled back and rounded inside about three inches deep, with solid lugs B_1 C_1 to clip rail of track, and at the same time to have a solid bearing both on head and flange of rail at narrow end; also the mechanical arrangement of a support D_1, to rest on cross ties, in addition to having wide end supported by another cross tie and fixed by solid studs E when in use.

No. 9674. Improvements on Bed Slat Couplers.

(*Perfectionnements aux attache-barres des lits.*)

Lares J. A. Roswall, Clarence, Mo., U. S., 18th February, 1879, for 5 years.

Claim.—The combination, with the side rails of a bedstead and the slat, of the hooked latch D pivoted in a plate or frame E secured to the slat, and the frame F secured to the rail and provided with the pivoted bottom I.

No. 9675. Improvements on Corsets.

(*Perfectionnements aux corsets.*)

Electa A. Waterhouse, Chatham, Ont., 18th February, 1879, for 5 years.

Claim.—In an abdominal or ordinary corset, the front lacings A A, side lacings directly over the hips B B, the cords C C and the opening flaps D D fastened with buttons *a a* immediately over the breasts.

No. 9676. Improvements on Grain Binders.

(*Perfectionnements aux lieuses à grain.*)

John H. Gordon, Rochester, N. Y., U. S., 18th February 1879, for 5 years.

Claim.—1st. The binder frame E F sustained, at both top and bottom, from the two bars C D of the harvester frame; 2nd. In combination with the harvester having the elevating apron or conveyor B, the binder frame E F connected thereto at two points, one below and the other above the delivery end of the conveyor; 3rd. In combination with a harvester provided with a grain elevator B, a binding machine having an overhanging arm F sustained at its upper end by stays or braces *b* connecting with the harvester frame at a point above the delivery end of the elevator; 4th. In a grain binding machine, an overhanging arm F to sustain the binder arm held and sustained at its upper end by braces *b*; 5th. The binder frame E F, having its base provided with arms *a* engaging upon the harvester frame, and its standard or bracket provided with the braces *b* having rollers *c* mounted on a track or rail *d* on the harvester frame; 6th. The binder frame, consisting of a metal base frame E adapted to sustain the twisting devices Q R_1 S_1, and an overhanging arm F mounted rigidly upon the base frame; 7th. The combination of the sliding binder frame E F and the sliding deflectors I, sustained independently of each other, with the shifting mechanism *f g h i J l* arranged to move them simultaneously; 8th. In a grain binding machine, the combination of a binder frame E F and grain deflectors I, mounted on separate independant supports, and shifting mechanism *f g h i J l* connected with both the frame and deflector, so as to move them together; 9th. The sliding binder frame, provided with the rack bar F, in combination with the fixed pinion *g*, having its shaft *h* extending upward and provided with a crank *i* within reach of the driver; 10th. In combination with the fixed pinion *g*, the rack bar *f* jointed to the binder frame E; 11th. In combination with the movable or wire carrying arm L of a binding machine, a take up device T adapted to take up the slack wire as the binder arm is raised or retracted without affecting the tension of the wire during the binding operation; 12th. In a grain binding machine, a spring device T to take up the slack wire adapted to yield under the ordinary strain of the wire, so as not to affect the tension or strain of the wire upon the grain; 13th. In a grain binding machine, a binding or wire carrying arm L and a twisting mechanism Q R_1 S_1, in combination with an adjustable driving mechanism connecting the two and permitting the movement of the one to be quickened or retarded in relation to the other; 14th. In combination with the driving chain *n* controlling the movement of the binder arm L in relation to the twisting mechanism Q R_1 S_1, the wheel *m* having the serrated hub in combination with the serrated disk *w*, on the binder arm shaft O and the tightening nut; 15th. A grain binder or wire carrying arm L and twisting mechanism Q R_1 S_1 connected with each other through the medium of an adjustable clutch *w*, so that the arm may be moved forward or backward in its course of movement; 16th. In a grain binding machine having a horizontal table or receiver K, an intermittently acting arm or kicker W to ensure the delivery of the bound bundles and prevent them from clinging to each other; 17th. The reciprocating rod or arm W arranged to slide outward beyond the grain table or receiver; 18th. A twister head Q, having an upper peripheral hook a^1 and a lower hook or shoulder a^2 slightly in rear of the upper one; 19th. The twister head Q, having the upper hook a^1 and the lower shoulder or hook a^2; 20th. A rotary twister head having a long upper hook a^1 and a short lower hook or shoulder a^2; 21st. In combination with the throat plate Y and the sliding jaw R_1, the binder arm L having a projection or rib on its side to force the wire over within reach of the jaw; 22nd. The cam wheel P, constructed and arranged to operate both wire clamping jaws R_1 S_1 and the twister head Q, by means of intermediate mechanism; 23rd. In combination with the single cam wheel P, having eccentric or cam faces, both above and below the levers h_1 i_1 k_1 m_1, arranged to operate the two jaws R_1 S_1, the twister Q and the kicker or delivery arm W; 24th. In combination with the crank M, arranged to operate the binder arm L, a compression arm R, mounted thereon, and a fixed guide S to control the movement of the compression: 25th. In combination with the two guides N S and the crank M, the binder and compression arms L R; 26th. In a grain binding machine, the combination of a driving crank M, a fixed slotted guide N and a binder arm L, mounted directly on the crank M and arranged to slide in the guide; 27th. In a grain binding machine, the combination of a rotating driving crank M, a binder arm L, mounted at or near its middle thereon, and a fixed bent guide N by which the movement of the binder arm is controlled and its nose caused to travel in a straight line, driving the whole or the greater part of its backward movement; 28th. The combination, in a grain binder, of the table K, the fixed overhanging standard F provided with the rigid guide arm N S, the crank M, having its shaft O mounted in the standard F, and the binder arm L sustained and carried by the crank and guide arm 29th. The combination of the rotating crank M, the binder arm L, mounted thereon, and a fixed elongated guide N having the end of the arm, arranged to slide, to and fro, therein or thereon, the distance between the crank pin and the bearing of the arm on the guide remaining the same during the entire movement of the arm; 30th. In a grain binding machine, the combination of a rotating driving crank M, a fixed sinuous guide N and an arm L adapted and arranged to carry the binding wire around the grain mounted directly on the crank M and controlled in its movement by the guide N.

No. 9677. Improvements on Silk Cleaning Machines. (*Perfectionnements aux machines à nettoyer la soie.*)

Avah N. Belding (Assignee of Elisha J. Martin), Rockville, Ct., U. S., 18th February, 1879, for 5 years.

Claim.—1st. The combination of a series of cleaning spindles C_1 C_2 C_3 C_4 with the tension roller E and the drawing roller F; 2nd. The combination of the drawing roller F, the winding bobbin G and the friction pulley I with a pulley J upon the main shaft, constructed and arranged so that the circumference of the bobbin tends to run faster than the drawing roller to keep the thread tight; 3rd. The series of stationary spindles C_1 C_2 C_3 C_4, in combination with rollers E and F, bobbin G and friction pulley I for giving motion to a running thread passing around the spindles for the purpose of cleaning it; 4th. The trough K and oiling wire L within the box B for oiling the bearings of the spindles while in motion; 5th. A spindle for cleaning silk or other threads composed of a conical or curved part *a* and a cylindrical part *b*.

No. 9678. Improvements in Fanning Mills.

(*Perfectionnements aux tarares-cribleurs.*)

Andrew B. McKay, Braemar, Ont., 18th February, 1879, for 5 years.

Claim.—1st. A bag filling attachment, for fanning mills, composed of the elevating leg B arranged to receive the clean grain from the delivering board C and driven from the fan shaft of the mill or from any other suitable part, in such manner that the grain can be elevated and deposited into bags hung on the outer end of the elevating leg; 2nd. A portable combined grain elevating and bag filling attachment, for fanning mills, which can also be used as a bag-holder for filling grain by the hand; 3rd. The combination of the elevating leg B with bag holding attachment with a fanning mill.

No. 9679. Improvements in Candle Apparatus.

(*Perfectionnements aux machines à chandelle.*)

Auguste F. Collette, St. Luc, and Jacob C. Ulric, Chambly, Que., 20th February, 1879, for 5 years.

Claim—1st. In a candle making apparatus, the combination of a boiler A and pipes D and K with the tank C, melting vat E and frame L; 2nd. In a candle manufacturing apparatus, the combination of the dripping plunger Q, having slides R, with the candle holder S, having dovetailed or L-shaped strips *b* and hooks *c*, with the frame L, having slide rods O O and cross-beam P, with pulley *a*; 3rd. The combination, with a candle making apparatutus having the dipping plunger Q fitted with candle holder S, of the rope or chain T, pulley *a* and winch *d*.

No. 9680. Improvements in Spring Hinges.

(*Perfectionnements aux pentures à ressort.*)

James Spruce, Waterbury, Ct., U. S., 20th February, 1879, for 5 years.

Claim.—A spring hinge, having a spiral spring arranged around the pintle, and bearing upon each leaf a tubular bearing extending from the inner knuckle on to the spindle, and between the spindle and the spring on that side opposite the bearing, but partially encircling the spindle, and made fast to, or a part of the knuckle.

No. 9681. Improvements on Ice Boats and Dredges. (*Perfectionnements aux brise-glace et dragueurs.*

Frank M. Mahan, St. Joseph, Mo., U. S., 20th February, 1879, for 5 years.

Claim.—1st. The combination, with a steam vessel, of a gang of saws upon its bow and breakers, working in unison therewith, to knock off the ice blocks; 2nd. The combination, with a steam vessel and a vertically adjustable frame arranged at the bows, of a gang of circular saws journalled in said frame and breakers extending across the gang, inside of the cutting portion of said saws; 3rd. An ice breaking steam vessel having a gang of saws at its bow, and breakers extending across the gang, a double hull at its after portion and a propelling wheel in the space between the hulls, whereby it is protected from contact with the broken up ice.

No. 9682. Improvements in Bridge Trusses.

(*Perfectionnements aux armatures des ponts.*)

Edward Wasell, Digby, N. S., 20th February, 1879, for 5 years.

Claim.—1st. The combination of railway rails, or beams of a similar shape and section of iron or steel, consisting of a horizontal girder R R, a post brace or tie D, either notched in the flanges and locked in between the girders R R or secured by castings or forgings *n* and an arch or curved rib F F; 2nd. The combination of I T or ⌐ beams of iron or steel with the castings or forgings C, bolts or rivets *e* and pivot pin I, securing a pivotal connection at the springing and at the crown of the arch.

No. 9683. Improvements on Mashing Process.

(*Perfectionnements aux procédés de trituration.*)

Alfred E. Feroe, Tivoli, N. Y., U. S., 20th February, 1879, for 5 years.

Claim.—1st. The combination, with the mash tub *a*, of the heating tub *b* and pump *e* connected by pipes *d f* and *g*; 2nd. In combination with the mash tub *a*, the grid of pipes *h* connected with the pipe *d* from the heating tub *b*; 3rd. The improved mashing process set forth, the same consisting in, first: dissolving the diastase at a proper temperature and, then, by gradually raising the temperature of the whole mash, by the circulation described, to convert the starch.

No. 9684. Improvements on Reeting Fore and Aft Sails. (*Perfectionnements pour arriser les voiles auriques.*)

Thomas P. Ball, Brooklyn, (Assignee of Joseph L. Dickenson, Hempstead), N. Y., U. S., 20th February, 1879, for 5 years.

Claim.—1st. The combination of the reef brails G H with the sail B, the gaff E and the mast hoops D for reefing the upper inner corner of the said sail B; 2nd. The block jaw J attached to the upper side of the inner end of the gaff E to rest against the mast A and keep the said inner end of the gaff in place when the said gaff is lowered in reefing.

No. 9685. Improvements on Seed Sowers.

(*Perfectionnements aux semoirs à grain.*)

James M. Aitchison and Charles McBean, Napanee, Ont., 20th February, 1879, for 15 years.

Claim.—1st. The combination of the broad cast seed and plaster sower, as attached to an ordinary horse rake or other suitable machine; 2nd. The combination of the seed or plaster box A A with the agitator B B, slide E E, and adjusting slide *a a* and scatterer *g g*; 3rd. The combination of the seed box with plaster slide, said plaster slide comprising fixed part *b*, movable part *d* and parallel motion bars *e e e*.

No. 9686. Improvements on Hand Trucks.

(*Perfectionnements aux camions à bras.*)

Moses Johnson and M. C. Richardson, Lockport, N. Y., U.S., 20th February, 1879, for 5 years.

Claim.—1st. A hand truck having a pair of expansible jaws adapted to be opened or closed; 2nd. A hand truck composed of a pair of pivoted levers having expansible jaws, suitable handles and mounted upon one or more wheels; 3rd. The adjustable bearings *f f* connected with the expansible jaws B B.

No. 9687. Improvements in Wood Stoves.

(*Perfectionnements aux poêles à bois.*)

The Ransom Stove Works, Albany (Assignee of Charles A. Hamlin, Greenbush), N.Y., U.S., 20th February, 1879, for 5 years.

Claim.—1st. The air opening *g*, formed at or near the central line of the fire by the plates F and G, provided with strips H, for sustaining the fuel during combustion; 2nd. The inclined plate G provided with strips H, for forming channel ways beneath the fuel on said plate, whereby the air, admitted into the fire-box through the opening *g*, is directed upward and forward so as to force the flame from the burning fuel to the front of the fire-box, in such manner that it will reverberate against the top of the stove; 3rd. The combination of the plates F and G and the strips H; 4th. The combination of the door J and ash-guard K, arranged to co-operate as described, for automatically discharging the ashes into the stove.

No. 9688. Improvements on Screws.

(*Perfectionnements aux vis.*)

Charles C. Doten, Plymouth, Mass., U. S., 20th February, 1879, for 5 years.

Claim.—A screw having, on the under side of the head, grooves or cutting flanges arranged to form a seat for the screw-head, by the turning of the screw in driving it home, the said flanges, extending from the barrel or smooth portion of the screw to the top periphery or rim of the screw head, and being largest at the bottom and gradually decreasing to the top where they disappear.

No. 9689. Improvements on Fire Escapes.

(*Perfectionnements aux sauveteurs d'incendie.*)

Edward M. Ball and Daniel F. Gallaher, Stanstead, Que., 20th February, 1879, for 5 years.

Claim.—1st. The spool C connected with the spring E by gear wheels operating within, and combined with the case A and cap B; 2nd. The spool C, in combination with the governor consisting of the weights a a_1, arms i i_1, blocks or heads j j_1, inwardly projecting elongations l l_1, connecting block d, spring f, pivots h h_1, pins g k, friction strap m and inwardly projecting portion of the cap B; 3rd. The spring E, gear wheel v, double gear wheel D, pinion w, acting in combination with the spool C and governor, also with the cap B, case A and A_1 and eye e; 4th. The use of a spring E combined with, and connected by the gears v D and w to the spool C, for rewinding the rope when unwound; 5th. The use of a governor for regulating the speed of the spool C of a fire escape.

No. 9690. Improvements in Blacking Brushes.

(*Perfectionnements aux brosses à soulier.*)

Henry B. Perham, New-Hamburg, Ont., 25th February, 1879, for 5 years.

Claim.—A blacking brush having the hard bristles A separated from the soft bristles B, by a space C made to receive the blacking box D, in combination with the polishing brush E, all secured together by the rubber band F.

No. 9691. Improvements in the Manufacture of Boots. (*Perfectionnements dans la fabrication des bottes.*)

Honoré Léger, Ottawa, Ont., 25th February, 1879, for 5 years.

Claim.—A boot upper, made of one continuous piece, with the straps *d e* and *f*.

No. 9692. Improvements on Scoops.

(*Perfectionnements aux pelles à main.*)

Isaac Pierce, Alma, Mich., U. S., 25th February, 1879, for 5 years.

Claim.—A shovel or scoop made of wood veneer, bent from one piece so as to form the blade with upturned sides extending around the upturned head.

No. 9693. Machine for Rolling Logs.

(*Machine a rouler les pièces de bois.*)

Temple Emery, Pestigo, Wis., U. S., 25th February, 1879, (Extension of Patent No. 3153,) for 5 years.

No. 9694. Improvements in Rotary Churns.

(*Perfectionnements aux barattes rotatoires.*)

Lafayette Whitney, Muncie, Ind., U. S., 25th February, 1879, for 5 years.

Claim.—1st. The improved compound extension dasher shaft consisting of the shaft N, the sleeve J provided with slots *m m* and coupling H, the pin L and the spring K; 2nd. In combination with the compound dasher shaft, the dasher wings *r* r_1 r_2 r_3 arranged and adapted to be operated in a churn box; 3rd. In combination with the compound dasher shaft, the dashers *r* r_1 r_2 r_3, the box P and the frame A A T B provided with gear mechanism.

No. 9695. Improvements on Ventilating Apparatus. (*Perfectionnements aux appareils d'aération.*)

Francis L. Norton, New-York, U. S., 25th February, 1879, for 5 years.

Claim.—1st. The reciprocating bell or receiver, actuated by any suitable mechanism, and connected with piping to be extended to one or more apart-

ments from which foul air is to be removed; 2nd. The combination of the reciprocating bell, or equivalent pumping apparatus, and the paired valves to exhaust and discharge of air; 3rd. A ventilating apparatus constituted and operating in manner set forth; 4th. The combination of the water tank I, the reciprocating bell or receiver H, and the flexible or jointed pipe G, for ventilating buildings or apartments.

No. 9696. Improvements on Washing Machines. (*Perfectionnements aux machines à laver.*)

John Pike, Montreal, Que. (Assignee of Robert E. Tanner, Cayuga, N.Y., U.S.), 25th February, 1879, for 5 years.

Claim.—1st. The swinging frame, composed of the curved side bars F F, carrying the tilting rubbing board E, and connected by handle G and bar H, journalled in oscillating bars I pivoted to the outside of the machine; 2nd. The frame C inclinedly adjustable by eccentrically journalled blocks E; 3rd. The combination with the legs B, supporting the suds-box A, of the movable bars J, bars I, pivoted thereto, and the swinging frame journalled thereon.

No. 9697. Improvements in Skates.

(*Perfectionnements aux patins.*)

William E. Christian, George C. Greenwood and Charles H. Denison, Bay City, Mich., U. S., 25th February, 1879, for 5 years.

Claim.—An adjustable shoe attachment for skates, for use on snow, made to conform to the bottom of the skate-iron, and secured in position by means of lugs and set screws clasping the bottom of the skate runner.

No. 9698. Improvements on "The MacVicar Tellurion Globe." (*Perfectionnements au globe terrestre dit "de MacVicar."*)

Malcolm MacVicar, Potsdam, N.Y., U.S., 25th February, 1879, for 5 years.

Claim.—1st. An adjustable horizon having a twilight circle attached thereto, pivoted to the equator and extending around the globe; 2nd. The combination of horizon, adjustably pivoted to the equator, with a meridian; 3rd. A globe revolving freely around its axis and provided with a stationary equator, in combination with a stationary axis having a pointer attached to its upper extremity and extending to the equator; 4th. A pointer attached to the upper end of the axis of the globe and extending to a point adjacent to the equator, arranged and operating so as to point to a calendar upon the equator and remain stationary when the globe is revolved upon its axis; 5th. The combination of the globe A, horizon W and meridian Z, with the stander T and rod V, the latter being adjusted to hold the horizon in a vertical position during the passage of the globe around the sun; 6th. The adjustable guides *g g* arranged and operating to prevent the lateral movement of the horizon, while permitting its longitudinal movement; 7th. The collar F and guides *g g*, in connection with the horizon, whereby the latter is held at all times facing the ball representing the sun; 8th. The combination of the arm I, index *c* and calendar *d*.

No. 9699. Improvements in Bed Bottoms.

(*Perfectionnements aux fonds des lits.*)

William B. Crich, Clinton, Ont., 20th February, 1879, for 5 years.

Claim.—1st. A spiral spring C, the upper coil of which is connected to the next lower coil by a bend of a circular form, and the free end of the upper coil attached to the said bend; 2nd. The combination with the slat of a spring bed bottom, said slat provided with a series of sockets which extend only partially through the slat, of a series of spiral springs constructed with hollow cylindrical or otherwise formed bearings on their lower ends *c*, said bearings being forced into the sockets in the slats and held therein solely by frictional contact, while the lower coil of the spring has a partial bearing on the upper surface of the slat; 3rd. The combination with the end rails of a spring bed bottom, of side rails E having the outer series of springs attached thereto, and provided on opposite ends with arms K, which are pivoted to the outer sides of the end frames, whereby said side rails are adapted to move toward, or away from, the bed, on an arc of a circle; 4th. The combination with four or more series of coiled springs, the outward series being attached to independently yielding side rails E, of end rails or frames B, each composed of two sections, centrally hinged to each other, and the ends of the side rails pivoted or hinged to said end rails, whereby the bed bottom may be folded together into small compass for shipment; 5th. The combination with the springs of a bed bottom, of end rails B, constructed with vertical outer sides and inclined inner sides, whereby the slats have a broad bearing on said end rails and the springs adjacent to said end rails attached thereto by loops, which extend over the upper edges of said end rails and are secured to the outer sides thereof.

No. 9700. Improvements on Sewing Machines.

(*Perfectionnements aux machines à coudre.*)

Samuel Rockwell, Baltimore, Md., U.S., 25th February, 1879, for 15 years.

Claim.—1st. The combination of the box or casing, the cloth clamp, the driver, means for clamping the attachment to a sewing machine, means for connecting the driver with a part of the machine, which moves in unison with the needle and cloth clamp actuating mechanism operated by the driver, said driver having the capacity of operating the cloth clamp only while the needle is out of the goods, so as not to interfere with the work of the needle and its co-operating stitch-forming mechanism; 2nd. The combination of the chambered turret, the single pivoted reciprocating driver, and the ratchet wheel actuated by the driver, on its upward movement only, and serving to impart motion by way of the crown wheel to cloth clamp actuating mechanism; 3rd. The combination of the box or casing, the cam frame or shifting plate, the intermittently operated cam shaft having the cams *h* h_1, snugly fitting in the slot of the cam frame, and mechanism for imparting a half revolution to the cam shaft at intervals: 4th. The combination of the single reciprocated driver, the ratchet actuated on the upward movement only by the driver, the crown wheel, the master wheel, the cam shaft, the circular cams or eccentrics on said shaft, and the cam plate or shifting frame in the slot in which the cams snugly fit; 5th. The combination of the chambered turret, the ratchet therein, the single driver, the reciprocated bar or cross-head in a slot in which the driver is pivoted, and the spring acting upon the top of the driver; 6th. The combination of the box or casing having the chambered turret, the ratchet secured in the turret, the slotted reciprocated bar or cross-head having guide rods working in holes, in the turret, and the curved driver pivoted in the slot in said bar or cross-head, acting by its hooked end upon the ratchet, upon its upward movement only, and yieldingly held in working position; 7th. The adjustable cloth clamp improvements; 8th. The combination of the cloth holder, lower section or base plate, the cloth clamp movable section, the threaded post on the base plate, the ratchet on the movable section of the clamp, the threaded hub acting on the screw post, and the swinging stop lever secured thereto; 9th. The combination of the posts *m* m_1 on the base plate of the cloth holder, the adjustable clamp section N_1, its ratchet projection or disc, and the turning hub or nut acting upon the threaded end of the post *m*, and adapted to be locked with the ratchet; 10th. The improved button hole working attachment separate from the sewing machine and complete in itself, with the exception of the stitch-forming mechanism, and the driving power, and having the two connections to adjust to either of the two kinds of sewing machines, so as to operate without interfering with the working of the needle and its co-operating stitch-forming mechanism.

No. 9701. Improvements on Furnace Grates.

(*Perfectionnements aux grilles des fourneaux.*)

Thomas R. Butman, Milan, Ohio, U. S., 25th February, 1879, for 5 years.

Claim.—1st. The grate bar provided with the oblique cutting edges and the knife edge on the cross bar; 2nd. The grate bar provided with fingers adapted to interlock with the fingers of the adjacent bar, said fingers being provided with oblique cutting edges; 3rd. The combination with fingers provided with oblique cutting edges and with webs tapering downward of the knife-shaped corrugated cross-bar extending below the web; 4th. The combination of the fingered bars, their tapering pendant arms, and the connecting rod secured by pins or keys thereto, constructed to operate the fingered bars simultaneously, whereby the fuel on the grate is disintegrated; 5th. The combination of the bar, fingered and provided with the pendant arm, with the connecting rod and the side journalled bearing bar; 6th. The combination of the finger bar, the cross bar and the upper projecting conduit or tuyere, arranged to supply air to the fuel.

No. 9702. Improvements on Furnace Doors.

(*Perfectionnements aux portes des fourneaux.*)

Thomas R. Butman, Milan, Ohio, U. S., 25th Febuary, 1879, for 5 years.

Claim.—1st. The combination of the door, the deflecting plate and its eccentric or cam-shaped over-balanced weights; 2nd. The combination of the door, the deflecting plate and its over-balanced weights, provided with toothed segments; 3rd. The combination of the door and deflector with their operating segments and the cam-shaped recess, the back of the door segment serving as a support for the counter-balance weight; 4th. The combination of the deflecting plate and the over-balance weight, said plate being provided with an angular socket in its journal shaft by which the plate may be set at any desired angle; 5th. The combination of the door over-balance and the weighted tripping device E, whereby the door is held in position when closed, and automatically opening when released from said tripping device; 6th. The combination of the door provided with the stiffening outwardly projecting register frame, whereby the door is prevented from warping, the tripping device and over-balanced weights, said door being also provided with holes J, for supplying the furnace with air; 7th. The combination of the door, the deflecting plate provided with its weights and segments, the tripping device, and the chamber formed between the door and the deflector; 8th. The combination of the door provided with the stiffening register frame and register, the side or edge stiffening projecting plates *a* with the chamber D, said door having the air perforations J, with the tripping device.

No. 9703. Improvements on Grate Bars.

(*Perfectionnements aux barreaux des grilles.*)

Albrecht E. Barthel, Detroit, Mich., U. S., 25th February, 1879, for 5 years.

Claim.—1st. In a grate bar having a straight smooth surface *a*, a parallel recessed smooth surface *g*, and a lower portion *f* corrugated vertically with hooks *c* at one end, and a straight bearing surface d_1 at the other end; 2nd. In a furnace, the bar *e* of inverted T-iron, for supporting the overlapping ends of the sectional grate bars; 3rd. A fire bed surface composed of small grate bars having the straight, plain and corrugated portions *a g* and *f* hooked to, and bearing on, bars C, to expand and contract lengthwise from one end; 4th. The combination, in a furnace, of grate bars provided with hooks at one end, and studs *h* with supporting bars C; 5th. The grate bars A A_1 A_2 provided with small studs *h* at their face and interlapping end, for the purpose of preventing such ends from fusing together while such bars are expanding longitudinally; 6th. The combination of the grate bars A A_1 A_2 with interlapping ends provided with studs *h*, and the supporting bars C arranged under such interlapping ends.

No. 9704. Improvements on Boiler Feeders.

(*Perfectionnements aux alimentateurs des chaudières.*)

Charles G. C. Simpson, Montreal, Que., 28th February, 1879, for 5 years.

Claim.—1st. The combination of the barrel E, chamber C and plunger B; 2nd. The combination of the guiding neck A, plunger B, chamber C and barrel E; 3rd. The combination of a guiding neck A, plunger B, chamber C and barrel E having bell mouth F; 4th. The combination of the barrel E, chamber C, plunger B, chamber G and valve H; 5th. The combination, in a feed pump, of the chamber C, provided with hot water, with the plunger B and barrel E; 6th. The combination of chamber C, provided with hot water, and having pipe R attached to it or its extension K, plunger B and barrel E; 7th. The combination of the chamber C, provided with hot water, and having pipe R attached to it or its extension K, guiding neck A, plunger B and barrel E; 8th. As a new article of manufacture, a steam boiler feed pump having its barrel opening directly to the feed chamber (by which said barrel is filled), and its plunger stroke made to work partly in the feed chamber and partly in said barrel; 9th. As a new article of manufacture, a feed pump having its barrel opening directly to the feed chamber by which said barrel is filled, and having in connection with said feed chamber a

guiding neck with a plunger which makes portions of its strokes in each of the three parts, viz.: neck, feed chamber and barrel; 10th. In combination with the pump constructed and arranged as shown, a water space D^1; 11th. The combination of the pump with the water space D^1, having tubes G^1, annular ring H^1 and circulating pipes I^1; 12th. The combination of boiler N with the heater, composed of water space D^1, water tubes G^1, annular ring H^1, circulating pipes I^1, deflector K^1; 13th. The combination with the pump, the heater composed of tubes N^1 O^1, water bridge P^1, with exhaust pipe Q^1; 14th. The combination with the boiler, N, of a heater, composed of tubes N^1 O^1, bridge P^1, having openings R^1 and exhaust pipe Q^1; 15th. The combination of the exhaust pipe W with the pipe A^1, having bell mouth B^1; 16th. The combination of the tank K, or otherwise, chamber C, having heater coil C^1, with the tender tank and a pump; 17th. The combination of the tank K or chamber C, having coil C^1 connected with the exhaust port or exhaust pipe of the steam cylinder.

No. 9705. Improvements on Steam Boilers.

(*Perfectionnements aux chaudières à vapeur.*)

Guy D. Daly, Flatbush, N. Y., U. S., 3rd March, 1879, for 5 years.

Claim.—1st. In the construction of a steam boiler, the combination of the fire chamber B, water space C, cock F F, tubes G G, cocks H H and tubes H; 2nd. In constructing a steam boiler with tubes G G, placed in the fire chamber, and extending up through the crown sheet of the boiler, and having on their upper ends cocks F F, and on their lower ends cocks H H; 3rd. In connection with the water space of a steam boiler, one or more circulating systems, each consisting of cock F, tube G, cock H and tube I; 4th. The method of arbitrarily controlling the action of the valves of the cocks F F and H H; 5th. A steam boiler having, within its fire chamber, water tubes communicating at one end with the water chamber, and at the other end with tubes, outside of the boiler, that themselves connect with the water chamber; 6th. A steam boiler having water tubes in the fire chamber, in which the water circulation is controlled by the automatic action of the valves.

No. 9706. Improvements in Folding Tables.

(*Perfectionnements aux tables brisées.*)

Walter Thomas, Genesee, Ill., U. S., 3rd March, 1879, for 5 years.

Claim.—1st. In a folding table, the braces B B hinged to the table-bed A and provided with the projecting cleats *c c* and springs *b b*, in combination with the rungs C and legs *a a a a*; 2nd. In a folding table, the combination of the folding braces B B, springs *b b*, rungs C, legs *a a a a*, and cleats D D, with the table-bed A.

No. 9707. Reach for Bob Sleighs. (*Timon d'attelage pour les traîneaux-accouplés.*)

William M. Ruttan, Wooler, Ont., 3rd March, 1879, for 5 years.

Claim.—The reach described and the couplings at B and D, only so far as their application to the reach is concerned.

No. 9708. Improvements in Door Hangers.

(*Perfectionnements aux pentures des portes.*)

Hubert R. Ives, Montreal, Que., 3rd March, 1879, for 5 years.

Claim.—The combination of the chilled pin C with the rivet iron pin *i* cast in the end for rivetting, upon which the sheave *d* revolves with the cap *b*.

No. 9709. Improvement on Vehicle Springs.

(*Perfectionnements aux ressorts des voitures.*)

Henry W. Pell, Rome, N.Y., U.S., 3rd March, 1879, for 5 years.

Claim.—1st. The combination of the straight side springs D D fixed by their centres, beneath the side bars C C, and the arched end springs F F supporting the bed by their centres, and fixed to the extremities of the side springs D D by the lock joints *d d*; 2nd. Braces I to clip king-bolt tie and circle, and running to side bars C C.

No. 9710. Improvements on Cradles.

(*Perfectionnements aux berceaux.*)

George W. Ayer, Montreal, Que., 3rd March, 1879, for 5 years.

Claim.—1st. The combination of a folding wedge-shaped frame composed of legs A and head-piece B, pivoted together, a pendulous frame composed of bars C C having a bow D, pivoted thereto, and an adjustable chair pivoted to the bars C C by the front legs F, and to the rear legs by bars G; 2nd. The cords J, for supporting the chair-back from the bars C C in an adjustable position; 3rd. The combination and arrangement of the bars C C, with bow D, cord N and head-piece B, of the frame A for swinging the chair.

No. 9711. Improvements on Butter Cutters.

(*Perfectionnements aux tranches à beurre.*)

Isaac M. Rhodes, Hancock, Mich., U.S., 3rd March, 1879, for 5 years.

Claim.—1st. The combination of the cylinder A and semi-circular pivoted knives I I, the latter being adapted both for cutting and lifting the butter or lard; 2nd. A cylinder provided with circular knives movable upon pivots, and an interior adjustable follower, for cutting and taking out butter and lard in rolls, and at the same time measuring the same; 3rd. The combination of the cylinder A, head B, tubs C C, with slot *a* and notches *b*, and the following D with hollow stem F, having lug *i* and knob E; 4th. The combination of the cylinder A, knives I I and handles G G.

No. 9712. Improvements in the Silber Lamp.

(*Perfectionnements à la lampe dite "Silber."*)

Ernest Chanteloup, Montreal, Que., (Assignee of Patrick Carroll, Chatham, N.B.), 3rd March, 1879, for 5 years.

Claim.—The combination with a lamp burner having either a circular wick, dual flat wicks, or other multiple wicks, the bell or spreader G, perforated and carried centrally at a suitable height above the wick tube.

No. 9713. Improvements on Car Couplings.

(*Perfectionnements aux attelages des wagons.*)

Jacob Chapman, West Bay City, Mich., U. S., 3rd March, 1879, for 5 years.

Claim.—1st. In a car coupling, the gravitating brackets D D, formed with the shoulders *h h*, in combination with the stop *e* in the bottom of the draw-head; 2nd. The combination of the cap H, curved bar G, slat S on same, brackets D D, coupling-pin C, removable seat E, with the draw-head A.

No. 9714. Improvements on Refrigerators.

(*Perfectionnements aux garde-manger.*)

David A. Stevens, Toledo, Ohio, U.S., 3rd March, 1879, for 5 years.

Claim.—1st. The combination of the inclined troughs, the drip shelves serving to cover and protect the joists of the ice floor, main frame and the valves or pivoted wings between the shelves and the troughs, all arranged between the joists and within the space occupied by the main frame, whereby space is economized and compactness of structure secured; 2nd. The combination of the ice floor racks provided with cross pieces over the troughs with the drip shelves and troughs, whereby the spattering of the drip is prevented; 3rd. The combination of the ice cage, the ice floor racks with its cross pieces, the drip shelves and troughs, and the conduit and exit pipes, whereby the drip is prevented from contact with the framework and walls.

No. 9715. Improvements on Nut Locks.

(*Perfectionnements aux arrête-écrous.*)

William Whitford, Kendallville, Ind., U. S., 3rd March, 1879, for 5 years.

Claim.—1st. The combination of the washer A, having equi-distant radial grooves *b b*, with the washer B having recess *e* and equi distant radial grooves *b² b²*, and the pin P, the grooves in the washer B being closer together than those in washer A, and *vice versa*.

No. 9716. Improvements in Bottle Stoppers.

(*Perfectionnements aux bouchons des bouteilles.*)

Henry Barrett, Hampton, and John Bailey, Silvertown, England, 3rd March, 1879, for 5 years.

Claim.—1st. In the manufacture of internal stoppers for bottles for containing aerated or gaseous liquids, a vulcanite, or elonite, or vulcanized gutta-percha stem or body with a soft india rubber washer in one piece, with the hard stem or body, by combining the two parts together by vulcanization; 2nd. The stoppers manufactured substantially by the modes described, and consisting, respectively, of a stem *a* of hard rubber, or elonite, or vulcanized gutta-percha, and a washer of soft, elastic vulcanized rubber *b* combined in one piece.

No. 9717. Improvements on Milk Coolers.

(*Perfectionnements aux garde-lait.*)

Sanford P. Bacheller, Canton, N. Y., U. S., 3rd March, 1879, for 5 years.

Claim.—1st. The combination of the concentric pans or tanks A B C, provided with overflow F and discharge outlets L; 2nd. The tanks B and C, connected by pipes H H, whereby a circulation of water in the two tanks is maintained, for cooling the milk in the intermediate pan A; 3rd. In combination with the concentric tanks A B C, the base D pivoted to, or rotatively supported from, bench G.

No. 9718. Improvements in Bed Bottoms.

(*Perfectionnements aux fonds des lits.*)

Gidion Huntington, London, Ont., (Assignee of Albert C. Langworthy, Aurora, Ill., U. S.), 3rd March, 1879; (Extension of Patent No. 3152) for 5 years.

No. 9719. Improvements on Registering Locks. (*Perfectionnements aux serrures à combinaison.*)

Henry Clark, Baltimore, Md., U. S., 8th March, 1879, for 5 years.

Claim—1st. A padlock having a pivoted shackle which has the same axial centre as the key and the tumbler moving mechanism, and moves in a plane having a right angle to the body of the lock; 2nd. In combination with a lock provided with radially moving pin tumblers, a guard tumbler arranged in front of the remaining tumblers and having such lateral dimensions as to conceal from view the same; 3rd. In combination with a lock provided with radially moving pin tumblers, a guard tumbler placed in front of the remaining tumblers and having its inner end in contact with, or close proximity to, the inner side of the key hole, when in position to permit the locking mechanism to be operated; 4th. A lock provided with a revolving shackle, a circular kerb formed upon the casing and extending upward around the pivotal opening for said shackle, in combination with a corresponding recess formed within the contiguous super-imposed portion of said shackle, 5th. A registering lock provided with a pivoted shackle, which rotates in a plane having a right angle to the body of the lock, and furnishes an axial bearing for and upon which are placed registering discs; 6th. In combination with a lock provided with radially moving pin tumblers, a key having a radially opening within its body through which one of said tumblers may drop to its normal position, after said key has been inserted within the lock; 7th. As a means for permanently enclosing the casing of a padlock, a cover fitted into the open end of the same and secured in place by compressing or swaging the contiguous metal upon or over its edge; 8th. A registering lock in which the dial wheels or discs are journalled upon and rotate around the same axis with the key; 9th. As a means for communicating the motion of the primary registering dials H to the succeeding or secondary dials H, the radial peripheral notches *h* formed in said dials, the discs H^1 having each within its periphery one radial notch h^1, and upon its rear face a stud *h* and the wheels I, provided with peripheral teeth *i* and having upon their rear faces the pins i^1.

No. 9720. Improvements on Horse Collars.

(Perfectionnements aux colliers de cheval.)

George A De Zeng and Joseph Lang, Chicago, Ill, U S., 8th March, 1879, for 5 years.

Claim —1st The tilting pad B, when arranged between and pivoted laterally to the rigid side sections of a horse collar, 2nd. The vertically adjustable straps C C, in combination with the tilting pad B, the said pad being pivoted laterally to the said straps, all arranged with relation to each other and the body of a horse collar, 3rd. The body A, of a horse collar made in sections, the lower ends of the section being adjustably connected by means of the hook or bent lever G pivoted to one of the said ends, and the perforated ferrule F^1 applied to the other of the said ends; 4th. The combination of the removable bolts J J, the elongated and perforated nuts H^1 H^1, and the caps or pockets I I, the latter applied to a horse collar and all operating together in connection therewith and with each other, 5th. The combination of the body, A, made in sections, the pad B, the adjustable straps C C, carrying the pad B and applied to the upper ends of the sections of the body A, the lever G applied to the lower ends of one of the said sections, and the perforated ferrule F^1 applied to the lower end of the other of the said sections.

No. 9721. Improvements on Window Blind Rollers. (*Perfectionnements aux rouleaux des rideaux de fenêtres.*)

Joseph Higginbotham, Toronto, Ont., 8th March, 1879, for 5 years.

Claim —The combination of the hooked cogs with the enlarged centre bearing fixed pin and arm, operating as set forth.

No. 9722. Improvements on Window Fastenings. (*Perfectionnements aux arrête-croisés.*)

John B. Morris and Thomas S. Ireland, Cincinnati, Ohio U. S., 8th March, 1879, for 5 years.

Claim —1st. The improved sash lock or fastening comprising the notched and shouldered elevated disc C concentric with the pivot E, for the swinging latch bar F *f*, and the hinged pendant H for attachment to the lower sash, to operate with a stationary spur or cam hook upon the upper sash, 2nd In combination with the spur or cam hook G G^1, the swinging latch bar F *f*, having the heel or rear prolongation f^{11}.

No. 9723. Improvements on Paper Ruling Machines. (*Perfectionnements aux machines à régler le papier.*)

Edward W. Blackhall, Toronto, Ont., 8th March, 1879, for 5 years

Claim.—1st. The combination with the first or stationary head of a paper ruling machine, of one or more adjustable ruling heads arranged to be operated independently from a cam or cams, or by a suitable connection from the stationary head; 2nd. The combination of two or more separate ruling heads, so arranged, in connection with a travelling apron common to both, that the said heads may be operated automatically or by hand to produce ruled work at one passage of the paper through the machine, which would require two or more passages of the paper through an ordinary machine, 3rd The bar of the pen clamp provided with a metal sheathing: 4th. The under plate of the pen clamp faced with rubber or similar material, in combination with the wooden bar provided with metal sheathing carried over the bearings for pens; 5th. The combination of the clamp supporting bracket D^1, with threaded standard D and nuts *d d*; 6th. The laterally adjusting clamp screw connected to the clutch by a ball and socket joint, and supported on a bracket which is capable of vertical or longitudinal adjustment, 7th The pivoted bar E, supported on the frame of machine at one end, and provided with an adjusting screw at the other end, and connected to the clamp in such manner that the points of the pens may be tilted; 8th. The standard ruling head, supported on standards fitted to slides in such manner that the relative position of the heads may be altered; 9th The combination of the right and left threaded screw with the blocks F and H and their connections; 10th. The under pen roller provided with vertical and longitudinal adjustment, in combination with the pen clamp.

No. 9724. Apparatus for Cleaning the Bottoms of Ships. (*Appareil pour nettoyer les fonds des navires.*)

Ellis Cutlan, London, England, 10th March, 1879, for 5 years.

Claim —1st The general arrangement and construction of the improved apparatus for cleaning the bottoms of ships, 2nd. The employment of Archimedean screws, for automatically operating the brushes or scrapers or knives, by the passage of the ship through the water, 3rd The employment of guide or guage wheels, 4th. The peculiar construction of the adjustable brushes.

No. 9725. Improvements in Saw Setting Machines. (*Perfectionnements aux machines a donner la voie aux scies.*

William Dunn, Hamilton, Ont., 10th March, 1879, for 5 years.

Claim —1st In a saw setting machine, the combination of adjustable clamp jaws provided with recessed working faces, and an adjustable rest having a series of projections or corrugations on each side of its centre line adapted to fit between said clamp jaws, 2nd The combination, with the movable clamp jaw A^2 and standard A^3, of the adjusting bolts a^2 a^2 and slotted wedges *a a*, 3rd In a saw setting machine, two coupled peen levers, pivoted in an adjustable manner on opposite side of machine, in combination with adjustable striking blocks having one or more beveled edges of varying angularity, 4th In a saw setting machine, the quadrant lugs C C C C, secured to frame of machine to form guides for the peen levers and provided with pivot holes, whereby the pivotal connection of the levers may be adjusted to vary the set of the tooth, 5th The combination, with the coupled pivoted peen levers, of the feed plate F arranged to work with a reciprocating horizontal motion from the movement of the peen levers and at right angles thereto; 6th. The combination with the feed plate F of the spring *h* and pivoted pawl or draw hook H, 7th. In a saw setting machine, the removable independent support P constructed with a screw shank and two vertical axis provided with anti-friction rollers Z Z, horizontal anti-friction roller z^1 and nut or collar *p*, 8th. The improved saw setting machine described composed of the recessed adjustable jaws A^2 A^2, adjustable corrugated rest I, adjustable oscillating levers B B, *b* with peens b^2 b^2, plates D D guard I and devices F G H *h*, for operating the saw blade, 9th. In a saw setting machine the combination, with the reciprocating feed plate F, of an adjustable stop g^1 for regulating the travel of the feed.

No. 9726. Improvements on Carpet Stretchers. (*Perfectionnements aux etendeurs de tapisserie.*)

Edward Stone, Waterloo, Que, 10th March, 1879, for 5 years.

Claim.—1st. The combination of the two bars A D sliding longitudinally one bar having jaws *b b* and a lever B and grab hook *c* operating intermediately and the other sliding thereunder provided with ratchets *d* with which the hook engages, so that by the movement of the lever B, the bars are extended endwise to stretch the carpet, 2nd. In combination with the bar D having ratchets *d*, and the bar A having pawl *e* and grab hook *c*, the pawl *e* pivoted between the jaws *b b* and engaging with the ratchets *d* for retaining the bars when extended, 3rd The extensible operating bar D having a head *a* provided with a card K to hold the carpet by its teeth in combination with the resistance bar A; 4th. The bar A with a head *f*, provided with teeth *g* having a hinged flap E to cover the teeth.

No. 9727. Horse and Cattle Check.

(Entrave de cheval et de betail.)

George D Chisholm, East Flamboro, and Samuel Creech, Hamilton, Ont. 10th March, 1879, for 5 years

Claim.—1st. The strap B fitted at one end to the right fore leg or foot of the animal, the other end of said strap passing through a ring or pulley A on the halter or neck strap, and fastened to the left foot or leg of the animal, for the purpose of a check to prevent cattle from jumping fences, 2nd The pulley A, boots D, and the lengthening buckles E, in connection with the strap B for the purpose of a check for cattle.

No. 9728. Spring Link for Draught Tugs.

(Chaînon a ressort pour les remorqueurs.)

John F Miller, Pittsburg, Pa, U. S, 10th March, 1879, for 5 years.

Claim.—1st. In a spring draught tug, the spiral spring A and return bends B C passing longitudinally through said spring, 2nd. The return bends B C, the shafts of which form segments of a circle and are provided with projecting flanges *b b c c* on the periphery of their free ends, 3rd. A link having all the parts locked together by swelling the projecting loop or loops to a width greater than the internal diameter of the spring, 4th The spiral spring A, confined on the barrel formed by the shafts of the return bends B C between the projections or flanges *b b* and *c c*, 5th A return bend having an eye cast on its projecting end and its free ends provided with projections cast thereon and standing outwardly from preventing it from pulling through the spring, 6th A return bend having its projecting end corresponding in width to the internal diameter of the spring said projecting end being capable of enlargement into an eye or hole.

No. 9729. Stove-Pipe Elbow Machine.

(Machine a coudes de tuyaux de poêles.)

Louis J. Hérard, Montreal, Que., 10th March, 1879, for 5 years.

Claim —1st. The combination of the claws *n n* and the discs *x y*, 2nd. The combination of the geared wheel *e*, quadrant of a wheel *f*, tube *c* connecting the geared wheel *e* and disc *j*.

No. 9730. Improvement in Buckles.

(Perfectionnement aux boucles.)

William J. Caines, Jr, Gonzales, Texas, U S, 10th March, 1879, for 5 years.

Claim —1st. The harness buckle composed of the frame *a a b c d* d_1 and tongues e and *f f*, hinged on the central cross bar, whereby the buckle is adapted to fasten different straps together, 2nd. A buckle composed of the rectangular frame A provided with the raised loop B at right angles with the frame A, the cross-bars C G and the central cross bar D to which are pivoted the tongues F F^1 and the tongue E, all opening on the upper side of the buckle, and the under side of said buckle being in the same plane, 3rd. The buckle formed of the side bars *a a* bent up at one end, the central and end bars *b c d* d_1, the side loops *g* g_1 and the tongues *e f f*.

No. 9731. Improvement in Boot and Shoe Soles. (*Perfectionnement aux semelles des chaussures*)

Jeremiah M. Watson, Sharon, Mass, U S 10th March, 1879, for 5 years.

Claim.—A shoe sole or heel having one or more of its lifts made by splitting the material composing it from one edge nearly to the opposite one and opening the parts into one plane with each, A shoe sole or heel lift made of a scrap or waste piece of material, split from one edge nearly to the opposite one and having the connected portions turned or folded out into one plane with each other.

No. 9732. Improvements in Refrigerators.

(Perfectionnements aux garde-manger.)

Allen M Murphy, Toronto, Ont., 10th March, 1879, for 5 years

Claim —1st A close flue C, leading from or near the top of the preserving room B through the ice chamber ceiling and thence through the roof or wall for the purpose of carrying off the heated and foul air of the preserving room and preventing its escape into the ice chamber, thus saving the wasteful melting of the ice, 2nd The ice chambers ceiling provided with openings D, which openings, in connection with outlets cut in the roof or side walls of the house above said ceiling, provide a means of escape for the moistened air of the ice chamber and produces a drier atmosphere in said ice

chamber: 3rd. The partitions E built close and provided with openings at the base for the downward passage of cold air, 4th As a lining for the walls of ice houses, refrigerators, &c, one or more thickness of paper soaked in linseed oil.

No. 9733. Improvements in Spring Draught Tugs. (*Perfectionnements aux chaînons à ressort de remorque.*)

John F. Miller, Pittsburgh, Pa., U. S., 14th March, 1879, for 5 years.

Claim.—The staples C C¹ passing longitudinally through a spiral spring and in combination therewith, and with the heads B and B¹.

No. 9734. Improvements on Boiler Furnaces. (*Perfectionnements aux fourneaux des chaudières.*)

Edward R. Stege, Chicago, Ill., U. S., 10th March, 1879, for 5 years.

Claim.—The transverse blast pipe G placed beneath the front support *d*, of the grate and having steam openings *g*, arranged in line with the interstices between the grate bars, in combination with the steam supply pipe F and air openings *h* in the boiler front

No. 9735. Improvements on Tobacco Caddies. (*Perfectionnements aux boîtes à tabac.*)

William P Niles, Belleville, Ont., 10th March, 1879, for 5 years

Claim.—The combination of the sides, back and bottom A, top B, door C and latch D.

No. 9736. Improvements on Tables. (*Perfectionnements aux tables.*)

Albert H. Hogins, Morrisania, N.Y., U. S., 10th March, 1879, for 5 years

Claim.—The pivoted wedge-shaped section *b*, provided with the cleat *f*, the bars c e sliding in ways *d f* under the table top, in combination with the frame of the table and with the top C.

No. 9737. Improvements on Car-Couplers. (*Perfectionnements aux attelages des wagons.*)

James McDonald, Blythe, David D Hay, Listowel, and James W. Christie, Elena, Ont., 10th March, 1879, for 5 years.

Claim.—1st The combination of the iron swing slide A and the iron pin B together with coupling link C; 2nd. The combination with the iron swing slide A, the iron pin B, and the coupling link C of the jaws of the coupler C, and the form of the inside of the coupler back of the pin D.

No. 9738. Improvements on Circular Saws. (*Perfectionnements aux scies rondes.*)

William McDonald, Milltown, N.B, 11th March, 1879, for 5 years

Claim.—1st. The end frames A A and 19 combined together by longitudinal rods and arranged to support the rotating machinery, 2nd. The brackets Y bolted to the frame A A, to support the trunnions of frames Z Z, provided with press rollers V; 3rd The elastic cushion C, imposed between the standards 10 and the ends of the roller frames V, for receiving the jarring impact; 4th. The set work levers E E E hinged at their lower ends to a fixture and attached to the sliding bars L L L, by straps O and spring dogs K K K, for moving each saw independently by its collar sliding on the arbor B, 5th The clutches 6, faced with babbit-metal for receiving frictional wear in contact with the saw collars, 6th. The arrangement of the gear wheel P, journalled under the saw arbor for driving the roller gear wheels P¹ P¹ from their lower periphery; 7th. The arbor B provided with the longitudinal groove *b* in combination with feather connections 4, of movable saw collars 5 5 5 and the fixed saw collar 29, 8th. The movable saw collars 5 5 5, provided with washers and screws 14, for securing the saws thereto; 9th The combination with the arbor B, of a number of movable saws severally mounted on independent sliding collars, relatively adjustable to each other and to a fixed saw by set work levers F 10th In combination with a revolving arbor provided with fixed and movable circular saws, the lower stationary grooved feed rollers N N and upper adjustable press rollers V V, 11th In combination with the arbor B, of the feed pulley *n* the feed pinion R, shaft S and pulley T and the feed gears P P¹ P¹ 12th The upper press rollers V, supported in the rocking frame Z Z, having eye bolts 13 at each end to attach rods to hoist the rollers suspendedly; 13th. The rocking frame Z and Z journalled to brackets Y, and carrying the roller V in journal boxes; 14th. The saw-guides D, bolted to frames *f*, having slots 16 for their adjustment to the saws and provided with a wood facing 12, in contact with the saw to prevent vibration; 15th. The collars 11 and screws 12, on both sides of the journal box to prevent endwise vibration of the arbor B

No. 9739. Improvements in Fire-Proof Cornices. (*Perfectionnements aux corniches réfractaires.*)

James L. Murphy, Carleton Place, Ont., 11th March, 1879, for 5 years.

Claim.—1st. The outside eave and gable cornices for houses, a coating or bed of mortar, cement, plaster of Paris or analogous substance connecting the wall of the building with the mortar coating or shingle bed of the roof, 2nd. A cornice for the eaves and gables of houses, worked in the shape of mouldings or other fanciful design, and composed of mortar, cement, plaster of Paris, or other fire-proof material.

No. 9740. Machine for Putting Threaded Nuts upon Bolts. (*Machine à placer les noix filetées sur les boulons.*)

Charles D. Rogers, Providence, R. I., U. S., 13th March, 1879, for 15 years.

Claim.—1st. In a machine for putting nuts upon bolts for sale in the market, the combination of the following instrumentalities or organism: two separate hoppers for the bolts and nuts respectively, two separate recipients, the one for the bolts and the other for the nuts, suitable mechanism for delivering the bolts and nuts, one at a time, to their respective recipients, suitable mechanism for swinging the holders for the bolts and the nuts into coincidence and mechanism for causing the bolts and nuts to be combined together, 2nd In combination with suitable mechanism for delivering nuts one at a time, an intermittently revolving recipient for the same consisting of a spindle or series of spindles mounted in tubular casings, each spindle being capable of being revolved at stated times upon its own axis and formed with a pair of stationary jaws and a pair of spring holders at the end nearest the delivering mechanism for receiving and holding the nuts; 3rd. The combination, with the tubular case or holder in which the same is mounted of a spindle for receiving and holding a nut, such spindle being arranged to have a longitudinal movement within its holder at stated times for projecting the nut against the end of the bolt upon which it is to be screwed; 4th The combination with the spindle or series of spindles for holding the nuts of a revolving clutch face shaft adapted to lock with a corresponding clutch upon the head of each spindle and arranged at stated times to engage with the head of each spindle, or the series of spindles, if there be more than one are intermittently revolved, whereby the spindle carrying the nut in its jaws is projected longitudinally to bring the nut against the end of the bolt upon which it is to be screwed, and, at the same time, to be rotated. 5th The combination, with the tubular case or holder in which the same is mounted of a spindle for receiving and holding a nut and a spring adapted to retract the spindle when the latter is relieved from the endwise pressure of the clutch faced turning shaft, which causes the spindles to be projected and revolved 6th. The combination with an intermittently revolving recipient for receiving and holding nuts of suitable mechanism for conveying and discharging the nuts, one by one, and a punch or plunger having an intermittent longitudinal movement for forcing the nuts in succession into the receiving and holding jaws of the nut holder, 7th. The combination of a spindle, for receiving and holding a nut, having an intermittent rotary movement around a fixed axis, a cleaver rod or device *d*⁴ and an inclined plane or equivalent device Y, for operating such cleaver whereby, in case a nut sticks in the holder it will be discharged before a second nut is introduced, 8th. In combination with suitable mechanism for delivering screw bolts one at a time to an intermittently revolving recipient for the same, a spring clamp operated by means of a revolving star wheel or equivalent device for applying pressure to the side of the bolt, to prevent it from turning in the holder while the nut is being screwed upon the bolt, 9th. The combination of an intermittently revolving recipient for receiving and holding nuts with an intermittently revolving recipient for receiving and holding bolts, said two recipients being so arranged that at each interval of rest of the two respectively, the axis of one of the holders for the nuts and one of the holders for the bolts will coincide in the same straight line.

No. 9741. Improvements in Refrigerators. (*Perfectionnements aux garde-manger.*)

Allen M. Murphy, Toronto, Ont., 13th March, 1879, for 5 years.

Claim.—1st. The flanges C C¹ extending rearwardly on the disk sections and provided respectively with sockets and studs, for the purpose of forming a detachable fastening for the door at its lower edge. 2nd The disk sections provided with a projecting head F, in combination with the rubber washer and countersunk recess around tap hole opening.

No. 9742. Improvements in Beer Pumps. (*Perfectionnements aux pompes à bière.*)

John Cosgrave and Lawrence J. Cosgrave, Toronto, Ont., 13th March, 1879 for 5 years.

Claim.—1st. An air pump operated in any suitable manner and provided with suction pipe, connecting with the cooling chamber of refrigerator ice box and a discharge pipe arranged to connect in a detachable manner with a keg contained in said cooling chamber, for the purpose of discharging the liquid contained in said keg, by the force of compressed cold air drawn from the cooling chamber, 2nd. The combination of the pump D, suction pipe E with valve E¹, discharge pipe F with valves F¹ F², with the keg C and cooling chamber of refrigerator ice box; 3rd. The bellows shape pump D having an interior spring I, and foot lever G.

No. 9743. Improvements on Canister Covers. (*Perfectionnements aux couvercles des bidons.*)

William Sawdon, Toronto, Ont, 13th March, 1879, for 5 years.

Claim.—A semi-circular cover C, centrally pivoted to the permanently fixed semi circular cover B, by the pivot D, in combination with the guide pieces E, forming a close joint between the canister A, and said cover C.

No. 9744. Machine for Trimming Boot and Shoe Soles. (*Machine pour finir les semelles des chaussures.*)

Charles A. Black, Chicago, Ill., U. S., and Stephen S. Black, Fredericton, N. B., 13th March, 1879, for 5 years.

Claim.—1st. Devices for trimming the edges of the soles of boots and shoes composed of upper feed wheel *a*, having a smooth periphery, lower feed wheel *c* operated by suitable machinery, said feed wheels adapted to clasp the edge of the sole and carry it against a fixed knife C, whereby the superfluous leather on the edge of the sole is trimmed off quickly and neatly, 2nd The combination of the feed wheel *a* and *c* operated by suitable machinery with the fixed knife C; 3rd The feed wheel *c* on shaft E, journalled in the vertically sliding box F and provided with the universal joints *d d* in combination with the radius shaft E, curved knife C and feed wheel *a* 4th The curved knife C secured at the upper end between the bushing *b* and feed wheel *a*, and at the lower end of the jaws E E¹, by the slotted bolt *c*¹, in combination with the feed wheels *a* and *c*; 5th. The upper feed wheel *a* operated by shaft *d*, the feed wheel *c* and shaft E and controlled by springs H H¹, the lever J, the knife *c*¹ pulley B¹ and gearing C D *d*¹, 6th The shield *k*, in combination with feed wheel *a* to protect the uppers of boots and shoes from injury by the wheel *a*.

No. 9745. Improvements in Door Fastenings. (*Perfectionnements aux fermetures des portes.*)

Emil Jaeger, Montreal, Que., 13th March, 1879, for 5 years.

Claim.—The combination, in a sash and door fastening, of a spindle provided with a handle and operating by its rotation through chains or like con

nections, to withdraw from the catches or staples, the latches or bolts securing the doors or windows, said latches or bolts being retained in position when not otherwise acted on by springs.

No. 9746. Improvements on Clothes Wringers.

(Perfectionnements aux essoreuses à linge.)

Angus McKey and John McDonald, Scheboygan, Mich., U. S., and John Wilson, Toronto, Ont., (Assignees of Thomas R. Way, Springfield, Ohio, U. S.,) 13th March, 1879, for 5 years.

Claim.—1st. In combination with the slotted main frame and the movable roll therein, the sliding block provided with lugs to retain them in place and with the anti friction rollers; 2nd. The semi-elliptic pressure spring, having the depression formed therein by bending down the metal; 3rd. The metallic wringer frame composed of the slotted end pieces A, top connection B and base connection C, with clamp arms; 4th. The combination of the standard A, connection B, and swinging clamps united by a single screw or pivot at each side; 5th. The wringer standards A, provided with the lugs or studs *d*, in combination with the rollers to sustain the journals of the lower wringer roll.

No. 9747. Improvements on Screw Machines.

(Perfectionnements aux machines à vis.)

Charles D. Rogers, Providence, R. I., U. S., 13th March, 1879, for 5 years.

Claim.—The combination with a hollow spindle or arbor having a clamp for threading dies at one end, and a pointing tool within the arbor, of a follower for the tool actuated by a spring and controlled by a hand screw, adjustable at the rear end of the arbor, whereby the power of the spring, in forcing the pointing tool to its work, may be readily graduated and adjusted.

No. 9748. Improvements on Lifting Jacks.

(Perfectionnements aux crics.)

Nathan Hill, Clyde, Mich., U. S., 13th March, 1879, for 5 years.

Claim.—The combination of the lever L, link L^1, chains C C^1, hook H and ratchet R, when placed in position and operated as described.

No. 9749. Improvement on Seed Cabinets.

(Perfectionnement aux étagères à graines.)

William H. Marcon, Guelph, Ont., 15th March, 1879, for 5 years.

Claim.—The back A, sides B B, ends C D, cover E, shelving *a a c*, as divided into compartments by the bars H I, or not so divided, as may be required, the whole combined and arranged as shown.

No. 9750. Manufacture of Artificial Stone.

(Fabrication de la pierre factice.)

Henry Bacon, Charleston, Me., U. S, 15th March, 1879, for 5 years.

Claim.—1st. An artificial stone composed of cement and sand or gravel united and solidified by dampening with a diluted chemical solution of water, spirits of ammonia, sal soda or any other alkaline, carbonate, isinglass, white glue and Irish or Iceland moss; 2nd. The liquid compound composed of water, spirits of ammonia, sal soda or any other alkaline, carbonate, isinglass, white glue and Iceland or Irish Moss, in the proportions named and diluted, for the purpose of producing crystallization of the artificial stone.

No. 9751. Improvements in the Treatment of Pyrites. *(Perfectionnements dans le traitement des pyrites.)*

John Ollway, London, Eng., 15th March, 1879, for 5 years.

Claim.—1st The process of treating pyrites which consists in heating such to a given temperature and distilling therefrom a portion of the sulphur in the form of free crude sulphur, then increasing the temperature and subjecting the pyrites to the action of a current of hot air or superheated steam, or both, to eliminate the remaining sulphur in the form of sulphurated hydrogen, and finally separating the metallic copper from the residue; 2nd. The process of treating pyrites which consists in heating such to a given temperature and distilling therefrom a portion of the sulphur, in the form of free crude sulphur, then increasing the temperature and subjecting the pyrites to the action of a current of hot air, or superheated steam, or both, to eliminate therefrom the remaining sulphur in the form of sulphurated hydrogen and part of the metals contained in such pyrites in the form of metallic vapours, and, finally, subjecting the residue to the action of the atmosphere and moisture to obtain sulphate of copper from which the metallic copper may be obtained in the usual manner; 3rd. The process of treating pyrites which consists in heating such in a bath of sulphide of iron, with or without other metalliferous slag producing substances, for the purpose set forth, then subjecting said pyrites to the action of a hot blast or superheated steam, or both, for the purpose described, and, finally, separating or grouping the metals and separating the metallic copper from the slag and other metals contained in the reglus, in the manner specified.

No. 9752. Process for the Manufacture of Steel. *(Procédé de fabrication de l'acier.)*

Ogden Bolton, Canton, Ohio, U. S., 15th March, 1879, for 5 years.

Claim.—1st. The manufacture of steel by the open hearth process in, first; charging the carbon on the bottom of the open hearth and charging the blooms iron sponge or soft steel, or any part of them, on top of the carbonaceous matter previous to fusion; 2nd. First charging the carbon solidified or packed in boxes, or cannisters, on the bottom of the open hearth, and charging the blooms iron sponge or soft steel thereon previous to fusion; 3rd. In, first, charging the carbon on the bottom of the furnace or open hearth, secondly, in charging the blooms iron sponge or soft steel, then melting the mass and, finally, adding ferro manganese or spiegleisen after or at the time the molten metal is tapped from the furnace.

No. 9753. Improvements on Cheese Vats.

(Perfectionnements aux cuves de fromageries.)

William Dyson, London, Ont., 15th March, 1879, for 5 years.

Claim.—1st. The adjustable apparatus for heating and cooling milk, consisting of the horizontal coil B, flexible tubes C D, straps or chains E and studs F, in combination with a butter or cheese vat A; 2nd. The reversible tray G, forming a combined ice-holder and cover and having a waste pipe *b*, and rubber bed or washer H.

No. 9754. Improvements on Seeders and Rakes. *(Perfectionnements aux semoirs-râteaux.)*

James Bellamy and Murat H. Sweet, Toledo, Ont., 15th March, 1879, for 5 years.

Claim.—The axle A, wheels B B, hub having cog wheel C^1 and a seed box D, having a shaft G and cog wheel H, engaging with cog wheel C^1, and attach to the axle by a pintle rod E, whereby the rod is capable of use for sleeving thereon the teeth of a hay rake and lever mechanism.

No. 9755. Improvements on Scale Beams.

(Perfectionnements aux fléaux des balances.)

John Weeks, Buffalo, N. Y., U. S., 15th March, 1879, for 5 years.

Claim.—1st. A scale beam provided with two or more poises, arranged to come in contact with each other and each pointing to a separate graduated index or series of characters, the several series being numbered progressively, whereby the poise pointing to the higher series is prevented from being moved until the poise pointing to the preceding lower series has been removed; 2nd. A scale beam provided with two or more poises, sliding upon the same bar and each pointing to a separate graduated index or series of characters; 3rd. A single beam for platform or other graduated beam scale, having thereon different lines of figures forming a progressive series from one line to the other, so as to operate as one continuous line; 4th. In a weighing scale, two or more sliding poises moving on a single beam, each poise having an index hand pointing to a separate line of figures on the single beam.

No. 9756. Improvement in Cigarettes.

(Perfectionnement des cigarettes.)

Charles G. Emery, Brooklyn, N.Y., U.S., 15th March, 1879, for 15 years.

Claim.—1st. A cigarette, the wrapper of which is composed of a thin paper or similar fibrous material, coated with a thin pellicle or covering of shellac, or equivalent slowly combustible gum, resinoid or material; 2nd. A cigarette wrapper paper or covering, coated with a solution of shellac or equivalent slowly combustible gum or other substance.

No. 9457. Improvements in Lamp Extinguishers. *(Perfectionnements aux éteignoirs des lampes.)*

Edward Mercier, Springfield, Mass., U. S., 15th March, 1879, for 5 years.

Claim.—The combination, with a lamp burner, of lever *d*, yoke *h* with its arms *i*, and cap K with its bent arm O, having thereon weight *n*.

No. 9758. Improvements in Laundry Irons.

(Perfectionnements aux fers à repasser.)

Emil P. Raether and Louis Beckhardt, New York, U.S., 15th March, 1879, for 5 years.

Claim.—1st. The combination of box A, provided with grate B, and air hole C with the cover D, provided with chimney E, standard F, slots *h h* and and handle G; 2nd. The tongue K, in combination with slot *j*, pin *m* attached to spring *n*.

No. 9759. Process of Manufacturing Manures.

(Procédé de fabrication des engrais.)

Jean B. Rouilliard, Montreal, Que., 15th March, 1879, for 15 years.

Claim.—1st. A compound of iron or copper pyrites, sulphate and phosphate of lime, natural manure matters and acidulous alkaline and ammoniacal liquids or solutions, mixed and prepared as described; 2nd. The process of manufacturing artificial guano by passing through a mass of mineral and animal matters, the gases or vapours generated by the decomposition of such matters and not concentrated or condensed, and their direct action on the minerals.

No. 9760. Improvements on Car Brakes.

(Perfectionnements aux freins des wagons.)

Peter Lord, Hull, Que., 15th March, 1879, for 5 years.

Claim.—The pawl lever J operated by a cam L, on the axle M, in combination with a shaft D winding the brake chain, having a ratchet wheel H rotated by pawl K, on the lever J, for applying the brakes; 2nd. The combination with the shaft D having ratchet wheel H, of the shaft N, chain O, lever Q having cam *a*, chain R and lever J, for lifting the pawl K and spring hook L^1 from the ratchet wheel to release the brakes; 3rd. The coupling ends of the shaft N formed with a fluted portion slotted longitudinally, splayed at the ends and held slidingly when coupled by a headed pin T.

No. 9761. Improvements on Washing Machines. *(Perfectionnements aux machines à laver.)*

François Godin, Montreal, Que., 15th March, 1879, for 5 years.

Claim.—Dans une machine à laver, la combinaison, avec un disque central rotatoire, de la boîte formée avec plusieurs côtés (six ou plus) portant des nervures ou baillets.

No. 9762. Improvements on Boiler Feeders.

(Perfectionnements aux alimentateurs des chaudières.

Charles G. C. Simpson, Montreal, Que., 18th March, 1879, (Extension of Patent No. 9704), for 5 years.

No. 9763. Improvements on Boiler Feeders.

(Perfectionnements aux alimentateurs des chaudières.)

Charles G. C Simpson, Montreal, Que., 19th March, 1879, (Extension of Patent No. 9704), for 5 years.

No. 9764. Improvement on Watches.

(Perfectionnements aux montres.)

Daniel A. A. Buck, Worcester, Mass., U. S., 19th March, 1879, for 5 years.

Claim.—1st. The spring wheel O, cut from sheet metal and provided, near its periphery, with radial openings O_1 for the reception of the teeth of a spur gear wheel; 2nd. The spring wheel O, having at the inner edge of its rim a number of lugs O_{11}, which are attached to, and form part of said rim, and are bent downward at a right angle to the plane of said wheel; 3rd. The cap U arranged to fit within the rebate p_1 of the case centre P, and to embrace the spring wheel O and spring Z; 4th. In combination with the spring wheel O, the pawl A_1 provided at one end with a point which engages with said wheel, and at its opposite end with a spring, and pivoted upon the stem W between the winding wheel V and the case centre P; 5th. As a means for releasing the pawl A_1 from engagement with the spring wheel O, the lug a_1 formed upon the upper side of said pawl, in rear of the pivotal bearing, and projecting upward through the dial N; 6th. A stop mechanism for limiting the coiling of the main spring, when such mechanism is actuated by said spring; 7th. The upper and lower plates, each cut from one piece of metal and having the bearings for the staff of the balance wheel so connected with other portions of said plates, as to enable them to be bent toward or from the escape wheel and thereby change the depth of engagement of said balance wheel with said escape wheel; 8th. A watch plate having a hair spring stud cut, or stamped from the same piece of metal, as and forming part of the same; 9th. As a means for limiting end motion of the arbors, a cap M placed within a recess at the outer end of each pivot opening in the plates A and B, and secured in position by swaging or burnishing the contiguous metal of its said plate over the edge of said cap; 10th. A balance wheel having peripheral projections formed upon and of the material composing said wheel; 11th. The staff of a balance wheel having formed within its shoulder a notch for engagement with the impulse tooth of an escape wheel, and within its periphery a notch for the passage of the locking tooth of the same; 12th. An escape wheel having radial peripheral teeth of different lengths, formed of the same plate and having one or both set of such teeth bent laterally at any desired angle to the face of said wheel; 13th. As a means for causing the rotation of the pivoted frame of the movement to impart motion to the train, a stationary toothed wheel secured to or upon the dial, or other fixed support, and engaging with one of the wheels of said train; 14th. A watch movement having its train arranged to rotate upon or around a centre, a pivotal arbor for the upper end of the same which forms a pivotal support for the minute hand and is connected to or with the upper plate of the frame of said train, by means of a friction bearing; 15th. As a means for imparting motion to the hour hand S, the toothed wheel Q secured to or upon the dial N, the tooth wheel R, having a less number of teeth than said wheel Q, and provided with the arbor R which passes through said wheel Q, and receives and supports said hand and the pinion *f*, forming part of the train of the watch and arranged to mesh with and rotate around said wheels; 16th. An hour hand permanently connected with a hollow arbor, by rivetting or burnishing the end of the latter downward over the hub of the former; 17th. As a means for producing a friction bearing of the hour hand S upon its supporting arbor *r*, a concave steel washer r_1 interposed between the hub of said hand and the upper rivetted end of said arbor; 18th. A watch in which the dial is secured within the case by placing said dial within a rebate that is formed within the inner upper edge of the centre piece and burnishing the contiguous metal inward and downward over the edge of said dial; 19th. An open watch dial formed by removing the material around the figures; 20th. As a means for connecting the centre wheel Q, to or with the dial N, the washer *q* placed between said parts and provided with a hollow hub q_1 which projects through said parts, and is rivetted or headed down upon each; 21st. As a means for uniting the plates A and B, the pillars C permanently secured within said plate A, and having their opposite reduced ends c project through said plate B and, when in place, enlarged laterally; 22nd. As a means for containing and securing in position the toothed ring B_1, spring wheel O and cap U, the rebate p_1 formed within the inner lower corner of the centre piece P; 23rd. A watch in which the centre piece of the case operates to support the parts of the movement, to connect the same together and to confine them in place; 24th. As a means for supporting the pivotal arbors D and E of the movement, the dial N, permanently secured within one side of the case centre P, and the spring wheel O, confined in position within the opposite side of the latter, and each provided with a central opening for the reception of one of said arbors.

No. 9765. Improvements on Grain Binding Machines. (*Perfectionnements aux machines à lier le grain.*)

David Olmsted, Charles L. Travis, Charles R. Chute and George A. Brackett, Minneapolis, Min., U. S., 19th March, 1879, for 5 years.

Claim.—1st. In a machine for binding grain with paper or similar bands, the combination of a binder arm or band carrier to carry the band around the grain, and punching mechanism for securing the applied band upon the grain; 2nd. The combination of a reel or guide B, a binding or band carrying arm D, and a mechanism C adapted and arranged to sever the band and punch the end of the applied band in such manner as to fasten them directly together; 3rd. The combination of a reel or guide B, band punching and cutting mechanism C, and a binding or band carrying arm D arranged to carry the band around and between the dies of the punching mechanism and then disengage therefrom; 4th. A binder arm provided with a laterally projecting pin or band carrying device L, arranged to disengage laterally from the band, after passing the same around the grain; 5th. The combination of two band fastening dies with a binder arm or band carrier, arranged to pass the band around the grain and between the dies and disengage therefrom; 6th. The rotating and laterally moving binding arm D, provided with the lateral pin or roller *b* and arranged to operate as shewn; 7th. In combination with the shaft E, the binding arm D provided with the sleeve *c* and cam *e*, the fixed cam *f* and the spring *d*, for the purposes set forth; 8th. In combination with the continuously rotating shaft E, the binder arm D having the sleeve *c* with its slot *g* and cam *e*, the pin or roller *h* and cam *f* and spring *d*, whereby the binder arm is caused to move laterally and backward, and then to its original position again during the rotation of the shaft; 9th. Male and female dies arranged to act directly upon the lapped end of the applied band, for the purpose of fastening the same together; 10th. The laterally sliding die G, in combination with the vertically moving die H; 11th. In combination with the dies G *h*, the vertically moving clamp I arranged to rise in advance of the lower die; 12th. The combination of the vertically moving die H, clamp I, hook *p* and releasing spring *r*; 13th. The combination of a binding arm or band carrier, male and female dies, for punching and fastening the ends of the applied band, and a stripper K arranged to remove the band from the male die after being punched; 14th. The combination of a binding or band carrying arm, male and female dies to fasten the band and a carrier L to pass the first end of the band between the two dies; 15th In combination with the dies G and H, and binder arm D, the rotary band cutter K; 16th. In combination with the band cutting device K, the eccentric *t* and spring *u* arranged to assist the same in holding the severed end of the band; 17th. In two movable dies, a cutting and retaining device, a carrier L and a binder arm, combined and arranged to operate as described; 18th. The combination of two dies to punch the end of the applied band, with a binder arm arranged to carry the end of the band between the dies, and a clamp to hold the lapped ends of the band prior to their being punched; 19th. The grain band of paper or similar material, having one end doubled and laid upon the other and locked thereto by tongues, lips or shoulders; 20th. The combination of the two dies G H and the binder arm D, all connected with, and actuated by the single shaft E; 21st. In a machine for binding grain with paper and similar flat bands, male and female dies arranged to act one inside and the other outside of the applied band to fasten the same in place; 22nd. Punching devices arranged to act upon the inside and outside of the applied band, and then disengage therefrom, to permit the removal of the bundle; 23rd. The combination of a band carrier and two band fastening dies with a tapering or conical guide attached to one die, for the purpose of bringing the other exactly opposite thereto; 24th. In combination with the dies G H, a clamp I moved in advance of the die H with a positive action; 25th. The combination of the devices H I P m_1 o_1; 26th. The band carrier L, curved and arranged as shown; 27th. The combination of the binder arm and the divider J, as shown; 28th. The compressor arms, arranged as described; 29th. The curved compressor arms d_1, in combination with the cords p_1 and take up springs; 30th. A paper grain band having its edges turned or folded inward; 31st. A paper grain band having a thin body with edges of increased or double thickness; 32nd. A paper grain band having thickened or folded edges, with thread or cord inserted therein 33rd. A prepared band, for binding grain, consisting of a narrow strip of water proof paper having threads woven material or long fibre incorporated longitudinally therewith; 34th. A prepared band for binding grain having its edges strengthened by cord or its described equivalent.

No. 9766. Improvements on Peat Machine

(Perfectionnements aux machines à tourbe.)

Franklin Dodge, Whiteside, Ill., U. S., 19th March, 1879, (Extension of patent No. 3226), for 5 years.

No. 9767. Improvements on Truss Bridges.

(Perfectionnements aux ponts à armatures.)

Benjamin S. Clark, New York, (Assignee of Solon Conkling, Kirkwood, N. Y.,) U. S., 20th March, 1879, for 5 years.

Claim.—1st. A bridge element composed of a double hip-arch, the members of which extend horizontally along the middle panels, and thence in straight diagonal lines to the ends of the span crossing each other between the middle pannels and end posts, and bolted together at the points of crossing or intersection; 2nd. The combination of said double hip-arch element with straight top and bottom chords, posts and diagonals.

No. 9768. Improvements in Plaiting Machines. (*Perfectionnements aux machines plisser.*)

Mary A. Maybee and William Duffus, Syracuse, N. Y., U. S., 20th March, 1879, for 5 years.

Claim.—1st. The movable bed piece E E, provided with a slotted frame or grate, and the knife D having a bent rod *b*, its foot resting upon and operating the cam lever *m*, in combination with each other and the cam lever *m*; 2nd. The movable carriage E E, provided with permanently fixed needles or a grate and having ratchet upon its sides, and the plaiting knife D, in combination with each other and the ironer *r*; 3rd. A grated frame or carriage E E providing with a ratchet on its sides and constructed and arranged to move under the plaiting knife operated by a cam lever, and bent rod attached to the knife D; 4th. In combination with the knife D, the weight *k* adapted to hold the folds of the plaits; 5th. The ironer *r*, in combination with the slotted frame or grate of the carriage E E; 6th. The combination of the knife D, and the adjustable knob or handle L operated by a screw for varying or regulating the width of plaits; 7th. A plaiting frame or grate having the grate bars or needles permanently attached to its side pieces.

No. 9769. Improvements on Coal Stoves.

(Perfectionnements aux poêles à charbon.)

Charles Johnson, Thorold, Ont., 20th March, 1879, for 5 years.

Claim.—1st. The combination, with the feeder H of a self-feeding base burner stove, of a hollow hot water cylinder A, secured to the same and provided with flow and return pipes D G, the said cylinder being constructed short and attached to a feeder H, or elongated and forming a combined water cylinder and feeder provided with flow and return pipes; 2nd. The combination, with the feeder H, of the flow and return pipes D G encircling around the same (one or more coils); 3rd. The combination, with a water cylinder A, of the chamber C, openings F F, tubes E E, made to connect with the flow pipe G, when used in connection with the feeder of a base burning stove, for heating water.

No. 9770. Improvements on Envelopes.
(Perfectionnements aux enveloppes.)

Mary J. Taylor, Brooklyn, N Y., U. S., 20th March, 1879, for 5 years

Claim.—A change-envelope for street cars, made from suitable tough uncolored or light colored paper, having an inscription printed on its face, to signify its denomination or proposed contents, and an arbitrary mark or marks, printed in black or colors across the fold or edge and on the back flap, significant also of the proposed contents and of the inscription on the face.

No. 9771. Compound for Making Candles.
(Composé pour fabriquer la chandelle.)

Joseph Maheux, Quebec, Que., 26th March, 1879, for 5 years.

Claim.—Dans un composé d'acide borique d'alcool d'acide sulfurique, de gomme de sapin et de térébenthine, dans les proportions mentionnées à l'effet de blanchir le suif pour la fabrication de la chandelle, 2nd Dans la manière de traiter les mèches en les soumettant à un bain du même composé, dans les proportions aussi mentionnées.

No. 9772. Improvements in Gauge Lathes.
(Perfectionnements aux tours à jauge.)

John M. Parker, Pawtucket, R. I., U. S., 26th March, 1879, for 5 years.

Claim.—1st. The rack D, for holding the lumber, the lever and finger motion *d* as shown; 2nd. The header C^4, in combination with the sliding centre or pin, in combination with the guard h_1 and the incline h_2. 3rd The combination of the ratchet and gear F with feed motion E E, or their equivalents, 4th. The sliding bar c^2, 5th. The removable bushing H in the hollow arbor G^4; 6th The movable stud L, in combination with ratchet and lever *q*.

No. 9773. Improvements on Sewing Machines.
(Perfectionnements aux machines à coudre.)

John McCloskey, New York, U. S., 26th March, 1879, for 5 years.

Claim.—1st. In a sewing machine feed, the combination of two cams, having their longer axis at an angle to one another and a compound strap which receives positive rising and forward movement from said cams, and operates to give like movement to the feed dog, 2nd. In a sewing machine feed, the combination of two cams, having their longer axis at an angle to one another, and a combined strap which receives positive up and down, and to and fro movement from said cams and operates to give motion to the feed dog, 3rd. In a sewing machine feed, the combination with the feed-bar and a spring which tends to move the same backward, or backward and downward, of two cams having their longer axis at an angle to each other, and a compound strap which receives positive movement from said cams and operates the feed bar against the stress of the spring.

No. 9774. Improvements on Waggon Axles.
(Perfectionnements aux essieux des wagons.)

Theodore Graser, Oswego, N. Y., U. S. 26th March, 1879, for 5 years.

Claim.—1st. The mode of forming, from one tube, a seamless hollow axle with tapering spindles, by making on top of the ends of the tube the V-shaped excision E, and joining the edges of said excision by a swage of the requisite taper; 2nd. The mode of forming, from one tube, a seamless hollow axle, having tapering spindles with screw threads on their end, by making on top of the ends of the tube the V-shaped excision E, then joining the edges of said excision by a swage of the requisite taper, and further compressing and upsetting the end by a swage of smaller circumference.

No. 9775. Improvements on Boots.
(Perfectionnements aux bottes.)

Robert Nimmo, James Allen and James G. Ray, Galt, Ont., 26th March 1879, for 5 years.

Claim.—A boot having an upper, in which are combined the parts A B C cut in the peculiar shape shown and described.

No. 9776. Improvements on Ice Creepers.
(Perfectionnements aux crampons à glace.)

Oscar A. Childs, Cleveland, Ohio, U. S., 26th March, 1879, for 5 years.

Claim.—1st. The combination, with a plate adapted to be secured to the heel of a boot or shoe of a pivoted shaft having its ends journalled in lugs and a swinging arm having an enlarged angular faced end, which is rigidly secured to the central portion of said pivoted shaft, whereby the swinging arm is retained in position by the resiliency of the pivoted shaft; 2nd The combination, with a plate provided with lugs *a* a_1 and open slotted guards *b* b_1, of a pivoted shaft *c*, having its ends journalled in lugs *a* a_1, and swinging arm B provided with an enlarged faced end, which is rigidly secured to shaft *c* between the guards *b* b_1.

No. 9777. Improvements on Force Pumps.
(Perfectionnements aux pompes foulantes.)

Clark Tickner, Arkona, Ont., 26th March, 1879, for 5 years.

Claim.—1st. In the combination of the handle H, fulcrum *d* to top of air chamber E, the plunger rod L sliding in guides M secured to well tube D and having a plunger N operating in a cylinder A provided with valve *a*, said cylinder attached to valve chamber B by strap and gland *b*, well tube D, pump stock E having air chamber F; 2nd. The pivoted leak slide R, operated by rods S for opening and closing the leak hole Q in the well tube, 3rd The air chamber F, provided with a vent *e*, in combination with pump stock E having a spout G, with hose coupling attachment; 4th. The handle H, provided with a series of holes *f*, in combination with a plunger rod attachment *g* for regulating the stroke of the pump.

No. 9778. Washtub and Wringer Stand.
(Banc de cuvette et d'essoreuse.)

James Calder, Ingersoll, Ont., 26th March, 1879, for 5 years.

Claim.—As an improved article of manufacture, a wash tub and wringer bench composed of the inclined legs A A B B, pivoted at the apex, the latter connected by wringer bar C, the horizontal bars E E pivoted to legs A A and bearing on cross piece F tying the legs B B, said horizontal bars E E connected by slats G on which the two tubs stand, the whole folding compactly.

No. 9779. Improvements in Glove Fasteners.
(Perfectionnements aux agrafes des gants.)

William H. Storey, Acton, Ont., 26th March, 1879, for 5 years

Claim.—The application of a wire for the purpose of forming a spring to be applied in conjunction with a glove fastener also the forming of a hook and eye on the same wire that forms the spring A being the hook and B the eye.

No. 9780. Improvements on Kitchen Cabinets. *(Perfectionnements aux buffets de cuisines.)*

Ninian H. Dolsen, Chatham, Ont., 26th March, for 5 years

Claim.—1st. The combination of the drawer F, having a water reservoir G, and a pan H setting over the same and enclosed by a box cover I hinged to the back of the body A forming, with the inner top J, a chamber heated by the hot water in the reservoir, 2nd. The flap hinged to the front of the cabinet and closing and opening in the box cover I, through which the contents of the pan H may be viewed, 3rd In combining with the back of the cabinet a thermometer placed partly within and partly without the dough raising chamber, for ascertaining, from the outside of the cabinet, the degree of heat within the chamber, 4th The provision, to the bottom of the flour of in, a slide L and aperture to pass sweepings in cleaning the bin.

No. 9781. Device for Oiling Waggon Wheel.
(Appareil à graisser les roues des wagons.)

Charles Mans, Danville, Pa., U. S., 26th March, 1879, for 10 years

Claim.—1st As a means for saturating the felloes and tenons of a wheel, the combination of a stove or water vessel and horizontally adjustable oil pans, 2nd The stove A constructed with an open top fire box B, grate C, fire brick D, doors E G and damper I, 3rd. The combination of the pan K, having shoulder *a*, and the pans L L, having flanges *b d* at each end; 4th The perforated standard M with pins E, levers N and rod *h* with nut *s*, in combination with a stove A, water pan K and oil pans L.

No. 9782. Sheet Metal Cutting Machines.
(Machines à tailler les feuilles métalliques.)

Charles A. Kennedy, Hatley, Que., 26th March, 1879, for 5 years.

Claim.—1st The combination of the radius arm E, provided with holes *e e* and *e* with the pivot *d* and guideway B, 2nd. The combination of the radius arm E having attached thereto, the clamps *g* and cam *h*, with the semi circular guide rest *b*, 3rd The combination of the radius arm E with the cutting disks *m* m_1 and *o* o_1; 4th The combination of the radius arm E with the adjustable cutters *o* o_1, 5th. In combination with a radius arm E and disks *m* m_1 and *o* o_1, the adjustable stops *s t*, track *j* and carriage F; 6th In combination with a radius arm E, the clipping table D, knives *y* and bar *x* operating as set forth, 7th In combination with the base *a*, the standards *c* c_1, slot *a*, track *j*, frame G, adjustable cutting disks *o* o_1, stops *r s t* and clipping table D, the whole to operate as set forth.

No. 9783. Improvements on Screens.
(Perfectionnements aux cribles.)

James H Cavanagh, Salem, Oregon, U. S., 26th March, 1879, for 5 years.

Claim.—1st. A screen, for grain separators having the longitudinal slats B B extending parallel with the sides of the frame and shoe, without any cross bars or obstructions, 2nd The screen frame A, having the parallel slats B B B attached firmly to one end and provided with a straining or tightening device at the opposite end.

No. 9784. Improvements on Churn Dashers.
(Perfectionnements aux battes à beurre.)

Peter Klinkhammer, Seaforth, Ont., 26th March, 1879, for 5 years.

Claim.—In the form of the bowls A A A or handle C, the use or adoption of the bowls A A A and the arrangement of the same with cross pieces B and handle C.

No. 9785. Moulder's Tool. *(Outil de mouleur.)*

Dennis Moore and William A. Robinson, (Assignees of George Sheed,) Hamilton, Ont., 26th March, 1879, for 5 years.

Claim.—A curved punch D centrally pivoted to or journalled in a base plate A and C, or the equivalent thereof, with openings J K, flanges L, recess R, whereby a circuitous opening may be punched in a sand mould to produce loops, bale-ears, handles or any such similar formations on metal castings.

No. 9786. Machine for Excavating Earth.
(Machine à creuser la terre.)

Ethan A. Judd and Charles D. Judd, (Administrators of the estate of Daniel Judd,) Hinsdale, N. Y., U. S., 26th March, 1879, (extension of patent No. 3389,) for 5 years.

No. 9787. Improvements in Paint Cans.
(Perfectionnements aux boîtes à peinture.)

Andrew Somerville, Toronto, Ont., 26th March, 1879, (extension of patent No. 3236,) for 5 years.

No. 9788. Improvements in Metallic Shingles.
(Perfectionnements au bardeau métallique.)

Henry W Shepard, Brooklyn, N Y., U. S., 27th March, 1879, for 5 years.

Claim.—1st. A metallic roofing shingle having the ribs or corrugations, 2nd. A metallic shingle with the slits or opening C C, 3rd. A metallic shingle with the tongues *c c*, 4th. A metallic shingle with the depression or recess *d*; 5th. A metallic diamond pointed shingle with the depression of the pointed end D.

No. 9789. Improvements on Telegraphic Transmitters. (*Perfectionnements aux manipulateurs télégraphiques.*)

Wesley W. Gary, Boston, Mass., U. S., 27th March, 1879 *for* 5 years.

Claim—1st *In a telegraphic transmitter of a permanent magnet, a transmitting key or lever and a soft iron armature coiled with wire and arranged to vibrate within the magnetic field*, 2nd *In a telegraphic transmitter, an electric magnet inserted in the circuit, a permanent magnet and a transmitting key, arranged to move the electro magnet to and from the permanent magnet, without carrying it beyond the magnetic field*, 3rd *In a telegraphic transmitter, the combination of a permanent magnet and a soft iron armature, provided with an induction coil and located in the magnetic field, and a manual key or equivalent transmitting device arranged to move the armature to and from the neutral line in said magnetic field, but to retain it at all times in said field*; 4th. *In a telegraphic transmitter, the combination of a permanent magnet, an electro magnet having its core or armature extended across or above both poles of the permanent magnet, and a manual key or equivalent transmitter arranged to move the armature to or from both poles of the magnet at the same time, to or across the neutral line in the magnetic field without departing therefrom*; 5th. *In an electro transmitter, the combination of a permanent magnet, an armature, provided with an induction coil and capable of vibration, only between the magnet and the neutral line in the magnetic field, and a manual key or equivalent transmitting device arranged to impart the vibratory movement to the armature.*

No. 9790. Improvements in Ore Reducing Process. (*Perfectionnements aux procédés pour réduire les minérais.*)

John A. Robertson, John W. Still and Allan Death, Oakland, Cal., U. S., 27th March, 1879, *for* 5 years.

Claim.—The use *of common salt (sodium chloride,) Cyanide of Potassium and the sulphate of copper, when made into solution with water and used as a bath, for red hot ore, to disintegrate and desulphurize the same.*

No. 9791. Improvements in Washing Machines. (*Perfectionnements aux machines à laver.*)

John C. Schoonmaker, Hamilton, Ont., 27th March, 1879, for 5 years.

Claim.—The combination of the elastic transversely diagonally corrugated roll D with the longitudinally corrugated zinc roll A, in connection with the operating gear and spring pressure.

No. 9792. Improvements on Churns. (*Perfectionnements aux barattes.*)

Archibald O Glass, London, Ont., (Assignee of Graham Denman, London, England,) 27th March, 1879, *for* 5 years.

Claim.—The arrangement for obtaining galvanic action during the process of churning milk into butter, by means of the described churn A constructed *of zinc with a copper and tin bottom*, in combination with a heating vessel B constructed also of zinc, with a copper bottom, and a cooling vessel C made *of copper and lined with pure tin*, so *as to introduce the voltaic current in connection with galvanic action and* mechanical agitation.

No. 9793. Improvements on Seed Drills. (*Perfectionnements aux semoirs-traceurs.*)

Henry Springer, Vicksburgh, Mich., U. S., 29th March, 1879, *for* 5 years.

Claim.—1st The drill tooth and shovel, made of the front piece A having *perforated ears a*, the *rear* piece B having *perforated ears b*, the part A4 and the shovel E *secured* together, 2nd. The adjustable block D3, having set screw *d3* and bifurcated beam C c, in combination with the adjustable draw rod or brace D and the attachments A3 A4 *a2* to the drill *tooth*; 3rd. The double distributor consisting of the upper inclined part A5 upon the piece A, and the part B3 upon the piece B, inclined in reverse directions.

No. 9794. Improvements on Nut Locks. (*Perfectionnements aux serre-écrous.*)

Jacob L. Hayward, South Framingham, Mass., U. S., 29th March, 1879, for 5 years.

Claim.—1st. In a nut lock, a metallic holder combined with loosely held jaw, pins, to act as a holder for a nut, 2nd An improved article of manufacture in a nut lock composed of a case or frame d, flexible pin supports therein and metallic paw) pins, 3rd In a nut lock, a pawl pin combined with a yielding or flexible support for it.

No. 9795. Improvements on Fences. (*Perfectionnements aux clôtures.*)

Norman Westcott and Josephus C. Gurley, Morrisville, N. Y., U. S., 29th March, 1879, for 15 years.

Claim.—1st. The combination of the crossed stakes AA, wire tie a and rail B; 2nd. The stakes AA, crossed, tie a and rail B, combined with a lock rod C, 3rd. The combination of the stakes AA, tie a and rails B C, with the hanging loop *b* and rail D.

No. 9796. Improvements in Whiffletrees. (*Perfectionnements aux palonniers.*)

George W. Jackman, Bath, N. H., U. S., 29th March, 1879, for 5 years.

Claim—1st. The combination of the rounded end collar B, provided with the bearing ears *aa* and the bolt C, with the duplex shanked hook D; 2nd. The combination of the rounded end whiffletree A and the collar B, provided with the bearing ears *aa*, with the bolt C and the duplex shanked hook D.

No. 9797. Improvements on Horse Rakes. (*Perfectionnements aux râteaux à cheval.*)

Benjamin Redden, Kentville, N. S., 29th March, 1879, for 5 years.

Claim.—1st The arrangement of toggle joint lever, in combination with draught bar and tilting lever; 2nd. The action of toggle joint lever, in combination with draught bar and tilting lever.

No. 9798. Improvements on Middlings Purifiers. (*Perfectionnements aux épurateurs des grueaux.*)

Giles S. Cranson, Clinton, N. Y., U. S., 29th March, 1879, for 5 years.

Claim.—1st The combination with the reel A, *of the cleats C applied* detachably to the sides of the supporting bars *a*, and the bolting cloth *applied* in sections, extending from one supporting bar to the other and secured *flush* with the inside thereof by the cleats *C*, 2nd. The combined flour and middlings bolt consisting of the reel A having, near its reception end, graded flour bolting cloth applied to the interior of the bars *a*, and the remainder clothed with graded middlings bolting cloth applied flush with the inside of bars a and joined to the flour bolting cloth.

No. 9799. Improvements on Churns. (*Perfectionnements aux barattes.*)

David C. Chadwick and Fred W. Trumper, Meadville, Pa., U. S., 29th March, 1879, *for* 5 years.

Claim.—1st. The combination, *on* a revolving churn, of the links b, levers C, follower B, screw A, rail H and fulcrums E, for the purpose of making the cover I water tight on the top of the churn; 2nd. The valve F and trip G *on a revolving churn.*

No. 9800. Apparatus for the Manufacture of Buttons. (*Appareil pour la fabrication des boutons.*)

Félix Loeper, Magdeburg, Germany, 29th March, 1879, for 5 years.

Claim.—1st. In the combination of the inclined rail A grooved to receive the blanks, the sliding carriage for the same, arranged to move horizontally, to bring the lowest button immediately over the chuck, and a lever and stamp to force it therein, 2nd. The groove in the *inclined rail, moved to and* fro in a horizontal direction, 3rd In combination with the inclined grooved rail *containing the button blanks*, the pin E pressed down into the groove in front of the lowest blank, and pin H pressed down so as to retain in position the upper blanks when, by the retraction of the cam F and spring G, the pin E is raised so as to release the lowest blank, 4th In combination with the inclined grooved rail holding the blank, the rail M arranged to be elevated and lowered at will, the pins R and S and the cam and spring T, *all arranged* and operating together, 5th. The combination with the inclined rail holding the blanks, of stamp K actuated by lever F1; 6th The chuck composed of the cone U, with cross cuts V, ring W and blade X; 7th. In combination with the cone U constructed as described and mounted on the shaft *b*, and the sliding carriage *and* inclined reservoir A, the support D carrying a knife which forms the button, and raised and lowered; 8th. The combination with the pulley *e* and suitable gearing, of curved drum *h*, *arranged to operate* support *d*; 9th. The combination of the shaft *o*, operated from the pulley *e* by cranks and links and carrying discs arranged to impart to the sliding carriage its backward and forward movement from and to the chuck 10th. The combination with the cone U, of the ring W carried in frame *r* and sockets *x* and *arranged* to be raised and lowered in rails by lever 3 *pivoted* on, and secured to rails W and plates 5 5, pressed against each other and suitably supported or carried, these plates *x* and *y* being on the approach of the sliding carriage by the action of lever 3, separated *from* each *other*, to receive the piece to be worked, and closed by suitable spring, the plates 5 5 being *opened* simultaneously *with* the plates *x y* by means of levers 8 9 to allow of the passage out of the finished button and immediately closed 12th. The combination with the drum *h*, of a curved tooth piece acting to press downward the rod 22 and thus alternately causing the spring 27 to engage with the ratchet wheel 19, thereby pressing the free end of the brush 17 against the button and allowing the spring 24 to raise the rod 22, thereby letting the button pass and, by the spring 27, partially rotating the ratchet 19

No. 9801. Improvements in Steam Boilers. (*Perfectionnements aux chaudières à vapeur.*)

James Pool and Henry A. Costner, Friendsville, Ill., U. S., 29th March, 1879, for 5 years.

Claim.—1st. In a feed water apparatus the pump plunger D, provided with recess *x* and piston head E2 by which the plunger is balanced, in combination with the piston head E and cylinder M; 2nd. The combination of the receiver C, balanced plunger D and cylinder M; 3rd. The combination of *the receiver C, balanced pump plunger D*, cylinder M and heater F; 4th. The combination of receiver C, balanced pump plunger D, cylinder M, heater F and reservoir R, arranged to heat and automatically feed the water to the boiler; 5th. The receiver C, connections A B, balance plunger D, cylinder M and heater F, said heater being provided with an exhaust steam pipe O, 6th. The cylinder M, piston D, heater F connected and arranged to receive the piston head E, exhaust pipe O, escape pipe I and reservoir J

No. 9802. Improvements on Machines for Fleshing Hides. (*Perfectionnements aux machines à écharner les peaux.*)

Don A. Clay, (co-inventor with, and Assignee of Edgar B. Holcomb,) Port Leydin, N. Y., U. S., 29th March, 1879, *for* 5 years.

Claim.—1st. The combination with the frames D and E, of the boxes or sleeves H H, within *which* the shaft G revolves; 2nd. The combination with the frame E of the lever T, collar K, shaft J and supporting spring L, 3rd. The combination, with the vertical shaft J, of the cutter head P with its knives arranged radially, tangentially or spirally from the centre opening to the periphery, the head P being connected to the lower end of the shaft J, by a ball and socket joint, and provided with a screw coupling and sleeve clutch.

No. 9803. Improvements on Reaping Machines. (*Perfectionnements aux moissonneuses.*)

Cyrennes Wheeler, Jr., Auburn, N. Y., U. S., 31st March, 1879, for 15 years.

Claim.—1st *The* piece cover to the gear case, formed as a shell, snaked in front to form a footboard, domed towards the centre to bridge the gearing

and having a pocket at the rear end, to form a tool box, and being suitably flanged to shut upon the gear case; 2nd. One piece metal seat frame and tool box, formed with the elevated shell socket, for the adjustable seat spring holder, in combination with the flanged connecting ring for holding said seat holder in place, while permitting its adjustments; 3rd. The combination, with the beam G, of the adjustable catch plate G_4 adapted to hold the lifting lever locked in a forward position for reaping, and in a backward position for mowing; 4th. The lifting lever G_5, in combination with the adjustable catch plate G_4; 5th. The adjustable block G_1, in the rear end of beam G, for setting and holding the inner end of the cutting apparatus at different heights in reaping, and with which the chain for actuating the gag crank is connected in mowing; 6th. The combination, with the platform, of the adjusting block G_1 on the vibrating beam G, for adjusting and holding the inner end of the cutting apparatus at different heights, and the adjustable grain wheel at the outer end of the platform, adapted to effect a corresponding adjustment of said outer end; 7th. The gag dog C, for binding the upward throw of the adjustable cutter frame, in combination with the tilting lever D_1 for releasing said dog; 8th. The hinge and pivot piece E, for connecting the finger bar with the main frame made in one piece, of the form described; 9th. The combination, with the inner shoe, of the adjustable sole or runner K, provided with the grooved standard and united to the shoe by the gag block; 10th. The removable transverse bar O, applied to the tongue and provided with the conical or tapering socket piece P, for holding the divider point when the platform is folded; 11th. The socket piece P, provided with the locking button, in combination with the shoulder on the divider point, for holding the divider securely when the platform is folded; 12th. The transferable rake stand, in combination with the bearing lugs or supports on the crank frame, for holding said stand, when not in use and when the platform is folded for transportation.

List of Patents issued up to 22nd April, 1879, but not yet Officially published in the Patent Office Record.

No. 9804. The Acid Pump & Siphon Co., New London, Conn., U. S, A., "Acid Pump & Siphon," (Extension of No. 3260), 31st Marsh, 1879.

No. 9805. O Bolton, Canton, O., U. S. A., "Process for the Manufacture of Steel," (Extension of No. 9752), 3rd April, 1879.

No. 9806. O. Bolton, Canton, O., U. S. A., "Process for the Manufacture of Steel," (Extension of No. 9753), 4th April, 1879.

No. 9807. T. F. O'Brien, Montreal, Que., "Fuel, Gravel and Macadamizing Material," 4th April, 1879.

No. 9808. Jos. Goodrich, Henry, Ill., U. S. A., "Propelling Apparatus," 4th April, 1879.

No. 9809. P. Grant, Guelph, Ont., "Pump," 4th April, 1879.

No. 9810. J. Shupe, New Market, O., (Assignee of Jas. Wilber), New York, U. S. A., "Knife Grinder," 4th April, 1879.

No. 9811. Jno. L. L. LeCente, Philadelphia, Penn., U. S. A., "Electric Eduction Apparatus," 4th April, 1879.

No. 9812. H. H. Miller, Londonville, Vt., U. S. A., "Stave Dressing Machine," 4th April, 1879.

No. 9813. W. H. Morrison, Aylmer, Ont., "Improvements on Fifth Wheels," 4th April, 1879.

No. 9814. A. Knecht, Quebec, Que., "Reciprocating Apparatus or Motor," 4th April, 1879.

No. 9815. E. R. Stilwell, Dayton, O., U. S. A., "Turbine Water Wheel," 4th April, 1879.

No. 9816. Jno. Boyd, Antigonish, N. S., and R. D. Kirk, Arthur, Ont., "Combined Umbrella and Cane," 8th April, 1879.

No. 9817. Wm. H. Dyson, Sherbrooke, Que., "Picking Motion for Shuttles," 8th April 1879.

No. 9818. H. A. Manderson, Maria, Que., "Mill Stone Ventilation," 8th April, 1879.

No. 9819. S. T. S. Wicks, London, Ont., "Buggy and Waggon Top," 8th April, 1879.

No. 9820. E. D. Austin, Erie, Penn., U. S. A., "Ice Creeper," 8th April, 1879.

No. 9821. Jos. Breeden, Birmingham, England, "Expanding Globe Holder," 8th April, 1879.

No. 9822. Wm. C. Macartney, West Flamboro, Ont., "Concentrated Cleaning Soap," 8th April, 1879.

No. 9823. Wm. H. Banfield, Quebec, Que., "Fire Kindler," 8th April, 1879.

No. 9824. F. A. Porter, Baltimore, Md., and D. A. Beatson, New York, U. S. A., "Curtain Cord Tightener," 8th April, 1879.

No. 9825. Jas. D. Foster (Assignee of Jno. W. Mullins), London, Ken., U. S. A., "Improvements on Mechanical Movements," 8th April, 1879.

No. 9826. H. A. Rideout, O. B. Rideout and M. P. Rideout, Calais, Me., U. S. A., "Combined Churn and Butter Worker," 8th April, 1879.

No. 9827. Geo. H. Little and Geo. F. Osgood, Peabody, Mass., U. S. A., "Valve," 8th April, 1879.

No. 9828. G. P. Girdwood, Montreal, Que., "Safety Paper and Ink," 8th April, 1879.

No. 9829. R. Smallwood, Charlottetown, P.E.I., "Lever Feed for Shingle Sawing Machines," (Extension of No. 3292), 8th April, 1879.

No. 9830. A. R. Giles, Ottawa, Ont., "Washing Machine," (Extension of No. 3286), 10th April, 1879.

No. 9831. Jno. B. Ricketts, Wm. A. Wilson and Geo. A. Kennard, St. Joseph, Miss., U. S. A., "Eye Shades," 12th April, 1879.

No. 9832. A. J. Smith and E. A. Bonine, Ukiah, Cal., U. S. A., "Candlestick," 12th April, 1879.

No. 9833. O. R. Cooke, Chicago, Ill., U. S. A., "Sash Holder," 12th April, 1879.

No. 9834. Jno. Coleman and Geo. Brett, Toronto, Ont., "Pump," 12th April, 1879.

No. 9835. T. E. Hayes and Jas. H. Hayes, Spring Green, Wis., U. S. A., "Vehicle Top," 12th April, 1879.

No. 9836. N. Legros and A. Drouillard, Windsor, Ont., "Pump," 12th April, 1879.

No. 9837. A. McRonald and Geo. Dingwall, Toronto, Ont., "Perambulater Safety Brake," 12th April, 1879.

No. 9838. W. R. Miller and M. R. Creighton, Baltimore, Md., U. S. A. "Art of Manufacturing Boots," 12th April, 1859.

No. 9839. Wm. Josleyn, Bedford, and Wm. H. Smith, St. Armand, Que. "Animal Power," 12th April, 1879.

No. 9840. Jas. Higginbottom and Ed. Hutchison, Borough of Liverpool, England, "Apparatus for Grinding Grain, Midlings, &c.," 12th April, 1879.

No. 9841. C. S. Terwillegar, Et. Whitby (Assignee of E. C. Healy), Whitby, Ont., "Spring Bed," 12th April, 1879.

No. 9842. Jno. Krehbiel, Williamsville, N. Y., U. S. A., "Vehicle Spring," 12th April, 1879.

No. 9843. Geo. W. Thomas, Bear River, N. S., "Anti-Friction Box and Axle," 12th April, 1879.

No. 9844. O. Durocher, Ottawa, Ont., "Improvements on Boots," 12th April, 1879.

No. 9845. H. Turner and Wm. Turner, Montreal, Que., "Pantaloon Suspenders," 12th April, 1879.

No. 9846. R. Porter, Bothwell, Ont., "Hollow Auger," (Extension of Patent No. 3298), 16th April, 1879.

No. 9847. Wm. Jno. Clokey, Newcastle, Ont., "Vise and Anvil," 17th April, 1879.

No 9848. L. W. Scott, Montreal, Que., "Fittings for Sinks, &c.," 17th April, 1879.

No. 9849. Jno. H. Mills, Boston, Mass., U. S. A., "Steam Radiator," 17th April, 1879.

No. 9850. Wm. Jas. Fender, Minneapolis, Minn., U.S.A., "Middlings Purifier," 17th April, 1879.

No. 9851. F. Fitt, Ottawa, Ont., "Watch Going Barrel," 17th April, 1879.

No. 9852. Jno. F. Crackett, Laconia, N. H., U. S. A., "Draw Bar," 17th April, 1879.

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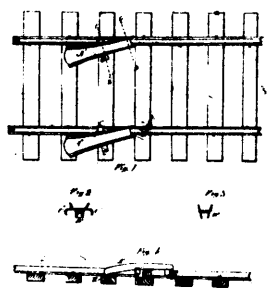

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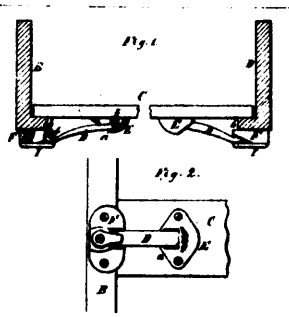

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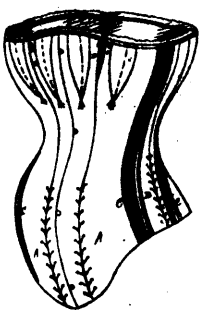

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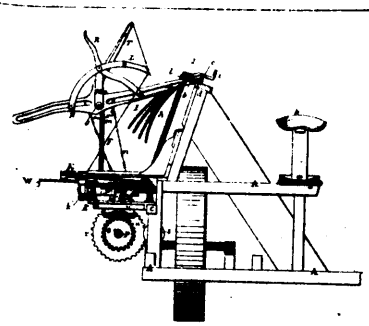

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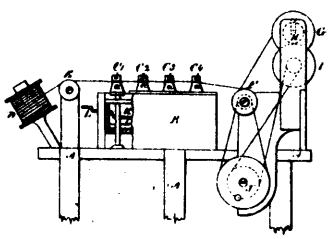

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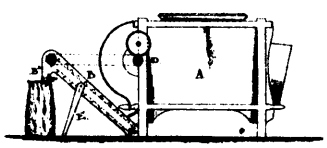

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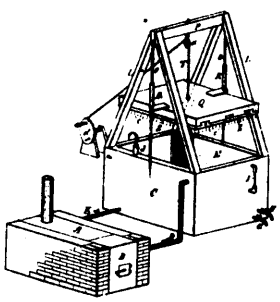

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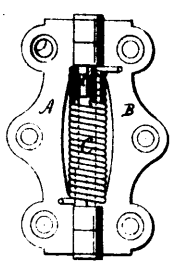

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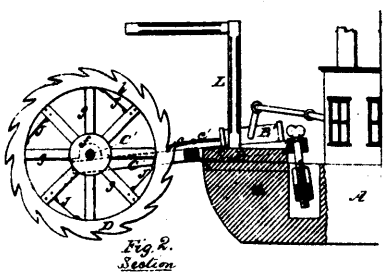

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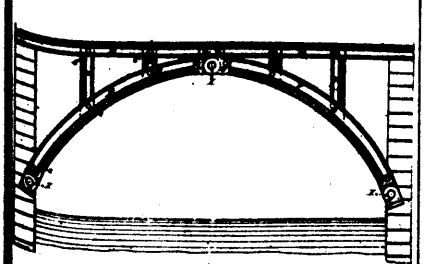

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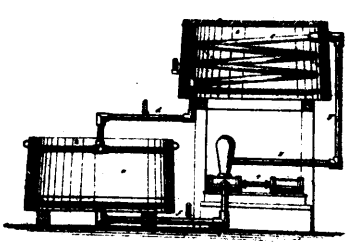

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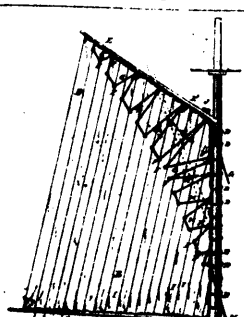

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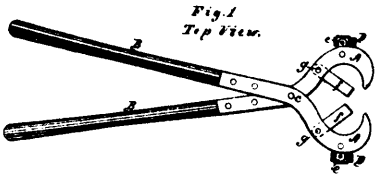

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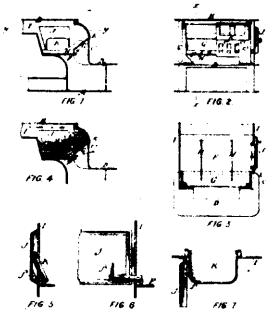

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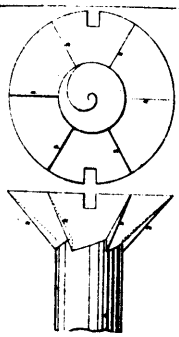

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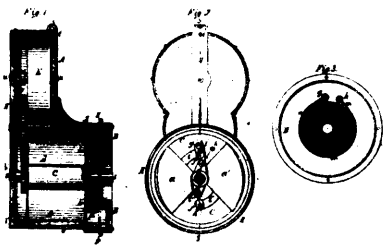

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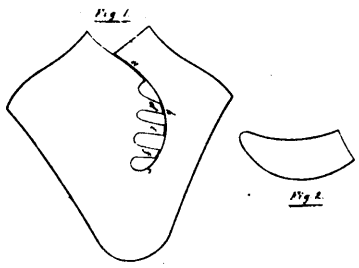

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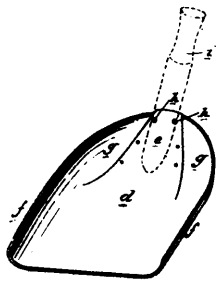

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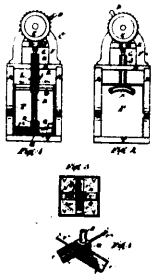

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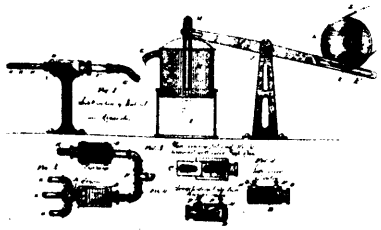

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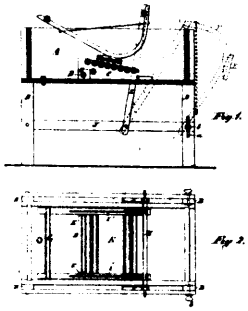

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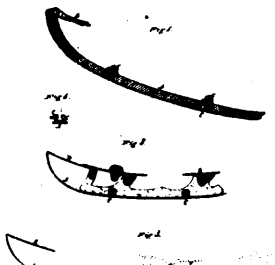

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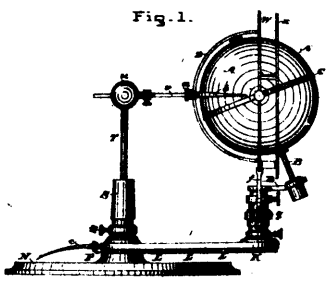

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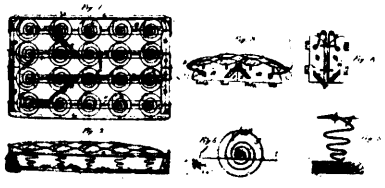

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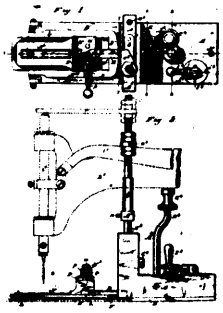

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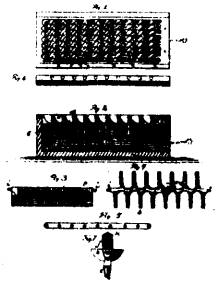

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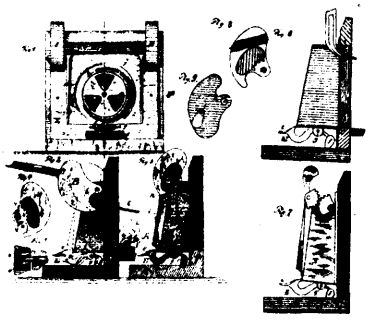

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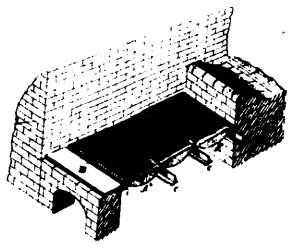

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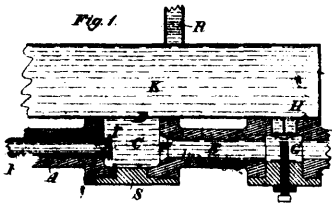

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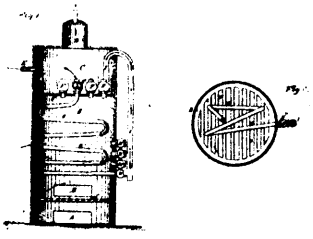

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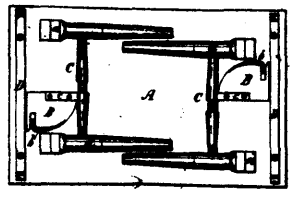

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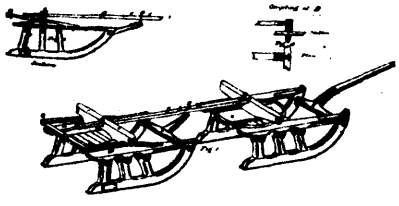

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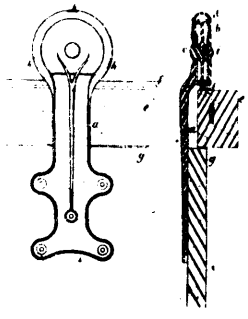

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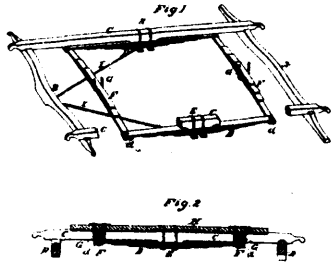

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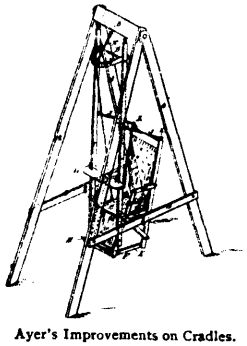

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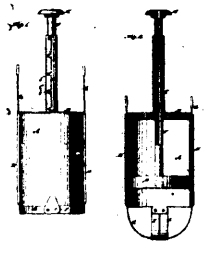

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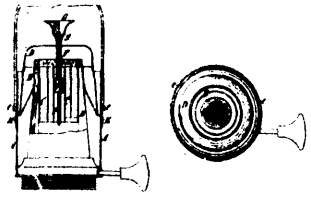

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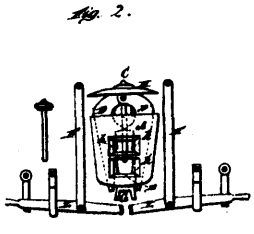

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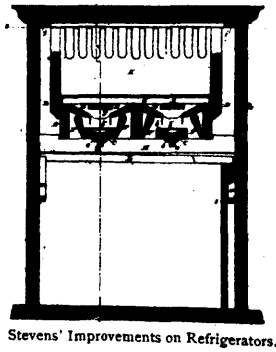

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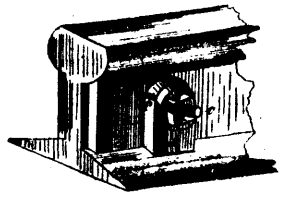

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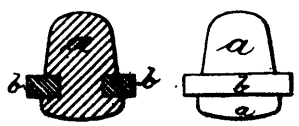

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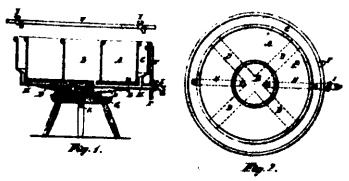

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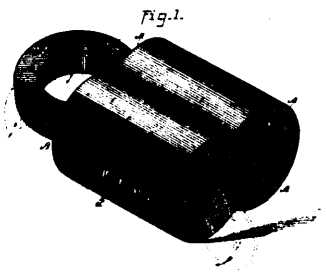

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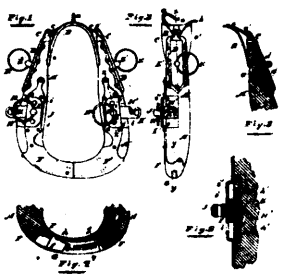

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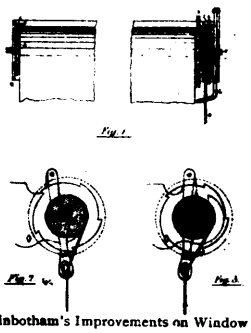

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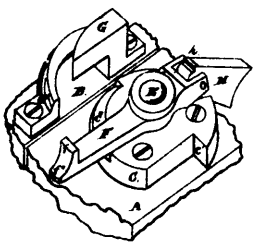

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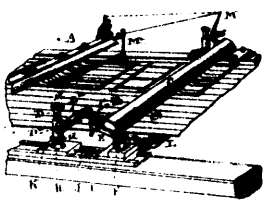
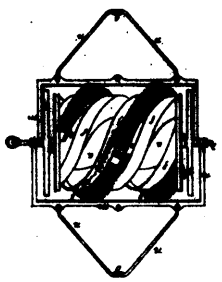
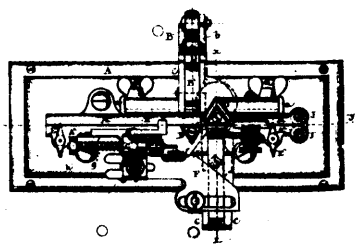


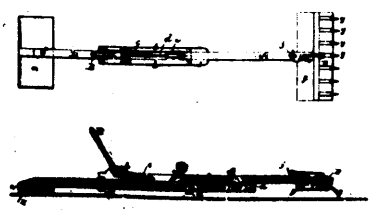
9723 Blackhall's Improvements on Paper Ruling Machines.



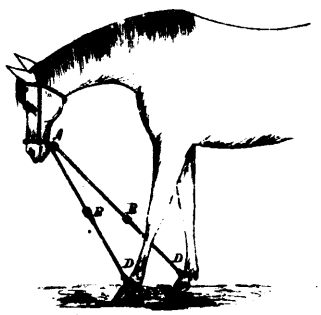
9724 Cutlan's Appar. tus for Cleaning the Bottoms of Ships.



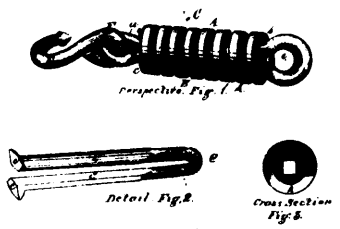
9725 Dunn's Improvements in Saw Setting Machines.



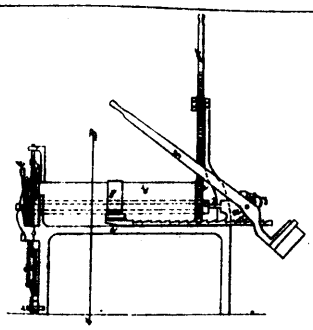
9726 Stone's Improvements on Carpet Stretchers.



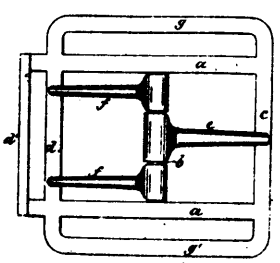
9727 Chisholm's Horse and Cattle Check.



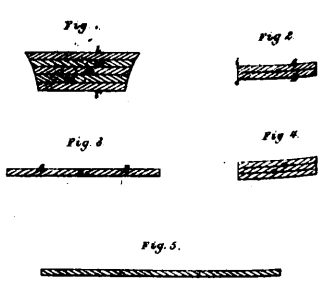
9728 Miller's Spring Link for Draught Tugs.



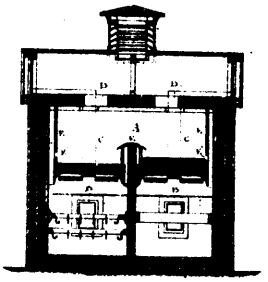
9729 Hérard's Stove-Pipe Elbow Machine.



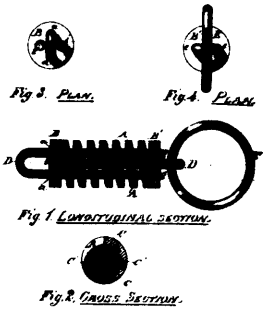
9730 Carnes' Improvement in Buckles.



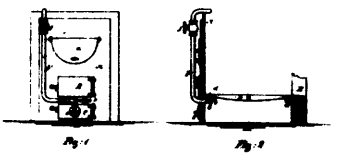
9731 Watson's Improvement in Boot and Shoe Soles.



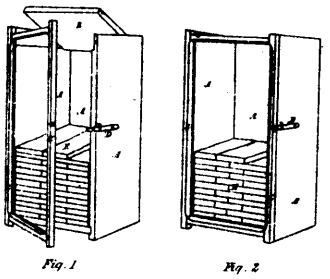
9732 Murphy's Improvements in Refrigerators.



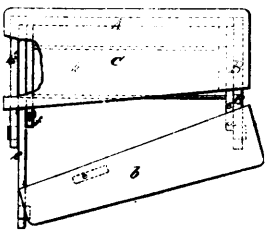
9733 Miller's Improvements in Spring Draught Tugs.



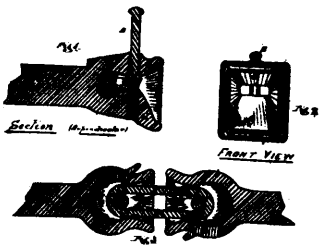
9734 Stege's Improvements on Boiler Furnaces.



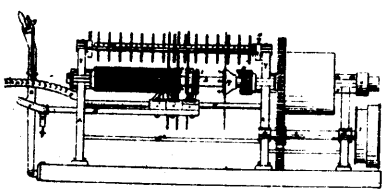
9735 Niles' Improvements on Tobacco Caddies.



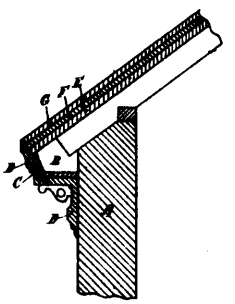
9736 Hogins' Improvements on Tables.



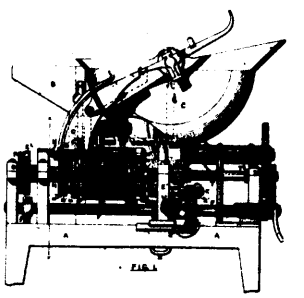
9737 McDonald's Improvements on Car Couplers.



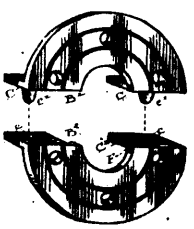
9738 McDonald's Improvements on Circular Saws.



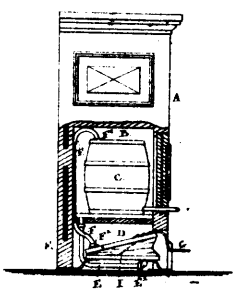
9739 Murphy's Improvements in Fire-Proof Cornices.



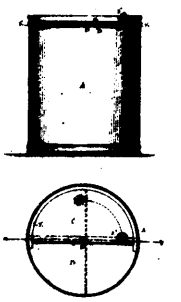
9740 Rogers' Machine for Putting Threaded Nuts upon Bolts.



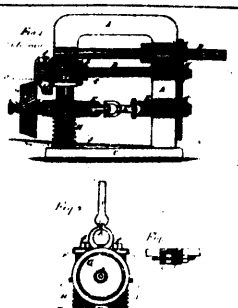
9741 Murphy's Improvements in Refrigerators.



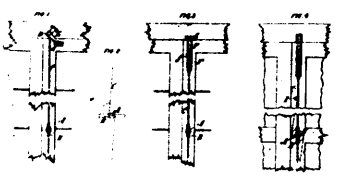
9742 Cosgrave's Improvements in Beer Pumps.



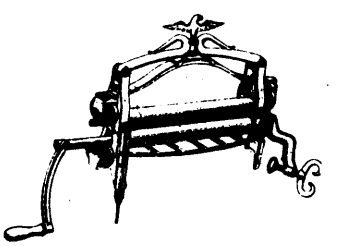
9743 Sawdon's Improvements on Canister Covers.



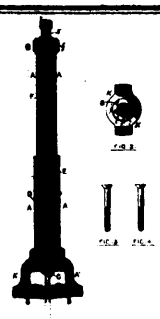
9744 Black's Machine for Trimming Boot and Shoe Soles.



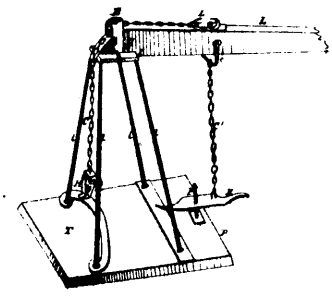
9745 Jaeger's Improvements in Door Fastenings.



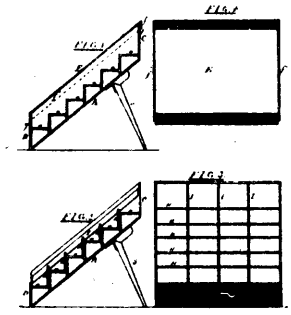
9746 Way's Improvements on Clothes Wringers.



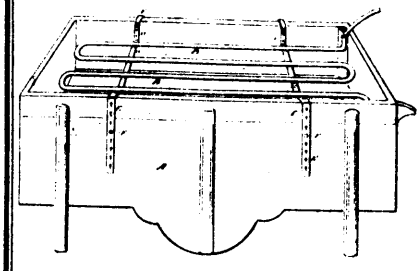
9747 **Rogers'** Improvements on Screw Machines.



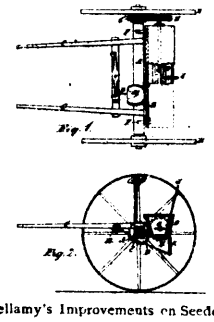
9748 **Hill's** Improvements on Lifting Jacks.



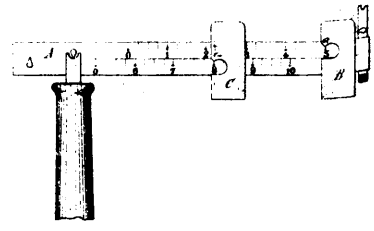
9749 **Marcon's** Improvement on Seed Cabinets



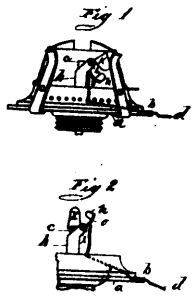
9753 **Dyson's** Improvements on Cheese Vats



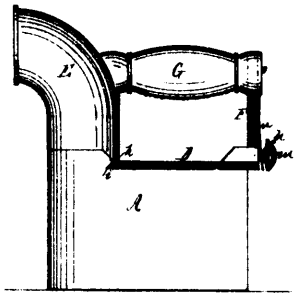
9754 **Bellamy's** Improvements on Seeders and Rakes.



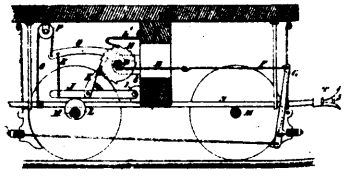
5755 **Week's** Improvements on Scale Beams.



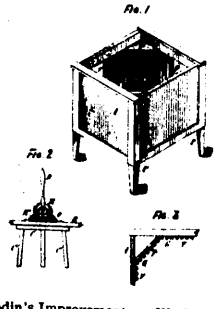
9757 **Mercier's** Improvements in Lamp Extinguisher.



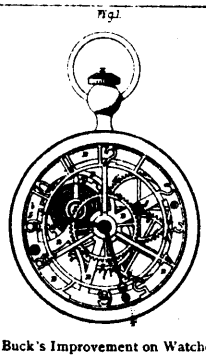
9758 **Raether's** Improvements in Laundry Irons.



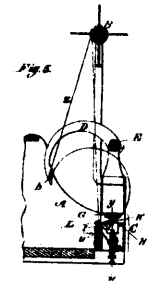
9760 **Lord's** Improvements on Car Brakes.



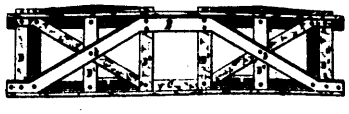
9761 **Godin's** Improvements on Washing Machines.



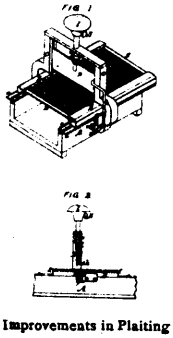
9764 **Buck's** Improvement on Watches



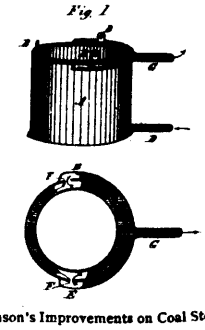
9765 **Olmsted, Travis, Chute & Crackett's** Improvements on Grain Binding Machines.



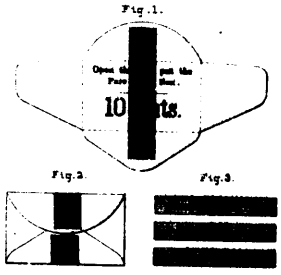
9767 **Conkling's** Improvements on Truss Bridges,



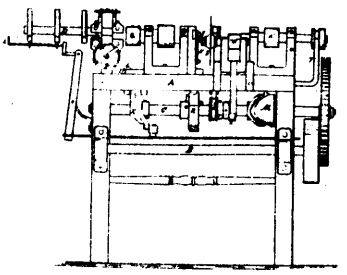
9768 **Maybee's** Improvements in Plaiting Machines.



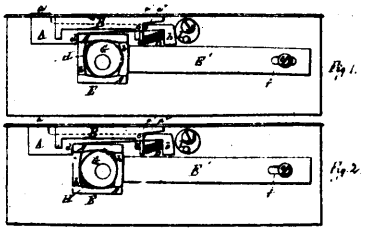
9769 **Johnson's** Improvements on Coal Stoves.



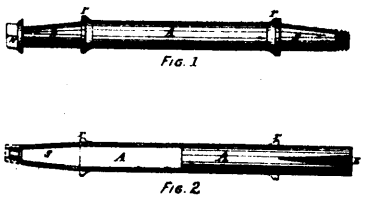
9770 Taylor's Improvements on Envelopes.



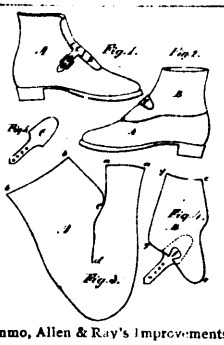
9772 Parker's Improvements in Gauge Lathes



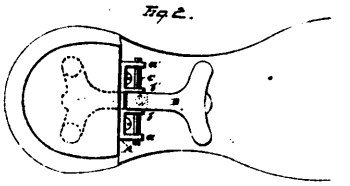
9773 McCloskey's Improvements on Sewing Machines.



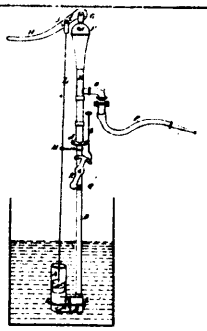
9774 Graser's Improvements on Waggon Axles.



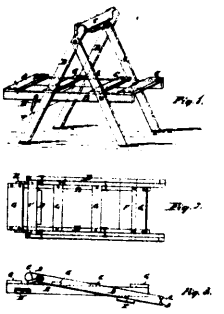
9775 Nimmo, Allen & Ray's Improvements on Boots.



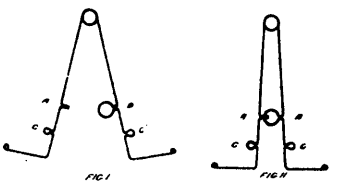
9776 Child's Improvements on Ice Creepers



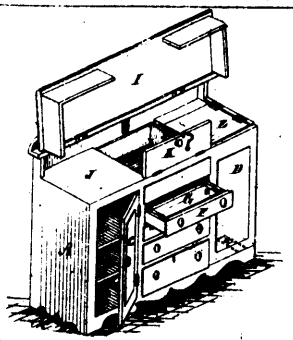
9777 Tickner's Improvements on Force Pumps



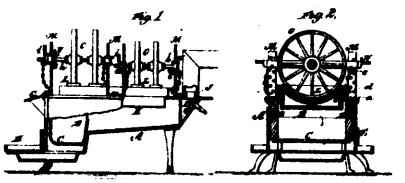
9778 Calder's Washtub and Wringer Stand



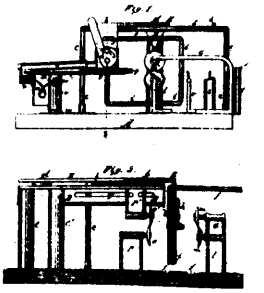
9779 Storey's Improvements in Glove Fasteners



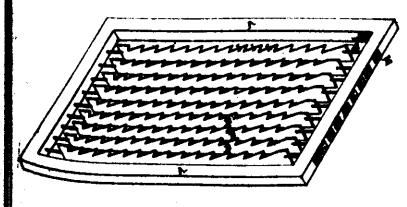
9780 Dolson's Improvements on Kitchen Cabinets,



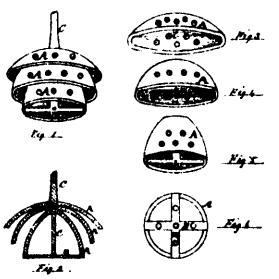
9781 Man's Device for Oiling Waggon Wheels.



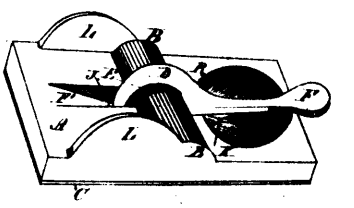
9782 Kennedy's Sheet Metal Cutting Machines.



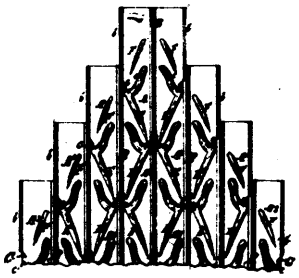
9783 Cavanagh's Improvements on Screens,



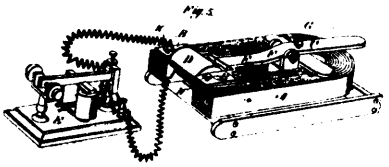
9784 Klinkhammer's Improvements on Churn Dashers.



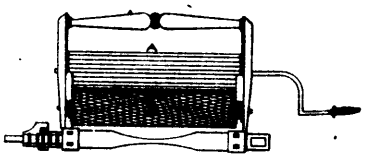
9785 Sheed's Moulder's Tool,



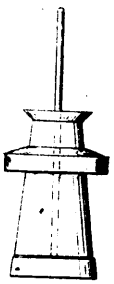
9788 Shepard's Improvements in Metallic Shingles,



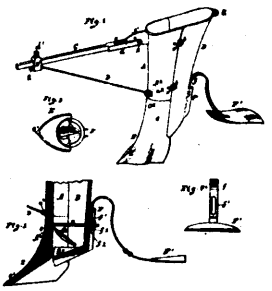
9739 Gary's Improvements on Telegraphic Transmitters,



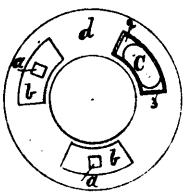
9791 Schoonmaker's Improvements in Washing Machines,



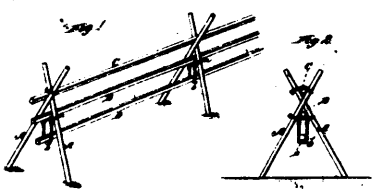
9792 Denman's Improvements on Churns,



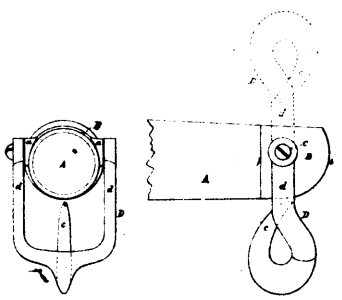
9793 Springer's Improvements on Seed Drills,



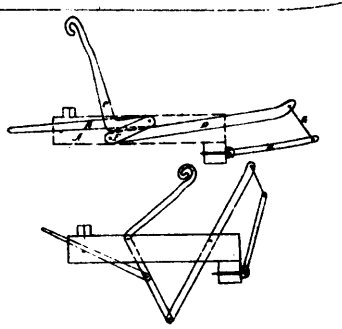
9794 Hayward s Improvements on Nut Locks,



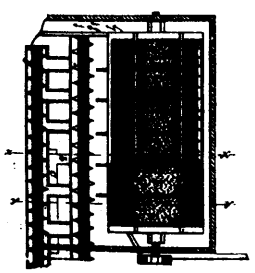
9795 Westcott & Gurley's Improvements on Fences,



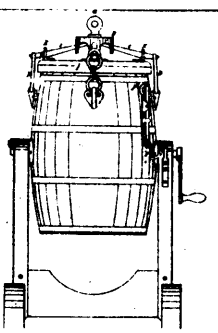
9796 Jackman's Improvements in Whiffletrees,



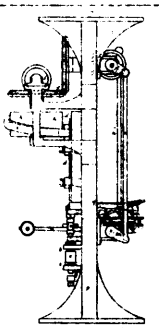
9797 Redden's Improvements on Horse Rakes,



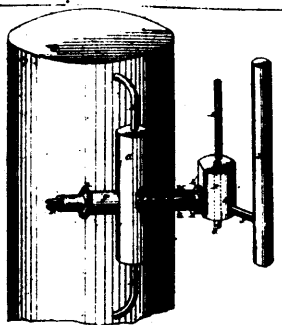
9798 Cranson's Improvements on Middlings Purifiers,



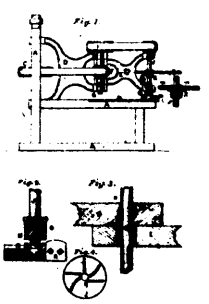
9799 Chadwick & Trumper's Improvements on Churns.



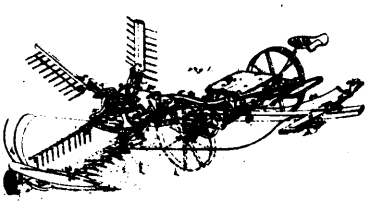
9800 Loeper's Apparatus for the Manufacture of Buttons.



9801 Pool & Costner's Improvements in Steam Boilers



9802 Holcomb's Improvements on Machines for Fleshing Hides.



9803 Wheeler's Improvements on Reaping Machines.