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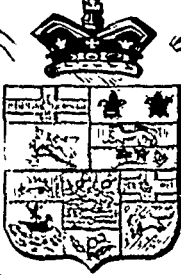
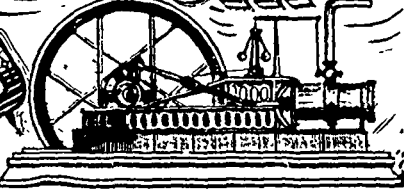
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INVENTIONS PATENTED.

No. 7294. Improvements on Planing Machines. (*Perfectionnements aux machines à raboter.*)

William C. Brookers and Charles H. Barum, Spring Lake, Mich., U. S., 31st March, 1877, for 5 years.

Claim.—The pressure bar A, having the projecting fingers B dovetailed into its under surface.

No. 7295. Improvements on Potato-diggers. (*Perfectionnements aux arrache-potates.*)

John R. Hopper, Rochester, N. Y., U. S., 31st March, 1877, for 5 years.

Claim.—1st. In combination with the shovel blade B, the close carrier belt H and open riddle belt H', the two latter being constructed and arranged to revolve upon axis at right angles or transversely to the travel of the machine; 2nd. In combination with the axes r and n and the pivoted primary and auxiliary frames connected together the governing jaw or yoke k operating conjointly; 3rd. The auxiliary frame A', carrying the shovel blade B and chain belts H and H', when suitably hooked to the rear end of the main frame and having its front end vertically adjustable by means of the hand lever L; 4th. In combination with the carrier wheels W, the track clearers C hinged from the frame A; 5th. In combination with the fixed primary and adjustable auxiliary frames A and A', the swinging draft rods D' attached to the shanks D near the shovel blade B; 6th. In combination with the hanger shanks D of the shovel blade B, the revolving vine cutters e operating conjointly; 7th. The revolving vine reel or reels J, in combination with the shovel blade B and close chain belt H, operating conjointly to assist in the passage of the vines and other material over said blade B and belt H; 8th. The tubular shaft g constituting an oil reservoir in combination with the hollow journal arm e fixed to the shank D. 9th. In combination with the elements enumerated in the foregoing clause, the vertical oil tube t, which also acts as a key to secure the journal in position independently of the nut u.

No. 7296. Improvements on Life-boats. (*Perfectionnements aux bateaux de sauvetage.*)

John H. Hatton, Fort Covington, N. Y., U. S., 31st March, 1877, for 5 years.

Claim.—In combination with the hull of a boat, the false or supplementary keel supported longitudinally under the bottom or true keel, by means of adjustable rods or slides, secured at either end to the supplementary keel and adapted to slide in guides attached to, or formed on, the prow and stern of the boat.

No. 7297. Improvement in Baby Cradles. (*Perfectionnement dans les berceaux.*)

Abner Woodward, Shelburne Falls, Mass., U. S., 31st March, 1877, for 5 years.

Claim.—The combination of the portable body A made of any elastic material and elliptical form, suspended, by means of suitable rings and spring hooks F E, to the hinged extremities M M of the bent supports F F', to the bottom of which are attached wheels in such a manner that, by raising one of these extremities, by means of a strap or handle, the weight of the cradle is thrown upon the wheels for the greater convenience of moving it from place to place.

No. 7298. Improvements on Steam Engines. (*Perfectionnements aux machines à vapeur.*)

James Storer and John Rear, Uxbridge, Ont., 31st March, 1877, for 5 years.

Claim.—1st. The combination of the cylinder a shell c having valve g and wedges l. 2nd. The combination of cylinder a shells c having valves g and openings k, wedges l h having connection m.

No. 7299. Improvements on Refrigerators. (*Perfectionnements aux réfrigérateurs.*)

William W. Wickes, (Assignee of John J. Bate), Brooklyn, N. Y., U. S., 5th April, 1877, (re-issue of Patent No. 4255), for 3 years 2 months and 21 days.

Claim.—1st. The combination within a closed car chamber or house, &c., of an ice box or chamber, mechanical means for inducing an air blast or current through the ice inlet openings connected with the ice box and arranged in different parts of the chamber, so that the air in the chamber after passing through the ice box will be distributed and drawn to all portions of the room, to be returned again through the ice box. 2nd. The combination within a closed car chamber or house, &c. of an ice box or chamber, mechanical means for inducing an air blast or current through the ice inlet openings connected with the ice box and arranged in different parts of the chamber, outlet openings also connected with the ice box and arranged in different parts of the chamber opposite to the inlet openings, so that the air in the chamber, after passing through the ice box, will be distributed to all portions of the room. 3rd. In combination with a closed refrigerating chamber, an ice box open above and below and provided with an inlet conduit tube pipe for drawing the air to be cooled from a point or points in the cooling chamber at a distance from the ice box. 4th. The combination within a closed car chamber or house, &c., of an ice box or chamber mechanical means for inducing an air blast or current through the ice outlet openings connected with the ice box and arranged in different parts of the chamber so that the air in the chamber, after passing through the ice box, will be distributed and drawn to all portions of the room to be returned again through the ice box. 5th. The combination within a closed chamber, of the ice box and fan blower or other draught producing apparatus, the ice box being provided with an inlet pipe and outlet opening or with an inlet opening and an outlet pipe as may be preferred.

No. 7300. Improvements on Twine Waxing Machines. (*Perfectionnements aux machines à cirer le fil.*)

Raymond and William C. Blakeston, Quebec, Que., 5th April, 1877, for 5 years.

Claim.—1st. The combination of the wax box A (higher at one end than at the other), the grating C arranged at an angle and provided with elastic wingers D and a warm water vessel B. 2nd. The combination of the wax box A, inclined guide F, grating C provided with elastic wingers D and a warm water vessel B.

No. 7301. Improvements on Hand Stamps for Ornamental Designs or Letters. (*Perfectionnements aux estampes à main pour dessins et lettres d'ornement.*)

Hugh Silver, Lauvéay, Ont., 5th April 1877, for 5 years.

Claim.—1st. A hand stamp the surface A of which is curvilinear and having a stereotype design B of any flexible composition, cemented thereto and provided with a suitable handle for giving it a rocking motion. 2nd. A hand stamp constructed with a curved face A and bearing blocks C, corresponding in height to any stereotype design cemented thereto, and having on the back transverse slats D and a longitudinal handle E secured thereto. 3rd. A hand stamp constructed of plates F F' separated by blocks I and provided with an opening G, forming a handle H and clamp J, and having a curvilinear edge and grooved plates K engaging therewith, with stereotyped letters of any flexible composition cemented thereon, whereby lettered plates can be interchangeably adjusted and held firmly in position.

No. 7302. Improvements on Gas Regulators. (*Perfectionnements aux régulateurs à gaz.*)

George Taylor, New-York, U. S., 5th April, 1877, for 5 years.

Claim.—1st. In combination with the flexible diaphragm G and valve seat C the valve and balance cup D to receive the necessary amount of loading. 2nd. The double diaphragm G composed of one layer of leather and one layer of parchment paper, and arranged in relation to the stem P and valve and balance cup D. 3rd. The combination, in a gas regulator, of the flexible diaphragm G, stem P, valve seat C, bar H, guide pin I and valve and balance cup D.

No. 7303. Improvements on a Door Securer.*(Perfectionnements à une fermeture de porte.)*

William Ascoueb, Fort Erie, Ont., (Assignee of George M. Lindsay), 5th April, 1877, for 5 years.

Claim.—1st. The combination with the spring bow D having its jaw D, provided with the gatters *du*, intersecting each other at right angles of the spindle L, pivoted within the jaw D and having the trunnions *d* centrally, and a very coarse and tapering screw thread on its extremity, and the two part nut C secured to the door A and jamb B; 2nd. The combined portable door fastener and watch key constructed and arranged to operate in the manner described.

No. 7304. Machine for Washing Clothes.*(Machine à laver le linge.)*

Joseph W. L. Darby, Yarmouth, N. S., 5th April, 1877, for 5 years.

Claim.—The combination of the funnel A, vertical cylinder B and strengthening plate C.

No. 7305. Improvements in Roller Skates.*(Perfectionnements aux patins à roulettes.)*

Cyrus W. Saladee, Washington, D. C., U. S., 5th April, 1877, for 5 years.

Claim.—1st. A parlor skate supported by rollers at the front and rear, having caster-like attachments and movements; 2nd. A parlor skate supported at each end by a roller or rollers, capable of a limited caster movement round a pivot in front of the axle and retracted by a spring; 3rd. A parlor skate in which the front stock supported by front and rear roller frames has its bearings at each end, upon a roller frame, in front of the roller axle; 4th. A roller skate in which the stock has its bearings upon the roller frames and one of the latter bears upon and counter balances the other; 5th. The combination in a parlor skate of roller frames and axles to support a single roller at the centre, or two rollers on opposite sides of the centre; 6th. The roller frame adapted to carry one or more rollers; 7th. A roller skate supported by two rollers each of sufficient width to maintain the skate in an upright position; 8th. The spring *h*; 9th. A roller skate provided with vitreous rollers; 10th. A vitreous roller adapted to roller skates; 11th. The combination in a skate of horizontally swivelling rollers and a foot piece having an independent tilting movement above said rollers; 12th. The combination of the tilting foot piece pivoted to the roller supports, the elastic material N and screws S S.

No. 7306. Machine for Cutting the Notches on the Beam of Weighing Scales.*(Machine à encocher le fléau des balances.)*

Hugh Hennessey, Hamilton, Ont., 5th April, 1877, for 5 years.

Claim.—1st. The circular revolving notcher B, working on the spindle of the lathe, in connection with the movable holder A; 2nd. The tightening screws L, in connection with the dogs d and the adjusting screws F upon the holder A; 3rd. The holder A secured to the lathe rest by nuts and bolts or equivalents, the whole forming a separate attachment to the ordinary lathe.

No. 7307. Improvements on Medical Compositions.*(Perfectionnements aux composés médicinaux.)*

Ellen Kohrer, Monmouth, Oregon, U. S., 5th April, 1877, for 5 years.

Claim.—The medical composition composed of consumption root (Jacob's Ladder or Polonium Reptans) and mountain balm (Friedycton Californicum or Wigandia).

No. 7308. Combined Horse Hoe and Seed Drill.*(Houe à cheval et traceur à grain combinés.)*

William H. Rowe, Port Perry, Ont., 5th April, 1877, for 5 years.

Claim.—The rectangular frame A mounted on wheels B B, journaled on a crank shaft having a quadrant C operated by a lever D and connecting rods G, said frame A having handles e, ploughs F E, secured thereto opposite to each other, the land side outwardly and carrying a drill opener I and seed box K having a spout J and seed distributing wheel L, driven by pulley M and belt N, and adjustable and detachable frames F F carrying rollers G H, the latter provided with belt pulley O for operating the said wheel L.

No. 7309. Improvements on Fountain Lamps.*(Perfectionnements aux lampes-fontaines.)*

William A. Butler, New York, U. S., 5th April, 1877, for 5 years.

Claim.—1st. The combination with the oil chamber L, having valvular openings e and L in its top and bottom, of the valves f and m connected by a valve stem and a spring t to close the upper and open the lower valve; 2nd. The auxiliary draft passage through the supporting arm C; 3rd. The combination with the wick feeder or tubular screw c, and the wick carrier w of the rod or bar d extending downward through the inner tube v of the burner for turning said wick feeder c; 4th. In an argand burner, the tubes 1 and s made with an opening or openings, between their upper ends, to allow oil to run into the burner through the annular space between said tubes when the wick is raised.

No. 7310. Improvements on Carburettors.*(Perfectionnements aux carbureteurs.)*

Cornelius Godfrey, Huntington, N. Y., U. S., 5th April, 1877, for 5 years.

Claim.—1st. A carburetor provided with a float E in the interior thereof that rises and falls as the supply of oil or fluid is increased or diminished, for the purpose of maintaining an equitable proportion of air and vapour in the mixing chamber; 2nd. A carburetor provided with a float E that rises and falls, as the supply of oil or fluid is increased or diminished, and supplied with compressed air by means of an impelled current forced thereto, through the medium of connecting pipes, from some suitable air forcing apparatus; 3rd. The combination, in a carburetor provided with suitable material or appliances for vaporizing the fluid, of a float E and one or more revolving arms K; 4th. The cylinder B and cover C, both of felt or other fibrous material; 5th. In combination with the cover C of felt or other

shullar fibrous material, the wicks or syphons D of fibrous material; 6th. The tube L, closed at its upper end, and the tube H combined and arranged with each other and with the float E; 7th. The tube I, when provided with a perforation b at its upper end, and combined and arranged with the tube H and float E.

No. 7311. Improvements on Paddle-wheels.*(Perfectionnements aux roues à aubes.)*

William C. Thompson, Tipton, Tenn., U. S., 5th April, 1877, for 5 years.

Claim.—1st. A paddle wheel provided with pivoted paddles which extend across the wheel and are reversible by the action of gravity; 2nd. The combination of disks C C with paddles, pivoted directly thereto, and stop rod D.

No. 7312. Process of Preparing Coffee.*(Procédé de préparation du café.)*

Richard Goundry, London, Eng., 9th April, 1877, for 5 years.

Claim.—1st. Crushing or pulverizing freshly roasted berries and compressing the same with or without the addition of chicory, in moulds; 2nd. A package or tablet of coffee with or without the addition of chicory, solidified by compression; 3rd. A package of pulverized or crushed coffee, with or without admixture with chicory, solidified by compression having indentations or grooves A; 4th. A moulded package of coffee having a tinfoil wrapping.

No. 7313. Sleigh Brake and Dog Combined.*(Ensemble en carayure de traîneau.)*

John Powell, Asphodel, Ont., 9th April, 1877, for 10 years.

Claim.—The combination of the drag and dog C C, the lever D D and catch B B.

No. 7314. Improvements on Roofing Compositions.*(Perfectionnements aux composés à toiture.)*

Carleton B. Hutelms, Ann Arbor, Mich., U. S., 9th April, 1877, for 5 years.

Claim.—A roofing composition composed of melted resin or tar or the oil of rosin or oil of tar, or paraffine oil, cattles hair or tow, wheat bran coarse middlings, fine middlings and ground stone or mineral paint, the whole mixed in the proportions set forth.

No. 7315. Improvements on Mortising Machines.*(Perfectionnements aux machines à mortiser.)*

Henry Carter and Daniel Stewart, Aylmer, Ont., 9th April, 1877, for 5 years.

Claim.—1st. The gate C having vertical motion, and a frame F having horizontal movement, both operating a rotary bit holder J reciprocally whereby the bit is caused to bore vertically and cut horizontally, alternately with its penetration for cutting a mortise; 2nd. In combination with a bit holder in a frame F moving horizontally, a gate C connected to a tilting frame D operated by rod connection m with a ratchet bar L, past a and a rock shaft p provided with adjustable culpers a, whereby the gate is dropped step by step intermittently with the horizontal movement of the frame F; 3rd. In combination with a gate C having an intermittent motion vertically, a frame F carrying a rotary bit holder J having reciprocal motion horizontally operated by a rock shaft p, pinion q, and rack bars s, whereby the frame is moved horizontally at each intermittent motion of the gate; 4th. In combination with the frame F having horizontal motion, the gate C having vertical motion, the hollow shaft G provided with bell drum H and enclosing a bit holder J having sliding motion thereon by means of the slot g and projection h.

No. 7316. Improvements on Gas Retorts.*(Perfectionnements aux cornues à gaz.)*

James Burns, London, Ont., 9th April, 1877, for 5 years.

Claim.—1st. The tubular retort B to receive the generated gas, in combination with retort A; 2nd. The oil retort C, in combination with retort A and communicating therewith.

No. 7317. Improvements on a Steam Cooking Apparatus.*(Perfectionnements à un appareil de cuisson à vapeur.)*

Charles R. Gilbert and Frank E. Brown, Canaseraga, N. Y., U. S., 2th April, 1877, for 5 years.

Claim.—1st. The combination with the vessel A of a series of cooking vessels L, placed one above the other by means of the tapering bottoms I and each provided with a central conducting tube G having apertures H; 2nd. The combination with the vessel L, of the central conducting tube G having the coupling I and socket N.

No. 7318. Improvements on Tape-line Measures.*(Perfectionnements aux rubans-mesures.)*

William J. May, Chicago, Ill., and Le Roi B. Wadleigh, Lyons, Iowa U. S., 9th April, 1877, for 5 years.

Claim.—A series of columns to indicate aggregate quantities, obtained by successive measurements, and having figures to indicate the lengths to which each column is intended to be applied, marked on the shell opposite to the perpendicular.

No. 7319. Improvements in Fences.*(Perfectionnements dans les clôtures.)*

James Burt, Erin, Ont., 9th April, 1877, for 5 years.

Claim.—The pickets A and rails B and C, or their equivalent joined to the checked posts D, in combination with the picket fastener E and staple F.

No. 7320. Brush Handle Attachment.

(*Ajustage des poignées de brosses.*)

John Waddell, Elora, Ont., 9th April, 1877, for 5 years.

Claim—The combination of the two tapering diagonal dovetail tenons *a*, of the brush handle *A*, with the two tapering diagonal dovetail slots *b b*, of the brush back *B*, to produce a tapering diagonal dovetail attachment for brush handles.

No. 7321. Improvements on Safety Valves.

(*Perfectionnements aux soupaps de sûreté.*)

Frank B. Scovell, Waterford, Ont., 9th April, 1877, for 5 years.

Claim—1st. The cylinder *B*, piston *E*, having hollow stem *F*, valve *G*, parts *H I* valve *J*, spiral spring *L*, and steam pipe *R*; 2nd. The screw plug *M* regulating the tension of the spiral spring *L*; 3rd. The screw plug *O* for regulating the lift of the safety valve *G*, and holding it thereon; 4th. The screw shaft *P* for giving access to the plug *M*; 5th. The cylinder *B*, piston *E*, having hollow stem *F* and valve *G*, and connected by steam pipe *R* to a cylinder *S* having valve *J* and spiral spring *L*, and connected to a boiler by pipe *T* provided with three way-cock *C*.

No. 7322. Improvements on Lenses.

(*Perfectionnements aux lentilles.*)

Charles F. Houghton, Corning, N. Y., U. S., 11th April, 1877, for 15 years.

Claim—A semaphore lens of meniscus form having one surface, a portion of sphere or spheroid, and the other composed of zones of a parabolic or hyperbolic form with two surfaces, one adapted to project a portion of the rays to a long distance, and another at the same time by dispersing another portion of the rays to illuminate a field near the lens.

No. 7323. Improvements on Paper Packages.

(*Perfectionnements aux enveloppes en papier.*)

William H. Murphy, Syracuse, N. Y., U. S., 11th April, 1877 for 5 years

Claim—1st. An improved head for paper packages constructed of the pieces *A A* with the shoulder *a* thereon the chime pieces *C C* so arranged as to break joints with the pieces *A A* and the head piece *B*; 2nd. The combination of the pieces *A A*, shoulder *a*, chime pieces *C C*, and head piece *B*.

No. 7324. Improvements on Water Meters.

(*Perfectionnements aux hydromètres.*)

William Smith, San Francisco, Cal., U. S., 11th April, 1877, for 5 years.

Claim—1st. A series of flexible and collapsing pistons arranged in a circle within a partitioned enclosing case having an exhaust and a pressure side, and having cylinders of different diameters within it, after the manner shown, so that the pressure of the fluid in passing through the inlet and outlet passages provided in the case, will at the same time force the pistons through one cylinder and draw them through the other and thus give motion to the ring and its motion wheel; 2nd. A series of expanding and collapsing pistons *c c d d* of different diameters, arranged in pairs and united together by the segments *C C*, when the same are combined with cylinders *D D* of different diameters; 3rd. The segmental cylinders *D D*, one of the larger diameter than the other, when arranged within the case and combined with the piston ring; 4th. The combination with the piston ring *C*, of the motion wheel *B*, when constructed and arranged with it and with the enclosing case *A*; 5th. The circular case *A* with its channel and partition *a*, divided into pressure and exhaust chambers with inlet and outlet passages *E E* and a heating at for the axis of the motion wheel *B*; 6th. The combination with the case *A*, above named, of the two cylinders *D D* of different diameters connecting the exhaust with the pressure side of the case; 7th. The segmental cylinders *D D*, constructed in two parts and having the same length as the distance between any two of the pistons *c c or d d*.

No. 7325. Improvements on Pruning Shears.

(*Perfectionnements aux sécateurs.*)

Jefferson Chase, Orange Mass., U. S., 11th April, 1877, for 5 years.

Claim—1st. Pruning shears composed of the blades *A B* the former being formed with the notch or recess *D*, and the latter terminating in the hooked jaw *E* to operate with said recess; 2nd. Converting the end of the blade *A* into a chisel; 3rd. Pruning shears composed of the blade *A*, terminating in a chisel *a* and provided with the peculiarly formed recess *D*, and the blade *B* terminating in the curved jaw *E*; 4th. The auxiliary sleeve or tubular joint *b*, in combination with the rivet *C* and blades *A B*.

No. 7326. Pocket Match Safe, Tobacco Cutter and Case Combined.

(*Boite à allumettes et boîte coupe-tabac de poche, combinés.*)

Charles F. Harlow, Boston Mass., U. S., 11th April, 1877, for 5 years.

Claim—1st. A portable tobacco cutter and case combined and arranged to cut and retain the tobacco; 2nd. A combined pocket match safe, tobacco cutter and case, constructed, arranged and operated as described; 3rd. The case *A* constructed with an aperture *a* and shearing edge *c*, in combination with slide *B* with its cutting blade *f* and actuating spring *h*, arranged to operate together as specified.

No. 7327. Improvements on Gang-ploughs.

(*Perfectionnements aux charrues à socs multiples.*)

Thomas Hind, Glencoe, and David Darvill, London, Ont., 11th April, 1877, for 5 years.

Claim—1st. The combination of lever *E* with lever *F* and lever *J*; 2nd. The combination with lever *J* of axle *I* and connecting rod *G*, and lock *K*.

No. 7328. Railway Car-coupler.

(*Attelage de wagons de railroads.*)

William H. Fairb, Waterville N. S., 11th April, 1877 for 5 years

Claim—1st. The combination of the slides *B B* with the elevations *H H* guiding the same and supporting the pin *2*; 2nd. The combination of the link *C* with the corresponding opening *1* in draw bar.

No. 7329. Washing Machine.(*Machine à laver.*)

Philibert Anger, Roxton Falls, Que., 11th April, 1877, for 5 years.

Résumé—1o. L'action combinée des rouleaux frotteurs montés et bossés *H* sur les demi-rouleaux fixes frotteurs *R*, 2o. La rainure *C* qui sert à élever verticalement les rouleaux *H* au dessus des demi-rouleaux *R*, de manière à favoriser l'introduction du linge dans la lavante.

No. 7330. Milk Pan and Cooler.

(*Boîte-réfrigérant à lait.*)

William Cooley, Waterbury, Vt., U. S., 11th April, 1877, for 5 years.

Claim—1st. The process of treating milk for raising cream by sealing with water and air the cover applied directly to the vessel containing the milk; 2nd. The process of treating milk for the raising of cream by totally submerging in water the closed vessel containing it; 3rd. The process of separating the cream after it has been raised from the milk from which it was caused, by gradually and automatically withdrawing such milk from the bottom of the vessel leaving the body of the cream therein; 4th. The combination, in an apparatus for setting milk for cream of a vessel holding the milk, a cover adapted for water sealing the same and a fastening device serving to hold the cover to the vessel; 5th. In combination with the vessel for milk and with the water sealing cover and fastening device, a water vessel adapted to contain the milk vessel and to permit it to be water sealed or submerged therein; 6th. In combination with a can or vessel for raising cream, a flexible tube applied at the bottom of the can and adjustable at its extent to the desired height and adapted for discharging the milk from the vessel leaving the cream remaining therein.

No. 7331. Improvements on Baling Presses.

(*Perfectionnements aux presses d'emballage.*)

Gilbert Brewster, Harvey, N. B., 11th April, 1877, for 5 years.

Claim—1st. The combination of the ratchet bar *P*, lever *M* having pawl *N* post *R* having pawl *S*, and levers *Q* connected to lever *M* by rods *O* with a baling press for operating the follower *J*; 2nd. The rods *T* attached to the lever *M* and connecting with the ratchet bar *P* to swing the latter on withdrawal from the packing box *A*; 3rd. The arrangement and combination of the windlass *Z*, lever *W* and ropes *V* and *X*, for operating the lever *M*.

No. 7332. Improvements on Atmospheric Motors.

(*Perfectionnements aux moteurs atmosphériques.*)

Regis Mayer, Joseph Mayer and Jean Mayer, Seeley's Bay, Ont., 11th April, 1877, for 5 years.

Claim—1st. The combination of the cone *F* and the ring *G*, for the purpose of dividing the current of air and of causing it to impinge on the sails and paddles of the vane *D* with the vane *D* and the draft pipe *A*; 2nd. The combination of the cone *F*, ring *G*, vane *D* and its shaft *E*, the pulley *H* with the draft pipe *A*, air pipe *B*, and the damper or valve *C*, to produce an atmospheric motor.

No. 7333. Improvements in Gates.

(*Perfectionnements dans les barrières.*)

Theodore F. Timby, Alma, Mich., U. S., 11th April, 1877, for 5 years.

Claim—1st. A pivotal bolt or stud *C*, at or near the center of the gate in combination with an elevated suspending pivot *E*, in line with the hinges or nearly so, and connecting media *B L* for balancing the weight of the gate on its vertical support; 2nd. The combination of a suspending pivot *E* in line with the hinges or nearly so, a connecting bar or link *B*, a lever *L*, fulcrumed at or near the center of the gate, and a rack *R* at the free end of the gate for raising and lowering said gate; 3rd. The combination of a ribbing strip or flange *R*, at the hinge end of the gate, with a lever *L*, fulcrumed at or near the center of the gate, and a vertical rack *R* at the free end of the gate; 4th. A notched sill or sills *S S'* and a rack *R*, having a reversed notch or shoulder *u* at its lower end in combination with the adjustable gate and its elevating lever for supporting and locking the gate in a lowered position; 5th. A false post *P*, having the gate proper attached thereto by sliding hinges, and provided with an elevated suspending pivot in combination with said gate and its adjusting device.

No. 7334. Improvements on Freezers.

(*Perfectionnements aux congélateurs.*)

Charles Boss, Bathurst, N. B., 11th April, 1877, for 5 years.

Claim—1st. The oval division *E* having hollow walls and surmounted by an ice trough *D* within the walls *A*; 2nd. The hollow partitions *B* surmounted by ice troughs *D* and arranged vertically; 3rd. The arrangement of the oval division *E*, partitions *B* and connected ice troughs *D* bearing on sleepers within the walls *A* provided with suitable doors.

No. 7335. Improvements in Buggies.

(*Perfectionnements dans les voitures.*)

John McBride, Strathroy, Ont., 11th April, 1877, for 5 years.

Claim—The arrangement of the iron bar *B B* placed over the spring bar of the elliptic spring in one continued piece or in two separate pieces, and passing through sockets at *C* in which the bar turns, the bar having eyes at each extremity for attachment to body loop *A*, and the combination thereof.

No. 7336. Improvements in Driving Reins.

(*Perfectionnements dans les guides de harnais.*)

Joseph Staples, Bexley, John M. Might and Charles W. H. Taylor, Toronto, Ont., 11th April, 1877, for 5 years.

Claim—1st. In combination with a lever driving bit an elastic strap and a non-elastic strap arranged in connection with the driving rein in such manner that either a rip may be used for controlling the horse as circumstances may require; 2nd. In combination with the lever bit *A* provided with the staples *A A'* and rings *G H* the spring strap *E*, lever strap *F*, ring *D* and driving rein *C*.

No. 7337. Screw Cutting Tap and Die.*(Taraud et taraud-mère.)*

Samuel W. Martin, Springfield, Ohio, U. S., 11th April, 1877, for 5 years.

Claim.—1st. A stock or mandrel A with the screw cutting jaws C pivoted eccentrically therein; 2nd. In combination with the stock A and the pivoted jaws C, the loose sleeve B; 3rd. In combination with the pivoted jaws C, the supporting pins O or their equivalent; 4th. In combination with the stock A and the pivoted jaws C, the cap or end piece I; 5th. The pivoted screw cutting jaws C having the detachable cutting or boring lip e constructed and applied thereto; 6th. In a screw cutting tap, one or more screw cutting jaws pivoted so as to swing laterally on its bearings or pivots; 7th. In a screw cutting die, the combination of an annular case or ring B, a series of dies or bits C, pivoted eccentrically therein, and a stock or head A constructed and arranged to engage with and operate said dies; 8th. The combination of the stock or head A having the internal recesses at, the annular case or ring B arranged to rotate within the stock A, and the dies C pivoted in said case and entering the recesses; 9th. In combination with the stock A having the internal recesses at, the ring or case B mounted therein and provided with the pivoted dies C, and with the shoulders d and e to sustain the same when in action; 10th. The reversible pivoted dies C, provided with threads on both ends; 11th. A screw cutting tool provided with dies reversible end for end, said dies having right hand threads on teeth on one end, and left hand threads or teeth on the other; 12th. In combination with the stock or head A provided with recesses at, the ring B, provided with external studs e and internal recesses at, whereby the stock is enabled to hold the cases of different sizes; 13th. In combination with the annular case or ring B and the dies C pivoted therein, the internal sliding guard plate or shield G mounted therein; 14th. The pivoted dies C, each consisting of a plain flat of steel provided with teeth on one or both ends, and with a hole or recess to receive the pivots.

No. 7338. Process of Making Steel.*(Procédé de fabrication de l'acier.)*

Stephen Barker, Charles Clarke, Knoxville, Tenn., and Joel P. Harger, Pontiac, Mich., U. S., 11th April, 1877, for 5 years.

Claim.—1st. The process for producing puddle steel from pig iron, by melting cold blast pig iron, of the grades named, with magnesia oxide of iron, and then introducing a compound of manganese, alkali salts and lime salts; 2nd. The process for refining and finishing puddle steel, by reducing it to billets and melting in a crucible with manganese oxide, common salt and oyster shells.

No. 7339. Improvements on Paper Packages.*(Perfectionnements aux sacs en papier.)*

William H. Murphy, Syracuse, N. Y., U. S., 11th April, 1877, for 5 years.

Claim.—The combination of the piece A having the lips a a and the raised portion b, the strip B, and the paper c.

No. 7340. Method and Apparatus for Making Paper Barrels.*(Mode et appareil de fabrication des barils en papier.)*

William H. Murphy, Syracuse, N. Y., U. S., 11th April, 1877, for 5 years.

Claim.—1st. The method of making paper packages having a bilge in segmental parts by the use of the heated hollow male and female dies A and B, by means of which the previously dampened paper for each segment is dried, shaped, the bilge made therein and trimmed simultaneously and made ready to be placed in the package; 2nd. The combination of the hollow male and female dies A and B provided with inlet and exit pipes for the steam for heating them, and the trimming knives a and r; 3rd. A paper package made in segmental parts, having the central portion made with a bilge, and a short space at each end made straight and free from bilge.

No. 7341. Improvements on Quilting Frames.*(Perfectionnements aux métiers à piquer.)*

Samuel G. Crow, Arthur, Ont., 11th April, 1877, for 5 years.

Claim.—A quilting frame composed of the rotary bars B B journaled to end pieces C C and to the legs F, and the legs F journaled thereto by the bar G, the legs F removably connected to the pieces C C to allow the various parts of the frame to fold together.

No. 7342. Improvements on Furnaces.*(Perfectionnements aux calorifères.)*

Octave Charland, Gentilly, Que., 11th April, 1877, for 5 years.

Résumé.—La combinaison des corrugations B, des tuyaux C joints aux corrugations B par les tuyaux recouverts D du registre M, et de la boîte a fumée J avec la fournaise A ayant la grille H et le tiroir I.

No. 7343. Improvements on Gang Ploughs.*(Perfectionnements aux charraes à sers multiples.)*

Anson T. Button and Samuel J. Lundy, Uxbridge, Ont., 14th April, 1877, for 5 years.

Claim.—1st. In combination with the frame of a two furrow or gang plough, a vertically adjustable radial wheel mounted in such manner that it is capable of revolving on a perpendicular axis at all times independently of the position of the frame; 2nd. The combination of the wheel C, bracket arm C, rack sleeve D, bracket E and toothed quadrant lever F; 3rd. The combination of the trailing or land wheel G, sliding rack plate H with stud pin H, grooved bracket I with a toothed quadrant lever; 4th. The combination in a two furrow or gang plow of a vertically adjustable radially pivoted wheel capable of turning a complete circle on a vertical axis, and a vertically adjustable trailing or land wheel; 5th. The plough B B constructed with a perpendicular land face B, the said face being arranged in vertical line with the furrow face of the beams A A; 6th. The ploughs B B provided with the flanges B² and B³, in combination with the beams A A.

No. 7344. Bond Bricks. (Briques boutisses.)

Joseph Piché and Benjamin Little, Pembroke, Ont., 14th April, 1877, for 5 years.

Claim.—A brick A made in the form of the letter T, also a dovetail brick B and an iron tie C bent at each end, in combination with bricks in which there is a recess D.

No. 7345. Improvements on Grain Drills.*(Perfectionnements aux semoirs-traucours.)*

James C. Buck, Dayton, Ohio, U. S., 14th April, 1877, for 5 years.

Claim.—1st. The combination of the ratchet L, lever G and arm H arranged with reference to each other, whereby the movement of the arm is made to release the ratchet from the wheel and to change the position of the lever; 2nd. In a machine for drilling or distributing grain, the combination of the ratchet L, the lever G, cone gears D, ratchet wheel K, driving wheel C and arm H or their equivalents; 3rd. The combination of the lever G, the ratchet L, cone gears D and gear wheel F.

No. 7346. Improvement in Cooking Stoves.*(Perfectionnement dans les poeles de cuisine.)*

John Milne, Hamilton, Ont., 11th April, 1877, for 5 years.

Claim.—In combination with a cooking stove of the air space C on the right of the ovens, formed by the plate B and provided with holes a in the bottom oven plate communicating therewith.

No. 7347. Improvement in the Manufacture of Trunks, &c.*(Perfectionnement dans la fabrication des coffres, &c.)*

William S. Soule, Boston, and John Sherriff, Dedham, Mass., U. S. 14th April, 1877, for 5 years.

Claim.—1st. A trunk or packing case having its body or such and its cover made of raw hide or untanned hide, and strengthened by corner caps, angle pieces and corrugated or arched reinforcing strips of the same material, arranged with and riveted to such body or to it and such cover; 2nd. A trunk or packing case having its body and cover made of raw or untanned hide and reinforced or strengthened and connected by a metal tie rod and by strips of raw or untanned hide arranged therewith and together, and with the two next adjacent side pieces of the body and cover and riveted to such piece; 3rd. A trunk or packing case reinforcing strip made raw or untanned hide, and arched and flanged lengthwise and with wise, or as so made and strengthened by a bar or filling of wood arranged within and fitted to the concavity of the arch.

No. 7348. Improvements on Coffin Lifters.*(Perfectionnements aux poignées de cercueils.)*

Octave Girard, Three Rivers, Que., 14th April, 1877, for 5 years.

Claim.—1st. The combination of the tubes a coupled by means of the rings b to form the coffin lifter A; 2d. The combination of the chains B the tassels C or other ornaments with the tubes a, to form the coffin lifter A; 3rd. The combination of the coffin lifter A and its accessories, with a coffin E to lift and carry the latter.

No. 7349. Improvements on Inside Blinds.*(Perfectionnements aux jalousies.)*

David S. Cornell, Warwick, Ont., and Eli B. White, Arkona, Ont., 4th April, 1877, for 5 years.

Claim.—1st. The head block A having a longitudinal roller G journaled therein, and cords H running thereon, the ends of the former attached to the tapes D and the latter operating to rotate the roller for opening and closing the slats D; 2nd. The mode of securing the loops F to the slats D by slitting the slats to form a tongue M and fastening the loop in the slit; 3rd. A blind constructed of elliptical slats E, suspended by the loops F and tie tapes D.

No. 7350. Improvements on Spring Hoes.*(Perfectionnements aux houes à ressort.)*

Benjamin Kulus and Christian F. Kneisly, Dayton, Ohio, U. S. 14th Apr. 1877, for 5 years.

Claim.—1st. The combination with the hoes or drill teeth and drag bars of a grain drill, of a latch E, one end of which is detachable from the pin and wheel it bears, and a spring F at the other end for holding the hoe or tooth in position; 2nd. The combination of the hoe A having a bifurcated projection A², the pin B, the latch E, one end of which is detachable, the spring F and the drag bars D.

No. 7351. Improvements on Pumps.*(Perfectionnements aux pompes.)*

William S. Davis and Warren L. Parks, Putfield, Maine, U. S., 14th April, 1877, for 5 years.

Claim.—1st. The combination of a hollow piston rod g with a piston having a conical cavity therein, diminishing in size from the bottom to its union with the rod g, forming with said rod a continuous tube, with its orifice flaring at the bottom and substantially smooth upon its inner surface; 2nd. In combination with the piston rod g of a pump, the friction rollers attached thereto, cam m and lever n; 3rd. The combination of the piston rod g, friction rollers l, cam m and lever n, the arms p p, roller q and lever r, either with or without the weights t t.

No. 7352. Improvements on Gymnasium Apparatus. (Perfectionnements aux appareils de gymnastique.)

George W. Wood, New York, U. S., 14th April, 1877, 5 years

Claim.—1st. In combination with the exercising tube a, the plugs b having necks, and the elastic bands d confining the tube unto said neck; 2nd. The combination with the elastic exercising tube and the end plugs thereof, the hooks or eyes s f attached to said plugs; 3rd. The combination with the elastic tube and connecting eyes or staples of the lever g.

No. 7353. Means of Propelling and Steering Vessels.

(*Mode de propulsion et de gouvernement des vaisseaux.*)

Addison Crosby and Aloha Vivarttas, New York, U. S., 14th April, 1877, for 5 years.

Claim.—1st. The combination with the hull A constructed with the chamber B with or without one or more peep holes, of the longitudinal keel D, the shaft E and the laterally adjustable propeller C arranged in said chamber B. 2nd. The combination with the chamber B of the shaft E and wheel C, made laterally adjustable relatively to the hull to vary the angular relation of said shaft and wheel to the fore and aft line of the vessel. 3rd. The tiller and frame G in combination with the wheel C, the universal joint or coupling b and the chamber B in the hull.

No. 7354. Improvements in Car and Axle Lubricators.

(*Perfectionnements aux graisseurs de wagons et d'essieux.*)

William H. Wright, Tarrytown, N. Y., U. S., 14th April, 1877, for 5 years.

Claim.—1. The sectional platform c, the parts being capable of separate insertion in the housing Z and therein joined together and adapted for supporting operating parts of a wheel or roller lubricator. 2nd. The combination with a platform provided with vertical ways e and bearings B having elastic vertical supporting springs S S, of the oiling - ber or wheel A attached to shaft h and held in central position by means of lateral elastic springs. 3rd. The combination with sectional platform C C' of cast iron legs E.

No. 7355. Improvement in Bob Sleighs.

(*Perfectionnement dans les traîneaux-jumelles.*)

George G. Keith, Verulam, Ont., 14th April, 1877, for 5 years.

Claim.—1st. The circular beam A A, 2nd. The crooked pole B.

No. 7356. Improvements on Animal Traps.

(*Perfectionnements aux pièges.*)

Rinaldo McConnell, Mattawa, Ont., 14th April, 1877, for 5 years.

Claim.—1st. The combination of the claws B B, operated by the spring D D, the knuckle E and its crank pin d working in the indentation c of the claws B B with the shank or supporter A, the pan (or platform) L and the chains F and G.

No. 7357. Improvements in the Manufacture of Woven Fabrics.

(*Perfectionnements dans la fabrication des tissus.*)

Ernest Posselt, Bradford, England, 14th April, 1877, for 5 years.

Claim.—The employment of specially spun woolen or animal fibre threads covered or partly covered with gold, silver, copper, or other suitable metal threads, giving elasticity and preventing the metal covered threads from breaking or contracting the fabrics or selvages.

No. 7358. Improvements in Gang Ploughs.

(*Perfectionnements dans les charrues à socs multiples.*)

George Gray, London, Ont., 19th April, 1877, (extension of Patent No. 1527) for 5 years.

Claim.—1st. The combination of the arm I, secured to loosely turn on the axle K lever K and ratchet segment M to admit of the adjustment of the wheel J independently of the wheel I, 2nd. The application to a gang plough of shears D provided with cutters, O.

No. 7359. Improvements on Horse-Shoe Machines.

(*Perfectionnements aux machines à fers à cheval.*)

Harvey K. Flagler, New York, and Theodore S. Very, Boston, Mass., U. S., (Assignees of Hazen J. Batchelder), 19th April, 1877, for 5 years.

Claim.—1st. A horse-shoe machine having reciprocating bending jaws or devices, a groove or recess G located below the plane in which said bending devices reciprocate, and adapted to receive a blank or bar of iron combined with a lifting device C adapted to elevate said bar or blank from the recess G and present it to the bending devices; 2nd. The recess G combined with a lifting device C and cutting and tapering devices B B, all arranged and operating with relation to the bending devices; 3rd. The cutting and tapering devices consisting of the adjustable stationary plate B, and the adjustable reciprocating plate B', said plates having their proximate surfaces formed as described; 4th. The combination of the stationary plate B, the reciprocating plates B, the bar B' having the opening b, and the cams s s'. 5th. The combination of the reciprocating dies E E, the former F and the stationary punches H. 6th. The yielding anvil I having a series of holes h and supporting the former F and seating die I, combined with the stationary punches H and reciprocating dies E E'. 7th. The combination of the dies E and hammers M. 8th. The reciprocating former F combined with the cam F' and intermediate connections, whereby said former is reciprocated; 9th. The former F having the slot L combined with the stud m, whereby the former is guided and held. 10th. The combination of the former F with the supporting screw or bolt. 11th. The roller R having the dies or punches r combined with the roller R' having orifices corresponding to the dies or punches r. 12th. The die carrier E' adapted to move independently on its holder combined with the retracting springs n and adjustable stop l.

No. 7360. Improvements in Step-Ladders.

(*Perfectionnements aux échelles à queues.*)

John C. Blauvelt, Blauveltville, N. Y., U. S., 19th April, 1877, for 5 years.

Claim.—The plate C and its slot c, the step D with its lugs E and notches d, and d', the plate F with its lug d', the circle G and pin H in combination with each other and with the parts A B of a step-ladder.

No. 7361. Improvements in Door Springs.

(*Perfectionnements aux ressorts de portes.*)

Ashbel A. Stinson and Charles T. Sabiu, Montpelier Vt., 19th April, 1877, for 5 years.

Claim.—The spring A having the studs a and a', the latter provided with radial arms or plates b b and adjusted in a seated flanged boss or receptacle B c d.

No. 7362. Improvement on Ships' Pumps.

(*Perfectionnement des pompes de vaisseaux.*)

Albert F. Ellis and Samuel C. Loud, Boston, Mass., U. S., 19th April, 1877, for 5 years.

Claim.—The combination of the diaphragm pump D C D' A with the valve chamber H in the uptake, said chamber being provided with valves K and K'.

No. 7363. Improvements on Reed Organs.

(*Perfectionnements aux orgues à anches.*)

Andrew H. Hammond, Worcester Mass., U. S. 19th April, 1877, for 5 years.

Claim.—1st. The combination with the stop pulls or rods F, and mute connections K of the arms and levers I constructed with offsets I' arranged for operation against a suitable supporting seat A' whereby the levers are rendered self-supporting and the mutes held open when the pulls are drawn. 2nd. The combination and relative arrangement of the mutes F provided with arms or pins f, the connecting rods or cords K with the reversing lever K', the offset levers or arms I and stop pulls E E'. 3rd. In combination with the octave completer table H, the inclined reciprocating rods or wedges L, bar M and mechanism for imparting movement to the same. 4th. The combination with the levers I or cushions J which sustain the mute connections and the operating shaft R of a rocking bar N provided with arms O, which act against said levers I or cushions J and operate the mute when said bar N is oscillated.

No. 7364. Curtain Fixtures. (*Ajustage de rideaux.*)

Daniel S. Lloyd, Kettleby, Ont., (Assignee of William H. H. Chesbro), 19th April, 1877, for 5 years.

Claim.—In combination with a curtain provided with a bottom roller, the cords D D and weighted tassel C.

No. 7365. Portable Gas Apparatus.

(*Appareil à gaz portatif.*)

John S. Thomas, Matrydale, Tenn., U. S., 19th April, 1877, for 5 years.

Claim.—The vessel I having internal strips M, the perforated plates J, sealed cover L, and pipes G K.

No. 7366. Improvements on Car Wheels.

(*Perfectionnements aux roues de wagons.*)

John Urquhart, Alexander Nichol and Algernon H. W. Gould, Londonderry, N. S., (Assignees of John Urquhart), 19th April, 1877, for 5 years.

Claim.—1st. A single plate car wheel with radial corrugations a extending from the whole J J to the inner of the rim e e'. 2nd. The device of an internal coreless car wheel where the entire plate consists of certain uniformly constructed radial corrugations passing in a semi-angular shape from the one side of the rim e to the other side of the rim e, and uniformly to the outside of the hob f, and passing in a semi-angular shape from the one side of the hob f to the other side of the hob f.

No. 7367. Improvement in Sewing Machines.

(*Perfectionnement dans les machines à coudre.*)

Andrew Wilson, Hamilton, Ont., 19th April, 1877, for 5 years.

Claim.—The combination of the grooved pulley m, grooved pulley d, elastic band K, collar b, screw threaded shaft a, thumb nut g, washer h and screw i.

No. 7368. Process for the Treatment of Sludge Oil. (*Procédé de traitement de l'huile lourde.*)

Walter B. Jenney, Brooklyn, N. Y., U. S., 19th April, 1877, for 15 years.

Claim.—1st. The process for oxidizing sludge oil, or other equivalent substance, by combining the oxygen of the air with sludge oil with the aid and assistance of a moderate degree of heat, for the purpose of producing a substance or manufacture possessing the properties or qualities described; whether the oxygen employed be derived from the air, or otherwise, or whether the sludge oil be or be not mixed with other ingredients. 2nd. The new manufacture of substance possessing the substantial properties composed of sludge oil or other substantially equivalent substance and oxygen chemically united together as a solid substance of greater or less consistency or hardness. 3rd. The new varnish possessing the substantial properties described, and composed of the resinous substance produced by the oxidation of sludge oil or other substantially equivalent substance, dissolved and incorporated with naphtha and other suitable solvents and oils. 4th. The new resinous compound or manufacture possessing the substantial properties described, composed of the resinous substance derived from sludge oil and india rubber incorporated together.

No. 7369. Machine for Making Metal Screws.

(*Machine à faire les vis métalliques.*)

Napoleon C. Hubbell, Hartford, Ct., U. S., 19th April, 1877, for 15 years.

Claim.—1st. The combination of a sliding and revolving head carrying revolving dies in pairs with a revolving chuck. 2nd. The combination of a sliding and revolving head carrying four or more revolving dies with a revolving chuck. 3rd. The combination of a revolving head with dies rotating in pairs and revolving in opposite directions. 4th. The combination of a feeding mechanism with a hollow mandrel and chuck to carry stock to screw cutting dies. 5th. The combination of a milling tool for slotting the screw head with the die that cuts the thread and while the screw is held in the die. 6th. The combination of the intermediate blank carriers with the dies and

the revolving chuck; 7th. The combination of the dies with the revolving and sliding head, the square collars on the dies and the locking guard for controlling them; 8th. The combination of the revolving head, the dies and the pull-off or shifter for the dies; 9th. The combination of the revolving head carrying the dies revolving in opposite directions with a screw driver for removing the screws for the dies; 10th. The combination of the guide for the blanks to the blank holders with a tripping device for letting a blank down automatically; 11th. The combination with a revolving head of four die holders and intermediate gearing enclosed in the head; 12th. The combination of the sliding plate *b*, the head *b*, the notched collar *f*, the ratchet and pawl *f* *g*, the dog *f* and the stationary cam *i*; 13th. The combination of the sliding plate *b*, the pull off *e*, the lever arm *e* provided with the stop *T* and the head *b* or equipped with the pins *e*.

No. 7370. Boot and Shoe Plate.

(*Plaque de chaussures*)

Elkanah S. Perry, Clay Lick, Ohio, U.S., 19th April, 1877, for 5 years.

Claim.—The metallic wear plates *B* having the circular bevelled edge *j* and the straight edges *e*, *k*, and adapted to be applied to either the sole or heel of a shoe or boot.

No. 7371. Improvements in Turbine Water Wheels.

(*Perfectionnements aux roues-turbines hydrauliques.*)

Timothy Rose, Cortland, N.Y., U.S., 19th April, 1877, for five years.

Claim.—In combination with a water wheel the deck plate *B* with parts *a* and flanges *b*, *h*, and the circular gate *D* with chutes *d*, *d*. 2nd. The step block *E*, step *f* and wedge *g*, all combined and arranged as described.

No. 7372. Improvements on Motive Powers.

(*Perfectionnements aux moteurs accouplés.*)

Angus R. McLennan, Charlottenberg Ont. (Assignee of James Rae), 21st April, 1877, for 5 years.

Claim.—1st. The combin on with the frame posts *B* and mounted on a base *A* of the shaft *C* and pulleys *E* *G* endless belt *H* and crank wheel *I*. 2nd. The combination with the frame posts *B* and post *L* mounted on a base *A* of the working beam *K*, pitman *J* and crank wheel *I*. 3rd. The concave clamp *P* hinged to the base *A* and stop *Q*, for holding a chain securely.

No. 7373. Paint for Ships' Bottoms.

(*Peinture pour les fonds des navires.*)

E beneyzer Moseley, Dartmouth N.S., 23rd April, 1877. (Extension of Patent No. 1437), for 5 years.

Claim.—A matter composed of copper ore, fine copper or its sulphurets reduced to a powder through the agency of sulphuric acid, the whole being precipitated with iron, caustic potash or caustic soda or zinc, in combination with rectified tar, naphtha and coal tar.

No. 7374. Improvement on Venetian Blinds.

(*Perfectionnements aux jalouses.*)

Richard Jane, Thomas McKenny and William H. Smith, Thornbury, Ont., 24th April, 1877, for 5 years.

Claim.—1st. The rabbetted frame *A* adapted to be hinged to a window casing, and the removable rabbetted blind frame *B* fitting therein, capable of being replaced by a corresponding rabbetted glazed frame *E*. 2nd. The rabbetted frame *A* adapted to be hinged to a window casing, and the rabbetted removable glazed frame *E* fitting therein, the latter capable of being replaced by a corresponding rabbetted blind frame *B*.

No. 7375. Shingle Machine. (*Machine à barder.*)

Richard Smith, Sherbrooke, Que., 24th April, 1877, (Extension of Patent No. 1136), for 5 years.

Claim.—1st. The application of screw or screws *c* *d* to shingle and clap-board machines, for imparting the traverse motion to the carriage *r* *r*. 2nd. The gain or graduated screw *c* for the back motion; 3rd. The working a nut *e*, alternately from screws *c* and *d*. 4th. The two methods of tilting the nut *e*; 5th. The construction of standard *p* for the saw arbor; 6th. The drop in top rail *G*.

No. 7376. Mechanism for Propelling Street Cars. (*Mécanisme de propulsion des voitures de tramway.*)

James Walton and William Hortop, Toronto, Ont., 26th April, 1877, for 5 years.

Claim.—1st. The spindle *B* with springs *C*, spur wheel *D*, ratchet wheels *E*, in combination with the spur pinions *F*, adjustable spindles *G*, clutches *H* and *I*, crank axle *J* and *K* connected together by the rod *J*. 2nd. The lever *M* pivoted to the frame *A* in combination with the spur pinion *F*, for the purpose of shifting the adjustable spindles *G*; 3rd. The adjustable hold fast bar *N* provided with pawls *O* in combination with the ratchet wheels *O*; 4th. The guide wheels *Q*, in combination with the frame of a street car.

No. 7377. Paiting and Floumcing Machine.

(*Machine à plisser et faire des rouleaux.*)

Robert Duffy, St. John, N.B., 26th April, 1877, for 5 years.

Claim.—1st. The arrangement of gauge *C* attached to the table *A*. 2nd. The combination of the wires *G*, *G*, *G*, front of the table gauge *C* and back side of the table *D*.

No. 7378. Improvements in Dust Pans.

(*Perfectionnements dans les porte-ordures.*)

Cornelius J. T. Fox, Yarmouth, N. S., 26th April, 1877, for 5 years.

Claim.—A dust pan, of the form described, having the top covered with holes *G* in the back the back legs *F*, the bridge *D* and the apron *C*.

No. 7379. Process of Making Cigars and Cigarettes.

(*Procédé de fabrication des cigares et des cigarettes.*)

Alexandre Marengo and Joseph Marengo, Montreal, Que., 26th April 1877 for 5 years.

Claim.—1st. The combination with endless belt *C* and roller *K* with sliding frame to regulate the size of cigars that are being made; 2nd. The rollers *A* *B* arranged in supports *L*, one of which is rigid and the other movable provided with adjustable screws and lugs or stops to regulate the closeness of approach of said rolls, but more particularly to regulate the hardness or softness of the cigars that are being made; 3rd. Shaped rollers *A* *B* *K* and endless belt *C* or equivalent, for making cigars usually called cheroots and dove tails; 4th. The flattening of the ribs and straightening of tobacco leaves; 5th. The combination, in press compressing the sliding belt and plate *P* *Q*, the wrapper pattern plate *R*, the press plate *S* in connection with its spiral and studs *U* *U*.

No. 7380. Mode of Ventilation.

(*Mode de ventilation.*)

George F. Godley, Philadelphia, Pa., U.S., 26th April, 1877, for 5 years.

Claim.—1st. The method of ventilating apartments of buildings, &c., by means of perforated pipes placed in, on or near the floor of the same, said pipes laying in a plane parallel with said floor and communicating with the external air; 2nd. The method of drawing out the vitiated air from the bottom of an apartment of buildings, &c., by means of perforated pipes placed in, on or near the floor which lay in a plane parallel with said floor and having communication with the external air; 3rd. Perforated pipes placed in, on or near the floor of an apartment and laying in a plane parallel with said floor, and having communication with the external air for withdrawing and expelling impure air out from the bottom of apartments; 4th. Perforated pipes placed in, on or near the floor of an apartment and laying in a plane parallel with that of the floor, for the purpose set forth said pipes being furnished with valves for regulating the degree of ventilation; 5th. In combination with a perforated pipe placed in, on or near the floor of an apartment and laying in a plane parallel with that of the floor, a swivelled vane or hood; 6th. In combination with a perforated pipe placed in, on or near the floor, a swivelled vane or hood furnished with automatic valves; 7th. In combination with perforated pipes *C* *C*, a swivelled vane or hood *F* having the mouth *F* and pipe *F*; 8th. The swivel hood or vane *F* constructed with the funnel-shape pipe *F* in the extremity of which is secured the pipe *F*; 9th. In combination with the floor of a railway car and depending therefrom, the swivelled vane or hood *F* having mouth *F* and pipe *F*, whereby, through the suction produced by the moving train, said vane or hood will receive and expel the vitiated air from the interior of the car.

No. 7381. Improvements on Machines for the Preservation of Animal and Vegetable Substances.

(*Perfectionnements aux appareils de conservation des substances animales et végétales.*)

John Hopkins, St. John, N. B., 26th April, 1877, for 5 years.

Claim.—1st. The combination of the outer chamber *A*, the tanks *C* and the freezing mixture *h*. 2nd. The combination in the outer case *A* of the tanks *C* *C* *D* and the faucets *e*, *e*. 3rd. The combination of the outer and inner chambers *A* *B*, the tanks *C* *C* *D* *D*, the faucets *e*, *e*, the packing *j*, the freezing mixture *h*, brine *i*, the door *g* and the covers *K* *K*.

No. 7382. Process for Treating the Wood-work of Carriages, &c.

(*Procédé de traitement des bois des voitures, &c.*)

Patrick O'Brien, South Bend, Ind., U.S., 26th April, 1877, for 5 years.

Claim.—The process of preparing the surface of the wood work of carriages and cabinet work for the reception of the final coats of paint and varnish, that is to say coating the surface with a solution of oil, gums and driers in a heated condition.

No. 7383. Improvements on Portable Fences.

(*Perfectionnements aux clôtures portatives.*)

Elias H. Overholt, Rainham, Ont., 26th April, 1877, for 5 years.

Claim.—The mode of supporting panel fences having posts *B*, to be driven into the ground by cross braces *C* pivoted together, at their intersection, to maintain the overlapping ends of the upper rail *A* of the adjoining panels fixedly.

No. 7384. Improvements on Hydraulic Elevators.

(*Perfectionnements aux éleveurs hydrauliques.*)

Elias Brewer, Boston, Mass., U.S., 26th April, 1877, for 5 years.

Claim.—The cross head, its two sets of sheaves and two pistons positively attached at the ends of the cross-head, in combination with two stationary cylinders *p* *q* adapted to be connected with the main or service and waste pipes, to lift the cross head at its ends and with a central counterbalancing cylinder and piston.

No. 7385. Improvements on Carburetters.

(*Perfectionnements aux carburateurs.*)

Andrew Wiggin, Boston, Mass., U.S., 26th April, 1877, for 5 years.

Claim.—1st. The method of accelerating and increasing the vaporization of the fluid by showering the same in lateral sprays towards the circumferene from a central vessel or sprinkler upon a body of absorbent material lying upon a distributor, at the bottom of the carburetting chamber but reaching to a height above that at which it could become saturated from capillary attraction of the liquid from the bottom of this chamber. 2nd. The float *B* provided with a guide rod *I* combined with a sprinkler having perforated sides, the rod passing through such sprinkler and terminating in an enlarged end having a fine elongated point and serving as a valve to check or to prevent the downward flow of the liquid into the said sprinkler.

The stationary sprinkler or showering vessel *h*, provided with fine perforations in its periphery, depending from and in communication with the fluid vessel or reservoir and serving to shower the liquid toward the circumference of the carbureting chamber, and upon the upper surface of that part of the absorbent material which is above the liquid in such chamber and not moistened by capillary attraction therefrom: 4th. In combination with the reservoir or supply chamber and with the carbureting chamber *B* having the spiral distributor secured in its lower part, the tube *L*, communicating with both chambers and having its mouth in one and its lower end in the other chamber.

No. 7386. Improvements in Blasting Powder.

(Perfectionnements dans la poudre à miner.)

Charles Felhoen, New York, U. S., 26th April, 1877, for 5 years.

Claim.—An explosive compound or blasting powder composed of nitrate of soda, carbonate of potash, saltpetre (crude and refined) sulphur, charcoal and peat, combined in a dry powder, in or about the proportions set forth.

No. 7387. Improvements on Composition for Washing Clothes.

(Perfectionnements aux composés pour laver le linge.)

Laurent Ruel, Ste. Julie, Que., 26th April, 1877, for 5 years.

Claim.—The compound for washing, &c., composed of lye, salsoda, saltpetre, liquid ammonia, fort and borax.

No. 7388. Apparatus and Process for Treating Wool.

(Appareil et procédé de traitement de la laine.)

Nicholas Mary, Boston, Mass., U. S., 26th April, 1877, for 5 years.

Claim.—1st. The closed, reticulated receptacle or wheel *A*, constructed in compartments having perforated sides and with spaces *b* between them. 2d. The closed, reticulated receptacle or wheel *A*, constructed in compartments composed of perforated baskets *d*. 3rd. The combination of the perforated hollow axle *C* with the closed, reticulated receptacle or wheel *A*, formed of reticulated compartments. 4th. The combination with the vat *B* of the removable blocks or bearings *D D*, and the raising and lowering closed, reticulated receptacle or wheel *A*. 5th. The process of destroying and removing vegetable matter contained in wool by means of apparatus constructed to operate as specified.

No. 7389. Improvements in Collins.

(Perfectionnements dans les cercueils.)

John McCarthy, Syracuse, N. Y., U. S., 26th April, 1877, for 5 years.

Claim.—The detachable frame *C* secured by the screws *E F* to the lid *A*, and provided with a cover *D*.

No. 7390. Improvements on Lamp Chimneys and Shades.

(Perfectionnements aux cheminées et abat-jour de lampes.)

Frederick S. Shirley, New-Bedford, Mass., U. S., 27th April, 1877, for 5 years.

Claim.—1st. A lamp globe and shade provided with a corrugated radiating surface; 2nd. A lamp globe and shade that is roughened to form a reflector, and provided with a corrugated radiating surface.

No. 7391. Improvements on Water Wheels.

(Perfectionnements aux roues hydrauliques.)

Abel Edwards, Summerset, Iowa, U. S., 27th April, 1877, for 5 years.

Claim.—1st. A water wheel constructed with combined buckets and chutes *a b*, each having its upper and lower edges parallel with each other, but at an angle to the edges of the contiguous buckets. 2nd. A central hub *A*, the external rim *C* and the combined buckets and chutes *a b*; 3rd. In combination with the water wheel having the combined buckets and chutes *a b*, the case *D* provided with the inlet chutes. 4th. In combination with the wheel and case, the gate *G*.

No. 7392. Improvement in Over-gaiters.

(Perfectionnement dans les guêtres.)

William W. Whitecomb and John C. Duggitt, Boston, Mass., U. S., 27th April, 1877, for 10 years.

Claim.—The method or process of making an over-gaiter directly from the wool without spinning or weaving, by running the wool sliver around a former.

No. 7393. Improvement on Sewing Machines.

(Perfectionnement des machines à coudre.)

Israel M. Rose, Brooklyn, N. Y., U. S., 27th April, 1877, for 5 years

Claim.—1st. A thread looping hook adapted to be positively rotated in one direction by the vibrating needle bar and a cord and pulley, and to be retracted by a spring. 2nd. A rotating spring seated thread looping hook; 3rd. The combination of a rotating spring seated thread looping hook with a stationary laying hub; 4th. The combination of a looping hook carrier, a stationary laying hub and a coiled spring attached to and rotating the carrier upon said hub. 5th. The combination of a stationary laying hub, a rotating looping hook carrier and a coiled spring actuating the latter, and a recessed foot piece or support. 6th. The combination of the stationary laying hub, the rotating looping hook carrier coiled actuating spring and propelling cord. 7th. The loop laying hub constructed with a hooked projection 4 and a channel 2 for supporting the pattern thread. 8th. The combination of the rotating looping hook 5 with the stationary laying hub, whereby the said hook is made to ride upon the ledge 3 of the hub, and thus prevent the pattern thread from slipping backward. 9th. A holder adapted to be attached to the presser bar or foot of a sewing machine and supporting a stationary loop laying hub, a spring seated looping hook, a propelling cord and its guide. 10th. A plate *D* having mounted upon it the stationary laying hub looping hook carrier and its actuating mechanisms and adapted to be inserted into a bifurcated presser foot; 11th. The returned double spiral spring; 12th.

In combination with the propelling cord of a rotating thread carrying device, the compensating spring *u*. 13th. The carrier *C* having its ledge 13 constructed with a hook 5 and an inclined plane 12 extending up to the ledge 14th. A thread looping hook adapted to be positively rotated by the vibrations of the needle bar and cord and pulleys.

No. 7394. Improvements on a Plough.

(Perfectionnements d'un charrue.)

John Reich, Buffalo, N. Y., U. S., 27th April, 1877 for 5 years.

Claim.—1st. The combination of the curved beam *A* having the standard *A'* *L* shaped in cross section one member forming the front portion of the mould board and supporting the rear wing thereof, the land side and frame secured to the other member of the standard and forming a socket for the coultter and support for the handles. 2nd. In combination with the beam *A* having the lugs *f* on its forward end of the adjusting screw *P* and the pivoted open disk *L*. 3rd. The combination with the beam *A* having the lugs *f* of the adjusting screw *P* pivoted open disk *L*, and the clevis *N*.

No. 7395. Machinery and Process for Obtaining Printing Surfaces.

(Méthode et procédé pour obtenir des planches à imprimer.)

George P. Drummond, Ottawa, Ont., 28th April, 1877, for 5 years.

Claim.—1st. *A* is the art of obtaining a surface for printing reading matter from, by attaching to an elastic band or surface, the letters of the subject matter, and afterwards transferring the same by any photo-mechanical process, to metal, stone or other surfaces for printing. 1st. *B*. In the art of obtaining surfaces for printing reading matter from, by first detaching the letters of the subject matter from ribbons or strips of paper, or any suitable material, having the letters printed thereon at short intervals apart so that each detached letter shall have an accompanying blank space, and then by attaching these letters so cut off in an overlapping order of their blank portions, to an elastic band and finally transferring the subject matter thus produced either into metal, stone or other surfaces for printing. 2nd. The art of obtaining surfaces for printing reading matter from in reference to the justification thereof, firstly by straining an elastic band or surface to which the subject matter has been primarily attached so as to elongate the subject matter within certain limits or lengths of lines according to conventional practices among printers, and, secondly, to contract or elongate the subject matter attached by turning it to any desired angle in the same plane with the camera, and then transferring either or both by any photo-mechanical process to metal, stone or other surfaces for printing. 3rd. The art of obtaining surfaces for printing reading matter from by angling, shaping, to, contouring or by stretching or straining an elastic band or surface to which the subject matter has been primarily attached, so as to impart varieties of shapes and designs to the lettering which then, by any photo-mechanical process, are transferred to metal, stone or other surfaces for printing. 4th. The art of obtaining surfaces for printing reading matter from by placing over or along side the subject matter, which has been primarily attached to an elastic band or surface, any screens, letter, ornamentations or designs, whether black, white, or any color or transparent, or by intervening between the lines of subject matter as they are photographed, any ornamentations, pictures or designs, which combinations by any photo mechanical process are then transferred to metal, stone, or other surfaces for printing. 5th. The art of obtaining surfaces for printing reading matter from, by increasing or decreasing the distance between the sensitized plate in the camera and the subject matter primarily attached to an elastic or unelastic band or surface, so as to produce various sizes of lettering intermingled or otherwise, which then, by any photo-mechanical process, are transferred to metal, stone or other surfaces for printing. 6th. In the art of obtaining surfaces for printing reading matter from and the foregoing manners of effecting it, a composing machine having reels of ribboned paper or any suitable material, each piece of which is printed throughout its extent, but not in close connection with one letter and collectively all the letters of the alphabet, punctuation points, figures or signs, and having fingering keys by means of which the letters of any desired reading matter may be rapidly brought forward under a pair of scissors and cut from the ends of the ribbons and attached in overlapping order to an elastic band; 7th. In the art of obtaining surfaces for printing reading matter from, the combination of a band or surface of any elastic material, to which has been attached the subject matter, with a machine for adjusting and shaping it, movable as a whole upon a central and vertical axis, and in that part the rough which the continuing line of subject matter is horizontally passed upon a horizontal axis by means of which a movement the subject matter may be readily placed at a variety of angles to the sensitized surface of the camera; 8th. In the art of obtaining surfaces for printing reading matter from and the foregoing machinery and manner for effecting it, an adjusting and shaping machine operating an elastic band or surface to which the subject matter has been primarily attached in combination with a photographic camera and any photo mechanical process of printing, and also contained in the first, second, third, fourth and fifth claims, and in general the reproduction upon a sensitized plate or plates by means of photography any reading matter or its make up in any shape attached to or lying upon an elastic band or other surface, letter by letter, word by word, sentence by sentence, line by line or lines by lines in succession or in whole or in part and the reading matter justified arranged and reproduced thus transferred to metallic or other surfaces, or lithographic stones for printing by any known photo-mechanical process. 9th. In the art of obtaining surfaces for printing reading matter from by means of an elastic band or surface to which the subject matter has been primarily attached a photographic camera, in combination with a guiding way or track, and an adjusting and shaping machine attached thereto. 10th. In the art of obtaining surfaces for printing reading matter from a photographic camera in combination with an inscribed or recorded set scale or detailed list of the various sizes of type upon its own way or track or focusing draught, and a corresponding and proportionately inscribed or recorded scale or detailed list of the various sizes of type upon the guiding way or track connected with the shaping or adjusting machine for the purpose of readily increasing or diminishing and focusing and thereby obtaining all sizes of printing from the subject reading matter primarily attached to an elastic band or surface in an elementary or standard size of lettering, whether the subject reading matter be plain or treated fancifully. 11th. In the art of obtaining surfaces for printing reading matter from by means of an elastic band or surface to which the subject matter has been primarily attached and subsequently passed through an adjusting and shaping machine.

a photographic camera in combination with a secondary guiding way or track raising or lowering the front or back of the camera as the case may be, so as to keep the base line of the primarily attached subject matter, the focused lens and the base line of the opening exposure slide on the sensitized plate, all in one direct and straight line, whatever position the camera may occupy upon the main track or whether the lettering be focused large or small upon the sensitized plate; 12th. In the art of obtaining surfaces for printing reading matter from, by means of an elastic band or surface to which the subject matter has been primarily attached and subsequently passed through an adjusting and shaping machine, in combination with a photographic camera, an exposure slide in the plate shield of the photographic camera giving, at whatever position the camera may occupy in relation to the primarily attached subject matter, a width of opening exposure suitable to the height of the lettering as focused upon the sensitized plate, whether large or small; 13th. In the art of obtaining surfaces for printing reading matter from, by means of an elastic band or surface to which the subject matter has been primarily attached and subsequently passed through an adjusting and shaping machine, in combination with a photographic camera, a sensitized plate frame within the sensitized plate shield of the camera, movable equally at each exposure and uniformly with and to a similar width of lines as the opening exposure slide, but remaining stationary at each shutting of the opening exposure slide; 14th. In the composing and attaching machine the special combination, as follows: the combination of a flingering key *a*, the connecting attachments *23*, *a*, *21* and *p*, a knee lever *r* and a paper clip *t* acting as a single set, and the congregation of these sets in sufficient numbers to accomplish the purpose; 15th. The combination of a paper clip *t*, a spring *c*, a clip pointer *25* acting as a single set and the punched holes in the ribboned paper, and the congregation of these sets in sufficient numbers to accomplish the purpose specified; 16th. The ribboned paper or other suitable material printed and punched, combined with the converging paper or channel *b b b*, the shears *d*, and elastic band *w*; 17th. The combination of the flingering keys *a a a*, the spring *p*, the cross bar *h*, the nut or lever *l*, the connecting rod *g* and the shears *d*; 18th. The flingering keys *a a a* and the knee lever *r* by their connections combined with the cross bar *h*, the connecting rod *g*, the crank lever *l* and the friction cam *n*; 19th. The knee levers *r*, each and collectively, and the cross bar *h* having reference to graduated distances between them at *g*, corresponding to the width of their respective designated letters, figures, or points combined with the feed motion mechanism; 20th. The springs *26*, *20* and *m*; 21st. The feed motion of a machine composing and attaching the subject matter to an elastic band, a friction cam or cams or friction knee joint operating directly or indirectly upon the elastic band by suitable mechanism so as to produce a variety of feeds suitable to the various widths of letters, &c.; 22nd. In the photographic machinery, the special combinations, as follows: the elastic band or surface *w* to which the subject matter has been primarily attached, combined with the feeding rollers *26a* *26b* and the shaping and adjusting machine *52*; 23rd. The elastic band or surface *w* to which the subject matter has been primarily attached, combined with the knee joints or friction cams *54* *54b*; 24th. The elastic band or surface *w* to which the subject matter has been primarily attached, combined with the lever *23a* and its scale *28*, also with the levers *21a* and *21b* and their scales *21c* *21d*; 25th. The combination of the shaping and adjusting machine *52* and the way or track *37*, with a recorded register of type sizes thereon, also the camera *33* with a recorded register of type sizes thereon; 26th. The combination of the increasing lever *27*, the opening exposure slide *35* and the frame *32* connecting both; 27th. The combination of the opening exposure slide *35*, the knee joint or friction cam *31a*; 28th. The friction bars *31a*; 29th. The frame *53* to which they are attached, and is contained sensitized plate *30*, all and each of them; 29th. The combination of the elastic band *w*, the camera *33*, the opening exposure at *50* and the moveable sensitized plate *30*; 29th. For the purposes of obtaining various sizes of lettering and a correct focus thereof, the combination of pointers *32* and *18* on the camera with their respective scales or registers of type sizes; 30th. For the purposes of justification and making various lengths of lines, the elastic band *w* with the subject matter attached, the pointer shields *5, 5*, and the recorded scale *60*; 31st. The combination of a box *61*, the adjustable ornamentations, screen, fancy lettering and other slides contained therein, and the elastic band *w* having the subject matter attached thereto; 32nd. The combination of the secondary track *42*, the elastic band *w*, the lens *39* and the base of the opening exposure at *50*; 33rd. The combination of the elastic band *w* with the elastic and pliable contouring guide *56*; 34th. The combination, in the feed motion, of the sensitized plate in the camera of a feeding friction knee joint or cam *31b* with a check friction knee joint or cam *31a*, the combination of both with and operating upon a smooth feeding surface, be it curved or be it straight; 35th. In machinery for printing and punching ribboned paper, the combination as follows: In a printing press, printing and punching coils or strips of ribboned paper, the combination of the printing with the punching in one and the same operation and time; 36th. The combination of a discharging reel *a* and the ribboned paper *e* with the printing wheel *a*, its type *28* and its punches *20* operating in and upon the wheel *b* for the purpose of producing the result; 37th. The combination of a discharging reel *c* and of a receiving reel *d* with the wheels *a* and *b*; 38th. The combination of the receiving reel *d* with the pinion wheel *o*, the cord *w* and the weight *p*; 39th. The combination of the guiding and pressure roller *r*, and of the pressure roller *j* with the ribboned paper *e*, for the purpose of guiding and keeping down the ribboned paper against the pressure wheel *b*; 40th. The combination of the type *28* and the punches *20*, in the printing wheel *a* with the holes *21* and the pressure wheel *b* in which they are; 41st. The combination of the ribboned paper *e* printed and punched with the receiving and winding reel *d*.

No. 7396. Machinery and Process for obtaining Printing Surfaces.

(Machine et procédé pour obtenir des planches à imprimer.)

George P. Drummond, Ottawa, Ont., 29th April, 1877, for 5 years.

Claim.—1st. The art of obtaining surfaces for printing reading matter from, by first impressing from a type writing, printing or setting machine, the subject matter on an elastic band or surface, and afterwards transferring the same, by any photo-mechanical process, to metal, stone or other surfaces for printing; 2nd. The art of obtaining surfaces for printing reading matter from, by first impressing from a type-writing, printing or setting machine, the subject matter on an unelastic band or surface, and afterwards transferring the same by any photo-mechanical process, to metal, stone or other surfaces for printing; 3rd. The art of obtaining surfaces for printing reading matter from, in reference to the justification thereof, firstly by straining an elastic band or surface on which the subject matter has been primarily

printed, so as to elongate the subject matter within certain limits or lengths of lines, according to conventional practices among printers, and secondly to contract or elongate the subject matter by turning the elastic or unelastic band or surface upon which it has been primarily printed, to any desired angle in the same plane with the camera, and then transferring either or both by any photo-mechanical process to metal, stone or other surfaces for printing; 4th. The art of obtaining surfaces for printing reading matter from, by angling, shaping or contouring an elastic or unelastic band or surface, or by stretching or straining an elastic band or surface on which the subject matter has been primarily printed so as to impart varieties of shapes and designs to the lettering, which then by any photo-mechanical process are transferred to metal, stone or other surfaces for printing; 5th. The art of obtaining surfaces for printing reading matter from, by placing over or alongside the subject matter which has been primarily printed upon an elastic or unelastic band or surface, any screens, letter, ornamentations or designs, whether black, white or any color, or transparent, or by intervening between the lines of subject matter as they are photographed, any ornamentations, pictures or designs, which combinations, by any photo-mechanical process, are then transferred to metal, stone or other surfaces for printing; 6th. The art of obtaining surfaces for printing reading matter from, by increasing or decreasing the distance between the sensitized plate in the camera and the subject matter primarily printed upon an elastic or unelastic band or surface, so as to produce various sizes of lettering, intermingled or otherwise, which then, by any photo-mechanical process, are transferred to metal, stone or other surfaces for printing; 7th. In the art of obtaining surfaces for printing reading matter from, and the foregoing manner of effecting it, a composing printing and transferring machine having flingering keys, operating type of soft or hard metal, or letter representations or the various letters of the alphabet, punctuation points, figures, and all other signs necessary to the production of reading matter of any kind, by means of which machine reading matter may be rapidly composed and transferred or printed directly or indirectly upon a band or surface of any elastic or unelastic material. It directly, by aid of an inking roller upon the surface of the elementary type, or indirectly, by the intervention of the impression on lead, wood or other material in relief or intaglio, which received impression is then transferred to the elastic or unelastic band or surface, printed thereon by ordinary process of inking rollers and pressure; 8th. In the art of obtaining surfaces for printing reading matter from, the combination of a band or surface of any elastic or unelastic material on which has been printed the subject matter, with a machine for adjusting and shaping it, movable as a whole upon a central and vertical axis and in that part through which the continuing line of subject matter is horizontally passed upon a horizontal axis, by means of which movements, the subject matter may be readily adjusted at a variety of angles to the sensitized surface of the camera; 9th. The art of obtaining surfaces for printing reading matter from, and the foregoing machinery and manner of effecting it, and shaping machine operating an elastic or unelastic band or surface on which the subject matter has been primarily printed, in combination with a photographic camera, and any photo-mechanical process or printing contained in the third, fourth, fifth and sixth claims and in general the reproduction upon a sensitized plate or plates by means of photography any reading matter or its make-up in any shape, printed on, attached to or lying upon an elastic or unelastic band or other surface, or substantially set forth and described, letter by letter, word by word, sentence by sentence, line by line, or lines by lines in succession or in whole or in part, and the reading matter justified, arranged and reproduced thus, transferred to metallic or other surfaces or lithographic stones, for printing by any known photo-mechanical process; 10th. In the art of obtaining surfaces for printing reading matter from, by means of an elastic or unelastic band or surface on which the subject matter has been primarily printed: a photographic camera in combination with a guiding way or track and an adjusting and shaping machine thereto; 11th. In the art of obtaining surfaces for printing reading matter from, a photographic camera in combination with an unscribed or recorded set scale or detailed list of the various sizes of type upon its own way or track or focusing draught and a corresponding and proportionately inscribed or recorded scale or detailed list of the various sizes of type upon the guiding way or track connected with the shaping or adjusting machine, for the purpose of readily increasing or diminishing and focusing, and thereby obtaining all sizes of printing from the object reading matter primarily printed on an elastic or unelastic band or surface, in any elementary or standard size by a type printing, writing or setting machine, whether the object reading matter be plain or treated fancifully; 12th. In the art of obtaining surfaces for printing reading matter from, by means of an elastic or unelastic band or surface, on which the subject matter has been primarily printed and consequently passed through an adjusting and shaping machine a photographic camera, in combination with a secondary guiding way or track, raising or lowering the front or back of the camera as the case may be, so as to keep the base line of the primarily printed subject matter, the focus lens and the base line of the opening exposure slide on the sensitized plate, all in one direct and straight line, whatever position the camera may occupy upon the main track, or whether the lettering be focused large or small upon the sensitized plate; 13th. In the art of obtaining surfaces for printing reading matter from, by means of an elastic or unelastic band or surface, on which the subject matter has been primarily printed and subsequently passed through an adjusting and shaping machine, in combination with a photographic camera, a sensitized plate frame within the sensitized plate shield of the camera, movable equally at each exposure and uniformly with and to a similar width of line as the opening exposure slide, but remaining stationary at each shutting of the opening exposure slide; 15th. In a composing, printing and transferring machine, printing reading matter, a key board of keys representing the various letters of the alphabet, having the vowels in one or two sets, each set in a body, placed at one or at both ends of the key board and having their attached type in a corresponding position, such arrangement being for the purpose specified; 16th. The combination of the keys *c c c*, the type rods *a a a*, the arms *20* and the connecting rods *56* and *57*; 17th. The combination of the keys *c c c*, and their attached arms *z z* with the buffer rods *10* and the buffer *11* by their connecting rod *58*; 18th. The combination of the rapidly revolving crank *12*, the connecting rod *59* and the buffer *11*; 19th. The

rapidly reciprocating buffer 11 operating upon and in combination with the upper cross-heads *f f*₂ and their closing arm 14^a 14^b; 20th. The combination and connection of the type rods *a a*, the type heads *b b b* and the pliable spring joints *d d d*; 21st. The combination of the type heads *b b b* and their connected type rods *a a* converging upon a central point *e* but by spring joints *d d* making their impression at a distance beyond that point; 22nd. The upper cross-heads *f f*₂ the stationary centre guiding clamp *g* and the moveable centre guiding clamp *g*₂ all combined with and operating upon the type heads *b b b* when driven forward to position *b*₂; 23rd. With one or more type heads driven between guiding clamps *g* and *g*₂ the combination of the guiding clamp *g*₂ the radial arm *o* and its attached friction knee joint *p* held to position by the spring 15; 24th. The combination of the type heads *b b* having the type thereon in relief or intaglio with the inserted lead or soft metal rim or band *h* attached to the wheel *i*; 25th. The combination of the lead or soft metal rim *h*, the lipped groove *y* in which it is inserted; 26th. The combination of the impressed lead or soft metal rim *h*, the cutters and smoothers *r r* and the inking rollers *s s*; 27th. The combination of the type wheel *i* bearing an inked impression of the subject matter with the pressure-printing wheel *z*, and the intervened elastic or unelastic band *w*; 28th. The elastic or unelastic band *w* with the subject matter which has printed thereon returned as "dead matter", in combination with cleaning brushes *x x*; 29th. The combination of the type wheel *i*, the bearing rollers 75a 75b, and two, three or more sets of type on the type heads *b b b*; 30th. The combination of the lead or soft metal rim *h* impressed with the subject matter returned as "dead matter," the cup of melted metal 2 and the remoulding groove 3; 31st. The elastic or unelastic band or surface *w* on which the subject matter has been primarily printed, combined with the feeding rollers 26a 26b and the shaping and adjusting machine 52; 32nd. The elastic or unelastic band or surface *w* upon which the subject matter has been primarily printed combined with the knee joints or friction cams 54a 54b; 33rd. The elastic or unelastic band or surface *w* upon which the subject matter has been primarily printed, combined with the lever 22 and its scale 28, also with the levers 21a and 21b and their scales 24a 24b; 34th. The combination of the shaping and adjusting machine 52 and the way or track 37 with a recorded register of type sizes thereon; also the camera 33 with a recorded register of type sizes thereon; 35th. The combination of the increasing lever 27, the opening exposure slide 35 and the iron frame 32 connecting both; 36th. The combination of the opening exposure slide 35, the knee joints of friction cams 31a 31b, the friction bars 34a 34b, the frame 53 to which they are attached and its contained sensitized plate 30, all and each of them; 37th. The combination of the elastic or unelastic band *w*, the camera 33, the opening exposure at 50 and the movable sensitized plate 30; 38th. For the purposes of obtaining various sizes of lettering and a correct focus thereof, the combination of pointers 38 and 48 on the camera with their respective scales or registers of type sizes; 39th. For the purpose of justification and making various lengths of lines, the elastic or unelastic band *w* printed with the subject matter, the pointer shields 5 and the recorded scale 66; 40th. The combination of a box 61, the adjustable ornamentation, screen, fancy lettering and other slides contained therein, and the elastic or unelastic band *w* having the subject matter printed thereon; 41st. The combination of the secondary track 42, the elastic or unelastic band *w*, the lens 39 and the base of the opening exposure at 50; 42nd. The combination of the soft metal rim *h*, the cup of melted metal 2 and the casing or tire segments *u u*; 43rd. The combination in the feed motion of the sensitized plate of a feeding friction cam 31b and of a check friction cam 31a operating upon smooth surfaced bars or surfaces connected with the sensitized plate; 44th. The combination of a capital letter bar 8 with the guiding clamps *g*₁ *g*₂ and the nipper clamps *f*₁ *f*₂ for the purpose of securing a steady forward stroke; 45th. The combination of the capital letter bar 8 with the transferring wheel *i* and the inserted soft metal rim *h*.

No. 7397. Improvements on Grain Thrashers and Winnowers.

(Perfectionnements aux machines à battre et nettoyer les grains.)

James L. Foster, Port Royal, Ont., 30th April, 1877, for 5 years.
Claim.—1st. The sectional floors D E provided with flap doors F G, in combination with the grain belt B and straw carrier C; 2nd. The arrangement of the inclined floor L, endless apron K and a hulling cylinder H, located in front of the winnower, whereby the clover seed, hulls and chaff are elevated to the hopper; 3rd. A winnower shoe shaking endwise having a tail board L operating therewith.

No. 7398. Railway Car-coupler.

(Attelegg de wagons de railtroues.)

John Johnston, Iona, Ont., 30th April, 1877, for 5 years.
Claim.—1st. The buffer A with the parts thereof marked C and D and the hooks B; 2nd. The levers F and H, the bracket I, the chain J and the lug K.

No. 7399. Improvements on Plough Shares.

(Perfectionnements aux socs de charrues.)

Richard Smith, Sherbrooke, Que., 30th April, 1877, for 5 years.
Claim.—1st. In combination with the cast iron plough share A, the steel point B fused together in the process of casting the plough share; 2nd. In combination with the cast iron plough share A, the steel point B and steel cutting edge D fused together in the process of casting the plough share; 3rd. The dovetailed or S-joint C.

No. 7400. Improvements on Shoes for Car Brakes.

(Perfectionnements aux sabots des freins de wagons.)

Isaac H. Congdon, Omaha, Neb., George M. Sargent and Albert B. Pullman, Chicago, Ill., U.S., 30th April, 1877, for 5 years.
Claim.—The cast iron body A having the bearing pieces B of wrought iron, steel, malleable cast iron or other suitable metal embedded in its face.

No. 7401. Improvements on Washing Machines.

(Perfectionnements aux machines à laver.)

William Warne, Dillonton, Que., 1st May, 1877, for 5 years.
Claim.—The combination of the vessel A, inner vessel C, with perforated bottom B and press valve H.

No. 7402. Improvements on Grocers' Scoops.

(Perfectionnements aux écopes d'épicerie.)

William T. Sherer, Chicago, Ill., U.S., 1st May, 1877, for 5 years.
Claim.—A grocers' scoop in which the blade is constructed of or from sheet steel.

No. 7403. Improvements on Fanning Mills.

(Perfectionnements aux tarares.)

Ransom J. Horton, Massena, N. Y., U. S., 1st May, 1877, for 5 years.
Claim.—1st. The fan wheel A having horizontal concave fans B, for concentrating the blast in the middle of the sieves; 2nd. The adjustable wind boards C for directing the blast to the upper or lower sieves; 3rd. The double and reversible sieve D and sectional sieve G, supported by pins F and having an adjustable pitch; 4th. The tumbling rod H having adjustability in slots, in the side of the mill, for separating and giving the desired pitch to the lower sieves; 5th. The adjustable chaff divider J applied under the tail board; 6th. The sieve frame S having adjustability by means of their projecting ends engaging in slots P in the sides of the shoe.

No. 7404. Improvements on Gates.

(Perfectionnements aux barrières.)

Ebenezer Young, Camden Centre, Mich., U. S., 1st May, 1877, for 10 years.
Claim.—The lock slide I, clasps F F₁ F₂, friction blocks D D combined with the gate.

No. 7405. Improvements on Car-Couplers.

(Perfectionnements aux attelages de wagons.)

Lyman Terrill, Blairton, Ont., 1st May, 1877, for 5 years.
Claim.—The combination of the draw latch A and the trip latch B.

No. 7406. Dishes for Grocers' Use.

(Ustensiles à l'usage des épiciers.)

Chalmers Ingersoll, Beloit, Wis., U. S., 1st May, 1877, for 5 years.
Claim.—A shallow paper dish for grocers' use and made from a single piece of finished paper or paper board, bent into the desired shape.

No. 7407. Improvements on Spring Vehicles.

(Perfectionnements aux voitures à ressorts.)

Lucius A. Fogg, Parker City, Pa., U. S., 1st May, 1877, for 5 years.
Claim.—The combination of frame E E₁ F, axle D and rocker D₁ with the spring C and median brackets connected by links C₂ to support a vehicle body.

No. 7408. Improvements on Educational Toys.

(Perfectionnements aux jouets servant à l'éducation.)

Edwin S. Fisher, Boston, Mass., U.S., 1st May, 1877, for 5 years.
Claim.—A paper toy coin formed of card board and printed upon with ink

No. 7409. Improvements on Ploughs.

(Perfectionnements aux charrues.)

James Wishart, Hamilton, Ont., 1st May, 1877, for years.
Claim.—1st. The combination of the frame A A with the head B B and the pivot E; 2nd. The combination of the head B B with the share C, land-side D, pivot E, rod or screw F and jam nuts at H; 3rd. The combination of the pivot piece K with the mould board J J and the rod or screw F.

No. 7410. Improvements on Hose Reels.

(Perfectionnements aux voitures à boyaux.)

William Neracher, Cleveland, Ohio, U. S., 1st May, 1877, for 5 years.
Claim.—1st. An elastic or compressible hose reel; 2nd. The combination of disks or sides H H₁, provided with radial slots *h*, cross bars N movable in said slots, and springs or spring S so located as to press said cross bars outward; 3rd. The combination of lever R, arm G and spring W; 4th. The combination of lever R, arm G, spring W and lever C; 5th. The water cock handle or lever C provided with two or more arms for the purpose of gradually turning on the water; 6th. The water cock handle or lever C provided with a flexible and one or more rigid arms; 7th. The water cock handle or lever C provided with one or more rigid arms *c*, and the arm *c* formed in two parts, hinged together so that its free outer end may bend in only one direction, and provided with the spring *c*₂; 8th. The loose coupling and stuffing box consisting of pipe sections L and M, packing *p*, collar O and cap J; 9th. The combination of hose reel hydrant coupling at the axle hose attachment within the reel and yielding arms or supports; 10th. A hollow trunnion or shaft which communicates with the stand or water pipe and with the hose attached to the reel, whereby the water can pass from the source of supply to the hose of the reel.

No. 7411. Improvements in Horse Hay Forks.

(Perfectionnements aux fourches à cheval.)

Henry Fisher, Canton, Ohio, U. S., 1st May, 1877, for 5 years.
Claim.—1st. A hay fork having its tines hinged together by means of stiff cross bars, each of which is pivoted to both tines in a line not parallel to the line upon which the other bar is pivoted; 2nd. The combination of bars D and locking levers E with slotted tine B, and tine A passing through tine B; 3rd. The combination of cross bars D, tines A and B pivoted thereto, guide bars G and projection *d*₂; 4th. Tine A, tine B, cross bars D, loop D₁ and arm *d*₂, in combination with guide bars G, locking levers E, studs C and cord F.

No. 7412. Improvements on Life Boats.*(Perfectionnements aux bateaux de sauvetage.)*

George Bates, Cobasset, Mass., U. S., 1st May, 1877, for 5 years.

Claim.—The folding boat body as composed of the central, end, and intermediate sections provided with shoulder ribs; 2nd. The series of fixed and detachable floats, provided with locking hasps or devices, in combination with the boat body composed of the central, end, and intermediate sections, constructed, arranged and furnished with shoulder ribs; 3rd. The combination of the separable longitudinal braces with the boat body composed of sections; 4th. The combination of the series of projections *g h* with the sectional boat body, such projections being for use with the braces and to serve as stops to the sections.

No. 7413. Improvements on Temporary Binders.*(Perfectionnements aux serre-papiers.)*

George F. Alexander, Portland, Me., U.S., (Assignee of Robert C. Pierce.) 1st May, 1877, for 5 years.

Claim.—In combination with the bottom *a*, back *b*, cover *f* and spring *c*, the holder or retainer *d* formed of a single piece of metal clamped around a strip of leather *e* at its lower end, said strip of leather being fastened at its opposite end to the cover, and said spring being attached to the bottom and the back of the file.

No. 7414. Improvements on Grain Separators.*(Perfectionnements aux séparateurs des grains.)*

John D. Van Dusen and Charles S. Gross, Auburn, N. Y., U. S., 1st May, 1877, for 5 years.

Claim.—1st. In combination with the vibrating shoe of a grain separator the strap *b*, thumb screw *a*, roller *d* and rack *h*; 2nd. The adjustable jointed divider composed of a series of slats *L L*, hinged together so as to be folded and unfolded at will and arranged between the upper and lower set of sieves in the shoe of a grain separator.

No. 7415. Improvements on Trace Carriers.*(Perfectionnements aux porte-trait.)*

William H. Main, Boscobel, and Henry S. Woodruff, Janesville, Wis., U. S., 1st May, 1877, for 5 years.

Claim.—1st. The construction of frame *A* with the forward ends extended and curved inwardly in the form of hooks being rigid, and a part of said frame with their points so near the strap lying between them that the trace iron will be held in place by the same; 2nd. The rigid hooks *C C* in combination with the forward bar of frame *A*, back strap *B*, forming a joint for the purpose of hitching and unhitching the trace iron.

No. 7416. Improvements in Gates.*(Perfectionnements aux barrières.)*

Daniel Root, Caradoc, Ont., 1st May, 1877, for 5 years.

Claim.—The combination and arrangement of the wheel *D* above and the flanged wheel *K* below, when both are attached to the centre piece *A*, also *E E*, the cap and groove of the gate above, also the aperture therein at *I*, for the brace or arm to enter, and the links *C*.

No. 7417. Improvements on Folding Umbrellas.*(Perfectionnements aux parapluies brisés.)*

George B. Kirkam, New York, U. S., 1st May, 1877, for 5 years.

Claim.—1st. The runner *G* in combination with the stick *A*, tube *B* and spring *E*; 2nd. The combination of the rods *I J K L*, and pivoted clasp *N*; 3rd. The combination of the rods *H J K L*; 4th. The combination of the rods *H J L K*; 5th. The combination of spring *P*, wire *Q* and handle *A*; 6th. The spring *R* and thumb piece *S*; 7th. The combination of the slotted tube *B C*, projection *O*, plate *D*, spring *E* and pin *F*.

No. 7418. Improvements on Hoes.*(Perfectionnements aux houes.)*

Charles D. Hyde and Orion N. Elkins, North Troy, Vt., 1877, for 5 years.

Claim.—1st. The seed box *A* having partition and brush *E*; 2nd. The seed box *A* provided with rests *B B*, clasp *c* and spring *a* for its attachment to the hoe handle; 3rd. The seed box *A* having a frame *J*, lever *I*, pivoted therein, for operating the carrier box *O*; 4th. The carrier box *O* having a thumb screw *H* for regulating the slide *G*, to increase or diminish the capacity of the seed pocket; 5th. In combination with a hoe, a seeder attachment operating on the under or land side of the hoe handle.

No. 7419. Improvements on Calf Muzzles.*(Perfectionnements aux muselières des veaux.)*

Smilie Tilton, Atlantic, Iowa, U. S., 1st May, 1877, for 5 years.

Claim.—1st. A calf muzzle composed of bow *A* with its ends *a a* nearly meeting and provided with pointed pins *B B* projecting in various directions, and with longer laterally projecting pins *Ba Ba*; 2nd. A calf muzzle having a rigid bow *A* provided with a swinging portion *C* jointed to it, and held in a clamping position by a spring *d*.

No. 7420. Improvements in Air Heating Attachments.*(Perfectionnements aux appareils à chauffer l'air.)*

David McAllister, Walton, N. Y., U. S., 1st May, 1877, for 5 years.

Claim.—The improved air heating attachment for furnaces and stoves consisting of the inner drum or cylinder *B* having closed ends, and provided with the diaphragms *H* and *I* cut away to form the respective crescent shaped openings *d d* and *e*, the vertical pipe *F* and regulator *G* and the outer drum or cylinder: *A* open at each end, and the circular flanges *C D* of the furnace and exit flues.

No. 7421. Window Curtain Fixture.*(Ajustage de rideaux de fenêtres.)*

Edwin F. McComas and John H. Silveira, Erie, Pa., U.S., 1st May, 1877, for 5 years.

Claim.—1st. The combination of the carriers *D D* and cord *E E*; 2nd. In combination with the roller *B* or *B'* of a window shade, a carrier or hanger *D* provided with a hole *b* of the proper form for receiving the end or journal of the fixture attached to the roller; 3rd. In combination with the journal and hanger a bush washer *g*; 4th. In combination with pulley *G*, journal *h* and bush washer *g*, a weighted tassel *F'* and actuating cord *F*; 5th. In combination with pulley *G* and carrier or hanger *D D*, the sustaining cord *E E* and the actuating cord *F*, said cord being endless and passing around the roller and through loops, knobs or pulleys; 6th. In combination with journal *h*, bush washer *g*, weighted tassel *F'* and cord *F*, the carriers *D D* and suspending cord *E*; 7th. A window curtain roller carrier *D* provided with projections *d*; 8th. A window curtain roller constructed as follows: Of a cylinder *B*, shaft *S* and spring *K*, said spring being so arranged as to turn said cylinder and also impell it against one of the hanger fixtures; 9th. The cylindrical roller *B* in combination with the strip *O*.

No. 7422. Method of Keeping Milk, Cream and Butter.*(Méthode de conservation du lait, de la crème et du beurre.)*

James F. Ferguson, Essex, Vt., U.S., 1st May, 1877, for 5 years.

Claim.—1st. A milk bureau *A* provided with an upper cooling reservoir *B*, a lower reservoir *D* and suitable ventilators *i* in its sides and near the top of each division or shelf: the intermediate milk pans *D* resting upon metallic rollers *K* which revolve in a malleable iron frame, finned and sustained in the milk bureau by cleats *c c*, the metallic ice pan *E* with its exterior wooden bottom *G*; 2nd. The portable milk bureau *A* provided with upper cooling and lower heating reservoirs, the milk pans *D* arranged above each other and adapted to be drawn out on rollers *K* on to moveable supports *d d* which are temporarily braced against the cleats *c c* by means of the metallic braces *f f*.

No. 7423. Improvements in Hinges.*(Perfectionnements dans les pentures.)*

Pierre Houle, Montreal, Que., 1st May, 1877, for 5 years.

Claim.—In combination with a French or casement window sash *A*, the projections *b b'* formed or fixed upon the back of each leaf of the hinge *C C'* arranged concentrically with the pintle *a* and terminating in inclined or bevelled surfaces *c c'* in combination with catches *d d*, upper movable leaf *c* and stop *e*, all arranged and constructed in such a manner that the weight of the sash will act with the hinge to keep it securely in its place when opened, and allow of its being closed by raising it slightly.

No. 7424. Apparatus for Rolling and Unrolling Window Blinds.*(Appareil à rouler et dérouler les rideaux de fenêtres.)*

Damase Prérôt, South Ely, Que., 1st May, 1877, for 5 years.

Claim. 1st. The combination of the rail *d* having pulleys *K K*, *K₂ K₂* blind *e*, roller *f* having small rollers *g* at each end, cords *m n* and tassel *o*; 2nd. The combination of the rail *d* with pulleys *K₁ K₂*, either or both, and staples *l*, whereby the staple or staples are caused to simultaneously act as an axle to the pulley and guide to the cords; 3rd. The combination of the staple and ring *c l* constructed in one with the pulleys and cord; 4th. The combination of the blind *e* with rail *d* made in two parts *d₁ d₂*.

List of Patents issued up to 21st May, 1877, but not yet Officially published in the Patent Office Record.

- No. 7125. J. B. McGune and R. M. Wanzer, Hamilton Ont. Land Moulding Machine and Process of Making Pattern Plates, 1st May, 1877.
- No. 7126. E. E. Spencer, St. Armand, East, Que., (Assignee of W. A. Morrison, Fredrichsburg, Que.), Heater, 1st May, 1877.
- No. 7127. D. L. Thompson, C. A. Perley and G. Wente, Templeton Mass. U.S.A. (Assignees of C. A. Perley and C. P. Tenney, Templeton, Mass., U.S.A.), "Combined Child's Chair and Carriage," 1st May, 1877.
- No. 7128. R. Murray, Rossmore, Ont., "Patent to Cattle Fence," 1st May, 1877.
- No. 7129. A. E. Fisk, Belleville, Ont. Shirt, 1st May, 1877.
- No. 7130. T. Armstrong, Jr., Bathurst N.B. "Preserving Chamber" 1st May, 1877.
- No. 7131. B. Brown Kingsey Falls, Que. Self Acting Wagon Brake, 1st May, 1877.
- No. 7132. A. Fuchs, Berlin Ont. Automatic Hotel Indicator, 1st May, 1877.
- No. 7133. W. Russell Dundas, Ont. "Truss Rod for Reaper Tables," 1st May, 1877.
- No. 7134. F. B. Scovell, Waterford, Ont. Steam Counter Pressure Safety Valve. (Extension of Patent No. 7321 for 5 years), 1st May, 1877.
- No. 7135. F. B. Scovell, Waterford, Ont. Steam Counter Pressure Safety Valve (Extension of Patent No. 5221 for 5 years), 2nd May, 1877.
- No. 7136. J. S. Young, Dartford, Ont., Millstone Dresser, 7th May, 1877.
- No. 7137. D. A. Gilbert, Morrisville, Vt. U.S.A. Scale Protector, 10th May, 1877.
- No. 7138. J. B. Lincoln, Providence, R. I. U.S.A. Fringing Machine, 10th May, 1877.
- No. 7139. J. S. DeWiler, Philadelphia Penn., U.S.A. "Machine for Grinding Wheat" 10th May, 1877.
- No. 7140. G. G. Lafayette and P. W. Strang, Brockville, Ont. "Reversible Adjusting Eccentric or Link Motion Substitute," 10th May, 1877.
- No. 7141. J. M. Westcott, Milton Indiana U.S.A. "Adjustable Feed Seeding Machine," 10th May, 1877.
- No. 7142. J. H. Elward, St. Paul Minn., U.S.A. Thresher and Separator, 10th May, 1877.
- No. 7143. W. N. Whiteley Springfield Ohio U.S.A., Mower, 10th May, 1877.
- No. 7144. O. W. Davis, Waterbury, Vt. U.S.A., and W. H. Nelson, Sherbrooke, P. Q., "Oscillating Churn," 10th May, 1877.
- No. 7145. S. Ingersoll, Stamford, Conn., U.S.A., "Rock Drill," 10th May, 1877.
- No. 7146. J. L. Johnston Sherbrooke P. Q. Preparation of Animal Food, 10th May, 1877.
- No. 7147. M. Lafleur, Hastings Mich. U.S.A. Self Regulating Oil Cup, 10th May, 1877.
- No. 7148. T. S. Seabury, New York U.S.A. Automatic Power for Moving Vessels, 10th May, 1877.
- No. 7149. R. Hersey, Montreal P. Q. "Horse-Shoe Nail Finishing Machine," 10th May, 1877.
- No. 7150. H. W. Shepherd, (Assignee of J. Graves, New York U.S.A.), "Shovel," 10th May, 1877.
- No. 7151. H. Martin, Lancaster, Penn., U.S.A. Clutch Box, 10th May, 1877.
- No. 7152. C. Knowlton, Sanguenville, Maine U.S.A. "Hoisting Machine," 10th May, 1877.
- No. 7153. Jas. Budd, New York, U.S.A. Glass Vessels, 10th May, 1877.
- No. 7154. M. Sweeney, Belleville, Ont., Churn, 10th May, 1877.
- No. 7155. V. P. Hill, Hamball, N.Y. U.S.A., "Milk Cooling and Heating Apparatus," 15th May, 1877.
- No. 7156. A. Poirier, St. Jacques de l'achigan, P.Q., "Washing Machine," 15th May, 1877.
- No. 7157. J. Wetmaling and Charles Massé, Montreal, P. Q., "Process of Heating and Brazing Brass Tubes," 15th May, 1877.
- No. 7158. T. H. Hicks and T. H. Tracy, London, Ont., Hot Air Tar Barer, 15th May, 1877.
- No. 7159. J. Rutheven, Ottawa, Ont., Gas Lighter, 15th May, 1877.
- No. 7160. F. G. Fowler, Bridgeport Conn., U.S.A., Steering Propeller, 15th May, 1877.
- No. 7161. Jas. Lyall and Wm. Lyall, New York, U.S.A., "Loom," 15th May, 1877.
- No. 7162. G. M. Healy, Port Hope Ont. "Agriculture Organ Blowing Attachment," 15th May, 1877.
- No. 7163. W. H. Bodkin and A. McBride, London, Ont., Churn, 15th May, 1877.
- No. 7164. G. F. Gudgey, Philadelphia, Penn., U.S.A. Car Springs and Cases, 15th May, 1877.
- No. 7165. O. D. Thayer Buffalo, N.Y. U.S.A., Electric Lat. Gauge, 15th May, 1877.
- No. 7166. W. W. Whitaker, Gloversville, N.Y., U.S.A., Car-Axle Box, 15th May, 1877.
- No. 7167. D. C. Zephart, Port Perry, Ont., Plow Clevises, 15th May, 1877.
- No. 7168. P. G. Farham, Hawley Penn. U.S.A. Shoe Fastener, 15th May, 1877.
- No. 7169. C. Lippe, New York U.S.A. Picture Frame, 15th May, 1877.
- No. 7170. C. Lippe, New York U.S.A., Picture Frame, 15th May, 1877.
- No. 7171. M. Johnson, Lockport, N.Y., U.S.A. W. D. Ogles and E. R. McGill, Hamilton, Ont., "Hoe," 15th May, 1877.
- No. 7172. W. J. Austin and W. A. Austin, Chicago, Ill. U.S.A., Feed Water Heater, Latex Extractor and Condenser, 15th May, 1877.
- No. 7173. H. S. Lansdell, Brooklyn N.Y. U.S.A. Machinery for Making Screws, 15th May, 1877.
- No. 7174. J. P. Martin, Xenia, Ohio, U.S.A., Feed Cooker, 15th May, 1877.
- No. 7175. W. H. Fisher, Selma's Grove, Penn., U.S.A. "Sash Refishing Machine," 15th May, 1877.
- No. 7176. A. Diekey, Middletown, Ohio, U.S.A. Fruit Jar, 15th May, 1877.
- No. 7177. W. Muir, Montreal, Que., "Lateral Feed Sewing Machine," (Extension of Patent No. 1463), 18th May, 1877.
- No. 7178. W. Murphy Topeka, Kansas, U.S.A., Road Scraper, 18th May, 1877.
- No. 7179. J. Neff, Petersburg, Ont., Steam Valve, 18th May, 1877.
- No. 7180. L. V. Sone, New York, U.S.A., Sheet Metal Can, 18th May, 1877.
- No. 7181. E. S. Winchester and H. K. Itagler, Boston, Mass., U.S.A., Motor Engine, 18th May, 1877.
- No. 7182. V. Straude, Waterloo, Ont., Fire Engine, 18th May, 1877.
- No. 7183. McE. Young, Frederick, Md., U.S.A., "Match Machine," 18th May, 1877.
- No. 7184. F. Winslow, Salem, Mass., "Shoe Sole Buffer," 18th May, 1877.
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- No. 7186. J. W. Sharret, Portsmouth, Vt., U.S.A. Improved Reefing Fore and-Aft Sails of Vessels, 18th May, 1877.
- No. 7187. H. P. Malone, Cleveland, Ohio, U.S.A. Oil Stove, 18th May, 1877.
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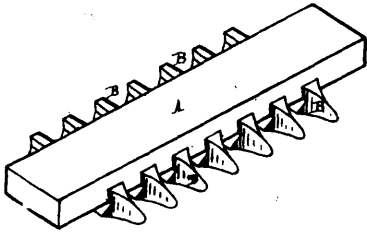
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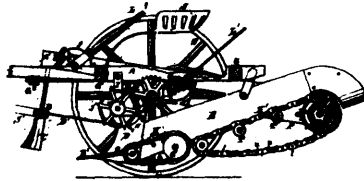
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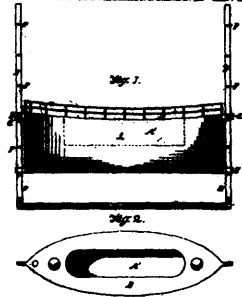
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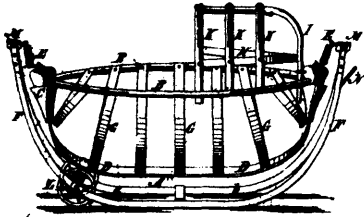
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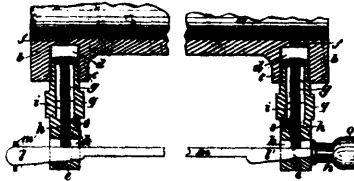
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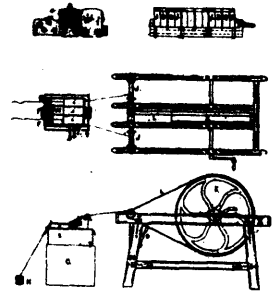
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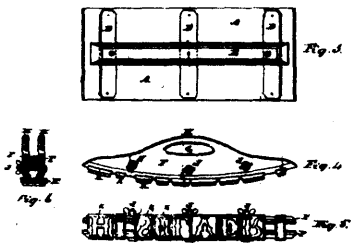
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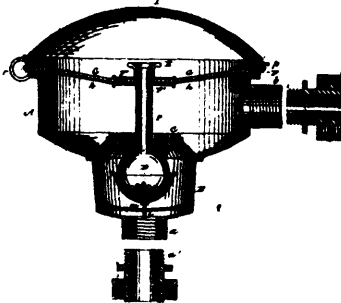
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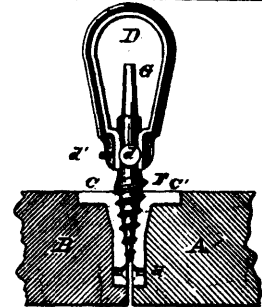
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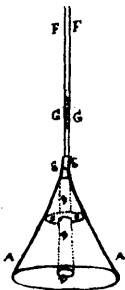
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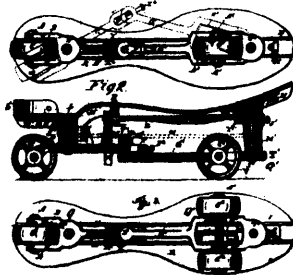
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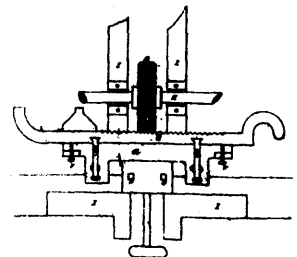
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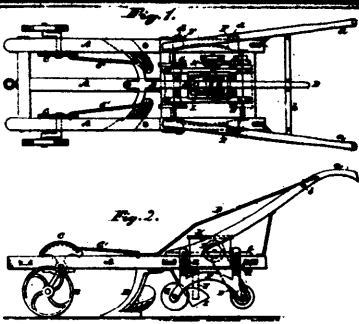
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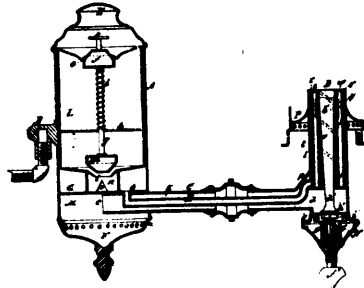
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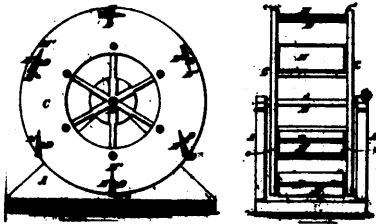
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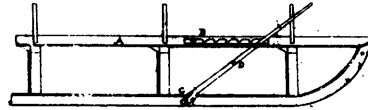
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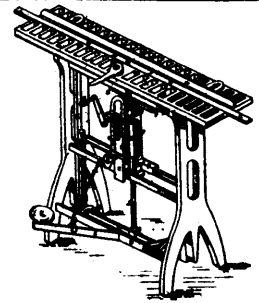
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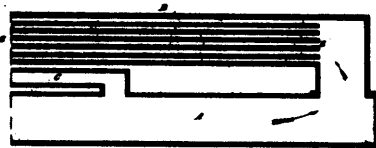
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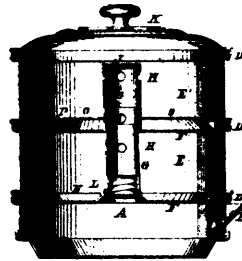
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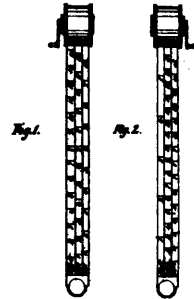
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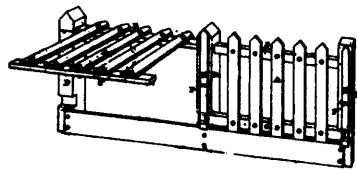
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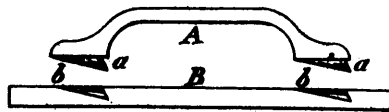
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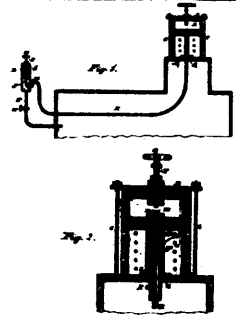
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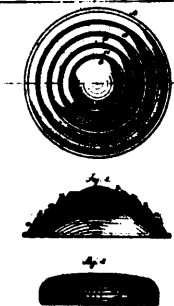
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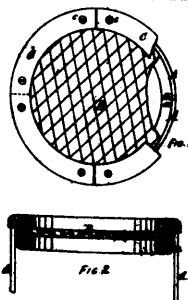
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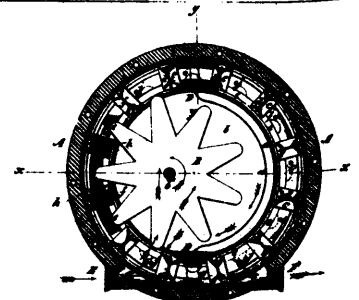
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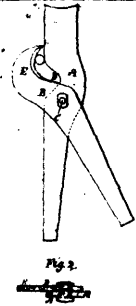
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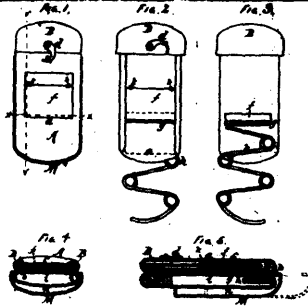
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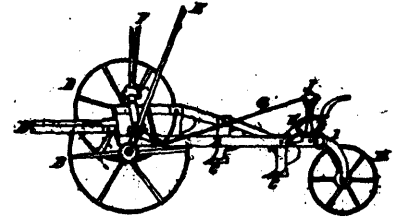
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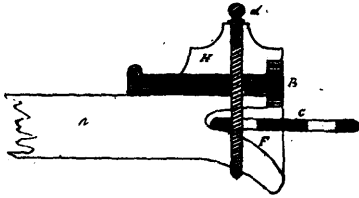
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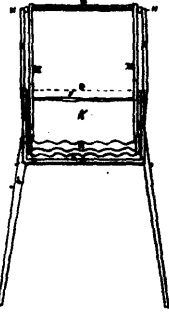
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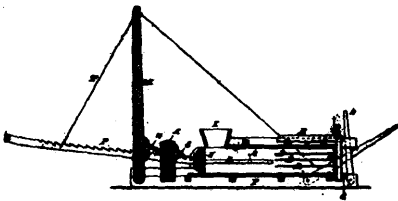
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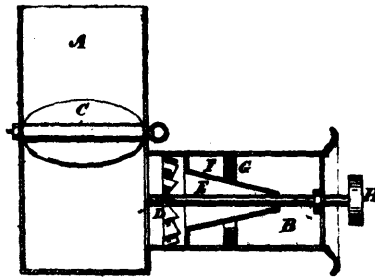
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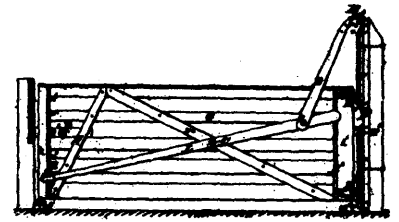
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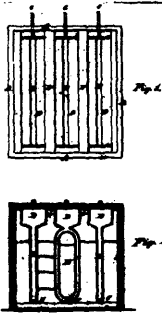
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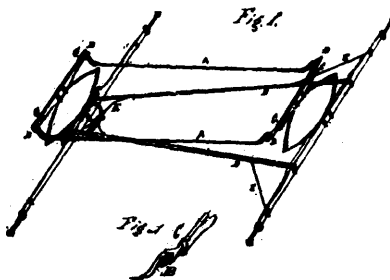
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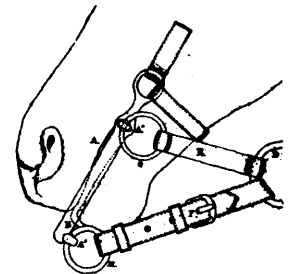
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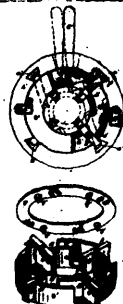
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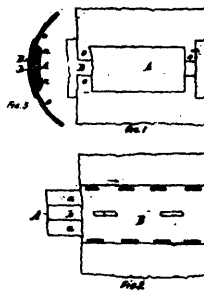
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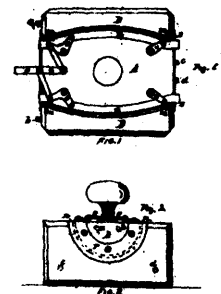
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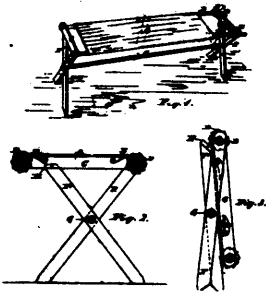
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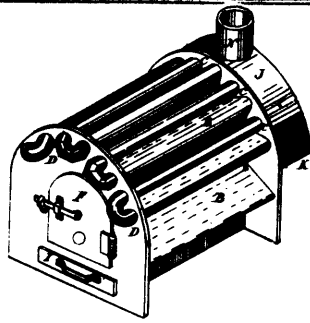
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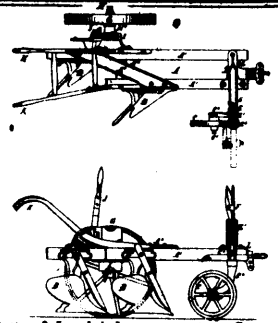
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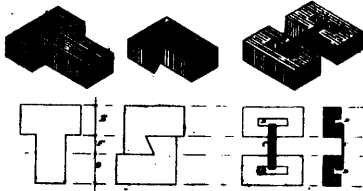
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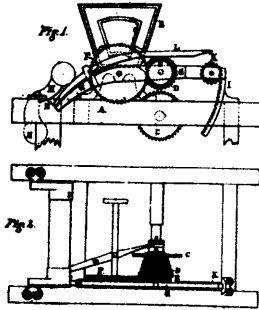
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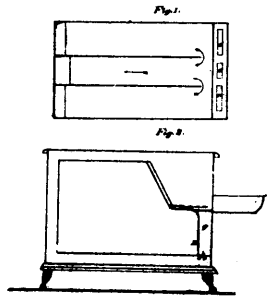
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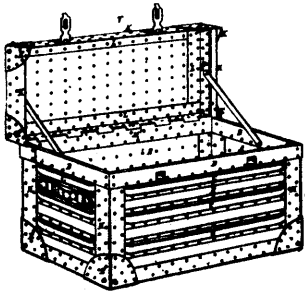
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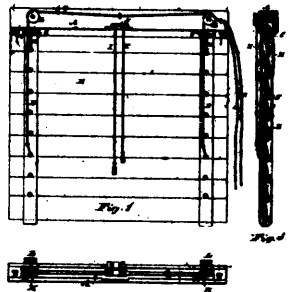
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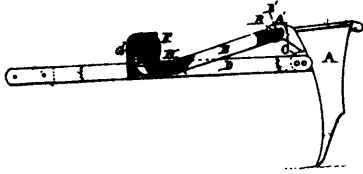
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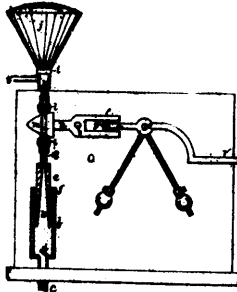
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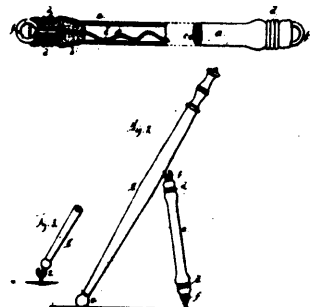
7349 Cornell & White's Improvements on Inside Blinds.



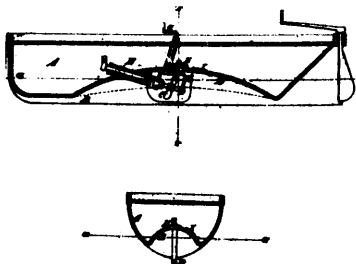
7350 Kuhns & Kneisly's Improvements on Spring Hoes.



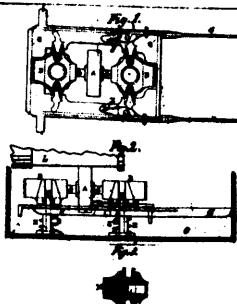
7351 Davis & Parks' Improvements on Pumps.



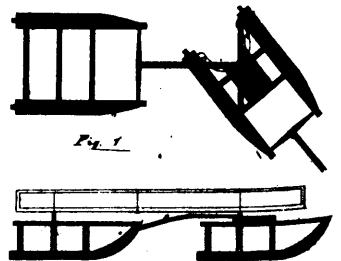
7352 Wood's Improvements on Gymnasium Apparatus.



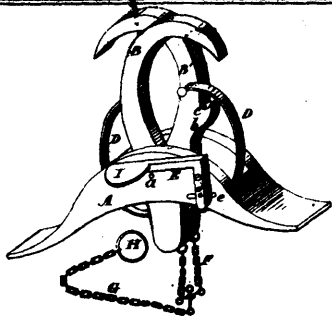
7353 Crosby & Vivarttas' Means of Propelling and Steering Vessels.



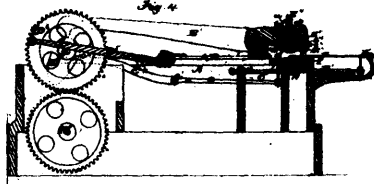
7354 Wright's Improvements in Car and Axle Lubricators.



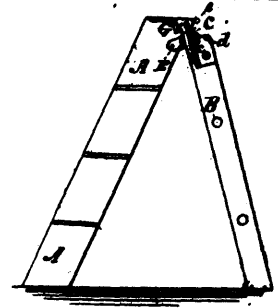
7355 Keith's Improvement in Bob Sleighs.



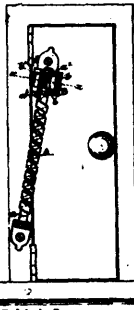
7356 McConnell's Improvements on Animal Traps.



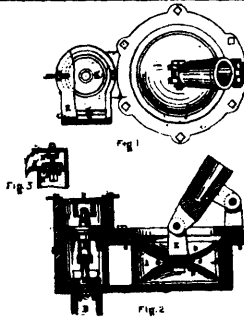
7359 Batchelder's Improvements on Horse-Shoeing Machines.



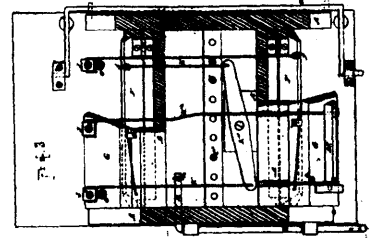
7360 Blauvelt's Improvements in Step-Ladders.



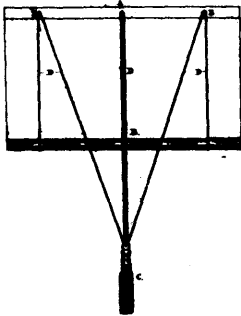
7361 Stimson & Sabin's Improvements in Door Springs.



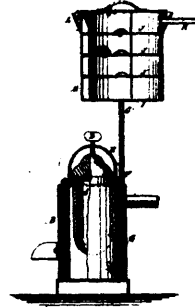
7362 Ellis & Loud's Improvement on Ships' Pumps.



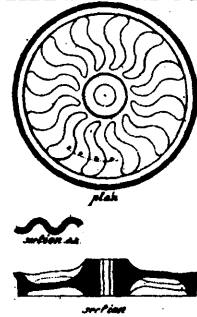
7363 Hammond's Improvements on Reed Organs.



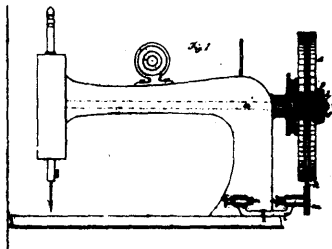
7364 Cheasbro's Curtain Fixtures.



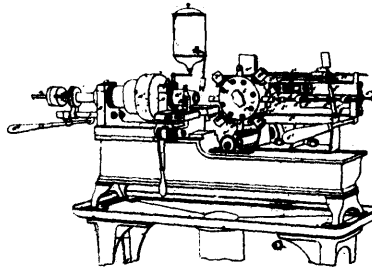
7365 Thomas' Portable Gas Apparatus.



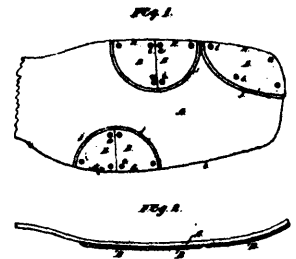
7368 Urquhart's Improvements on Car Wheels.



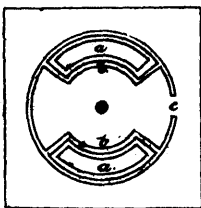
7367 Wilson's Improvement in Sewing Machines.



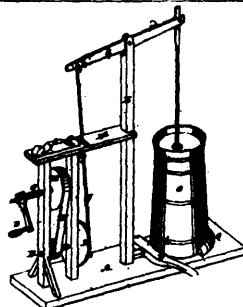
7369 Hubbell's Machine for Making Metal Screws.



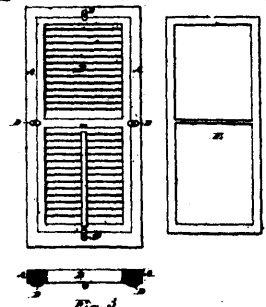
7370 Perry's Boot and Shoe Plate.



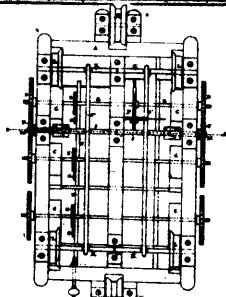
7371 Rose's Improvements in Turbine Water Wheels.



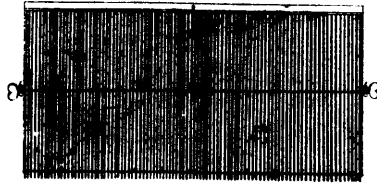
7372 Rae's Improvements on Motive Powers.



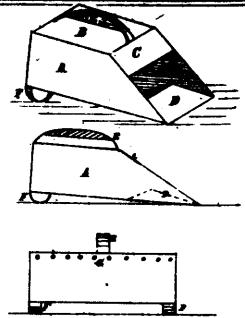
7374 Jane, McKenny & Smith's Improvement on Venetian Blinds.



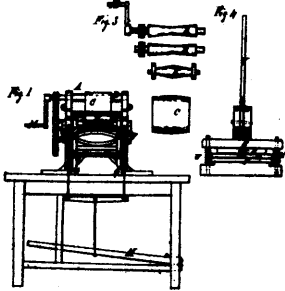
7376 Walton & Hortop's Mechanism for Propelling Street Cars.



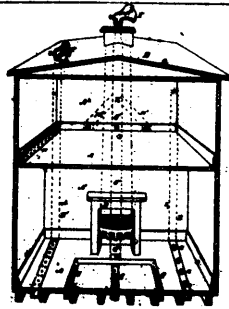
7377 Duffy's Plaiting and Flouncing Machine.



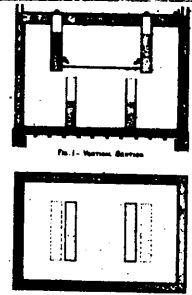
7378 Fox's Improvements in Dust Pans.



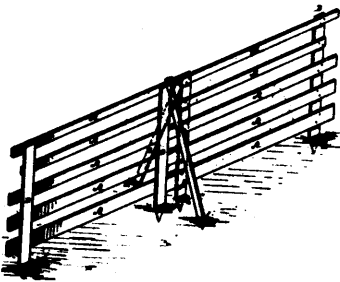
7379 Marengo's Process of Making Cigars and Cigarettes.



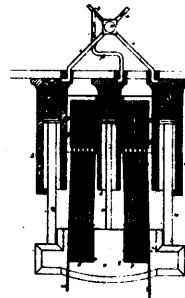
7380 Godley's Mode of Ventilation.



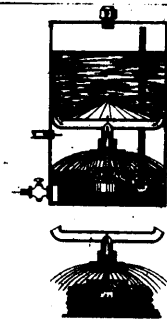
7381 Hopkins' Improvements on Machines for the Preservation of Animal and Vegetable Substances.



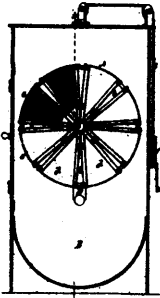
7383 Overholt's Improvements on Portable Fences.



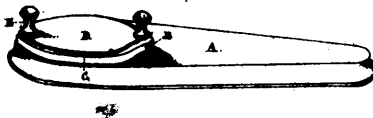
7384 Brewer's Improvements on Hydraulic Elevators.



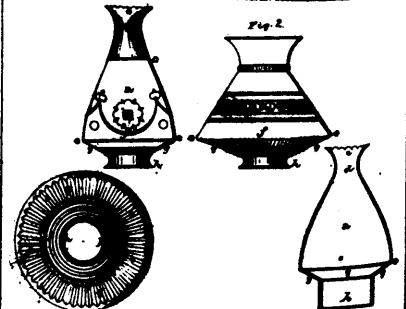
7385 Wiggin's Improvements on Carburetters.



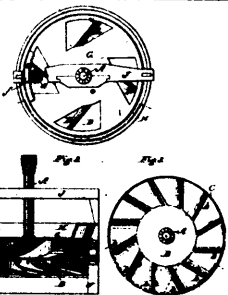
7388 Mary's Apparatus and Process for Treating Wool.



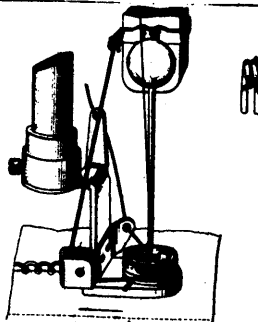
7389 McCarthy's Improvements in Coffins.



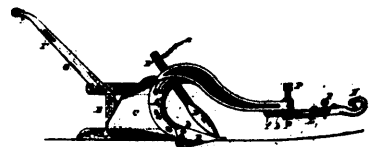
7390 Shirley's Improvements on Lamp Chimneys and Shades.



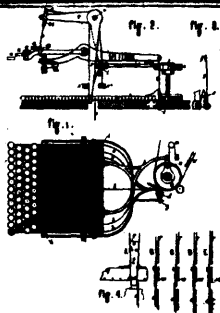
7391 Edward's Improvements on Water Wheels.



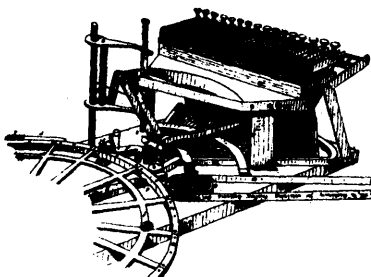
7393 Rose's Improvement on Sewing Machines.



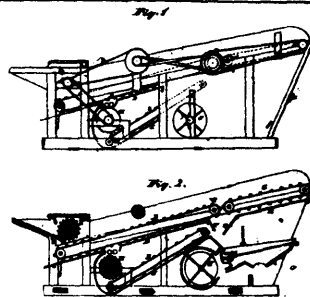
7394 Reich's Improvements on a Plough.



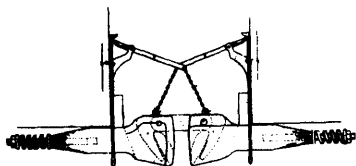
7395 Drummond's Machinery and Process for obtaining Printing Surfaces.



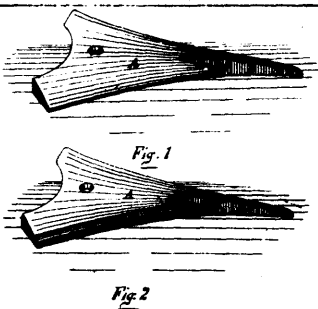
7396 Drummond's Machinery and Process for obtaining Printing Surfaces.



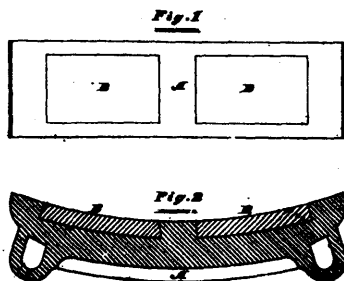
7397 Foster's Improvements on Grain Thrashers and Winnowers.



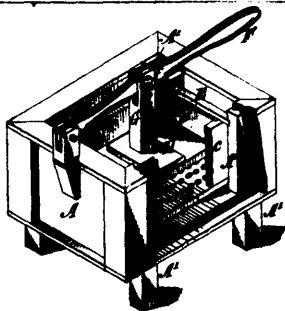
7398 Johnston's Railway Car-coupler.



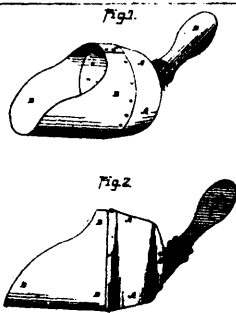
7399 Smith's Improvements on Plough Shears.



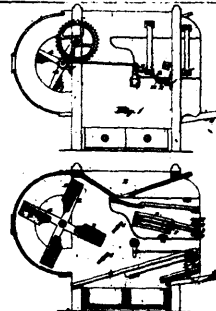
7400 Congdon & Pullman's Improvements on Shoes for Car Brakes.



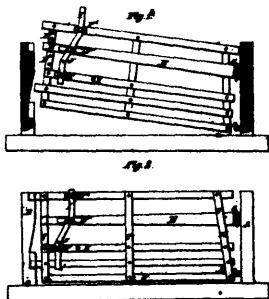
7401 Warne's Improvements on Washing Machines.



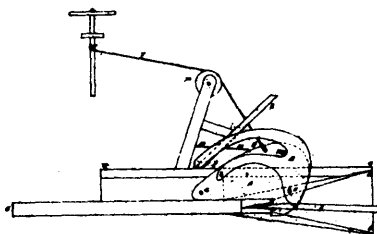
7402 Sherer's Improvements on Grocers' Scoops.



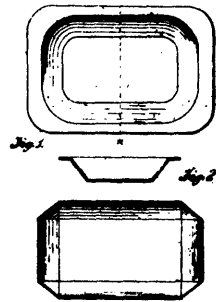
7403 Horton's Improvements on Fanning Mills.



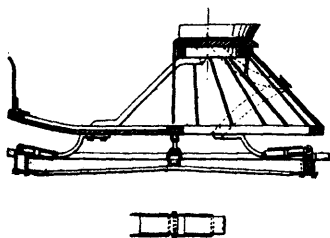
7404 Young's Improvements on Gates.



7405 Terrill's Improvements on Car Couplers.



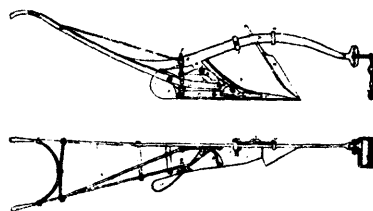
7406 Ingersoll's Dishes for Grocers' Use.



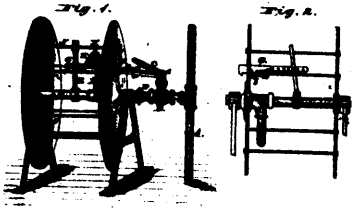
7407 Fogg's Improvements on Spring Vehicles.



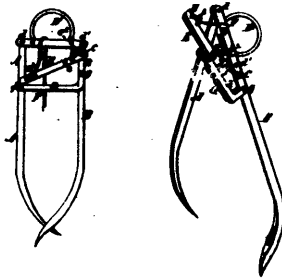
7408 Fisher's Improvements on Educational Toys.



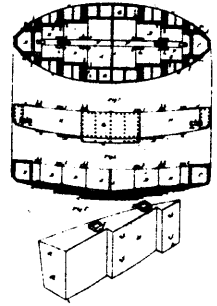
7409 Wishart's Improvements on Ploughs.



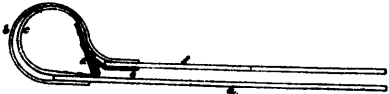
7410 Nercher's Improvements on Hose Reels.



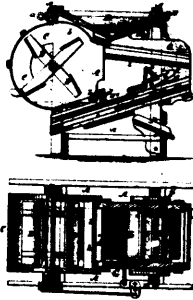
7411 Fisher's Improvements in Horse Hay Forks.



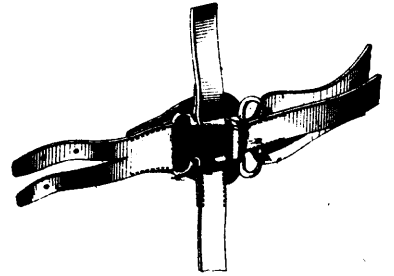
7412 Bates' Improvements on Life Boats.



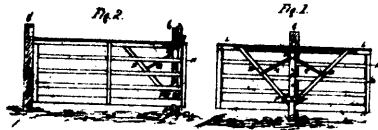
7413 Pierce's Improvements on Temporary Binders.



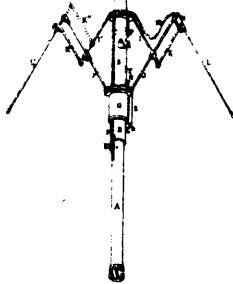
7414 Van Dusen & Gross' Improvements on Grain Separators.



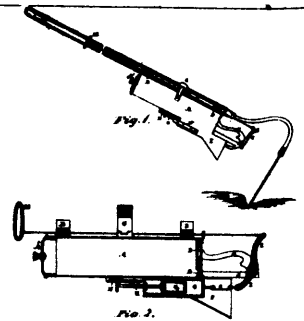
7415 Main & Woodruff's Improvements on Trace Carriers.



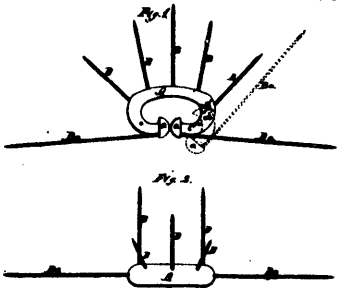
7416 Root's Improvements in Gates.



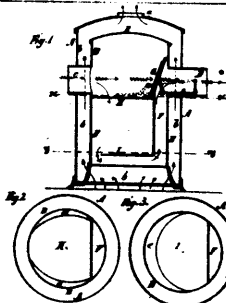
7417 Kirkam's Improvements on Folding Umbrellas.



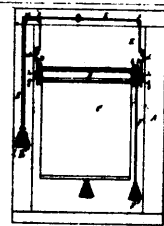
7418 Hyde & Elkins' Improvements on Hoes.



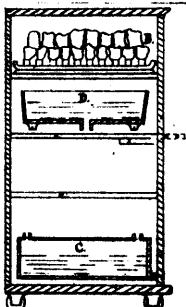
7419 Tilton's Improvements on Calf Muzzles.



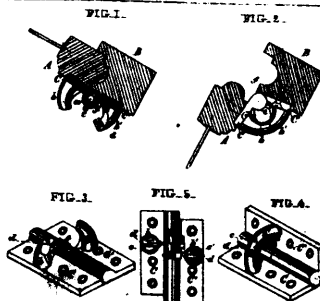
7420 McAllister's Improvements in Air Heating Attachments



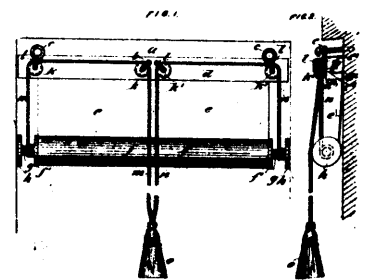
7421 McComas & Silveira's Window Curtain Fixture.



7422 Ferguson's Method of Keeping Milk Cream and Butter.



7423 Howie's Improvements in Hinges.



7424 Prévost's Apparatus for Rolling and Unrolling Window Blinds.