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# The Canadian Patent Office RECORD

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## INVENTIONS PATENTED.

### No. 7545. Improvements on Fanning Mills.

(Perfectionnements aux tarrares.)

Charles Saunders, Cape Vincent, N.Y., U.S., 11th June, 1877, for 5 years.

*Claim.*—1st. The combination with the hopper A having passages B, of the shoe C connected at the upper end to the vibrating chaffing shoe and suspended adjustably at the lower end by the cord F; 2nd. The combination of the vertical crank shaft I, bottom crank shaft M, connecting rod N and pitman W, with the independent shaking screens E G H and the fan shaft; 3rd. The combination of the sliding posts S U, carrying rollers T N and the levers K L, with the screen shoes G I.

### No. 7546. Improvements on Grain Threshing Machines.

(Perfectionnements aux machines à battre les grains.)

Jonathan Brown, Malahide, Ont., 11th June, 1877, for 5 years.

*Claim.*—The blocks A G and D, the latter having a sliding extension E applied to a grain thresher for adapting the same to thresh clover and grass seed.

### No. 7547. Improvements on Fluting and Sad Irons.

(Perfectionnement aux fers à tuyauteur et à repasser.)

William I. McCausland, Dallas, Texas, U.S., 18th June, 1877, for 5 years.

*Claim.*—1st. A hollow sad iron having one side arranged to form a door, for the insertion and removal of the heating block; 2nd. A hollow sad iron having a hinged side E provided with the fluting surface c; 3rd. The hollow sad iron A having the detachable hinged side E with fluting surface c and the perforations f in its rear end, in combination with the pivoted handle c and spring lever D having spur e; 4th. In combination with the hollow sad iron A, the hinged detachable side E having a fluting surface c and pin engaging with the detachable angular bolt F.

### No. 7548. Improvements in Stone Sawing.

(Perfectionnements dans le sciage de la pierre.)

Benjamin C. Tilghman, Philadelphia, Pa., U.S., 11th June, 1877, for 5 years.

*Claim.*—The use of solid or undissolved lime, magnesia, or other alkali, in combination with grains or globules of iron or steel, or their alloys, in the cutting, sawing, boring and grinding of stone, glass, pottery and similar hard substances.

### No. 7549. Method of Manufacturing Fulled Raw Hides.

(Mode de préparation des peaux vertes foulées.)

John A. J. Schultz, Saint Louis, Mo., U.S., 11th June, 1877, for 5 years.

*Claim.*—Liming, bating and drying the hides and then fulling and stuffing.

### No. 7550. Apparatus for Forming Heel Counters.

(Appareil à former les contreforts des talons.)

Etienne Salomon, Montreal, Que., 11th June, 1877, for 5 years.

*Claim.*—1st. In any machine for making heel counters, the operation by means of knee joints of the arms or rods which give motion to the dies; 2nd. The combination of an apparatus for feeding automatically to each mould the blank to be stamped into a counter; 3rd. A frictional driving gear

so arranged that it will be stopped by any jam or blocking of the machine; 4th. The combination of a device for throwing off from the die the finished counter; 5th. The die pivoted to the die block and descending into place after entering the mould; 6th. A heel counter forming apparatus performing automatically, in succession, the four operations of feeding the blanks to the moulds, pressing the counters into shape, making the upturn and finishing the counter, and withdrawing the finished counter from the mould and throwing it off the die.

### No. 7551. Machine for Sharpening Mower Knives.

(Machine à aiguiser les couteaux des faucheuses.)

Frederick J. Henry, St. Catharines, Ont., 11th June, 1877, for 5 years.

*Claim.*—1st. The platform A with the holes B and C and the screw E; 2nd. The knife frame G with the screws I K, the wooden springs, the iron braces L and the groove M.

### No. 7552. Artificial Stone. (Pierre factice.)

Llewellyn L. Leathers, Oakland, Cal., U.S., 11th June, 1877, for 5 years.

*Claim.*—1st. Moistening a mixture of sand and cement with a liquid consisting of a mixture of the aqueous solution of borax, kaolin and sulphate of barium, and an alcoholic solution of sulphur; 2nd. A compound of sand and cement moistened with a liquid consisting of a mixture of the aqueous solution of borax, kaolin and sulphate of barium, and an alcoholic solution of sulphur.

### No. 7553. Improvements on Horse Collars.

(Perfectionnements aux colliers de cheval.)

Marshall Turley, Council Bluffs, Iowa, U.S., 11th June, 1877, for 5 years.

*Claim.*—1st. A horse collar wherein the pads do not meet each other at their lower ends, and are combined with a hame rim having a rope foundation extending between the ends of the pads, for rendering the collar flexible; 2nd. The pads A A adjustable upon a flexible rim C; 3rd. The combination of the flexible rim C, adjustable pads A A, straps D D and lacing a; 4th. The loop G, in combination with the flexible rim C and adjustable pads A A.

### No. 7554. Gearing for Waggon and Other Vehicles.

(Train de wagons et autres voitures.)

Lorenzo D. Hurd, Wellsville, N.Y., U.S., 11th June, 1877, for 5 years.

*Claim.*—1st. The combination of the short axles O which may be solid or hollow, but if hollow with a rod, the ends of either being represented by Q and the brace arms R, and their nuts with the pivoted axles O and the arms S; 2nd. The combination of the plate or frame U and the pivoting bolt V with the cross bar T, the pivoted axles O and the king bolt passing through the bolster H, the head blocks G and the bar M; 3rd. The bars or false bolsters Z and blocks Zt and the hollow base metallic stakes Za, in combination with the bolsters C and H; 4th. The combination of the reach made in two parts E F and provided with the eye-bolt and lugs e and f, and the hook and eye e f with the rear bolster axle and hounds, and forward bolster head block and hounds.

### No. 7555. Belting Leather and Leather Stuffing and Fulling Machine.

(Cuir à courroies et machine à bourrer et fouler le cuir.)

John A. J. Shultz, St. Louis, Mo., U.S., 11th June, 1877, for 5 years.

*Claim.*—1st. Leather having tanned surfaces and an interior of pliable raw hide; 2nd. The described process of manufacturing leather; 3rd. The combination of the trough A, shaft B and clamp b; 4th. The combination of trough a, cover a', shaft B and clamp b; 5th. The combination of the trough A, shaft B, followers E E and device L L; 6th. The combination of the trough a and pipe F, arranged outside and independent of the trough; 7th. The combination of the lever Q, slide R, nut O and arm Q; 8th. The combination of the wheel G, pinion P, shaft N, nuts O, arms o and lever Q; 9th. The combination of the cylinder A, shaft B, clamp b and ribs C C; 10th. The combination of the clutch l l, collars m m', and spring n; 11th. The combination of the clutch l l, collars m m', arms m m' and screw rods l l, l l,

**No. 7556. Art of Utilizing Bisulphide of Carbon and Glycerine for Producing Motive Power.**

*(Art d'utiliser le bisulfure de carbone et la glycérine pour produire la force motrice.)*

William G. Smith, Montreal, Que., (Assignee of T. M. Fell, and H. B. Bunster), 11th June, 1877, for 5 years.

**Claim.**—1st. The production of motive power from the bisulphide of carbon when the same is injected into, or used in connection with, heat d glycerine or a compound thereof, 2nd. Evaporating bisulphide of carbon by injecting same into heated glycerine, or a compound thereof, for the purpose of producing a dry, pure and undecomposed vapour for various uses in the arts and manufactures; 3rd. Procuring and using a high temperature circulating heated medium by the use of glycerine, for warming, heating or evaporating purposes, separately or in combination with the production of motive power.

**No. 7557. Improvements in the Running Gear of Buggies.**

*(Perfectionnements dans les trains de voitures.)*

James Field and Richard E. Hammill, Aeneater, Ont., 14th June, 1877, for 5 years.

**Claim.**—The combination and arrangement of the oblique angular springs A and B in connection with the coupling clips d, as arranged, and the spring block C in connection with the buggy body I and the spring A and B, also the circle (or fifth wheel) E.

**No. 7558. Lacing Stud for Boots and Shoes.**

*(Bouton pour lacer les chaussures.)*

Mellon Bray, Newton Mass. U.S. (Assignee of Alfred Dawes), 14th June 1877, for 5 years.

**Claim.**—A stud or hook, for lacing boots and shoes and other purposes, having a tubular shank or body a closed at one end and provided with shoulder c, discs b and b' and eccentric neck e, all made from a single piece of wire.

**No. 7559. Improvements on Suspension Rail and Tramways.**

*(Perfectionnements aux railrotes et tramways à suspension.)*

Alfred R. Howse and Joseph Spratt, Victoria, B.C., 14th June, 1877, for 5 years.

**Claim.**—1st. The combination of the engine H working on the line C with the boiler I suspended underneath the engine H, the said boiler I acting as a counterpoise and allowing the engine H to be freely used as on a double line of rails; 2nd. The combination of the hooks f with the levers E and the counterpoises F, to shift cargoes without disturbing the equilibrium of the travellers D D; 3rd. The mode of constructing the tramway with removable logtravels A or with other materials composed of the wood-sleeper a, the upright b, the support c and the bed B, iron-nibed or otherwise fastened together in combination with the rail C and the traveller D, for the purpose of constructing a removable and cheap tramway A.

**No. 7560. Improvements in Washing Machines.**

*(Perfectionnements aux machines à laver.)*

William Church, West Haven, Ct., U.S., (Assignee of Thomas South), 14th June, 1877, for 5 years.

**Claim.**—A series of parallel rollers N, the combination of movable bars O, notched saddle plates P and fixed supporting rollers Q.

**No. 7561. Improvements on Stringed Musical Instruments.**

*(Perfectionnements aux instruments de musique à corde.)*

Michael H. Collins, East Medway, Mass., U.S., 14th June, 1877, for 5 years.

**Claim.**—The sounding board B as composed of the dome or other proper shaped top r and its annular supporter e in the circular case A, dome-shaped and provided with the mouth or bridge hole and elevated around such; The sounding board top composed of sectors and sections s, in whole or in part, and having the grain of the wood of each disposed lengthwise of it, The sounding board top composed of a series of sectors or sections s and provided with the disc or bridge rest t; The combination of the circular and dome-shaped case A with the sounding board B, composed of the top r and the annular supporter e thereof; The disc bottom b of the case provided with the flange c and groove d, in combination with the dome-shaped top and with the sounding board arranged with and applied to such bottom; The voice l arranged and combined with the sounding board; The bridge composed of the three layers u x w of wood having their grain arranged as explained; The neck D provided with the auxiliary hand rest E arranged between the head G and the main hand rest F of such neck. The neck D open at its lower end and arranged to project over and rest upon the case dome, and chamber red where over such as represented; The elongated chin rest M having its upper and lower edges parallel or about so; The head G as provided with the cross braces Z and arranged in its chamber L and with reference to the straining pins; Each straining pin H as provided with the shoulder m, disc o, washers n n' and clamp screw p, arranged with it and the head G; The combination, with the dome shaped top, of the sounding board, the curved brace K arranged in the direction of and under the base string. The dome-shaped case provided with the transverse braces at arranged in the crown and on opposite sides of the mouth of the dome.

**No. 7562. Middlings Purifier.**

*(Epurateur des genoux.)*

Joseph P. Reel and Andrew J. Seyler, Cedarville, Ill., U.S., 14th June, 1877, for 5 years.

**Claim.**—1st. The spreaders a arranged in passage E above the chute F, projecting from one side thereof partly across it and inclined at different

angles; 2nd. The combination of the passage E, separator a, chute F and spout G; 3rd. The spouts G and J, terminating at the top in the education the K combination with the feed board or floor M and the valve b, at the top of spout G; 4th. The series of knockers W rigidly attached to a common vibratory shaft X.

**No. 7563. Improvements on Stump Extractors.**

*(Perfectionnements aux arrache-racines.)*

Archibald M. Michael and Wallace Michael, Mapleton, Ont., 14th June 1877 for 5 years.

**Claim.**—1st. The wheels D D', chain wheel E, band F, chain G, bentarms J K, levers H I and rods L M, in combination with tripod A A', elevs B, hook C and lever N.

**No. 7564. Improvements in Harvesters.**

*(Perfectionnements aux faucheuses-moissonneuses.)*

William N. Whitely, Springfield, Ohio, U.S., 14th June, 1877, for 15 years.

**Claim.**—In a single wheel reaper the differential gearing to give motion to the knives and located on the master wheel axle outside of said wheel, in combination with the vibrating main frame: A gear wheel fitted loosely on the master wheel hub and driven by pawl clutch, combined with the differential wheel R, mounted on gimball points T upon said master wheel axle in combination with the main frame surrounding the said master wheel. The master wheel M, shaft K, boxes L M upon the frame F, combined with the differential gear wheels J R crank shaft O and vibrating driving arm A driven by said wheels, hinged pole and pivoted cutting apparatus to main frame; The master wheel M, shaft K, mounted in boxes L M on the frame F with the differential gear wheels J R, crank shaft O and vibrating driving arm located on the outer side of said wheel, combined with the raking mechanism located inside of said wheel. The vibrating driving arm rigidly secured to the oscillating differential wheel and jointed to the crank U of the shaft, outside of the balance wheel N. The oscillating differential wheel combined with the sectional shield plate secured to the pawl case to prevent dirt, etc., from dropping off the wheel into said gearing; The vibrating driving arm A connected to the oscillating gear by bolts passing through legs on the same, radiating substantially from the centre of said oscillating gear.

**No. 7565. Improvements in Corking Machines.**

*(Perfectionnements aux machines à boucher.)*

Duncan R. Shaw, Toronto, Ont., 18th June, 1877, (Extension of Patent No. 1522), for 5 years.

**Claim.**—The combination of the receiver A, neck B, cap C, leather ring D with plunger E.

**No. 7566. Improvements on Bag Fasteners.**

*(Perfectionnements aux ferme-sacs.)*

Henry Redden, New York, U.S., 23rd June, 1877, for 5 years.

**Claim.**—A grain bag provided with apertured hem a b, folding apron B and running cords C, the apron being fastened on the inside near inner edge of hem, while the cord runs parallel to hem, to allow the bag to be fastened quickly without sewing and opened without cutting.

**No. 7567. Improvements on Hay Rakes.**

*(Perfectionnements aux rateaux à foin.)*

Richard B. Sheldon, Shortsville, N.Y., U.S., 23rd June, 1877, for 5 years.

**Claim.**—1st. The double crank F kept in position by a coiled spring as the slide I on the upper end of the crank; 2nd. The hanging castings E having spring pawls e, also rods h and hand lever G, in combination with double crank F; 3rd. The foot lever L with the moveable fulcrum M in combination with slotted casting K.

**No. 7568. Improvements on Feather Renovators.**

*(Perfectionnements aux machines à rafraîchir la plume.)*

William Biggar and George Murwin, Fulton, Wis., U.S., 23rd June, 1877, for 5 years.

**Claim.**—1st. The chamber A provided with a stirrer and a steam inlet pipe m, combined with a fan h and an air heating furnace, 2nd. The chamber A provided with a revolving stirrer and a perforated plate a and close cover b, combined with the fan h and chamber G, provided with the intervening grating e and slide f and with the removable drawer i.

**No. 7569. Improvements in the Manufacture of Solder Wire.**

*(Perfectionnements dans la fabrication du fil à souder.)*

Hiland G. Hulbura, Placerville, Cal., U.S., 23rd June, 1877, for 5 years.

**Claim.**—1st. The process of forming solder wire by running the melted solder through a suitable nozzle into water, 2nd. The boni D provided with the pipe E having the removable nozzle F, the said pipe being enclosed by a heater and the whole sustained by means of suitable supports over a water tank.

**No. 7570. Improvements on Nut Locks.**

*(Perfectionnements aux noix de sûreté.)*

Flavel W. Sullivan, Newark, N.J., U.S., 23rd June, 1877, for 5 years.

**Claim.**—The combination with the bolt A having right and left hand threads a b, of the nuts B C having slots e, washer D having a tang d bent over into said slots to lock the nuts combinedly.

**No. 7571. Improvements on the Wimbledon and Brunel Targets.***(Perfectionnements aux cibles dites "Wimbledon et Brunel.")*

Edwin B. Beer, Sussex Vale, N.B., 23rd June, 1877, for 5 years.

*Claim.*—1st. The arrangement of holes R R, in the back of rim of a Wimbledon-Brunel or other target, fitted with plugs of wood into which tacks or screws may be driven to hold the canvass or oil-clo; 2nd. The combination of a Wimbledon or Brunel target A with standards S or S S S with socket C, &c., lever F and brace T, spring and catch e, handle f with counter balance attachment; 3rd. The arrangement of discs C, handles L, bracket K and cords O, &c.

**No. 7572. Improvements on Electric Motors.***(Perfectionnements aux moteurs électriques.)*

Wesley W. Gary, Huntingdon, Pa., U.S., 23rd June, 1877, for 5 years.

*Claim.*—1st. The combination, in an electric motor, of two permanent magnets, an electro-magnet arranged between them and an automatic current changing device; 2nd. The combination of two permanent magnets arranged with their opposite poles facing each other, a vibrating electro-magnet arranged between said permanent magnets and connected with devices for transmitting motion from said electro-magnet to a shaft or other desired object, and an automatic current changing device to reverse the polarity of the electro-magnet at or near the end of each movement; 3rd. The combination, in an electric motor, of a reciprocating or vibrating electro-magnet connected with an automatic pole changing device and two compound permanent magnets, arranged on opposite sides of the electro-magnet and consisting each of a series of thin plates or magnets united in such manner that the series may be increased or diminished at will; 4th. The combination, in a motor, of two permanent magnets, an intermediate electro-magnet and a pole changing device so arranged that in action the electro-magnet is brought into close proximity with the other two alternately, either by a movement of the electro-magnet or of the permanent magnets; 5th. In combination with the magnets A B C, the beam D provided with the tappets c and the arm H provided with the fingers d and e moving upon the plates f f g.

**No. 7573. Improvements on Window Shade Fixtures.***(Perfectionnements aux ajustages de rideaux de fenêtres.)*

James Chase, Rochester, N.Y., U.S., 23rd June, 1877, for 5 years.

*Claim.*—1st. The bracket F provided with the offset guard D, in combination with the pivoted pawl lever B; 2nd. The pivoted pawl lever B provided with projection e; 3rd. A curtain fixture bracket having its foot plate A provided with an offset h, whereby the bracket may be formed with a screw hole e without drilling.

**No. 7574. Improvements on Curtain Fixtures.***(Perfectionnements aux ajustages de rideaux.)*

Ai B. Shaw, Medford, Mass., U.S., 23rd June, 1877, for 10 years.

*Claim.*—1st. The combination of a roller spring and spindle with a locking device, arranged to lock the parts together only by depressing one end of the roller as in removal from the brackets; 2nd. In a curtain roller operated by an internal spring, the combination of a sliding bolt, a ratchet collar and a hooked spindle; 3rd. A friction brake for balance shade rollers operated by the spring C and acting continuously upon the roller or spindle with a force proportioned to the tension of the spring; 4th. The combination of the curtain roller, spring, spindle and counterpoise with a friction brake bearing continuously upon the roller or spindle and operated automatically by the direct action of the spring C.

**No. 7575. Improvements in the Construction of Waggons.***(Perfectionnements dans la fabrication des waggons.)*

George Bellamy, Newtonville, Ont., 23rd June, 1877, for 5 years.

*Claim.*—1st. The waggon bottom formed of the detachable hinged sectional doors A provided with a latch fastening in such a manner that they may be readily opened when the waggon is loaded; 2nd. The bridge pieces B in combination with the trap doors A and sides C; 3rd. The rail D mounted on the detachable brackets E, in combination with the waggon sides C; 4th. The guard rail G hinged to the sides of the waggon in a detachable manner by the hook and eye hinge d and fastened in position by the hook e; 5th. The pole H provided with the forked end H' and iron rod hooks h h, in combination with the axle-tree I pivoted on the king bolt J and stayed by the rods K K to the body of the waggon.

**No. 7576. Improvements on Fire Escapes.***(Perfectionnements aux appareils de sauvetage d'incendie.)*

Henry Elbe, Niagara Falls, N.Y., U.S., 23rd June, 1877, for 5 years.

*Claim.*—1st. A rail B, fixed to the wall of a building, in combination with the car C provided with pulleys d d, chains e e and fastenings for a ladder G, and also with chains F F passed over pulleys g g; 2nd. In combination with the car C, pulleys g g and chains F F, the hooks K.

**No. 7577. Improvements in Fire Escape Ladders.***(Perfectionnements aux échelles de sauvetage d'incendie.)*

Isaac H. Allen, Black Creek, Ont., 23rd June, 1877, for 5 years.

*Claim.*—1st. The side supports A A for the rounds B made of tubular webbing strengthened as described; 2nd. The studs or arms B, in combination with rounds B and side supports A A.

**No. 7578. Improvements on Safety Key Locks.***(Perfectionnements aux serrures de sûreté.)*

George W. Pitt, London, Ont., 23rd June, 1877, for 5 years.

*Claim.*—1st. The metal frame A, holder B, coil springs D, projections E F and stud H; 2nd. In combination with the holder B, a key having a slot or recess G formed at side of stem.

**No. 7579. Improvements on Combined Table and Clothes' Drier.***(Perfectionnements aux tables-séchoirs à linge.)*

Jasper Bates, Thornbury, Ont., 23rd June, 1877, for 5 years.

*Claim.*—1st. The frame C having recessed T-ends secured to the pillar or legs and supporting a removable top D; 2nd. The clothes drying rack composed of detachable bars E and arms F, in combination with a table having removable top D supported by frame C having recessed T-ends.

**No. 7580. Process of Enamelling Photographs.***(Procédé d'émaillage des cartes photographiques.)*

Frank C. Long, Detroit, Mich., U.S., 23rd June, 1877, for 5 years.

*Claim.*—1st. Pressing a plate prepared with a gum solution on the picture flowed with a gelatine solution and dried; 2nd. The process of enamelling photographic and other prints by means of a gum and a gelatine solution; 3rd. The photograph enamelled by the process described; 4th. The frame A provided with the rest lugs d and a gate b, in connection with a bottom board B and glass C.

**No. 7581. Improvements on Middlings Separators.***(Perfectionnements aux séparateurs des gravaux.)*

Monroe Palmer, Hamilton, Wis., U.S., 23rd June, 1877, for 5 years.

*Claim.*—1st. Middlings machine with two air chambers, in one of which the material is subjected to the action of a force and a suction blast, and in the other to a suction blast only; 2d. The partition D located in the passage or chamber between the force and suction fans, and provided with the hinged gate or valve n; 3rd. The exhaust fan B set in the partition E with the openings of its case communicating direct with each chamber, and provided with the valves v v, whereby the exhaust from each chamber can be increased or decreased at will; 4th. An exhaust fan arranged to draw air continuously through the graded screen, and also through a separate screen over which the material is fed before entering on the graded screen; 5th. The frame or shaker T provided with the screen e, inclined plates f and g and the screen I.

**No. 7582. Combined Lime-Sized Wood and Paper Dish for Butter.***(Cassot en bois et papier charulés pour le beurre.)*

Henry C. Cone, Chicago, Ill., U.S., 23rd June, 1877, for 5 years.

*Claim.*—1st. Dipping the wood veneer, one, two, or more times, in a solution of lime water; 2nd. The vessel A prepared from a sheet of wood veneer by creasing on the lines x x, slotting on the lines y y, dipping in lime water, steaming, again dipping in lime water, and finally bending the ends and clamping the shape.

**No. 7583. Metal Coil Piston Packing for Steam Engines.***(Garniture métallique de piston pour les machines à vapeur.)*

Benjamin Holland, and Robert D. Kennedy, Hamilton, Ont., 23rd June, 1877, for 5 years.

*Claim.*—The spiral coil spring packing for pistons of new cylinders, in connection with the inside ring to be applied to the old piston when fitting on the spiral coil spring packing.

**No. 7584. Process for the Saving of Residual Acids in the Manufacture of Nitro-glycerine.***(Procédé de revivification des acides dans la fabrication de la nitro-glycerine.)*

Russell S. Pendiman, Adams, Mass., U.S., 25th June, 1877, for 5 years.

*Claim.*—1st. The process for the complete separation of nitro-glycerine from the residue of the acids used in its manufacture, by virtue of the difference in the specific gravities of nitro-glycerine and residual acids respectively; 2nd. The re-distillation and purification of the residual acids.

**No. 7585. Improvement in Lap Rings.***(Perfectionnement dans les sabots de chatnes.)*

George W. Atkins and James C. Harris, Noble's Lake, Ark., U.S., 25th June, 1877, for 5 years.

*Claim.*—The combination of the ring A, open near one end and having headed studs a, with the ring B open near the centre and provided with slots corresponding in position with the said studs.

**No. 7586. Fireman's Protecting Apparatus.***(Appareil protecteur de pompier.)*

William Murray, Vicksburg, Miss., U.S., 25th June, 1877, for 5 years.

*Claim.*—1st. The combination of tubes, couplings, curtain and scaffold plates; 2nd. The curtain plates coupled from centre to centre for passing the hose nozzle between them.

**No. 7587. Improvements on Generators of Heating Gas.***(Perfectionnements aux générateurs à gaz de chauffage.)*

Aimé N. N. Aubin, Montreal, Que., 25th June, 1877, for 5 years.

*Claim.*—1st. The perforated arches a a, 2nd. The hot blast pipe C for the introduction of flame or burning gases above the fire grate of the generator; the recess c and apertures c; 3rd. The gas generator A in combination with the perforated arches; 4th. The gas generator A in combination with the hot blast.

**No. 7588. Oscillating Joint for Machinery.**

*(Joint oscillant de machinerie.)*

Norton P. Otis, Yonkers, N.Y., U.S., 25th June, 1877, for 10 years.

*Claim.*—1st. A hinge joint pin E with a screw thread and a conical bearing at its end fitting into a corresponding seat, in combination with the moveable part of said joint having its bearing upon the body of the pin E. 2nd. An oscillating gear wheel A, combined with the joint pins E, having conical ends *f* and screw threads to fit corresponding seats *f*. 3rd. An oscillating gear wheel A and the taper seated joint pins E, combined with the oscillating gimbal ring D in which also two of said pins are supported to form a joint having universal movements; 4th. The oscillating gear wheel A, gimbal ring D and taper seated joint bolts E, in combination with the main frame of a mowing machine.

**No. 7589. Improvements in Railway Crossings and Switches.**

*(Perfectionnements dans les traverses et aiguilles de railroads.)*

Joseph S. Williams, Riverton, N.J., U.S. 25th June, 1877, for 5 years.

*Claim.*—1st. Securing a continuous bearing for the car wheels at the crossings, either at points switching off or elsewhere (and locking or retaining in any desired positions either to main line or side track), the shifting pieces that affect the crossings or the plates or fillings which afford bearings for the wheels at the otherwise open spaces or joints; 2nd. Crossings which may operate independently of each other with communicating connections; 3rd. A curved rail forming the wing rail to a stationary frog piece and which may be operated by a switch lever; 4th. Forming a continuous bearing on the main line track by an immovable main line rail, and a continuous bearing on a side line rail by a single curved piece which may be shifted from main line by action of car wheels, or to side track in a similar manner, or be put in desired position by switch lever, or made to operate the same; 5th. Obviating jamming space between any rail or plate and the shifting piece operated adjacent thereto; 6th. A shifting piece at the crossing with plates, rails or fillings to take the bearing of the wheels either at the head or butt of the shifting piece, with communicating connection to the shifting pieces, which transfer the cars from main line to siding.

**No. 7590. Improvements in Coal Oil Lamps.**

*(Perfectionnements dans les lampes a petrole.)*

Samuel May, Toronto, Ont., 25th June, 1877, for 5 years.

*Claim.*—A three or more burner coal oil lamp or chandelier A for lighting billiard tables provided with reflecting shade B safety spring arms C, drip pan D, an adjustable pendant E, the safety spring arms C with springs c c.

**No. 7591. Improvement in the Art of Making Bread.**

*(Perfectionnement dans l'art de faire le pain.)*

Ebenezer W. Bateman, Hamilton, Ont., 25th June, 1877, for 5 years.

*Claim.*—The combination of say 3 lb. of compressed yeast to six pails of water, five hundred lbs. of the best patent flour and about eight lbs. of salt mixed and treated in the manner and for the purpose of making a white, pure and unadulterated bread.

**No. 7592. Improvement on Feather Renovating Machines.**

*(Perfectionnement des machines a rafraichir la plume.)*

Malcolm McKellar, London, Ont., 25th June, 1877, for 5 years.

*Claim.*—1st. The combination of drive wheel E, belt F, pulley G, fan K, casing for fan I and cylinder for fan J; 2nd. The space for steam L in the upper h. of casing A, and the steam pipes I and J, in combination with aforesaid space for steam L.

**No. 7593. Improvements in Canisters for Groceries.**

*(Perfectionnements aux bidons a epices.)*

Thomas McDonald, Toronto, Ont., 25th June, 1877, for 5 years.

*Claim.*—A metallic canister having a semi-circular sliding cover F, provided with lugs G, in combination with the semi-circular guide plates E E, with the stops I and butting against the ledge H.

**No. 7594. Sand Papering Machine.**

*(Machine a appliquer le papier de verre.)*

John Shaeleton, Toronto, Ont., 25th June, 1877, for 5 years.

*Claim.*—1st. The frame A with centrally placed revolving shaft D provided with a circular head H and adjustable weighted pressure roller I. 2nd. In combination with a revolving head covered with a preparation of sanded material, an adjustable weighted cross roller.

**No. 7595. Improvements on Farm Waggon Springs.**

*(Perfectionnements aux ressorts de wagons a fardeaux.)*

Luther Pulliam, Knob Noster, Mo., U.S., 25th June, 1877, for 5 years.

*Claim.*—1st. The spring a having the centre a and leaves b b; 2nd. The combination of the spring a having a centre a and leaves b b, the plate c, bolster B and waggon bed D.

**No. 7596. Improvements on Heating Stoves.**

*(Perfectionnements aux cheminées.)*

James E. Gridley, Saint Paul, Min., U.S., 25th June, 1877, for 5 years.

*Claim.*—1st. The hot air generator consisting of the inner open bottomed drum E and the outer open topped drum D; 2nd. The semi-circular heat check and spreader g, in combination with the generator D E and outer shell A; 3rd. The heat check and spreader h h arranged in the lower part of the air space d, in combination with the generator D E.

**No. 7597. Improvements on Churns.**

*(Perfectionnements aux barates.)*

John McDermid, Rockford, Ill., U.S., 25th June, 1877, for 5 years.

*Claim.*—1st. The combination of the churn say A, the open head C secured to the body provided with the cover B for removing and carrying purposes; 2nd. The cover B provided with ears B, in combination with the head having the opening C, screw nut D and screw bolts D; 3rd. A revolving barrel shaped churn having one solid head and one head with an opening, the removable longitudinal bars or beaters E.

**No. 7598. Improvements on Anchors.**

*(Perfectionnements aux ancrés.)*

Pryse Protheroe, Surbiton, England, 25th June, 1877, for 5 years.

*Claim.*—A cup-shaped, or conical, or flat piece X with or without flukes joined thereto, the said piece having at its bottom one or more orifices communicating by a fixed or removable hollow stem O with a force pump so that the anchor can be sunk in a soft bottom by ejecting a stream of fluid through the said orifices and thereby displacing the material below the anchor.

**No. 7599. Spring Bed Bottom.**

*(Fond de lit a ressorts.)*

John Forbes, Jr. and William E. Forbes Plawwell, Wash. A. S. 25th June, 1877, for 5 years.

*Claim.*—In a bed bottom, the combination of the supporting frame B B connected to the bed bottom, and adjusting rods C C.

**No. 7600. Improvements on Horse Shoes.**

*(Perfectionnements aux fers a cheval.)*

Charles Taylor, Montreal, Que., 25th June, 1877, for 5 years.

*Claim.*—1st. A plate attached to the foot for the purpose of receiving and holding the shoe; 2nd. An elastic cushion interposed between the nail and outer shoe; 3rd. A shoe covering attached to a plate nailed or fastened to the foot with either a complete or partial rim or projection, or both extending to the surface of or above the plate; 4th. A counter sunk wedge or screw to fasten or secure the shoe to the foot; 5th. One or more recesses to receive downwardly projecting heads of the nails; 6th. One or more inclined planes on the plate or shoe or both, to receive the fastening or locking attachment that secures the shoe in position; 7th. A locking attachment to prevent backward action; 8th. A shoe attached to a plate with a locking attachment to prevent backward action or releasing of shoes from the plate or plates.

**No. 7601. Improvements on Force and Lift Pumps.**

*(Perfectionnements aux pompes aspirantes a ventouses.)*

Harmon Gilmore, Simeoe, Ont., and James Heath, Charlotteville Ont. 25th July, 1877, for 5 years.

*Claim.*—The combination of the ring valve F, water chamber H with conducting pipes M and cylinder A.

**No. 7602. Improvements on Grocers' Scoops.**

*(Perfectionnements aux mains de grociers.)*

Samuel L. Rockefeller, (Assignee of Alphonso Button) Rochester N.Y. U.S., 4th July, 1877, for 5 years.

*Claim.*—1st. The sheet metal cup C in combination with the wooden head A and handle B; 2nd. The method of attaching the metallic cup C to the head A.

**No. 7603. Taper Making Machine.**

*(Machine a faire les cerces.)*

Jean B Lamer St Albanse Que. 25th July, 1877, for 5 years.

*Resume.*—1o La combinaison du bassin ou cuve interieure C dans lequel est placée la cire pendue par son bord recourbe D, reposant sur le bord du bassin exterieur B, de maniere a laisser un espace E qui, rempli d'eau, fait fondre la cire par la vapeur et la chaleur de l'eau en ebullition qui, par ce moyen, conserve la cire dans sa belle couleur et l'empêche de bruler. 2o La combinaison du moulin ou chassis H avec ses barres ou traverses I et les crochets J auxquels on attache les meches K, et la courroie ou chaîne P par laquelle il est suspendu, et le levier S qui le fait descendre et monter dedans et de la cuve ou bassin interieur C par l'action de la courroie ou chaîne P de maniere a plonger les meches K dans la cire et de les retirer. Aussi la combinaison du poids a et des dents a degres b pour contrebalancer le pesantier, ainsi que la cheville regulatrice d.

**No. 7604. Improvements on Dental Pluggers.**

*(Perfectionnements aux tampons dentaires.)*

Courtlen King, Pittsburg, Pa., U.S., 4th July, 1877, for 15 years.

*Claim.*—1st. A dental plugger having one or more slotted stems either solid or tubular running parallel with the plugging instrument and distinct from it; 2nd. The adjustable finger hold F provided with a spring *f* which has the tooth *f* for securing the finger hold in firm position on the vol D; 3rd. The lever D having the click *k* and notches *z*; 4th. The hammer K having the groove for retaining the pawl K<sub>1</sub>, arm E<sub>3</sub> for hinging the hammer K to the post K<sub>6</sub>; 5th. The spring K<sub>5</sub>, in combination with the post K<sub>5</sub> and hammer K; 6th. The rod D and lever D, having the click *k* and notches *z*; 7th. The hammer K, pawl K<sub>1</sub> and spring K<sub>2</sub>; 8th. The combination of the finger hold F having the spring *f* with the rod D; 9th. The combination of the discs L and L<sub>1</sub> with the instrument H; 10th. In an automatic dental plugger, the stem H made of wood or other light and fibrous material, and stem having the collar h.

No. 7605. Improvements on Wind Wheels.

(Perfectionnements aux moulins à vent.)

Robert J. Stend, Lanark and William Moore, Carp, Ont., 4th July, 1877 for 5 years.

Claim.—The sails G vertically pivoted or journaled at the outer edge to the horizontal cross frames A A and the free or inner edges hinged to the rods H.

No. 7606. Improvements on Breech Loading Arms.

(Perfectionnements aux armes chargées par la culasse.)

Benjamin B. Hotchkiss, New York, U.S., 5th July, 1877, for 15 years.

Claim.—1st. The bolt or system adapted to slide, both forward and backward, and turn or partially rotate relatively to the barrel, in combination with a shoe having a rounded surface as 32 whereby the end motion of said bolt or system is changed into a turning motion by a continuous movement, thus relieving the cartridge from shock; 2nd. The cam surface 29 arranged and operating relatively to the projection 42, so that the turning up the lever 21 draws back the hammer 52 and firing pin 6; 3rd. A sliding bolt or system provided with means for cocking the hammer by a rotative movement of said bolt or system; 4th. The combination of the trigger, the body 20 of the bolt or system, provided with cam surface 29 and the hammer provided with a shoulder 5; 5th. A fire arm the trigger of which is made the means for locking the system; 6th. The combination with the trigger 17, of a locking lever 38 having a notch 41 to prevent the gun from being accidentally fired; 7th. The lever 38 provided with the notch 41 in combination with the projecting arm 2 adapted to enter the recess 39 in the bolt; 8th. In combination with the trigger 17 and locking levers 38 the spring arms 31 acting respectively on the parts; 8th. The notch 40 on the lever 38, in combination with the gear 5 arranged to control the holding and withdrawing the system; 10th. The nose piece 32 with a suitable formed extractor 12 mounted thereon adapted to operate upon the firing pin as a screw; 11th. The nose piece 32 having a stud 53, and the rib 23 having a transverse groove H in combination, with each other and with the extractor 12; 12th. A spring extractor mounted at the side of the piece and pressing laterally against the shell of the cartridge, in combination with a shoe or extension of the barrel having a side opening so arranged as to eject the shell by swinging it horizontally; 13th. The firing pin 6 united directly to the hammer 52, without a necessity for separate confining means in combination with the extractor 12 serving as a stop to prevent its rotation; 14th. The guide through the shoe arranged at an angle to the axis of the bolt or system and leading directly to the hammer in the barrel in combination with an independently acting cartridge impelling mechanism and a sliding bolt; 15th. In a breech loading arm having a magazine H and suitable means for impelling the cartridge forward, the combination of the shoulders G and the supporting arm I adapted to arrest the cartridges; 16th. The combination of the barrel with a device for impelling the cartridges, and an immovable device for guiding the same from the magazine into the barrel upon the retraction of the bolt; 17th. A magazine arm in which the cartridges are liberated by the movement of the trigger the shoulders or stops for engaging the head of the cartridge on one edge and the additional stop or projection 7 on the trigger adapted to aid in holding the cartridge by its opposite edge; 18th. A breech-loading arm having a magazine H and means adapted to impel the cartridge forward, the trigger provided with the two arms 1 and 2 forming a part of and moved by the trigger adapted, the one to hold the cartridge out of line of the channel, and thus to arrest it, and the other to compel the movements of the arrested cartridge into the proper position for moving forward when the trigger is pulled; 19th. Tubular construction of the trigger 17; 20th. A magazine arm trigger having the arm 1 for engaging and returning the cartridge, and the arm 2 for liberating it; 21st. The magazine arm adapted to receive and expel the cartridges without any magazine mechanism operated by or through the bolt but independent therefrom; 22nd. The combination of the bolt, the stop and a device operated by the trigger, whereby the forward cartridge in the magazine is liberated by the movement of the trigger and allowed to move forward till it strikes the bolt, is again liberated by the withdrawal of the bolt and allowed to be ejected forward while succeeding cartridges are arrested; 23rd. The bolt arranged with relation to the magazine and shoe, whereby when the bolt is withdrawn far enough to liberate the extracted cartridge or shell, the next succeeding cartridges are permitted to move forward toward the barrel; 24th. The extractor constructed with the engaging hook 57, pivot hook 4 and spring arm 25th. The projection 8 on the nose piece adapted to match in a corresponding groove 32 in the fixed parts and to relieve the extractor from side strain; 26th. The bevelled surfaces provided upon the front and rear ends of the trigger adapted to cause the cartridge to enter the tubular trigger and force it into alignment with the magazine passage; 27th. The firing pin constructed with a flattened side adapted to operate with the flat end of the extractor holding hook 1; 28th. An oscillating trigger constructed with a passage through it whereby its movements shall interrupt the continuity of the cartridge passage; 29th. A projecting stud on the head of the magazine spring in combination with a slot in the magazine and trigger whereby the forward movement of the spring is limited; 30th. The construction described by which the magazine is permitted to be filled through the opening in the bottom of the shoe when the bolt is withdrawn; 31st. The combination of the locking lever 38 with the trigger and shoulders or stop 60; 32nd. The detachable band 54 provided with a projection 55 adapted to operate as a screw driver.

No. 7607. Improvements on Boat Oars.

(Perfectionnements aux avirons de bateau.)

Charles H. Parker and John W. Suggett, Cortland, N.Y., U.S., 5th July 1877, for 5 years.

Claim.—1st. An oar made in two parts J and C the part C turning in the socket B, or its equivalent, so as to feather; 2nd. The combination and arrangement of the said two parts C and J of the oar rods I and H, rings F and M, pin D, slot a, socket B and row lock L.

No. 7608. Improvements on Pumps.

(Perfectionnements aux pompes.)

M. Lescaurhau, Côte St. Louis, Que., 5th July 1877 for 5 years

Claim.—The combination of the drums A and A<sub>1</sub>, belt E, straps F with trough D, stand C and roller G.

No. 7609. Improvements on Umbrellas.

(Perfectionnements aux parapluies.)

Robert S. Galbraith and William Snow, Montreal, Que., 5th July, 1877, for 5 years.

Claim.—1st. The combination of the tubes a and f and spring t, 2nd. The combination of the tubes t with handle g having passage m and catch n; 3rd. The combination of the handle g having ferrule g and catch n projecting as at p, with the case a having ferrule c provided with notch d, 4th. The combination of the tube f with the catch n.

No. 7610. Improvements on Mantle Pieces.

(Perfectionnements aux manteaux de cheminées.)

Adam Young Saint John, N.B., 5th July, 1877, for 10 years.

Claim.—The application of cast iron keys f, brackets g g, ruffles h h, to a mantle of slate or other material.

No. 7611. Railway Car Axle Box and Oiler.

(Boîte et graisseur d'essieu de wagon de railroute.)

Joseph N. Smith Jersey City, N.J., U.S., 5th July, 1877, for 5 years.

Claim.—In combination with the housing and pedestal the slide C open at the bottom and connected with the housing by a ball and socket joint for securing the slide in the pedestal; 2nd. In combination with the pedestal and the brackets B B, the housing D having lugs e e on its sides and the slide C having depending sides or stops f f to keep the housing from being thrust from the pedestal by the side sway of the cars; 3rd. In combination with the pedestal, the housing D having lugs e e on its sides and the slide C, the brackets B B having ledges g g or hooks h h to keep the housing from dropping out of the pedestal; 4th. In combination with the pedestal, the slide C, the brackets B B having ledges g g or hooks h h and the housing D the strap E cut away between the jaws of the pedestal to facilitate the insertion and removal of the housing; 5th. In combination with the pedestal, the brackets B B and the bolts a a, the lock washers having points j j on their edges; 6th. In combination with the vibrating frame L hung on trunnions p p actuated by the spring slide N, the rocking wick pad K secured to the frame L by the spring a and the endless wick J held in place on the pad K by the spring strap m for oiling the journal; 7th. In combination with the frame L having trunnions p p and the housing D having half roller bearings g g, the stopping bar M having depending legs r r which hold the said trunnions in the said bearings; 8th. In combination with the frame L and wick J, the jumper O having teeth b b to move the wick J; 9th. In combination with the stopping bar M and wick P the sliding jumper Q having teeth d d to move the wick P; 10th. The vertically sliding door B held in place and guided up and down by ribs fitting into grooves and secured by the spring bolt h; 11th. In combination with the vertically sliding door B and spring bolt e having a cavity h, the plate S having a hole j, a pocket i to receive the seal, and a tapped hole K to receive the sealing tool; 12th. In combination with the stopping bar M having a bracket q and projecting corners s which enter sockets or seats t, the vertically sliding door B having a bracket p; 13th. The dust excluder consisting of the plates U V, sliding in grooves in the housing and kept in position by springs u u; 14th. In combination with the housing the plates U V and the springs u u, the locking piece v; 15th. The bearing F F made in two parts with a space between them, and the backing G having holding pins k k cast on its inside surface; 16th. The incline H on the bottom of the housing D to receive the head of a lifting jack; 17th. Guard plates a a in combination with the housing D and pedestal A; 18th. Lugs or projections h h on the sides of the housing, in combination with vertical notches v v in the lower edge of the saddle flaps; 19th. The saddle A having rounded or oblique side edges K K, in combination with the pedestal A; 20th. A bridge piece m across the top of the axle journal inside of the dust excluding plates; 21st. A plunger L having a free reciprocating movement up and down and acting upon the lubricating fluid into which its lower end plunges by its movement produced automatically by the vibrating motions of the car running upon the track; 22nd. A freely reciprocating momentum plunger partial y or entirely supported by a spring; 23rd. A freely reciprocating momentum plunger operating for the purpose herein specified and provided within itself with a tube or passage to convey the lubricating fluid to the required height; 24th. A freely reciprocating momentum plunger provided with a liquid sustaining valve at or near its lower end; 25th. A freely reciprocating momentum plunger, in combination with a closed well in which the said plunger has its reciprocating movements; 26th. In combination with a freely reciprocating momentum plunger a closed well provided with an automatic valve which admits liquid from the outside as fast as it is raised by the plunger, and prevents the escape of the liquid except by the plunger; 27th. An oil or liquid conveying trough or channel K' formed in or between the bearing block or blocks which rest upon the axle journal and having one or more apertures through its bottom to distribute oil on the axle journal; 28th. The arrangement of the reciprocating momentum plunger in an opening of the stopping bar; 29th. An eccentric roller or wheel P' caused to revolve by the axle journal, in combination with an oil lifting plunger; 30th. A forked plate w, in combination with the groove roller shaft and its bearing; 31st. Projections and wires on the well body or barrel, in combination with a removable well bottom provided with notches; 32nd. Projections o o on the sides of the removable bottom of the momentum plunger sliding in grooves in the inside of the well; 33rd. A spring stud or catch attached to sliding door of the housing and operating to catch under one edge of the housing when the door is closed and arranged to be released by a pin or key inserted through a hole in the housing; 34th. Bearing blocks R' R' cast separate with screw holes therein and formed to fit the shell of the bearing for the purpose of convenient and quick replacement by new blocks; 35th. In upward projections v v on the housing, in combination with the saddle; 36th. A full horizontal circle and socket joint between the saddle and housing.

No. 7612. Hay Press. (Press a foin.)

Peter K. Dederick, Albany, N.Y., U.S., 5th July, 1877, (Extension of Patent No. 1657), for 5 years.

No. 7613. Hay Press. (Press a foin.)

Peter K. Dederick, Albany, N.Y., U.S., 5th July, 1877, (Extension of Patent No. 1657), for 5 years.



**No. 7614. Improvements on Hay Presses.**

*(Perfectionnements aux presses à foin.)*

Peter K. Dederick, Albany, N.Y., U.S., 5th July, 1877, (Extension of Patent No. 3391), for 5 years.

**No. 7615. Improvements on Hay Presses.**

*(Perfectionnements aux presses à foin.)*

Peter K. Dederick, Albany, N.Y. U.S. 5th July, 1877, (Extension of Patent No. 3391), for 5 years.

**No. 7616. Improvements on Clover Hullers.**

*(Perfectionnements aux égrenoirs de trèfle.)*

Alph. us R. Appleman, Washington, D.C., U.S., (Assignee of Abraham Miller), 10th July, 1877, for 5 years.

*Claim.*—1st. The combination in one machine of two cylinders fitted with rubbers, 2nd. The combination of the open upper cylinder with the open lower cylinder; 3rd. The combination of the open upper cylinder, fitted with a small number of rubbers, with the open lower cylinder fitted with a large number of rubbers; 4th. The combination of two cylinders fitted with rubbers and the separator or rake C; 5th. The separator or rake C formed by combining the bars c c c made with upper bevelled edges, and the raker bars d d d made in the form of an inverted T; 6th. The raker bars d d d constructed in the form of an inverted T; 7th. The raker bars when bevelled on their outer ends; 8th. In combination with the raker bed, the projection or knockers g g on the raker shafts f f for the purpose of jarring the rake-bed; 9th. In combination with a hulling cylinder, the rubbers b b having roughened sides and rounded front edges h; 10th. In combination with an open lower cylinder, the rubbers having shanks I and nuts i; 11th. A rubber having its back thicker than its front, and its front edge rounded and smooth.

**No. 7617. Improvements on Fountain Pens.**

*(Perfectionnements des plumes-touturms.)*

John M. Might and Charles W. H. Taylor, Toronto, Ont., 10th July, 1877, for 5 years.

*Claim.*—The hollow pen holder B having parallel slits b brought finally out around its entire circumference, in combination with the rubber or plumb metallic ink reservoir A, non-corrosive plug C with ordinary pen rib D.

**No. 7618. Fire Escape Extension Ladder.**

*(Echelle de sautoir à roulage.)*

Howard Turner and George French, Saint John, N.B., 10th July, 1877, for 5 years.

*Claim.*—1st. The wheels K having shafts J journaled in bearings L pivoted to the side of the truck section A, and having cog pitons K<sub>2</sub> to mesh removably with spur wheels K<sub>1</sub> on the drum D for extending the ladder sections B C; 2nd. The combination with the truck wheels K and shaft J, hung in moveable bearings, and transverse rod L of a ladder round journaled in the truck section having a lever M with notches n p; 3rd. The combination with the moveable wheel shaft J having ratchet wheels r, of the journaled ladder round, having ratchet bars P held in moveable engagement therewith; 4th. The ladder sections A B having metallic bearings ways a and operating telescopically; 5th. The combination of the truck section A and a removable truck P; 6th. The arrangement of the guy ropes H and jointed props I folding against the sides of the truck section A for hauling the carriage and supporting the sections when extended; 7th. The arrangement of the rack frame Q attached to truck section A having a swinging lamp R for holding hook, pike, &c.

**No. 7619. Improvements on Elastic Hubs for Vehicles.**

*(Perfectionnements aux moyeux élastiques de roues.)*

John B. Sumniss, New York, U. S., (Assignee of Gabriel Leverich), 10th July, 1877, (Re issue of Patent No. 5289) for 3 years 9 months and 13 days.

*Claim.*—1st. The recessed or slotted ring C and the radial spur c of the box or bearing D in combination with the hub A and a cushion or cushion 2nd. In an elastic hub, the internal sleeve c and combined to permit radial play of the box or bearing D with the said bearing, and one or more elastic cushions B C, the said sleeve to close the inner end of the spoke mortise; 3rd. The shells C<sub>1</sub> constructed with the retaining flange f<sub>1</sub> in combination with the hub A and its elastic cushions B C; 4th. The radial spur c<sub>1</sub> on the box D, in combination with a recess b<sub>1</sub> provided to the sleeve c<sub>1</sub>; 5th. The radial spur c on the box D, in combination with a recess b in the sleeve G, the whole arranged as shown; 6th. The elastic hub comprising the box or bearing D with one or more circumferential shoulders f provided with the nut F at its outer end and having the radial spur c, one or more elastic cushions B C, the rings, and the sleeve G, to permit the radial play of the box D.

**No. 7620. Improvements in Stoves.**

*(Perfectionnements dans les calorifères.)*

Godfrey Moreau, Victoriaville, Que., 12th July, 1877, for 5 years

*Claim.*—1st. A water reservoir C perforated side chamber D, box E, in combination with a stove B; 2nd. A drum F provided with two series of pipes a b, in combination with a stove B; 3rd. An outer shell or casing A provided with inlet opening and hot air holes, in combination with a stove B and drum F.

**No. 7621. Improvements on Fish Packing Cases.**

*(Perfectionnements aux boîtes à empaqueter le poisson.)*

John L. Griffin, Eastport, Me., U. S., 12th July, 1877, for 5 years.

*Claim.*—1st. The combined cases A C and G in nests, A and G having immediately non-conducting packing E, C and G a dead air space I into which a pipe F from case A discharges; 2nd. The chamber B having a water

water pipe F passing through the cases A and C and non-conductor E, and discharging into the air space I formed by the case G.

**No. 7622. Improvements in Pumps.**

*(Perfectionnements dans les pompes.)*

Charles Powell, Newton Brook, Ont., 16th July, 1877, (Extension of Patent No. 1563), for 5 years.

*Claim.*—1st. The cone shaped pump head or stock A, 2nd. The oscillating or rocking support B for the fulcrum pivoted or secured at or near the surface of the ground; 3rd. The combination of the oscillating support with a wooden pump; 4th. The arrangement of two cylinders F and G and connecting chamber H with the lever J connecting with plunger rods K and L in the cylinders.

**No. 7623. Straw-cutter. (Hache-paille.)**

David Maxwell, Paris, Ont. 16th July 1877 (Extension of Patent No. 1551, for 5 years.

*Claim.*—The shaft X, cog wheel I and segment rack Z when applied to a straw cutting machine for disconnecting the feed gear

**No. 7624. Machine for Manufacturing Metal Pipes and Tubes.**

*(Machine pour fabriquer les tuyaux et tubes métalliques.)*

Harvey K. Flainger Boston Mass. U.S. (Assignee of John B. Root) 16th July, 1877, for 5 years.

*Claim.*—1st. The combination of the revolving mandrel and the furnace, the two being so situated relatively to each other that the tubing is carried forward with the revolution of the mandrel and through the furnace; 2nd. The combination and arrangement of a machine for winding blanks or skelps of metal spirally into tubular form with interlocking or overlapping edges, and a furnace for heating the tubing thus formed as it passes off from the mandrel; 3rd. The combination and arrangement of a machine for winding blanks or skelps of metal spirally into tubular form, a furnace for heating the tubing as it passes off from the machine, and a hammer or rolls for welding and finishing the tubing as it comes from the furnace; 4th. In combination with the winding mandrel and the furnace, a welding mandrel projecting axially from the former, the stem of the welding mandrel where it passes through the furnace, being made of a less diameter than the winding mandrel; 5th. The combination of the winding and welding mandrel the former being made hollow for the purpose of passing currents of water over the latter for keeping it cool; 6th. The combination and arrangement of a machine for winding blanks or skelps of metal spirally into tubular form and a hammer or hammers to finish the same and the surface of the tubing.

**No. 7625. Improvements on Bias Measures.**

*(Perfectionnements aux mesures diagonales.)*

John K. Somes, and Leonard R. Waite, Springfield, Mass., U. S., 16th July, 1877, for 5 years.

*Claim.*—1st. The combination of a yard stick and a bias bar at one or both ends thereof; 2nd. The combination of the parallel bars A D united by the bias bars B C; 3rd. The combination of a long bar A, a bias bar at an acute angle thereto provided with the common English metre or equivalent scale of line or measure, and a bar C at right angles to bar A also provided with such scale; 4th. The two parallel bars A D, bias bars B C, at either end respectively with scale on both sides, cross bars E with scale and bar F uniting one end of the bar A with extended end of bar D.

**No. 7626. Wheel-rake. (Râteau à roues.)**

William H. Patten, Clackville, Samuel P. Young and Charles D. Young Niagara Falls, N.Y., U.S., 16th July, 1877 for 5 years

*Claim.*—1st. An axle provided with a series of rake teeth caused to oscillate by means of a shaft having centrally a crank, and on both ends jaws engaging with ratchet wheels secured to the vehicle wheels, said crank being operated by a slotted lever actuated by a treadle; 2nd. The combination with the shaft E having the crank G, of the slotted lever H pivoted to the transverse bar I and provided with the treadle K; 3rd. The combination with the wheels B having the catch wheels L, of the axle A, transverse shaft F provided centrally with the crank G and on both ends with pawls D, said shaft being actuated to cause the oscillation of the axle A by the pivoted slotted lever H, having the treadle K; 4th. The shaft E, provided with the crank G and pawls D, mounted with its ends free to spring upwards to relieve it from either wheel in turning; 5th. The combination with the elevating device, of the treadle F, rod U, and bracket V for retaining the rake in an elevated position in conjunction with the pivoted catch V G; 6th. The combination with the oscillating axle A provided with a series of curved rake teeth X, of the scraper S, attached to the machine at points in advance of and above the centre of the said axle and resting upon the convex side of said rake teeth; 7th. The device for attaching the teeth to the rake head consisting of two parts, one of which is related to hold the teeth, and the other formed with a lip and having adjusting slots to compensate for wear; 8th. The centre bearing V, with its oblique ends, above to hold the shaft E steady when in place and to readily relieve it.

**No. 7627. Hand-truck. (Chariot à bras.)**

Edward L. Byron, Moss River Que. and Samuel Jameson, Compton Que. 16th July, 1877, for 5 years.

*Claim.*—The frame A with the sliding frame B the clamping bar C with the cams D D, and the loops E E, also the handle F and lever G, with the grapple H and leg K with spring L, also the poles o o and the posts P P with the pivot and brace R and T.

**No. 7628. Screw Propeller. (Propulseur à vis.)**

David Rodgers, St. Louis de Gonzague and Robert Beckordike, Montreal Que., 16th July, 1877, for 5 years

*Claim.*—A screw propeller having on each or any of its blades projections of a constant or variable pitch

No. 7629. Milk Pan. (Bottle à lait.)

Thomas Rouch, Havelton, N. Y., U. S., and Henry Dark, South Gower, Ont., 16th July, 1877, for 5 years. Claim.—1st. The vat B provided with partition a extending up both ends of the vat and side partitions b b extending up one of the ends of the vat and leaving a passage b b between the other end of the vat, and the end of the partition and two water inlets c c one on each side of the central partition and outlet z z. 2nd. In combination with the vat B having a partition a extending up both ends of the vat, and side partitions b b extending up one of the ends of the vat and leaving a passage b b between the other end of the vat and the end of the partition, and two series of outlet openings z z, barrels or chambers H H and plugs I I.

No. 7630. Elastic Hub and Axle Box.

(Mouche à huile d'essieu élastiques.) John B. Sammis, (Assignee of George W. Hayes) New York U. S. 16th July, 1877, for 15 years. Claim.—The ring D of shafts like form slotted b consisting with the fange c having the studs or pins b notched at a, in combination with the radial spur or projection A of the box B and the cavities d in the face of a recess formed in the end of the hub.

No. 7631. Improvements on Sewing Machines.

(Perfectionnements aux machines à coudre.) William Randel, John W. Cipperly, John C. Cole, and Theodore E. Hulsehurst, Troy, N. Y., U. S., 16th July, 1877, for 5 years. Claim.—1st. The arm B provided with an automatic feeding device operated by means of the vibratory movement of the arm B required for placing the stitches alternately at and back from the edge of the button hole. 2nd. The combination of the vibrating arm B, stud z and arm T as a means for imparting motion to the arm P of the feeding device; 3rd. The combination of the guide bar C provided with a cross bar c, spring pawl D and lever H. 4th. The automatic feeding device consisting of the rack L, pinion N, ratchet wheel O, arms P and Q, double pawl R and springs S. 5th. The combination of the guide bar C and slide j, provided with the projections j2 with the spring pawl D, rod E, adjustable stop P and spring I. 6th. The combination of the adjusting screw Z with the sliding block z, held in a fixed position in the slotted opening of the bottom plate A, stud z and arm T for regulating the stitch. 7th. The combination of the slide j and brake lever u with the arm Q and pawl R; 8th. The combination of the guide bar C with the slide j and clamping device; 9th. The combination of the vibrating arm B provided with an automatic feeding device with the guide bar C, spring pawl D, rod E, stop F, projections j2 and spring I.

No. 7632. Improvement on Hose Couplings.

(Perfectionnements des joints de tuyaux.) John A. Caldwell, (Assignee of Samuel Adlam, jr.), Boston, Mass., U. S., 16th July, 1877, for 5 years. Claim.—The metallic looped strap C provided with a cross bar f constructed as described whereby one end may be passed through and bent over the other end.

No. 7633. Improvements on Meat Cutters.

(Perfectionnements aux hache-viande.) Louis Nicol and Majorique Côté, Sherbrooke Que., 16th July, 1877, for 5 years. Résumé.—10. La forme de la boîte; 20. La combinaison des couteaux cylindriques et des couteaux recourbés; 30. La manière de les faire fonctionner, ou le mécanisme de la machine.

No. 7634. Elastic Hub and Axle Box.

(Moyen à l'huile d'essieu élastiques.) John B. Sammis, (Co-inventor with, and Assignee of George W. Hayes), New York, U. S., 16th July, 1877, for 15 years. Claim.—1st. The nut E combined in such relation with the outer end of the elastic cushion D and the adjacent portions of the hub as to compress the said outer end of the elastic cushion between the circumference of the nut and the concentric inner surface of the recess formed in the hub. 2nd. The axle box B constructed with the double wedge like surfaces m n, in combination with the recessed inner elastic cushion H. 3rd. An elastic hub A the axle B provided with one or more r r' and projection ribs or spurs P arranged between the elastic cushions and forming a groove G in the wood of the hub.

No. 7635. Improvements in Couplings for Railroad Car Air and Vacuum Brakes.

(Perfectionnements aux accouplements des freins de railroads à air et à vide.) William J. Stevens, New York, U. S., 16th July, 1877, for 5 years. Claim.—1st. The combination, for the coupling of air and vacuum brakes, of the male and female and each provided with the plug valve and the plugs with arms G operated to close with the hooks R or other equivalent counter connection from the opposite male and female and provided with suitable means for locking and stopping said arms, and provided to have the parts of the coupling at all times ready for recoupling; 2nd. The combination of the male and female, the plug valve and one armed plug P with the hooks R, the springs K and the elevations Q and P.

No. 7636. Improvements in Bridge Piers.

(Perfectionnements aux piles de ponts.) Edward Wasell, Digby, N. S., 16th July, 1877, for 5 years. Claim.—A railway rail pier composed, made up or constructed of old or new iron or steel railway rails in connection with screws, shoes or sockets A at bottom castings B at any intermediate height, and castings C on top, bound, tied or connected together by rail braces F and E, tie bars G and bolts I.

No. 7637. Improvements on Gang Ploughs.

(Perfectionnements aux charrues à socs multiples.) Robert Lade, Waterloo, Ont., 16th July, 1877, for 5 years. Claim.—1st. The segment H having divergent cam slots and a cut off tongue I in combination with a lever F and axle C. 2nd. The combination with the frame A of the post G lever I, rod L and cam segment H having tongue I, whereby the wheels are acted upon simultaneously or otherwise.

No. 7638. Improvements in Hay Carriers.

(Perfectionnements aux charrettes à foin.) La Verne W. Noyes, Batavia, Ill., U. S., 16th July, 1877, for 5 years. Claim.—1st. The single track B arranged near one edge of its support, in combination with a carriage A provided with suitable rolling bearings for the track and arranged wholly upon one side of the track support. 2nd. A carriage A provided with oblong studs or projections a upon its upper end, in combination with the anti friction rollers b arranged around the studs, the enclosing caps or cases c and the track B. 3rd. The vibrating catch D pivoted to the carriage, in combination with the pivoted lever C. 4th. The carriage A in combination with the catch D and lever C, both pivoted thereto, and the stop h on the rail or rail support. 5th. The catch D pivoted to the carriage, in combination with the lever C also pivoted to the carriage, the hooked loop E and the stop h.

No. 7639. Improvement on Tools for Tightening and Fastening Straps for Securing Hose to Couplings.

(Perfectionnement de l'outil à ajuster et à serrer les liens à assujettir les joints de tuyaux.) John A. Caldwell, Boston, Mass., U. S., 16th July, 1877, for 5 years. Claim.—The levers B C pivoted together and having jaws b c, one being provided with a groove of projection and the other provided or not with a projection.

No. 7640. Machine for Working Butter.

(Machine à appâter le beurre.) Emory P. Walker, Belcherstown, Mass., U. S., 16th July, 1877, for 5 years. Claim.—1st. The combination of the box A provided with the grooves a, with the sliding frame b and lever frame B. 2nd. The combination of the concave faced roller C with the lever frame B, sliding frame b and box A, provided with the grooves a.

No. 7641. Inking Apparatus for Printing Presses.

(Appareil à appliquer l'encre aux presses d'imprimerie.) Israel L. G. Rice, Cambridge, Mass., U. S., 16th July, 1877, for 5 years. Claim.—1st. The moveable interchangeable sectional ink tables of various widths having discs inserted in them. 2nd. The combination of moveable interchangeable sectional ink tables, provided with discs, with moveable interchangeable sectional ink fountains.

No. 7642. Improvements in Stone Walling.

(Perfectionnements dans la maçonnerie en pierre.) John Heard, Strathroy, Ont., 16th July, 1877, for 5 years. Claim.—The combination and arrangement of the perpendicular turrets or connecting posts, Figs. a, b, &c. having broad bases and when in one piece, as in Fig. b, or in two pieces, as in Figs. m, p and q, for secure foundations, the said connecting posts having grooves, indents or mortises for insertion of the stringers d, e, f, thereon, also the fitting or making the said stringers with a projection or tenon for such insertion as in Figs. h and i; also the union in one piece of post and stringer as in Fig. q, also the projection or tenon when on post instead of stringer or the groove mortise or indent when in stringer instead of post, as shown in dotted lines in Fig. G.

No. 7643. Apparatus for Preparing Timber for Shipment.

(Appareil à préparer le bois pour le chargement.) Henry Atkinson, Etchemun, Que., 16th July 1877, for 5 years. Claim.—1st. A floating mill or vessel provided with means of locomotion and performing all the operations of preparing timber for shipment. 2nd. A floating mill or vessel in which timber is prepared for shipment having its sides formed of a double plank truss. 3rd. The apparatus or butting timber consisting of two circular saws having their arbours respectively above and below the log to be butted and carried in a frame moved back and forth at will. 4th. The combination of the arms or hooks P, Q, ratchet wheel S and lever T and carriage R running in guides R; 5th. The planing or dressing machine having two or more pairs of rollers (one moveable and the other stationary) between which the timber is held so as to be operated upon by the revolving cutter-head moved back and forth at will, 6th. In combination with the frame or bed of the planing or dressing machine the saw arbour L (upon which is mounted a circular saw) and a saw guide N.

No. 7644. Improvements on Cigars.

(Perfectionnements aux cigares.) Maltby Gelston, East Haddam, Conn., U. S., 16th July, 1877, for 5 years. Claim.—A cigar having a tapering tip filled with straight cuttings of tobacco leaf.

No. 7645. Atmospheric Gas Engine.

(Machine atmosphérique à gaz.) Joseph Werthorn, Bornheim, Germany, 16th July, 1877, for 15 years. Claim.—1st. The combination of the explosion dome A, syphon tube B, liquid casing C having valves b b b, oscillating paddle G and the piston actuated alternately by the force of the explosion and the pressure of the atmospheric air. 2nd. The combination of the explosion dome



A having entrance and ignitor openings *d d*, with a reciprocating slide valve *A* having slots *f* and communicating groove *f* to supply the gas and air mixture simultaneously through both openings; 3rd. The combination of the explosion dome and of the reciprocating spring actuated and guided slide valve *A* with a loose crank disc *e* having recessed hub and with a driving pin *e*, the revolving crank disc shaft to admit rapid downward passage of slide valve; 4th. The combination of the explosion dome *A* and slide valve *A* with an igniting apparatus *G* composed of a casing *g* and of a sliding and spring actuated *g*, with burner and air supply recesses; 5th. The combination explosion dome *A* and slide valve *A* with fixed casing *g* having interior pivoted deflecting hood *h*, with sliding and guided spring cap *g* having fixed inner rod *h*, burner *g* and outer stud *l* and with outer inclined stop *h* of face plate *A* to prepare ignitor for explosion; 6th. The combination of the explosion dome *A*, slide valve *A* with fixed casing *g*, sliding and guided spring cap *g* having outer pin *h* and with stop *h* of face plate *A* to open ignitor after explosion; 7th. The combination of the explosion dome, slide valve and ignitor, having interior burner, deflecting hood and air slots with a fixed gas pipe that re-lights the burner after each explosion; 8th. The combination in a gas engine of the slide valve actuating shaft having fixed collar *m* and spring actuated pawl *n*, with the revolving pulley *n* having inner rat-hat wheel *n* and with a governor actuated slide rod *o* to regulate speed of engine; 9th. The combination of the explosion dome *A*, syphon tube *B B*, paddle casing *C* having valves *b b*, with oscillating paddle *C* having recesses with upper and lower pivoted valves *p p* to work in conjunction with the liquid piston; 10th. The paddle casing *C* having side pockets *S S* with detachable plugs to collect and remove impurities; 11th. The combination of the explosion dome *A*, syphon tube *B B*, paddle and paddle casing, with return valve *b*, fulcrum and spring actuated lever *b*, valve rod *b* and escape valve to open or close valve of dome as required; 12th. The combination of explosion dome *A* and syphon tube *B B*, with escape valve *r*, channel *r*, valve *r* and exit tube *r* to admit expulsion of gases of combustion; 13th. The combination of the explosion dome syphon tube, paddle case and oscillating paddle with suitable mechanism for changing the reciprocating motion of paddle shaft into continuous rotary motion; 14th. The combination of the explosion dome having enclosing water jacket with a communicating vessel and suitable cooling appliances; 15th. A syphon tube having its reservoir carrying leg extended above the explosion dome.

#### No. 7646. Improvements on Sewer Traps.

(*Perfectionnements dans les trappes d'égouts.*)

Thomas Guerin, San Francisco, Cal., U.S., 16th July, 1877, for 5 years.

Claim.—1st. The plunger of polished brass with its openings; 2nd. The combination of the polished valve and the bevelled or conical valve seats.

#### No. 7647. Improvements in Seats for Vehicles.

(*Perfectionnements dans les sièges de voitures.*)

Daniel Conboy, Uxbridge, Ont., 16th July, 1877, for 5 years.

Claim.—The top *B* padded on both sides and provided with one or more hinges *C*. In combination with a padded seat frame *A*.

#### No. 7648. Improvement in a Machine for Threshing Grain.

(*Perfectionnement d'une machine à battre les grains.*)

Richard Mowry and William Forsyth, Ashburnham and George McCannan Otonabee, Ont., 16th July, 1877, for 5 years.

Claim.—The application of a lower sieve *F* of finer meshes, in combination with the usual sieve.

#### No. 7649. Fire Extinguisher.

(*Extincteur d'incendie.*)

Arnold Tenner, Cincinnati, Ohio, U.S., 16th July, 1877, for 5 years.

Claim.—1st. Pulverized sulphur, saltpetre, charcoal, oxide of iron resin and sugar; 2nd. The described compound enclosed in suitable casings or packages rendered fire proof.

#### No. 7650. Improvements on Horse Shoes.

(*Perfectionnements aux fers à cheval.*)

John C. Brightman, Fall River, Mass., U.S., 16th July, 1877, for 5 years.

Claim.—A horse shoe provided with dove-tailed recesses for use interchangeably with the plates *B B B* and calks *C D C D C D* and in combination therewith.

#### No. 7651. Improvement on Pencils.

(*Perfectionnement des crayons.*)

William J. Holton and James E. Field, Brooklyn, N.Y., U.S., 16th July, 1877, for 5 years.

Claim.—1st. A pencil composed of tallow and resin or their equivalents, and the desired pigments; 2nd. A pencil composed of the ingredients set forth and provided with a wrapper of paper, tinfoil, or similar substance.

#### No. 7652. Improvements on Indelible Ink Apparatus.

(*Perfectionnements aux appareils à encre indélébile.*)

William A. Weed, Chicago, Ill., U.S., 16th July, 1877, for 5 years.

Claim.—The rectangular bevelled tablet having cavities to receive the writing utensils and furnished with the removable band, which serves to hold the utensils in place, and also when the device is in use to secure the fabric upon the tablet.

#### No. 7653. Improvements on Horse Shoes.

(*Perfectionnements aux fers à cheval.*)

George T. Atkinson, Torquay, England, 16th July, 1877, for 5 years.

Claim.—1st. The forming recesses in horse shoes grooved or partially grooved for holding calks correspondingly grooved to be seated in said recesses; 2nd. Securing calks in grooved or partially grooved recesses or in recesses or orifices generally, by a blocking piece with pin, bolt or screw fastener.

#### No. 7654. Improvements on Harness.

(*Perfectionnements aux harnais.*)

James H. Van Sice, Buffalo, N.Y., U.S., 16th July, 1877, for 5 years.

Claim.—1st. The combination with the hame *A*, trace *B* and tug *L*, of the auxiliary tug or strap *I* connecting the trace with the upper portion of the hame, so as to divide the strain upon the same; 2nd. The combination with the trace *B*, tug *C* and auxiliary tug *E*, of a hame *A* provided with ornamental staple *d* and upper staple *H*, having two or more openings *h*.

#### No. 7655. Music Leaf Turner.

(*Appareil à tourner les feuilles de musique.*)

Orson W. Clark, Appleton, Wis., U.S., 16th July, 1877, for 5 years.

Claim.—1st. The combination with the hinged sections *B C*, of the series of metallic springs, each of which is provided with a upper *M* and suitable locking and releasing mechanism; 2nd. The combination with the hinged sections *B C* and metallic springs, each of which is provided with a upper *M*, of the keys *L*; 3rd. The combination with the hinged sections *B C*, of the metallic springs provided with lugs *l* and spring pressed keys *l*.

#### No. 7656. Instrument for Preventing Lamp Chimneys from Breaking.

(*Appareil pour empêcher de casser les cheminées des lampes.*)

Edward W. Blackhall, Toronto, Ont., 16th July, 1877, for 5 years.

Claim.—A wire conductor *B* placed within or without a lamp glass chimney *A*, for the purpose of retaining heat produced therein and of radiation affecting a line of the glass (namely parallel and corresponding to a each leg of the said wire, which line is thus maintained at a temperature susceptible to any sudden atmospheric change, and thereby forming in these two sections of the glass *A* an expansion joint which compensates for any undue or sudden contraction or expansion at other parts of the said glass.

#### No. 7657. Improvements on Sealing Devices.

(*Perfectionnements aux appareils à sceller.*)

Edward A. Locke, Boston, Mass., U.S., 16th July 1877, for 5 years.

Claim.—1st. In combination with a soft metal seal, a sealing shackle composed of a number of wires which are arranged to form upon or within the surface of said shackle a series of disconnected depressions; 2nd. A sealing device in which the seal is primarily secured upon one end of a shackle by compressing mechanically a portion of the metal surrounding the opening through which said shackle end passes; 3rd. A sealing disc provided upon one or both of its sides with a groove or grooves to receive the rearward turned ends of the shackle.

#### No. 7658. Improvements in Wringing Machines.

(*Perfectionnements aux essoreuses.*)

James S. Fox, Oshawa, Ont., 16th July, 1877, for 5 years.

Claim.—1st. The angularly placed standards *A*, in combination with the counter braces *B B* and horizontal side rails, all pivoted together and arranged to form a folding bench wringer; 2nd. The standards *A A* in combination with the rollers *E E* and guide blocks *F F*; 3rd. In combination with the bearing blocks *G G*, rollers *E E* and spring *I I*, the pivoted cast levers *J J*; 4th. The upwardly and forwardly curved pressure springs *H*, in combination with the rollers *E E*; 5th. The combination and arrangement of the folding bench *A B D*, rolls *E E*, springs *I*, guide blocks *F* and levers *J*, drip and delivery board *K*.

#### No. 7659. Improvements on Time Locks.

(*Perfectionnements aux serrures à mécanisme d'horlogerie.*)

Thomas W. Spencer, Circleville, Ohio, U.S., 16th July, 1877, for 5 years.

Claim.—1st. The bolt *A*, the spring *B*, the arm *C*, the trip *D*, in connection with the time wheel, the bar *D*, the stop *F* and the locking lever *I* with the intermediate mechanism; 2nd. In combination with the bolt *A*, the time lock, the upright bar *D*, the detent bar *D*, the stop piece *F* and intermediate mechanism, whereby the time movement releases said bolt; 3rd. The combination with the bolt *A* of the upright bar *G* with its projections *G G* together with the sliding bracket *H* and lever *I* provided with the notch *I*, and shoulder *I*; 4th. The combination with the bracket *H* the bars *G* and lever *I* of the spring *J* and rod *K*; 5th. The spring pressed sliding bracket for throwing in relative engagement the wheel *N* and time wheel *L*, while the block movement is being set for any appointed hour.

#### No. 7660. Improvements on Stop Watches.

(*Perfectionnements aux montres à repos.*)

Henry A. Lagrin, New York, U.S., 16th July, 1877, for 5 years.

Claim.—1st. In horse timing watches the quarter second hand and its dial located on the top of the watch movement; 2nd. The timing attachment consisting of a quarter second and split quarter second hand mounted on a best centre post and geared with the watch train; 3rd. The combination with a bevelled and toothed wheel attached, the watch movement of a timing attachment having a similarly bevelled and toothed but inverted centre wheel that is thrown in and out of gear with the watch movement by suitable lever and spring devices; 4th. The combination of bevel wheel *C*, inverted bevel wheel *C*, wedge shaped lever *D*, lifting spring *D* and lowering spring *D*, to establish or interrupt connection of watch movement and timing attachment.

#### No. 7661. Leather Crimping Machine.

(*Machine à cambrer les cuirs.*)

Jason Smith, Charlestown, Mass., U.S., 16th July, 1877, for 5 years.

Claim.—1st. The combination in a crimping machine of a head made as described and two followers carrying corrugated plates, a screw and a cog for moving each follower and a toggle for locking and releasing the same; 2nd. The combination of the head *H* having the end pieces *M* and rollers *P*, the followers *O*, link *f*, three arm lever *C*, nuts *W*, screws *A* and weighted lever *O*; 3rd. The adjustable arms *S*, in combination with the screw *P* and lever *O* for limiting the motion of the latter; 4th. The arms *S* in combination

tion with the weighted lever O; 5th. The combination of the lever *o* with the lever C<sub>1</sub> for releasing the followers O; 6th. The movable frame G having the studs *p* in connection with the head H carrying the dogs S for supporting the leather clamping mechanism; 7th. The levers K having eyes *n* and toothed sectors L, the nuts I having the toothed sectors J, the screws *l* and levers *i*, in combination for operating the leather clamping jaws; 8th. The plates E placed in the grooves in the vertical posts C on opposite sides of the tree D and provided with adjusting screws *f*, in combination with the curved bevelled pieces F and the mechanism for operating the plates; 9th. The combination in a leather crimping machine of the bevelled curved pieces C and the bevelled corrugated and curved pieces N for drawing the leather over the tree; 10th. The cams *ji* affixed to the side pieces A for tripping the lever *ki*; 11th. The levers D<sub>2</sub>, in combination with the treadle C<sub>2</sub> for supporting the frame G; 12th. The combination of the treadle C<sub>2</sub>, rods O and levers K; 13th. The combination of the bar B<sub>2</sub> having the slot A<sub>2</sub>, arm C<sub>2</sub> and ratchet teeth *d*<sub>2</sub>, the pawl *f*<sub>2</sub>, the pin *z*<sub>2</sub> and shifting lever *v*.

### No. 7662. Improvements in Turbine Water Wheels.

(*Perfectionnements aux roues hydrauliques turbines.*)

James Talley, Jr., Kansas, Mo., U.S., 16th July, 1877, for 5 years.

*Claim.*—1st. The case or frame A<sub>2</sub> A<sub>3</sub> constructed with spheroidal ends and elliptical, or nearly elliptical, interior chamber A<sub>1</sub> and two outlets E and F, with closing gate *a* and covering cap G, so as to render the machine applicable to either a vertical or a horizontal position; 2nd. The wheel B provided with sloping buckets *b* on its periphery confined between annular flanges *b*; 3rd. The flanges *b* on the periphery of the wheel B, constructed with scalloped openings *b*<sub>3</sub>; 4th. The annular flanges B<sub>1</sub> on the faces of the wheel arranged to fit against the case packing strip *a*; 5th. The casing A<sub>2</sub> A<sub>3</sub> provided with an elongated induction chute *d*, so as to distribute the water properly to the wheel; 6th. The wheel B mounted on the shaft C and set eccentrically in the chamber A<sub>1</sub>, the shaft C having bearings *c* in the case A<sub>2</sub> A<sub>3</sub>, and an adjusting step C<sub>1</sub> and screw C<sub>2</sub>; 7th. The sliding gate *a* placed in the casing A and arranged to close the outlet E; 8th. The adjustable cap G mutually interchangeable for the outlets E and F so as to close either as required to convert the machine into a vertical or a horizontal one; 9th. The wave line chute *d* forming the outlet to the induction pipe D; 10th. The wave line chute *d*, constructed widest at the first end *d* and thence gradually narrowing to a point *d*<sub>1</sub>; 11th. The prolonged aperture *d* of the induction pipe D, arranged to deliver water upon a considerable portion of the wheel B; 12th. The tapering duct *a* formed in the end piece A<sub>3</sub> and arranged to conduct the spent water from the chamber A<sub>1</sub> to the outlet F.

### No. 7663. Improvements on Printing Type.

(*Perfectionnements aux caracteres d'imprimerie.*)

Joseph Bartlett, and William M. Murray, London, Eng., 17th July, 1877, for 5 years.

*Claim.*—1st. Engraved type and shapes or frames; 2nd. Rhomboidal engraved or raised type; 3rd. L shaped type engraved or raised and printing therefrom.

### No. 7664. Improvements on a Bolt.

(*Perfectionnements à un boulon.*)

Benjamin P. King, Shelburne, N.S., 17th July, 1877, for 5 years.

*Claim.*—1st. The barbed point A; 2nd. The auger twist or screw C C; 3rd. The combination of the screw C C and the point A.

### No. 7665. Improvements on Gaiters.

(*Perfectionnements aux bottines à élastiques.*)

Cyrus Libby, Chicago, Ill., U.S., 17th July, 1877, for 5 years.

*Claim.*—The combination with a congress gaiter top of front and back ankle pieces A and A<sub>1</sub>, and the gores B B connecting said ankle pieces of the lapels C C, joined to or continuous with A, seamed in with the gores at the bottom and overlying the gores for their concealment and protection.

### No. 7666. Improvement on Ploughs.

(*Perfectionnement des charrues.*)

Archibald McDiarmid, Howard, Ont., 17th July, 1877, for 15 years.

*Claim.*—The convex shape of that portion of the board A contained between lines H D and E F indicated by sections 1 2 3 4 of the main bearing K G, so that in turning a furrow concave on the under side the line K G gradually recedes from the edge of the furrow H D.

### No. 7667. Improvements in Bed Bottoms.

(*Perfectionnements aux fonds de lits.*)

William B. Hatch, Elmira, N.Y., U.S., 17th July, 1877, for 5 years.

*Claim.*—1st. A divided frame A, the hinges E E<sub>1</sub> formed with the shoulders *a* and projection *b* *b*; 2nd. The combination with the divided frame A of the rocking bar G, wires *d* and ratchets H H; 3rd. In combination with the coil spring C, the springs D arranged between the coil spring C and the longitudinal slats B supported upon the coil springs C, the coil springs D arranged between the slats.

### No. 7668. Machine for Jointing Circular

Saws. (*Machine à limer les scies rondes.*)

Robert Aitken, Brampton, Ont., 17th July, 1877, for 5 years.

*Claim.*—The standard A standing on and free to move around the collar or shaft of the saw; the screws B dressing against the saw to adjust the standard perfectly parallel to it; the double movable bracket L connected by the adjusting screw M; the file stock G and the mode of attaching it to the bracket; the combination of the standard guide screw and file bracket and stock for the purpose of jointing saws from the collar or shaft.

### No. 7669. Compound for Roofs, Floors, Pavements, &c.

(*Composé à toitures, planchers, pavés, etc.*)

Alexander McLean, Toronto, Ont., 17th July, 1877, for 5 years.

*Claim.*—The combination of artificial stone, roofing felt and pitch, arranged in alternate layers B C and D.

### No. 7670. Bag-holder and Truck.

(*Camion accroché-sac.*)

Charles W. Johnson, and Lawson G. Rinehart, Coldwater, Mich., U.S., 17th July, 1877, for 5 years.

*Claim.*—1st. The construction and combination of the metal clasp I with the metal ring or holder B B; 2nd. The attachment of the leg or support G.

### No. 7671. Improvements on Horse Rakes.

(*Perfectionnements aux râteliers à cheval.*)

James E. Wisner, Friendship, N.Y., U.S., 18th July, 1877, for 5 years.

*Claim.*—1st. A revolving axle, a divided head with the lifting mechanism on the axle moving in the space between the parts; 2nd. The divided head hinged to the revolving axle at the outer end and supported at the inner upon a casting through a part of which the said axle passes; 3rd. The recessed extension *e* of the casting *e*, in combination with the tooth board and with the spring for the pawl; 4th. The projection on the casting *e* in combination with the rake head and hand lifting mechanism; 5th. The shell or case *e* of the casting *e*, in combination with ratchet wheel; 6th. The connection for the divided head consisting of the parts to which the ends of the head are secured, the rearward extension for the tooth board, the case for the revolving ratchet wheel and the arms for connection with the hand lifting mechanism; 7th. The pawl and ratchet connection for the wheels and axle, the teeth formed alike on both sides; 8th. In combination with the revolving axle, the pawl and ratchet located on the outer ends of the hubs; 9th. The cross bars *a*, in combination with the shafts and bent bars *b* *b* which brace the frame and connect it to the axle.

### No. 7672. Apparatus for Aging Liquors.

(*Appareil à vieillir les boissons.*)

Henry G. Dayton, Maysville, Ky., U.S., 18th July, 1877, for 5 years.

*Claim.*—The combination with a gasometer A of a receptacle D provided with a tube G having the openings *g* and perforations *g*<sub>2</sub>, a rod H and plunger I, and suitable pipes for connecting the receptacle D and gasometer A A.

## Lists of Patents issued up to 15th August, 1877, but not yet Officially published in the Patent Office Record.

No. 7676. B. C. Tilghman, Philadelphia, Pa., U.S.A., "Method of Cutting Stone," (Re-issue of Patent No. 2020), 25th July, 1877.

No. 7677. M. H. Strong, Brooklyn, N. Y., U. S. A., "Illuminating Gas," 25th July, 1877.

No. 7678. M. McGinn, Hamilton, Ont., "Tobacco Cutter," 25th July, 1877.

No. 7679. A. S. Hinkley, Buffalo, N. Y., U.S.A., (Assignee of J. Hinkley, Norwalk, Ohio, U.S.A.), "Carpet Sweeper," 25th July, 1877.

No. 7680. T. H. Russell and S. E. McCully, Windsor Mills, Que., "Turbine Wheel," 25th July, 1877.

No. 7681. J. Graves, New York, U.S.A., "Oil Can," 25th July, 1877.

No. 7682. J. M. Keen, Digby, N. S., "Car Coupling," 25th July, 1877.

No. 7683. T. E. Adams, North Evans, N. Y., U. S. A., "Horse Power," 25th July, 1877.

No. 7684. A. Calder, London, Ont., "Car Axle Box," 25th July, 1877.

No. 7685. J. Bettleley, London, Eng., "Galvanic Sheathing for Ships," 25th July, 1877.

No. 7686. G. Jeffrey, Brantford, Ont., "Fastener," 25th July, 1877.

No. 7687. S. L. McKee and B. F. McKee, Brooklyn, N. Y., U. S. A., (Assignees of G. W. McKee, Brooklyn, N. Y., U.S.A.), "Fire Escape," 27th July, 1877.

No. 7688. W. Davenport, Philadelphia, Pa., U.S.A., "Paddle Propeller," 27th July, 1877.

No. 7689. W. Scott, Richmond, Que., "Pump," 27th July, 1877.

No. 7690. C. Radcliffe, Newark, N. J., U. S. A., "Button Machine," 27th July, 1877.

No. 7691. H. Frasch, Philadelphia, Pa., U.S.A., "Apparatus and Process for the Separation and Treatment of Oils," 27th July, 1877.

- No. 7692. J. H. Campfield, Ottawa, Ill., U. S. A., "Cigar," 27th July, 1877.
- No. 7693. J. D. Sumner, Lexington, Mass., U. S. A., "Horse Shoe Nail Making Machine," 27th July, 1877.
- No. 7694. J. C. Knowlton, Rockport, Mass., U. S. A., "Rattlin Clasp," 27th July, 1877.
- No. 7695. J. H. Kydd, Bowmanville, Ont., "Stop Action for Organ," 27th July, 1877.
- No. 7696. W. Boyd and W. Bentley, Strathroy, Ont., "Pea Harvester," 27th July, 1877.
- No. 7697. R. S. Williams and J. B. Martin, Milwaukee, Wis., U. S. A., "Millstone Dress," 27th July, 1877.
- No. 7698. H. J. Cole, Wandsworth Road, Eng., "Ship Cleaner," 1st August, 1877.
- No. 7699. C. Soskamp, Newburgh, N. Y., U. S. A., "Method of Raising and Transplanting Plants," 1st August, 1877.
- No. 7700. W. H. Convert, Agnews Mills, E. Fite, Alleghany, and J. J. Speck, Pittsburgh, all in Pennsylvania, U. S. A., "Churn," 1st August, 1877.
- No. 7701. R. R. Osgood, Troy, N. Y., U. S. A., "Dredging and Derrick Machine," 1st August, 1877.
- No. 7702. W. Craig, Nunda, N. Y., (Assignee of B. Rowell, West Sparta, N. Y., U. S. A.), "Car Coupler," 1st August, 1877.
- No. 7703. R. A. Abbott and H. W. Parrish, Jackson, Mich., U. S. A., "Look Key," 1st August, 1877.
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- No. 7705. J. W. Payson, Hyde Park, Mass., and W. H. Scribner, Chicago, Ill., U. S. A., "Cover and Blotter," 1st August, 1877.
- No. 7706. Jas. Tomlinson, Goderich, Ont., "Barrel," (Extension of Patent No. 4023), 1st August, 1877.
- No. 7707. Jas. Tomlinson, Goderich, Ont., "Barrel," (Extension of Patent No. 4023), 1st August, 1877.
- No. 7708. Wm. Clark, South Dumfries, Ont., "Sheep and Cattle Wash," (Extension of Patent No. 1573), 3rd August, 1877.
- No. 7709. N. Campbell, Rochester, N. Y., U. S. A., "Lock Curtain Fixture," 9th August, 1877.
- No. 7710. C. H. Warren, Brookline, Mass., U. S. A., "Combination Pavement," 9th August, 1877.
- No. 7711. L. Ray, Peoria, Ill., (Assignee of T. L. Ray, Bellevidere, Ill., U. S. A.), "Photographic Printing Frames," 9th August, 1877.
- No. 7712. T. Jesson, Galway, Ireland, and T. Duggan, Glasnevin, Ireland, "Brush Making Machine," 9th August, 1877.
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- No. 7717. A. S. Beach, Groton, N. Y., U. S. A., "Cheese Press," 9th August, 1877.
- No. 7718. John Abell, Woodbridge, Ont., "Reaping Machine," 9th August, 1877.
- No. 7719. E. R. Langs, Langford, Ont., "Waggon Box," 9th August, 1877.
- No. 7720. John Ferguson and A. Ferguson, London, Ont., "Churn Dasher," 9th August, 1877.
- No. 7721. H. S. Coleman, Chelmsford, Eng., "Steam Boiler," 9th August, 1877.
- No. 7722. Jas. S. Palmer, Brantford, Ont., "Land Roller," 9th August, 1877.
- No. 7723. Rev. F. L. Seymour, Pittsburgh, Pa., U. S. A., "Compound Reflector," 9th August, 1877.
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- No. 7726. S. W. Craven, Cobden, Ill., U. S. A., "Drying House," 9th August, 1877.
- No. 7727. C. A. Hamlin, Albany, N. Y., U. S. A., "Cooking and Heating Stove," 9th August, 1877.
- No. 7728. J. Forster, Coal Valley, Ill., U. S. A., "Lamp Stand," 9th August, 1877.
- No. 7729. J. B. Armstrong, Guelph, Ont., "Horse Hay Rake," 9th August, 1877.
- No. 7730. G. Jennings, Palace Wharf, Stangate, Lambeth, England, "Sink, Water Closet, and Receptacle for Waste Waters, and Combined Waste Valves and Overflows," 9th August, 1877.
- No. 7731. P. P. E. M. Koch, Antwerp, Belgium, "Improvements on the Preservation of Food, and of Substances Liable to Fermentation and Decay," 9th August, 1877.
- No. 7732. Q. B. Ryerson, New York, U. S. A., "Apparatus for Reducing Cereals into Flour," 9th August, 1877.
- No. 7733. P. McNeil, Kincairdine, Ont., "Revolving Flower Stand and Waterer, &c.," 9th August, 1877.
- No. 7734. J. Abell, Woodbridge, Ont., "Straw Carrier Bracket for Threshing Machines," 9th August, 1877.
- No. 7735. C. H. Waterous, Jr., Brantford, Ont., (Assignee of R. Brayton, D. June, and O. S. French, Tremont, Ohio, U. S. A.), "Spark Arrester," 9th August, 1877.
- No. 7736. J. R. Bower, Shelburne, N. S., "Clothes Washer," 9th August, 1877.
- No. 7737. J. T. Jenson, Oskaloosa, Iowa, U. S. A., "Snow Plow and Railway Track Clearer," 9th August, 1877.
- No. 7738. T. Samuel, Montreal, Que., "Process of Manufacturing Lined Belts," 9th August, 1877.
- No. 7739. K. Vogel, Chelsea, Mass., U. S. A., J. Bartlett, and C. C. Moulton, Boston, Mass., U. S. A., "Automatic Gas Lighter," 9th August, 1877.
- No. 7740. J. E. Baril, Montreal, Que., "Ice House," 9th August, 1877.
- No. 7741. C. H. Amann, Columbus, Ohio, U. S. A., "Stove-pipe Elbow Machine," 9th August, 1877.
- No. 7742. C. T. Brandon, Toronto, Ont., "Broom Handle Painting Machine," 9th August, 1877.
- No. 7743. W. Todd, and S. C. Andrews, Portland, Maine, U. S. A., "Hydrant," 9th August, 1877.
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- No. 7745. C. Harris, Victoria, B. C., "Water-wheel Force Pump," 9th August, 1877.
- No. 7746. J. Arless, Montreal, Que., "Horse Stall," (Extension of Patent No. 6856), 9th August, 1877.
- No. 7747. D. Davis, London, Ont., "Brick Machine," (Extension of Patent No. 1591), 11th August, 1877.
- No. 7748. W. H. Haylock, Jonesville, N. Y., U. S. A., "Sad Iron Heater," 11th August, 1877.
- No. 7749. H. L. Bowker, Boston, Mass., U. S. A., "Syrup, Mineral Water, &c.," 11th August, 1877.
- No. 7750. Rev. A. Dick, Buffalo, N. Y., U. S. A., "Machine for Addressing Newspapers and Other Articles," 11th August, 1877.
- No. 7751. D. Clark, Windsor, Ont., (Assignee of A. Maybee, Mich., U. S. A.), "Road Scraper," 11th August, 1877.
- No. 7752. G. A. Dickson, Shortsville, N. Y., U. S. A., "Hay Elevating Device," 11th August, 1877.
- No. 7753. A. G. Smyth, Hamilton, Ont., and J. Smyth, Brantford, Ont., "Device for Converting Reciprocating into Rotary Motion," 11th August, 1877.
- No. 7754. H. M. Wells, and T. R. Fuller, Toronto, Ont., "Broom Holder," 11th August, 1877.
- No. 7755. W. S. Hobs, London, Ont., "Gate," 11th August, 1877.
- No. 7756. D. B. Kleinert, New York, U. S. A., "Ear Slipper," 11th August, 1877.
- No. 7757. J. Westhick, Bethany, Ont., "Seeding Machine," 11th August, 1877.
- No. 7758. J. D. Oragin, Melrose, Mass., U. S. A., "Improved Food," 11th August, 1877.
- No. 7759. L. Bradley, Buffalo, N. Y., U. S. A., "Process for Preserving Fruits and Vegetables," 11th August, 1877.
- No. 7760. J. Bisset, Jr., and W. H. Knight, Quebec, Que., "Core Barrel," 11th August, 1877.
- No. 7761. A. P. Ladd, St. Lawrence, N. Y., U. S. A., "Thill Couplings," 11th August, 1877.
- No. 7762. A. P. Ladd, St. Lawrence, N. Y., U. S. A., "Washing Machine," 11th August, 1877.
- No. 7763. J. C. Beck, Laporte, Ind., U. S. A., "Refrigerator," 11th August, 1877.
- No. 7764. E. R. Whitney, Magog, Que., "Spike," 11th August, 1877.
- No. 7765. J. Woods, Strathroy, Ont., "Carriage Clip," 11th August, 1877.
- No. 7766. E. Barrett, Coburg, Ont., "Clapboard," 11th August, 1877.
- No. 7767. J. W. Dixon, Wt. Manayunk, Pa., U. S. A., and J. A. Fisher, Dundas, Ont., "Apparatus for Recovering Waste Alkalies," 11th August, 1877.
- No. 7768. G. H. P. Flagg, (Assignee of G. A. Fullerton), Boston, Mass., U. S. A., "Edge Letter Tool Holder," 11th August, 1877.
- No. 7769. S. Weaver, Buchanan, Mich., U. S. A., "Churn Power," 11th August, 1877.
- No. 7770. T. N. Kirkham, Westminster, E. Hulet, High Holborn, S. Chandler, Jr., and J. Chandler, Newington Causeway, all of England, "Apparatus for the Purification of Gas," 11th August, 1877.
- No. 7771. B. Wetherbie, St. Eleanor's, P. E. I., "Harrow," 11th August, 1877.
- No. 7772. W. Skillen, and R. L. Skillen, Parnassus, Pa., U. S. A., "Dough Raising Apparatus," 15th August, 1877.
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- No. 7774. H. K. Flagler, and T. S. Very, Boston, Mass., U. S. A., (Assignees of H. J. Batchelder, Catsangua, Pa., U. S. A.), "Rolls for Making Horse-shoe Blanks," 15th August, 1877.

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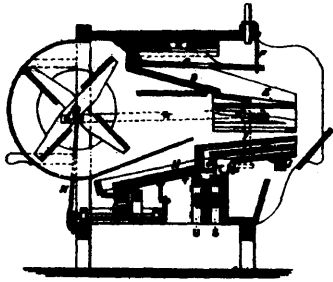
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## ILLUSTRATIONS.

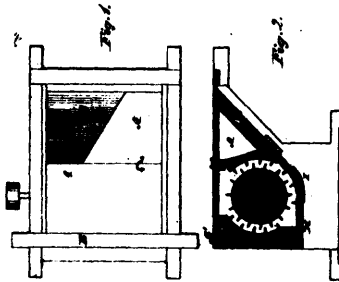
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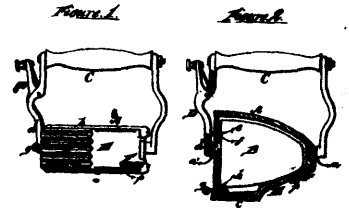
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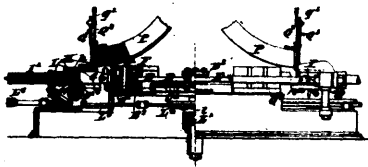
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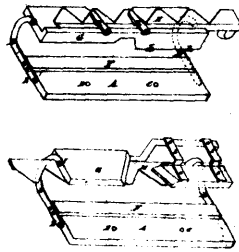
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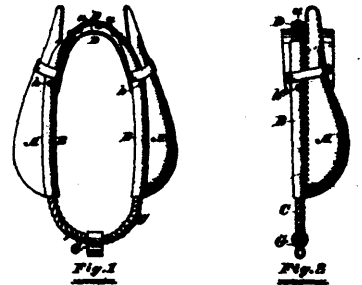
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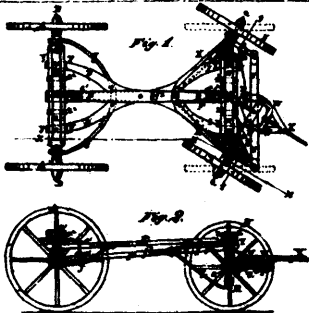
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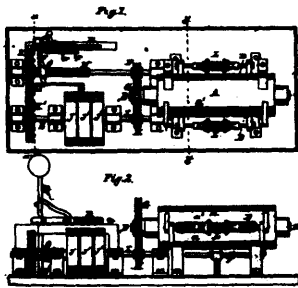
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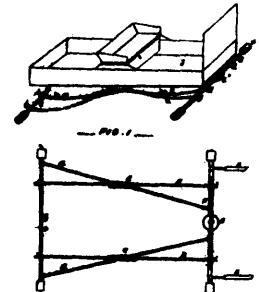
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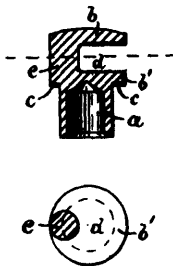
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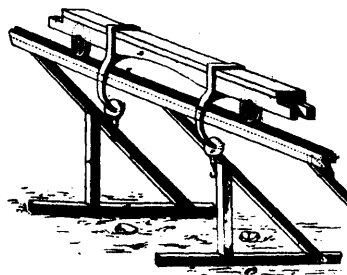
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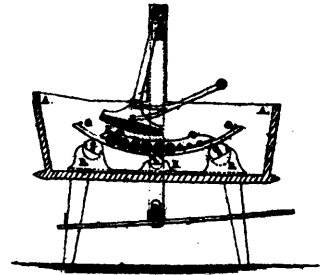
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7559 Howse & Spratt's Improvements on Suspension Rail and Tramways.

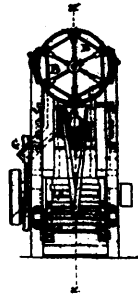


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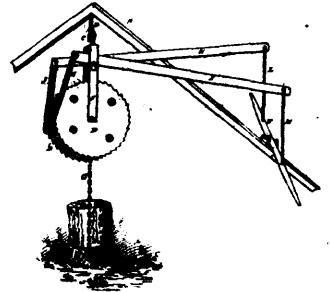




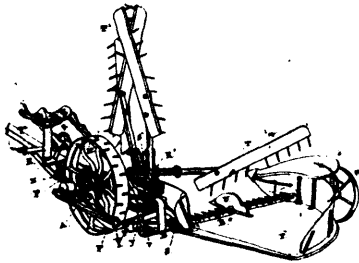
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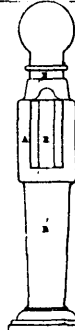
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7563 Michael's Improvements on Stump Extractors.



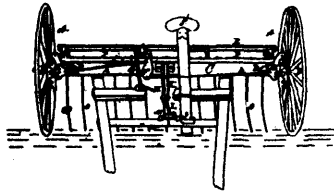
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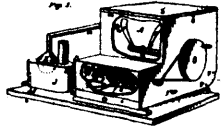
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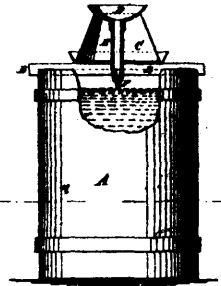
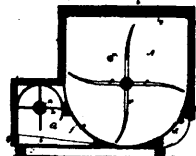
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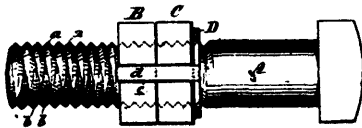
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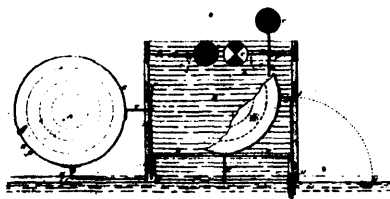
7568 Biggar & Murwin's Improvements on Feather Renovators.



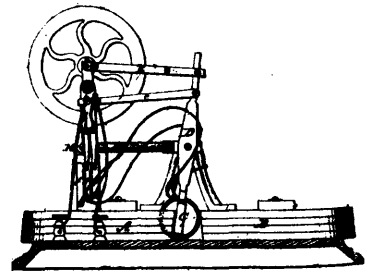
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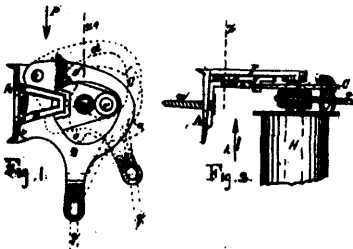
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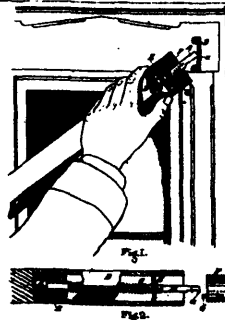
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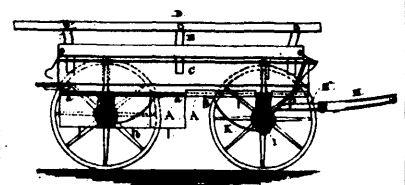
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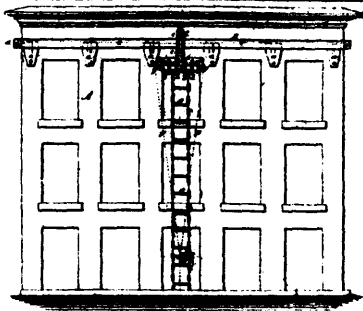
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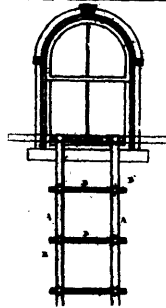
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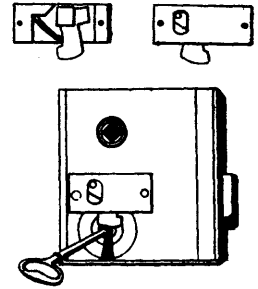
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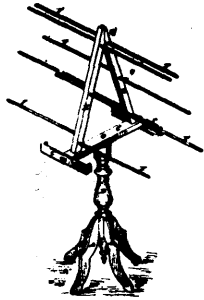
7576 Elbe's Improvements on Fire Escapes.



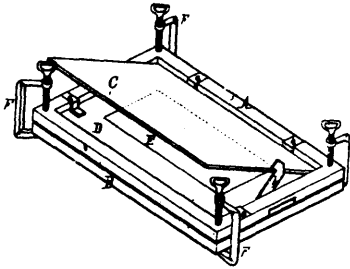
7577 Allen's Improvements in Fire Escape Ladders.



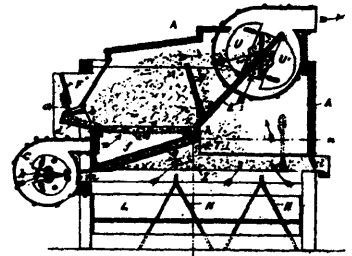
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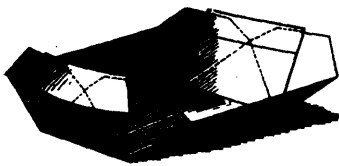
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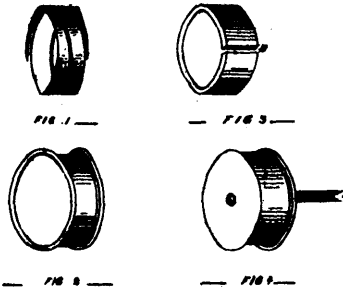
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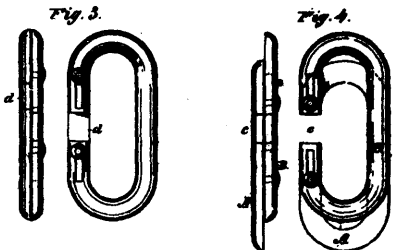
7581 Palmer's Improvements on Middlings Separators.



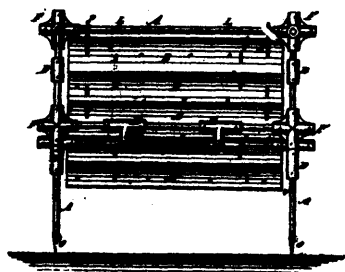
7582 Cone's Combined Lime-Sized Wood and Paper Dish for Butter.



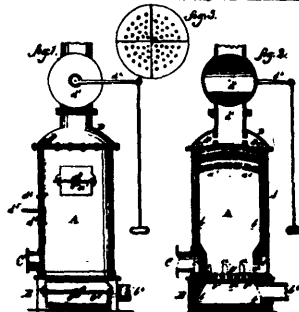
7583 Holland & Kennedy's Metal Coil Piston Packing for Steam Engines.



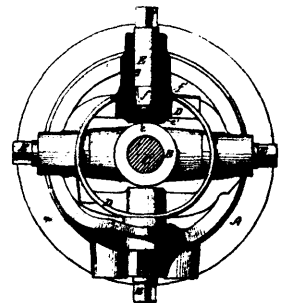
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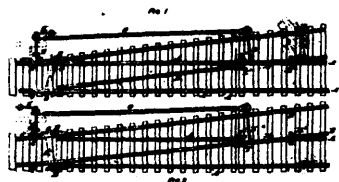
7586 Murray's Fireman's Protecting Apparatus.



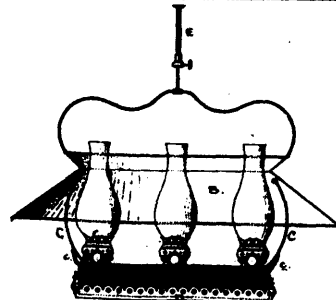
7587 Aubin's Improvements on Generators of Heating Gas.



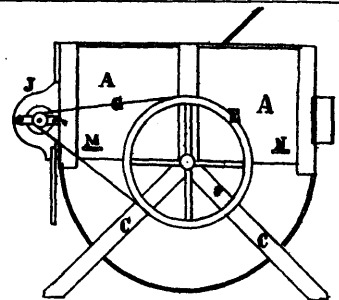
7588 Otis' Oscillating Joint for Machinery.



7589 Williams' Improvements in Railway Crossings and Switches.

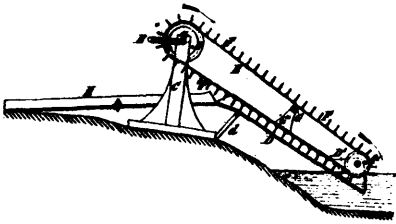


7590 May's Improvements in Coal Oil Lamps.

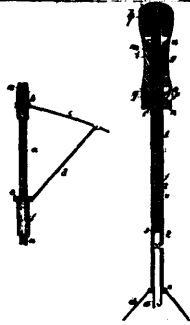


7592 McKellar's Improvement on Feather Renovating Machines.

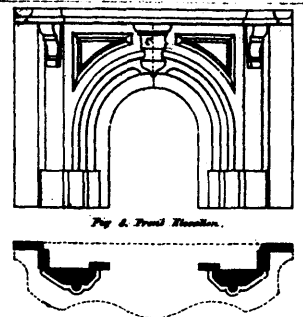




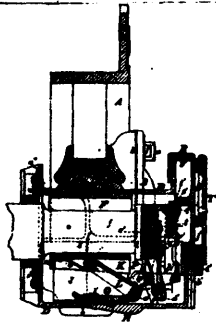
7608 Lescaubau's Improvements on Pumps.



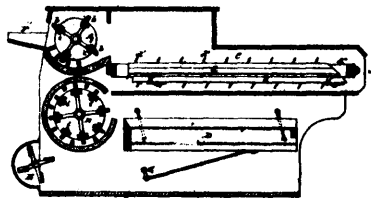
7609 Galbraith & Snow's Improvements on Umbrellas.



7610 Young's Improvements on Mantels



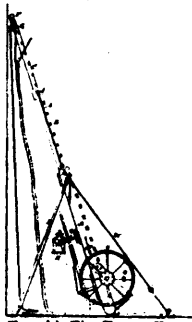
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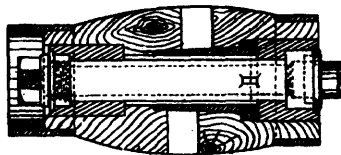
7616 Miller's Improvements on Clover Hullers.



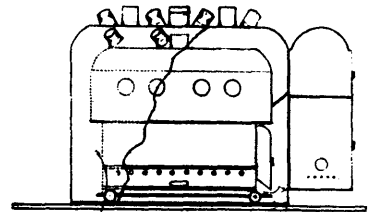
7617 Might & Taylor's Improvements on Fountain Pens.



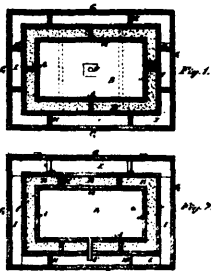
7618 Turner & French's Fire Escape Extension Ladder.



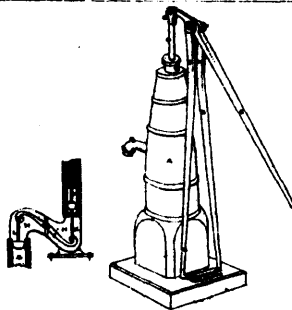
7619 Leverich's Improvements on Elastic Hubs for Vehicles.



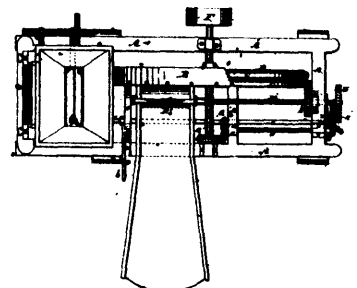
7620 Moreau's Improvements in Stoves.



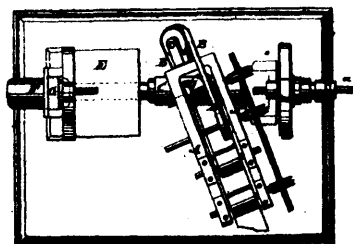
7621 Griffin's Improvements on Fish Packing Cases.



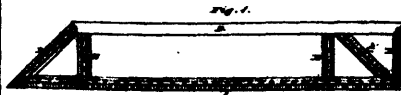
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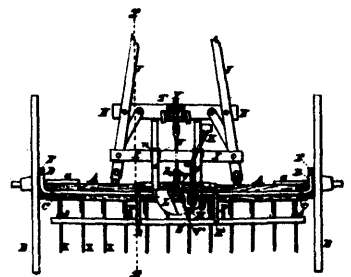
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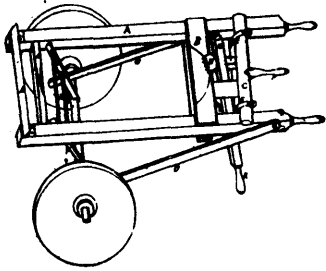
7624 Root's Machine for Manufacturing Metal Pipes and Tubes.



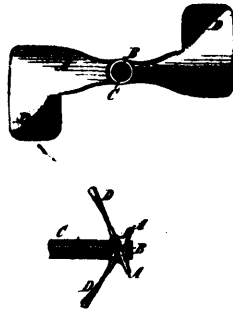
7625 Some & Waite's Improvements on Bias Measures.



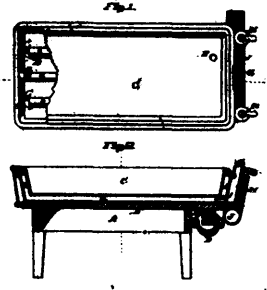
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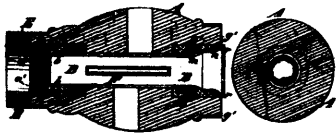
7627 Byron & Jameson's Hand-truck.



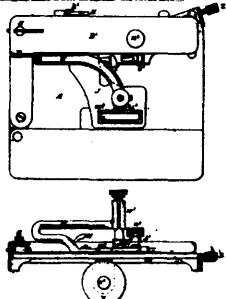
7628 Rodgers & Mckerdike's Screw Propeller.



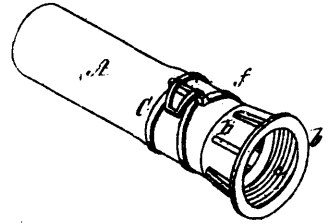
7629 Roach & Dark's Milk Pan.



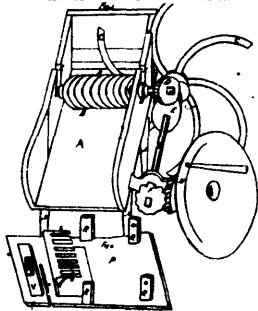
7690 Hayes' Elastic Hub and Axle Box.



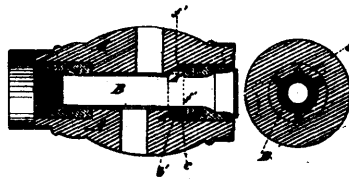
7631 Randel, Clipperly, Cole & Haslehurst's Improvements on Sewing Machines.



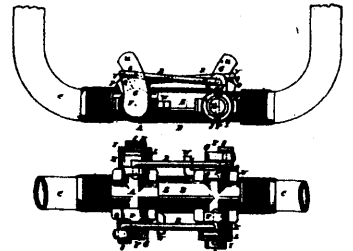
7632 Adam's Improvement on Hose Couplings.



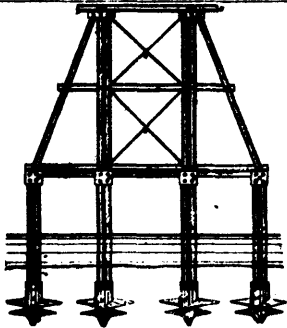
7638 Nicol & Cote's Improvements on Meat Cutters.



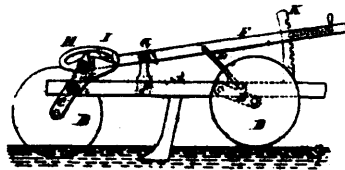
7634 Hayes' Elastic Hub and Axle Box.



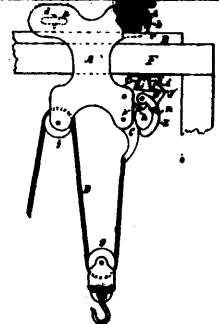
7635 Stevens' Improvements in Couplings for Rail-road Car Air and Vacuum Brakes.



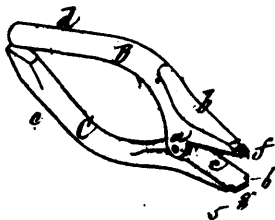
7686 Wasell's Improvements in Bridge Piers.



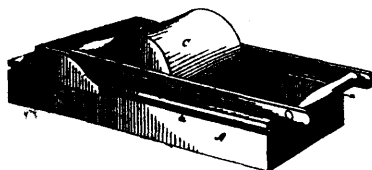
7637 Lade's Improvements on Gang Ploughs.



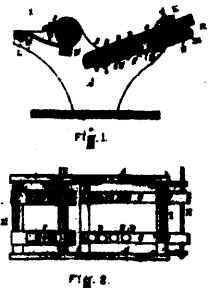
7638 Noyes' Improvements in Hay Carriers.



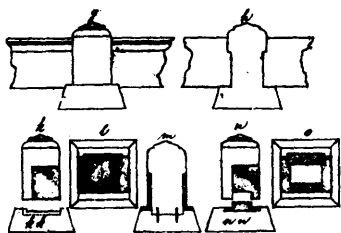
7689 Caldwell's Improvement on Tools for Tightening and Fastening Straps for Securing Hose to Couplings.



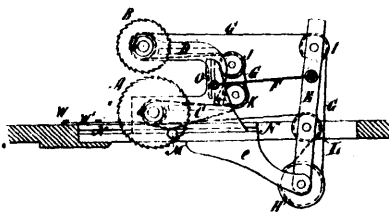
7640 Walker's Machine for Working Butter.



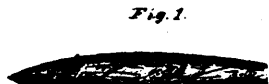
7641 Rico's Inking Apparatus for Printing Presses.



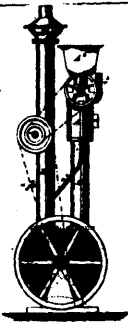
7642 Heard's Improvements in Stone Walling.



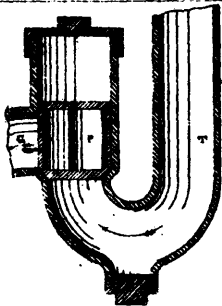
7643 Atkinson's Apparatus for Preparing Timber for Shipment.



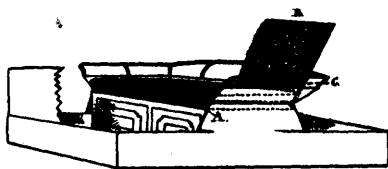
7644 Gelston's Improvements on Cigars.



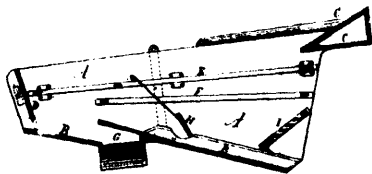
7645 Wertheim's Atmospheric Gas Engine.



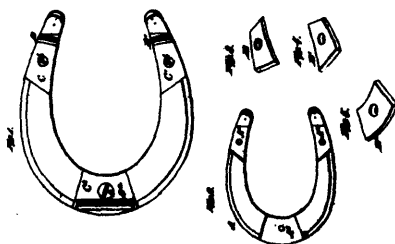
7646 Guerin's Improvements on Sewer Traps.



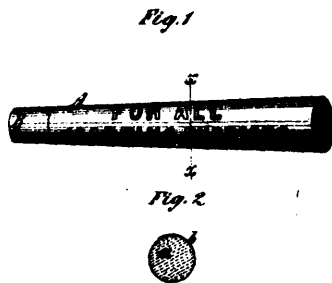
7647 Conboy's Improvements in Seats for Vehicles.



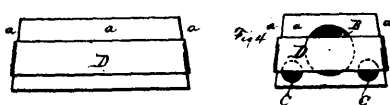
7648 Mowry, Forsyth & McCannoa's Improvement in a Machine for Threshing Grain.



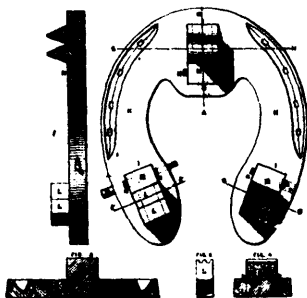
7650 Brightman's Improvements on Horse Shoes.



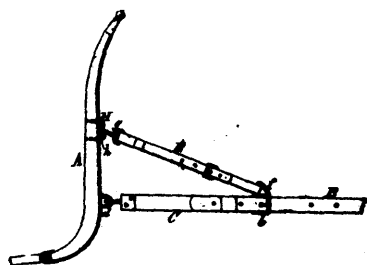
7651 Holton & Field's Improvement on Pencils.



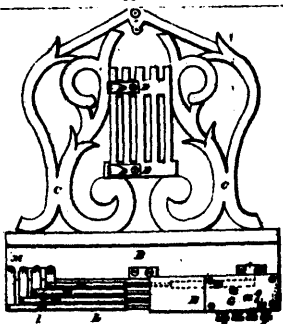
7652 Weed's Improvements on Indelible Ink Apparatus.



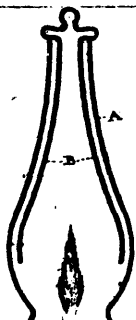
7653 Atkinson's Improvements on Horse Shoes.



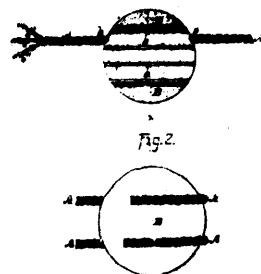
7654 Van Sice's Improvements on Harness.



7655 Clark's Music Leaf Turner.

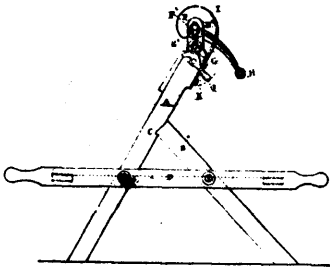


7656 Blackhall's Instrument for Preventing Lamp Chimneys from Breaking.

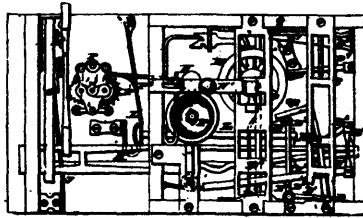


7657 Locke's Improvements on Sealing Devices.

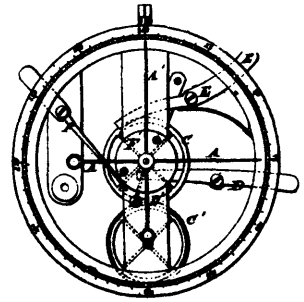




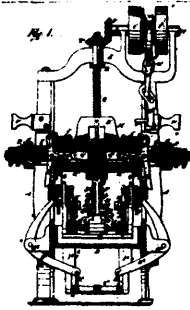
7658 Fox's Improvements in Wringing Machines.



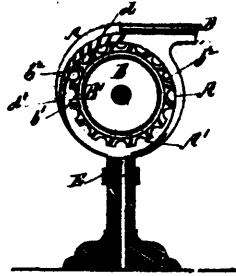
7659 Spencer's Improvements on Time Locks.



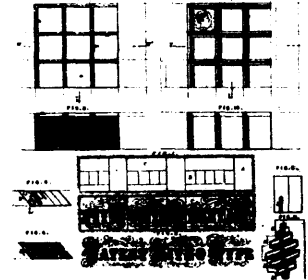
7660 Lugrin's Improvements on Stop Watches.



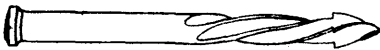
7661 Smith's Leather Crimping Machine.



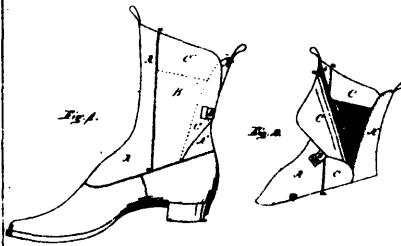
7662 Talley's Improvements in Turbine Water Wheels.



7663 Bartlett & Murray's Improvements on Printing Type.



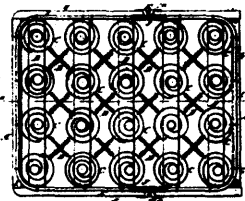
7664 King's Improvements on a Bolt.



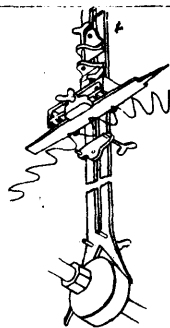
7665 Libby's Improvements on Gaiters.



7666 McDiarmid's Improvement on Ploughs.



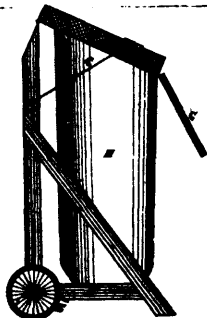
7667 Hatch's Improvements in Bed Bottoms.



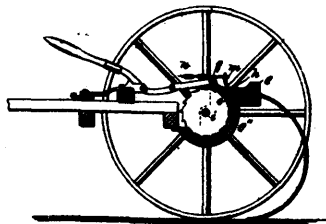
7668 Aitken's Machine for Jointing Circular Saws.



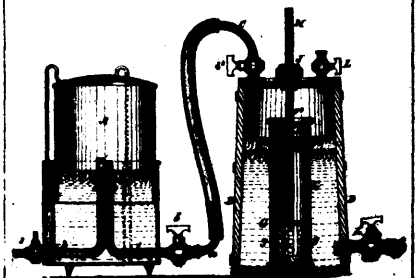
7669 McLean's Compound for Roofs, Floors, Pavements, &c.



7670 Johnson & Rinchart's Bag-belder and Truck.



7671 Wisner's Improvements on Horse Rakes.



7672 Dayton's Apparatus for Aging Liquors.