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INVENTIONS PATENTED.

No. 3119 WILLIAM M. MIXER, New York, U. S., 20th February, 1874, for 5 years: "Improvements in Refrigerator Buildings." (Perfectionnements dans les glaciers.)

Claim.—The combination of the metal or wooden grate E, caps D, and gutters C, over the entire surface of the refrigerator in such a manner as to expose the entire under surface of the ice to the upper surface of the air contained in the refrigerator.

No. 3120. SAMUEL R. WILMOT, Bridgeport, Ct., U. S., 20th February, 1874, for 5 years: "Improvement on Sheet Metal Tubing." (Perfectionnement dans les tuyaux métalliques.)

Claim.—An improved manufacture, in lock seamed, drawn, sheet metal tubing, with joint or seam consolidated, and metal condensed, hardened, stiffened, and smoothed as described, as results from drawing through a die or dies that impinge against, compress, consolidate and draw upon all the exposed surfaces of the joint or tube.

No. 3121. SAMUEL R. WILMOT, Bridgeport, Ct., U. S., 20th February, 1874, for 5 years: "Improvements on the Manufacture of Metal Tubing." (Perfectionnements dans la fabrication des tuyaux métalliques.)

Claim.—1st. An improvement in the art of manufacturing tubing of sheet metal strips or skelps with interlocked joint or seam, the method of condensing and consolidating the joint or seam and also the metal of the tube proper, by drawing the same through a die or dies that impinge against, compress, consolidate and draw upon all the exposed surfaces of the joint or seam and of the tube itself. 2nd. An improved machine constructed as described of formers, guides and dies, organized so that a strip of metal is drawn there through or between the same to bend said strip into a tubular form, to turn its edges to interlock one with another, to close the seam thus produced, and to draw such locked-seam tube by pressure applied in every direction both to the seam and body of the tube circumferentially inside and out. 3rd. The combination with the male former E, and its overhanging plate or portion d, with the female former F, and the tapering circular closing die H, with its tapering core or extension of the male former E. 4th. The combination with the tapering die H, of the tapering section or portion f, having grooves r, s, arranged to converge in a forward direction; 5th. The grooved tongue n, wing p, and jog u, in combination with the groove o, in the section or portion h, of the core, and the closing die H; 6th. The combination with the elements recited in the last preceding clause of a clasp of the drawing die I, and its grooved core K; 7th. The sectionally constructed core or core extension composed of detachable sections k, h, and k, arranged in rotation with each other and with the dies H, I & K. The detachable male former E, with its attached core or forward extension in combination with a stop e, arranged to resist the draft on said former E, relatively to the tapering die H.

No. 3122. JAMES A. WHELPLEY, Dartmouth, N. S., 20th February, 1874, for 5 years: "Improvements on Skates." (Perfectionnements aux patins.)

Claim.—1st. The skate runner having horns or projections K, in advance of the sole and heel plates for attaching the front heel and toe clamps independently of the sole and heel plates; 2nd. The toe and heel clamps of a skate attached directly to the runner independently of the sole and heel plates; 3rd. The toe clamps adjustable along the skate; 4th. The adjustable clamps for fastening the skate to the shoe fitted on the skate to be held or bound in any position by cramping thereon by the pressure of the shoe against them without any special fastening; 5th. A hand nut L, placed on the lower end of the adjustable clamp and arranged to fasten them more firmly against the runner; 6th. The semi-circular brace N, held in a slot O, in the runner and made fast to the sole or heel plate; 7th. The sole and heel plates fastened detachably to the runner by springing into connection with the notches M, slots C, projections P, and the braces N, 8th. A vibrating heel piece H, clamped by means of a pendant shank and a cam lever; 9th. A lever Q, having a slot and projecting point in combination with the shank of the heel piece provided with an incline; 10th. The extension of the heel of the runner above the heel plate for the pivotal support of the heel clamp; 11th. The arrangement of the heel clamp H, whereby the standard P, for securing the heel plate is utilized for the pivot of the lever Q, whereby said heel clamp is fastened.

No. 3123. J. J. THOMAS, and E. G. THOMAS, Hamilton, Ont., 20th February, 1874, for 5 years: "A Railway Switch." (Une aiguille de chemins de fer.)

Claim.—1st. The application of springs B, B, operated by suitable mechanism for springing the switch rails A, A, from a sliding to a main line; 2nd. The arrangement of the rod H, pivoted lever F, rod U, handle E, and signal rod Q, in combination with the movable switch rails A, A. 3rd. The arrangement and combination of the rod L, ball crank P, rod M, crank N, rod O, and lever C, operated on by the wheel of a locomotive or car for releasing the handle E, to close the movable switch rails A, A. 4th. The arrangement of the lever catches D, and K, for locking the handle E, as specified.

No. 3124. JAMES MILLS, Keeseville, N. Y., U. S., 20th February, 1874, for 5 years: "Improvements on Horse Shoe Nail Machines." (Perfectionnements aux machines à clou à cheval.)

Claim.—The combination in a horse shoe nail machine of a revolving roller hammer A, intermittently revolving anvil B, and striking hammer J, constructed and arranged to operate as described.

No. 3125. THOMAS ROSE, Georgetown, Ont., 20th February, 1874, for 5 years: "Machine for Cleaning Lamp Glasses." (Machine à nettoyer les verres de lampes.)

Claim.—The combination of the spring handle A, and the slide B, and forus of the open end C, as set forth.

No. 3126. L. M. STOCKTON, and D. STOCKTON, Yarmouth, Ont., 20th February, 1874, for 5 years: "Composition for Tanning Hides." (Composition pour le tannage des peaux.)

Claim.—The process of tanning cow or other hides by mixing water, alum, salt and tartar emetic with the composition of terra japonica, boiling water, cream of tartar and soda in the proportions set forth.

No. 3127. WASHINGTON FOGLESONG, Dayton, Ohio, U. S., 20th February, 1874, for 10 years: "Machine for Making Sheet Metal Pans." (Machine à fabriquer les ustensiles de cuisine en tôle forte.)

Claim.—1st. The sinking table G, plunger J, I, and side folders H, H', operated by suitable mechanism, in combination with the reciprocating corner folders O, O'; 2nd. The combination of table G, die I, and corner lappers O, O'; 3rd. The combination of table G, plunger J, I, side folders H, H', corner lappers O, O'; and cam C, when the cam is constructed so as to allow the plunger to rest at a certain point in the revolution of the shaft A, to permit the lappers to turn the corners R; 4th. The feeding carriage a, automatically operated in the manner specified; 5th. In combination with a sheet metal pan folding machine, comprising a table G, die I, and side folders H, H', the tongue and groove hinges g, g'; 6th. In combination with the elements of the first clause of claims the adjustable bars h, h'; 7th. In combination with the table G, die I, and side folders H, H', the shoulder and flange j; 8th. The discharging rollers S, S, and band T, operating in the manner specified.

No. 3128. D. DOUDS, J. H. HARTSUFF, and P. DOUDS, New Castle, Penn., U. S., 20th February, 1874, for 5 years: "A Steam Pump." (Une pompe à vapeur.)

Claim.—1st. The chambers A, A', in combination with the suction valves E, E' discharging valve S, and steam valve C, all arranged and operating as described; 2nd. The combination of the air chamber L, having the screw plug N, and spring valve O, with the suction space M, of the pump; 3rd. The suction valves E, E', constructed as described in combination with the casings I; 4th. The suction casing of the pump as specified.

No. 3129. GEORGE WESTINGHOUSE, Jr., Pittsburgh, Penn., U. S., 20th February, 1874, for 15 years: "Machine for Regulating, Applying and Releasing the Fluid Pressure on Railway Air-Brake Apparatus." (Machine pour régler, appliquer et relâcher la pression du fluide dans les appareils des freins à air de railroute.)

Claim.—1st. The triple valve device constructed as set forth arranged in a valve box or case in connection with a suitable arrangement of parts so as by variations in the pressure brought to bear thereon the air or other fluid pressure may be utilized in applying releasing or graduating the brakes; 2nd. The triple valve described in combination with the air charging part G, the auxiliary reservoir part G', the brake cylinder part H, and the intermediate parts C, C'; 3rd. The diaphragm n, and compound nut or piston c, c', in combination with the stem g, and valve a; 4th. The flexible elastic diaphragm n, in combination with one or both the annular flanges D, D', arranged relatively thereto as set forth; 5th. The relief valve R, in its case R', with parts r, r', arranged on the pipe H, and in combination therewith as set forth; 6th. The eye bolts m, hinged to pins m', operating in recesses or between lugs on the two parts B, B', so as to swing to and from their places by a hinging motion in the manner set forth.

No. 3130. JOHN DENNIS, Newmarket, Ont., 20th February, 1874, for 5 years: "Improvements in Dennis' Economical Framed Log Barn." (Perfectionnement à l'étable à charpente en pièces de bois dite étable économique de Dennis.)

Claim.—1st. The combination of the bents A, A, A, Fig. 1, and B, B, Fig. 2, for the purpose described; 2nd. The combination of the barn yard stable with the ordinary stable; 3rd. The combination of the skeleton walls c, c, c, Fig. 3, with the barn yard mangers E, E, Fig. 4, for the purpose described; 4th. The combination of the water trough O, O, Fig. 3, with the manger b, b, same figure.

No. 3131. JOHN KAY, Indianapolis, Ind., U. S., 20th February, 1874, for 5 years: "Roller Abstractor for Lever Watches." (Griffe pour enlever les cylindres des montres.)

Claim.—1st. The adjustable spring legs D, with feet d, in combination with the sliding adjustable spindle C, arranged as described; 2nd. The sliding spindle C, with slot e, and solid or detachable nipple c, working within the guide cut in A, the screw B, and the swivel point b, working within the guide and nut in A, in combination with the adjustable spring legs D, with feet d, the screw E, and nut e, arranged as described.

No. 3132. JAMES L. CATHCART, Washington, D. C., U. S., 20th February, 1874, for 5 years: "Improvements on Vessel Propellers." (Perfectionnements aux propulseurs de vaisseaux.)

Claim.—1st. A propeller frame mounted on a vertical axis and connected with the rudder post so as to be moved simultaneously therewith to a less extent; 2nd. A laterally adjustable propeller mounted in a frame adapted to be secured at any desired angle with the line of motion of the vessel; 3rd. The combination and arrangement of the propeller crane-shaft F, cross-head G, sectors H, chains T, pulley J, and rudder R; 4th. The combination and arrangement of the chains T, connecting the rudder and propeller frame, the adjusting devices i, k caps K, and sectors H; 5th. The coupling piece T, sliding boxes t, and forked yokes s, constructed and combined to transmit rotary movement from the shaft S, to the shaft b, while permitting the deflection of the latter; 6th. The propeller B, crane C, bearing c', cap c, crane shaft F, and detachable boxes t, separably connected as described to permit the unshipping and shipping of the parts; 7th. The fastening v, w, or its equivalent on the end of the shaft b, employed to tie the extremity of the arm C', of the crane to its post C, as described.

No. 3133. T. STERRY HUNT, Boston, Mass., U. S., and JAMES DOUGLAS, Jr., Quebec, 20th February, 1874, for 5 years: "Improvement in the utilization of Refuse or Waste Tinned Sheet Iron commonly called Tin Plate." (Mode d'utilisation des déchets ou retailles de tôle étamée ordinairement appelée ferblanc.)

Claim.—1st. The use and application of tin plate scrap or waste for precipitating metallic copper from its solutions; 2nd. The recovery and utilization of the tin from the tin-plate scrap by means of its solution and subsequent precipitation as oxide of tin in solutions containing protochloride of copper and a sulphate.

No. 3134. ALEXANDER K. PEDRICK, Philadelphia, Penn., U. S. (Assignee of E. Pedrick,) 20th February, 1874, for 5 years: "Traction hydraulic Engine." (Perfectionnements dans les pompes.)

It is proposed by this invention to use the exhaust steam from an engine, to create a vacuum in the iron chamber specified so as to act as an auxiliary pump at oil, salt and other wells.

Claim.—1st. The action of steam upon water or fluid in an iron chamber attached to the load or discharge pipe or tube from the pump to produce a vacuum; 2nd. The bevelled or funnel-shaped pipes or tubes connecting with the iron chamber and also separated therefrom; 3rd. The bevelled or funnel-shaped pipes or tubes to be used singly or for one or more to be connected together as set forth.

No. 3135. LEVI S. JOHNSON & MARVIN G. JOHNSON, Cortland, N. Y., U. S., 20th February, 1874. (Extension of Patent No. 3052, for 5 years.) "Preparation of Beef for Table Use." (Préparation du bœuf pour la table.)

Claim.—A beef compound prepared by cutting raw lean beef very fine and mixing it with salt, saltpetre and sugar, and packing and drying and smoking the compound in bags as set forth.

No. 3136. EDWIN E. PEARSE, London, Eng., 24th February, 1874, for 5 years: "Improvements in the Manufacture of Glucose or Grape Sugar from rice and other grain." (Perfectionnements dans la fabrication de la glucose or sucre de raisin avec du riz ou autres grains.)

Claim.—1st. The production of saccharine liquid by one operation in the manufacture of glucose or grape sugar from rice and other grain and the means or apparatus employed therein as described; 2nd. The combination of the vessel a, the hollow shaft c, with the hollow perforated arms c', the vessel for the passage and supply of steam, the feeding means k, k', b, b'; 3rd. The cylinder l, with feed chambers l', to receive the matters from a feed hopper and deliver them in regulated quantities to and in combination with the receiving vessel a.

No. 3137. HENRY PARKER, Gananoque, Ont., 24th February, 1874, for 5 years: "Improvements on Moulds for Casting Cores." (Perfectionnements aux moules à couler les noyaux.)

Claim.—1st. The sliding plate C, in combination with the flasks B, arranged and operating as set forth; 2nd. The moulding but-

tons D, having lips E, applied and used as set forth; 3rd. Connecting the cases A by hinges having projecting slotted lugs G, and jointed bar H, adjustable thereto and held by screws I; 4th. The spring keys K, applied as set forth for holding the flasks B, in the cases A.

No. 3138. ROBERT HITCHCOCK, Watertown, N. Y., U. S., 24th February, for 5 years: "Forced Blast Heavy Oil Lamp." (Lampe à huile lourde à courant d'air forcé.)

Claim.—1st. A forced blast lamp, the combination with the oil reservoir A of the movement contained in a chamber B, separate and distinct from but surrounded on all sides by said reservoir, 2nd. The combination in a forced blast lamp of the movement the fan or air impelling device C, separated and partitioned off from but driven by said movement, and air passages through which the air supply for the fan is taken in outside of and without passing through or in contact with the movement; 3rd. The wick tube and its surrounding jacket K, arranged entirely outside of and removable bodily and together from the oil reservoir or main body of the lamp and provided with air passages i and j, for conducting the impelled air from the fan to the flame; 4th. The combination of the air impelling apparatus, the surrounding oil reservoir and the wick tube and jacket surmounting said reservoir, and formed with passages through which the impelled air current will be directed upon the flame; 5th. The combination of the air impelling mechanism, the oil reservoir A, and the wick tube surmounting the same, with the pump mechanism, and supply pipe O, O', for feeding the wick with oil, and the overflow through r, and return pipe r', for conducting back to the reservoir the surplus of oil; 6th. In combination with the elevated wick tube and return pipe, he combined ash shield and strainer intermediate between the open bottom of the wick tube and the air impelling fan, and constructed as described with a cup or dish-shaped receptacle h, and a gauze diaphragm h', to strain the return oil, and catch the refuse from the wick tube, and with an annular projecting flange d, to deflect from the opening above the fan, the matter that might otherwise drop from the said shield and strainer on the fan; 7th. The wick raising sleeve v, slotted as described, and provided with spring catches z, placed in said slots, and normally projecting inward through the slots beyond the inner surface of the sleeve; 8th. In a forced blast lamp, the combination with the movement, or blower, of a pump mechanism for supplying oil to the wick.

No. 3139. OSCAR W. ALLISON, Buffalo, N. Y., U. S., 24th February, 1874, for 5 years: "Improvements in Steam Boilers." (Perfectionnements dans les chaudières à vapeur.)

Claim.—1st. The combination in a steam boiler, with the water chamber A, steam chamber B, and furnace E, of the series of water tubes N, and connecting space blocks; 2nd. The arrangement in a steam boiler having a water chamber A, steam chamber B, and furnace E, of the outer series of water tubes N, and two inner series N', N'', and connecting space blocks; 3rd. The combination in a vertical steam boiler, and with the water tubes thereof, of the connecting space blocks, made concave at the sides to fit between said tubes.

No. 3140. JOHANN E. F. LUDEKE, London, Eng., 24th February, 1874, for 5 years: "Motive Power Machine." (Puissance motrice mécanique.)

Claim.—1st. The combination of the hollow cylinder or fly wheel F, ring or annular chamber G, ring of cork K, vertical stems L, L', horizontal bar M, vertical rod N, lower bearings Q, socket Q', foundation plate A, standard B, crossed head C, shaft E, pulleys S, counter weights R; 2nd. The combination of a paddle wheel G, main shaft e, ring E, attached by spikes Et, cup F; channel H, toothed wheel I, adjusting screw L, toothed wheels O, P, Q, S, spiral spring N, toothed ring W, arm X, pawl X', and arcs E, constructed, arranged and operating as set forth.

No. 3141. THOMAS W. DOWLING, Pontiac, Mich., U. S., 24th February, 1874, for 5 years: "Improvements on Scroll Sawing Machines." (Perfectionnements aux scies à chantourner.)

Claim.—1st. The application of the coil springs D, with lever purchase C, from their centres; 2nd. The forked pitman F with its centre connection on the upright slide B.

No. 3142. HENRY SKOINES, London, Eng., 24th February, 1874, for 5 years: "Gas Apparatus." (Appareil à gaz.)

Claim.—1st. The process of treating the crude gases, vapours, or products, arising from the coking or first carbonization of canal coal, and analogous substances by introducing such products with superheated or other steam or with water into retorts or chambers charged with chalk or analogous material in a highly heated state; 2nd. The amalgamating of the gases as described in retorts or chambers charged with coke, or analogous substances, in a highly heated state; 3rd. The described process of manufacturing or producing gas for illuminating or heating purposes by coking or carbonizing canal coal or analogous substances in coking retorts or chambers treating the resulting gases, vapours or rising products with superheated or other steam or with water in other or intermediate retorts or chambers containing chalk or analogous material for absorbing the sulphurous compounds and ammonia, and amal-

gamating the gases in final retort or chambers charged with coke or analogous substance; 4th. The novel combination of the carbonizing or coking retorts A, A', A'', A', A', pipes D, valve W, intermediate or chalk retort As, pipe D', final or amalgamating retort A6, ascension pipe D2, hydraulic sealing vessel E, pipe B', gas main F, steam generator L, steam supplying and superheating pipe O, and other parts all constructed, arranged and operating as set forth; 5th. The process of manufacturing or producing gas by passing air or superheated or other steam through a retort or chamber charged with highly heated chalk or analogous material, thence through a retort or chamber charged with highly heated coke or analogous substance, and afterwards through a highly heated retort charged with canal coal, or analogous substance as explained. 6th. The passing of the heated gases through tanks or vessels charged with tar, tallow, petroleum or other oleaginous substances as described.

No. 3143. SEYMOUR HUGHES, Jersey City, N. Y., U. S., 24th February, 1874, for 5 years: "Improvements on Lanterns." (Perfectionnements aux lanternes.)

Claim.—1st. The crown or dome E, slitted at the lower edge to form the spring jaws b, for holding the globe in position; 2nd. The combination of the perforated plate a, applied beneath the burner with the guard D, and with crown or dome E, having the spring jaws b b'; 3rd. The crown or dome E, provided with the removable cover d, which is held in place by the ends of the bail c; 4th. The combination of the removable lamp F, with the plate a, cylindrical base A, and globe C, all arranged to permit the application of the lamp from above, and hold it in place when applied as set forth; 5th. The combination of the metal band G, with the crown or dome E, said band having the hook h, formed on it, for entering the eye i; 6th. The globe C, made of partly spherical, partly cylindrical form, as shown in fig. 3, and as described.

No. 3144. W. A. KIRBY & D. M. OSBORNE, Auburn, N. Y., U. S., 24th February 1874, for 5 years: "Improvements on Mowing Machines." (Perfectionnements aux faucheuses.)

Claim.—1st. In combination with the main frame, the shoe rigidly attached thereto, the finger-bar hinged to the main frame, and the lifting lever hung to the standard o, the main frame, and connected with the finger-bar, so as to raise up the finger bar independent of the shoe, hold it up, or lower it; 2nd. The combination of the main frame with a rigid shoe attached, the finger-bar hinged to said main frame, and the pole-block, and lifting lever connected therewith; 3rd. Combination of the hinged finger bar and the crank wheel shaft whereby said finger-bar shall vibrate about the crank shaft, as a centre of motion; 4th. Combination of the lugs and stud on the main frame, with the finger-bar supports, to keep the finger bar joint in proper position; 5th. The combination of the seat, seat beam, pole-block-link, and main axle so that the driver in his seat may be by his weight, through seat-beam, and in raising up the main frame as described.

No. 3145. THOMAS MURGATROYD, Hamilton, Ont., 24th February, 1874, for 5 years: "Improvements in Carriage Springs." (Perfectionnements aux ressorts de voitures.)

Claim.—1st. The horizontal brace springs F, applied to and between each pair of main springs D D'; 2nd. The main springs D, fastened to the cross bar B, by a hinge at their lower ends and their upper ends attached directly to the body or seat of the carriage; 3rd. The means of connecting the brace springs D, to the main springs B, by perforated ears h, firmly attached to the main springs; 4th. The brace springs F, cross pieces G, vertical rods K, brace rods l, and rests e, combined with springs D D'; 5th. The arrangement of hanging the f, out of the carriage to the forward part of the curved seat rider H, as specified.

No. 3146. STUART PERRY, Newport, N. Y., U. S., 24th February, 1874, for 5 years: "Rotary Hay Tedder." (Machine rotatoire à faner le foin.)

Claim.—1st. Combination of the supporting and driving wheels, turning independently of each other on a continuous axle tree, the main-frame D D', the rotating reel hung upon the said main frame in rear of the axle-tree and within the wheels, and carrying tino-bearing shafts, having rigid arms which connect them with a cam-way fastened upon the said main frame, all constructed and arranged in the manner described; 2nd. A rotary tedder, the combination of a reel having rocking tie shafts, each connected by its single rigid arms and friction roller slide to a cam-way g, which controls its rocking movement and the cam-way g, having that part of its track which controls the times while acting on the grass, in the form of a true circle concentric with the axis of the reel, for preventing either acceleration or retardation of the times while acting on the grass, and the other part formed so as to cause the tines to dip backwards after lifting and be restored again before entering the grass; 3rd. The wrought iron tubular tie shafts F, in combination with a series of grass spreading tines coiled around each of said tubular shafts and fastened thereto by bolts which pass directly through them; 4th. The main frame D, made and arranged in the manner described; 5th. Construction of the pawls Q, Q, and

the devices O O, for permitting or restraining their action and arranged to operate as described; 5th. The end tines *et cetera*, of the series on the tine shafts having an outward bend so as to bring them nearer to the ground wheels; 7th. The tongue thill and stat-frame I, made and attached to the axle-tree with irons bent, in the manner described; 8th. The crank arms *ff*, made with a set back *u*, for the purpose of giving a longer bearing for the cam-way rollers without losing any of the advantage gained by the outward bend of the end tines in getting them nearer to the ground wheels; 9th. In combination with the main frame hinged to the axle-tree, the branched lever which spans or straddles the axle-tree and serves as brace and lever as described.

No. 3147. JOHN O'REILLY, Ottawa, Ont., 24th February, 1874, for 5 years: "Machines for Washing Clothes." (Machine à laver le linge.)

Claim—The curved bars on rubber B, and on bottom of box *c*, and the attachment of lever A, in the circular action position.

No. 3148. FRANCIS A. EVERETT & MILTON BOWERMAN, Springfield, Mo., U. S., (Assignees of A. W. McClure,) 3rd March, 1874, for 5 years: "Metallic Churn Dasher." (Batte-beurre en métal.)

Claim—Metallic churn dasher, described, consisting of the combination of the hub A, with the raised flange B, the compound curved and groove radial arms E, attached in the manner and form shown to the outer grooved ring *c*.

No. 3149. THOMAS S. HUNTLEY, Cardiff, Eng., ANDREW GILCHRIST, Anstruther, Scotland, and JOSEPH A. DIXON, Glasgow, Scot., 3rd March 1874, for 15 years: "Improvements on Extracting Trees and Stumps by the Roots and in Engines therefor." (Perfectionnements dans la manière d'arracher les arbres et les souches par les racines et dans les engins pour cet objet.)

Claim.—1st. Extracting of trees with their roots from the ground by steam power acting on the trees through a rope operated by a winding or hauling drum A; 2nd. The novel combination of the differential gear and clutches C D E F J, and K, for actuating the winding or hauling drum A at the required speed; 3rd. The novel combination with engines of the class described of the roller S, with the means for loading it, in the manner described; 4th. The instruments operating or working in the manner described for extracting stumps of trees from the ground.

No. 3150. ROBERT QUINTAVALLE, Brooklyn, N. Y., and REMIGIO LO FORTE, New York, U. S., 3rd March, 1874, for 5 years: "Improvements on the Construction and Arrangement of Steam and Sailing Vessels." (Perfectionnements dans la construction et la distribution des vaisseaux à vapeur et à voiles.)

Claim.—1st. In a vessel the blades C C, suspended from the deck B, into the hold to prevent the cargo from shifting; 2nd. Auxiliary rudder D, provided with the swivel blocks *ij*; 3rd. Combination of the chains *m*, *n*, with the auxiliary rudder D, swivel blocks *ij*, and chains *r*, *s*.

No. 3151. MARSHALL A. WEIR, London, Eng., 3rd March, 1874, for 5 years: "Apparatus for Registering and Checking the Entries and Exits of Passengers to and from Tramway Cars, Omnibuses or other Carriages." (Appareil pour enrégistrer et contrôler les entrées et sorties des passagers sur les voitures de chemins à ornières, omnibus et autres voitures.)

Claim—The combination of the swinging gate C, and sliding gate H, the latter arranged to close behind the passenger as described in reference to Figures 2, 3, and 4; 2nd. Combination of the swinging arm G I, having a limited movement, with the swinging gate C, and vibrating gate H, as described in reference to Fig. 2; 3rd. Combination of the guide P, with the sliding gate H, arms J, J, chains K, K, and spring L, Figures 2, 3, and 4, and of the pin Q, in the slide gate lever P, pulley or drum P I, and chains P, and P, Figures 2, and 2b; 4th. Combination of the laterally sliding socket O, having studs K, K, with the notched or pierced plates S, S, as described in reference to Figures 2, 3, and 4, 5th. Rotating turnstile with sliding arms operated by a cam or cams E, B I, as described in Figures 1, and 1^a; 6th. Notched disc B, upon the turnstile shaft actuating by means of the sector L, and ratchet motion

the strip of paper as described in reference to Figures 5, and 6; 7th. Turnstile shaft in combination with the bell crank levers D, D I, having triggers E, E I, and prickers F, F, for piercing a moving strip or fillet G, as described in relation to Fig. 5; 8th. Combination of the air compressing instrument operated by crowding of the road or by the throwing up of a projection from the rail shown in Figs. 18, and 19, either with the bellows N, toothed sector lever L, and fillet moving device *et cetera* shown in Fig. 5, or with the air chamber *et cetera*, or is, and pricker *et cetera*, shown in Figs. 7, and 8; 9th. Combination of the turnstile or swing gate with air compressing instrument *et cetera*, and plug valve *et cetera*, connected by pipes to small air chamber *et cetera*, pricker *et cetera*, and moving strip as shown in Figs. 7, 8, and 9; 10th. Small air chambers *et cetera*, *et cetera*, and counters *et cetera*, shown in Figs. 13, 14, and 15, actuated by an air compressing instrument; 11th. Governing apparatus consisting of the plug valves H, and H I, operated from the axle of the vehicle by the gearing change stud plate D, and ratchet motion shown in Figs. 16, and 17, acting in communication with air compressing instrument and registering apparatus such as that shown in Figs. 13, 14, and 15, constructed and arranged as set forth; 12th. The combination of the plug valves H, and H I, change stud plate D, lever F, and air compressing instrument N, in Figs. 16, and 17, with the pricker registering apparatus shown in Figs. 7, 8, and 9, being connected therewith by tubes *et cetera* described; 13th. The combination of the plate E, with studs F, *et cetera*, thereon, the ratchet wheel G, air chamber M, and other mechanism in connection with a clock train as set forth in reference to Figs. 10, 11, and 12; 14th. The combination of the air chambers or bellows N, valve N I, lever N^a, and click N^b, shown in Figs. 5, with the sector arm L, and fillet moving device in Fig. 5, as set forth.

No. 3152. ALBERT C. LANGWORTHY, Aurora, Ill., U. S., and GIDEON HUNTINGTON, London, Ont., 3rd March, 1874, for 5 years: "Improvement on Spring Bed Bottoms." (Perfectionnement des fonds de lits à ressorts.)

Claim—The application of slats A, one end open, slat B, ends riveted together, slat C, sawn out of one piece, ends solid and springs E.

No. 3153. TEMPLE EMERY, Peshtigo, Wis., U. S., 3rd March, 1874, for 5 years: "Machine for Rolling Logs." (Machine à tourner les pièces de bois.)

Claim.—1st. A log rolling machine one or more horizontally sliding and folding knees, arranged and braced for continued engagement in one direction with logs arranged upon a skidway and for disengagement thereof, by reason of their contact with the said logs, while moving in the opposite direction; 2nd. A log rolling machine, one or more horizontally sliding, folding and self adjustable knees, arranged and braced for continued engagement in one direction with logs arranged upon a skidway and for disengagement thereof, by reason of their contact with the said logs, while moving in the opposite direction; 3rd. A log rolling machine, the sliding, folding and self adjustable knees D, one or more in combination, with an endless chain by means of which the said knees are actuated; 4th. In combination in a log rolling machine, the bevelled friction wheel L, the sliding shaft M, provided with the bevelled friction pinion *m*, *m*, and the clutch *n*, and the pivoted level N.

No. 3154. JOHN MULLALY, New York, U. S., 3rd March, 1874, for 5 years: "Machine for Melting Snow and Ice on Streets and Railways." (Machine à fondre la neige et la glace sur les chemins et les voies de fer.)

Claim.—1st. In a machine for melting snow and ice, a vertically adjustable distributor; 2nd. In a snow melting machine a perforated distributor composed of pipes so constructed and arranged that any number thereof may be employed at any time; 3rd. The combination with the distributor of a snow melting machine of devices for effecting its vertical adjustment; 4th. A machine for melting snow or ice consisting of a suitably mounted portable steam generating and superheating apparatus having tubes so arranged as to receive superheated steam from the superheater and discharge the same upon the snow or ice through pipes arranged between the wheels of the truck; 5th. In a machine for melting snow and ice auxiliary distributors arranged as described to discharge a heating or melting medium upon frozen obstructions in front of or at the sides of the apparatus; 6th. A machine for melting snow having a brush or brushes S, and a receptacle for receiving the snow and melting the same; 7th. In a snow melting machine a series of perforated revolving cylinders, constructed and operating as described and made either with or without brushes as set forth; 8th. In a snow melting machine the combination of the air heating apparatus conducting tubes and blast fans with the perforated tank or distributor placed underneath the apparatus and between the wheels; 9th. The devices described for imparting motion to the blast fans in combination with the air heater conduction pipes and tank or distributor; 10th. The combination with a portable furnace, steam generator and hot air chamber of the perforated distributing tank or chest V, placed between the wheels and a blower or blowers; 11th. A machine for melting snow and ice consisting of a suitably mounted portable steam and hot water apparatus in combination with the perforated distributing tank or chest W, through which hot water alone or hot water and steam together may be discharged upon the snow or ice, said tank being arranged beneath the truck as specified.

No. 3155. SETH W. PAINE, Rochester, N. Y., U. S., 3rd March, 1874, for 5 years: "Improvements on Shot Cartridges." (Perfectionnements aux cartouches de plomb de chasse.)

Claim.—1st. In combination with the shell of a longitudinally divided cartridge case a confining cord wound upon or around the periphery of the same; 2nd. A longitudinally divided cartridge case, the depression or cavity *d*, for receiving the confining cord and so arranged that the cord will not project beyond the periphery of the case when wound; 3rd. The sections A. and A1. when constructed as shown and provided with the notches *a*, and projections *a1*; 4th. The apex B, constructed as shown provided with the recesses *b*, and combined with the sections A, and A1, provided with the lips *a2*.

No. 3156. CHARLES N. GOSS, Claremont, N. H., U. S., 3rd March, 1874, for 5 years: "Improvements on Horse Hay-Rakes." (Perfectionnements aux râtaux à cheval.)

Claim.—1st. A horse hay-rake having in combination the following elements, namely, side-beams with stub or short axles affixed to the outsides of the same and a system of teeth independently pivoted forward of a line passing through the axle of the supporting wheels, leaving the space to the rear of the pivotal line occupied only by the teeth, the devices for lifting the same and the clearer bars H, or their equivalents; 2nd. For use in a horse rake the plate G, constructed as described, that is, angular in cross section on its inner face and on its outer faces provided with the strengthening ribs and projecting flange and with a journal; 3rd. In combination with the sleeved tooth-head provided with the flaring tooth steady flanges or walls *b*, *b*, and a bolt hole or tooth having an eye therein whereby the head and tooth are secured firmly together; 4th. The lifting bar E, and treadle F, all combined as described.

No. 3157. SAMUEL W. JAMISON, Newark, N. J., U. S., 3rd March, 1874, for 5 years: "Machine for Crimping Leather for Boots and Shoes." (Machine à cambrer les cuirs de chaussures.)

Claim.—1st. The crimping jaws D, D, each formed with a projecting beak or point, and inwardly bevelled on each side thereof so that when the jaw descends, the material when first acted on shall hug the beak or point; *a*, only of the jaws without clinging to the bevelled sides *b*; 2nd. A machine or apparatus for crimping leather for boot and shoe fronts, a crimping jaw D, the acting face of which is provided between the toe and leg portion and at the point where it crimps the leather over the bend in the tree or form N, with upwardly curved corrugations *c*, arranged as described to concentrate or crowd the leather towards the heel or lower rear point of the boot front during the descent of the jaw D; 3rd. A crimping jaw D, for crimping boot and shoe fronts formed with a projecting beak or point *a*, and inwardly bevelled on each side thereof and provided with central upwardly curved corrugations *c*, with or without toe or leg corrugations; 4th. A crimping jaw D, constructed with toe and leg portions *d*, and *e*, and with a central part provided with upwardly curved corrugations *c*, the said central part being of such relative dimensions to the toe and leg portions that during the descent of the jaw, it will have traversed only about one-half the boot or shoe front when the toe and leg portions of the jaw are about to release or quit the same; 5th. A crimping jaw for crimping boot and shoe fronts, the combination of the central upwardly curved corrugations *c*, with toe and leg corrugations formed as described, so as to divert from the heel or lower point of the front, the material on each side of said central corrugations; 6th. A crimping machine the combination with the crimping jaws D, of finishing jaws E, following said crimping jaws and acting on the crimped front as it leaves the latter set of jaws; 7th. The finishing jaws E, having such a contour as to fit or come in contact simultaneously at all points of their lower edges with the tree or the crimped front thereon and arranged immediately above the crimping jaw D, to take hold of the crimped front before it is entirely released by the crimping jaws; 8th. The finishing jaws E, formed as described with toe and leg portions which may be adjusted or set out more or less to conform to irregularities in the thickness of the crimped front; 9th. In combination with the crimping jaws D, and finishing jaws E, the hinged independent ways upon which said sets of jaws respectively slide and the independent and separate system of levers connecting rods and weights for drawing together the said ways; 10th. The combination with the finishing jaws E, of mechanism for setting them at different distances apart to accommodate different thicknesses of leather and for maintaining their parallelism when thus adjusted; 11th. The combination with the crimping jaws D, and their hinged ways of independent hinged ways and finishing jaws E, sliding thereon, the said crimping jaws and finishing jaws being so connected that while moving together up and down the jaws of either set may move laterally apart independently of and without interference with the other set; 12th. In combination with the finishing jaws E, joined at their lower ends, to their supporting brackets, the devices described for connecting the upper ends of said jaws to their brackets and the levers *v*, whereby said devices may be operated to tilt the said jaws toward or away from each other as described.

No. 3158. ALFRED B. COSTELLO, Jersey City, N. J., U. S., 3rd March, 1874, for 5 years: "Improvements in Photographic Back-grounds." (Perfectionnements aux fonds des photographies.)

Claim.—The pliable conical back-ground A, with the frames B, D, and F.

No. 3159. THOMAS G. GLOVER, Bedford, Ind., U. S., 3rd March, 1874, for 5 years: "Improvements in Reapers." (Perfectionnements dans les moissonneuses.)

Claim.—The moveable rake Q, moveable frame R, cog-wheels *d*, and E, wheel G, adjustable pins *s*, *t*, rods L, L, vertical arm O, connecting rods P, and W, and cam V, in combination with the slotted table T, frame A, axle C, and wheels B, B.

No. 3160. JOHN H. WESTCOTT, Oneida, N. Y., U. S., 3rd March, 1874, for 5 years: "Improvement on Chucks." (Perfectionnement des mandrins.)

Claim.—The combination of the screws F, the radial sliding boxes E, and dogs B, with the face plate A, and scroll-ring C, or its equivalent.

No. 3161. WILLIAM T. FRY, Brooklyn, N. Y., U. S., 3rd March, 1874, for 5 years: "Improvements in Combined Shutter and Window Fastener." (Perfectionnements aux arrêtees croisées et arrêtees-persiennes combinés.)

Claim.—1st. Shutter having the stud catch C, in front and adjacent spring J, in the rear combined with a sash K, having the spring lever F, D, and a rill having stud-catch L; 2nd. Shutter fastener consisting of the rod J, placed in the tube H, thrown forward against the hook B, by aid of the spiral spring L, and drawn backward by aid of the cam-lever P, placed in the recess *r*, of the plate S; 3rd. Ratchet bar W, and spring catch X, in combination with the sash V, and frame Y.

No. 3162. JOSEPH POZNAUSKI, New York, and JOHN G. BETHUNE, Warrinton, Va., U. S., 3rd March, 1874, for 5 years: "Safety Pin." (Épingle de sûreté.)

Claim.—The revolving cap or thimble A, with the recess *h*, guard *g*, and slot *c*, in combination with the arms B, and E, spring A.

No. 3163. THOMAS DEWITT, Grand Lodge, Mich., U. S., 3rd March, 1874, for 5 years: "Machine for Washing Clothes." (Une machine à laver le linge.)

Claim.—The combination of the ribs or bar *f*, *f*, *h*, *h*, and the cylinder and cylinder head.

No. 3164. JOB JOHNSON, Brooklyn, N. Y., U. S., 3rd March, 1874, for 5 years: "Improvements on Ball Castors." (Perfectionnements aux roulettes de meubles sphériques.)

Claim.—1st. The cap *l*, secured to the socket containing the castor ball by a pin entering the groove *o*, and a screw or pin *4*, to prevent the cap turning; 2nd. The bearing disc *e*, secured within the socket *b*, by the projections *2*, *2*, in combination with the balls *m*, and castor ball *d*; 3rd. The disc *c*, with an opening or openings receiving the balls *m*, in combination with the plate or disc *e*, ball *d*, and retaining sleeve *l*; 4th. The sleeve *l*, retaining the castor ball *d*, and screwed upon the socket *a*, and indented at opposite sides of the joint to prevent the sleeve unscrewing; 5th. The ball castor provided with a steady pin *r*, at the centre of the circular attaching flange *b*, as set forth.

No. 3165. THOMAS H. BROMLEY, Stoneboro, Penn., U. S., 3rd March, 1874, for 5 years: "Improvements on Sled Brakes." (Perfectionnements aux freins de traîneaux.)

Claim.—1st. In combination with a sled, the brake bar F, provided with bifurcated end branches or arms E, E, pivoted to pendant arms D, D, of a transverse rock shaft B; 2nd. The pivoted claw or prong I, in combination with the brake bar F, and its operative mechanism.

No. 3166. WILLIAM C. SHIPHERD, Cleveland, Ohio, U. S., 3rd March, 1874, for 5 years: "Improvements on Check Hook Guard for Harness." (Perfectionnement des crochets des sellettes de harnais)

Claim.—The check guard B, pivoted to the check hook A, in combination with each other.

No. 3167. THOMAS H. WHITE, and GEORGE W. BAKER, Cleveland, Ohio, U. S., 3rd March, 1874, for 5 years: "Street Lamp." (Lampe de rue.)

Claim.—1st. In street oil lamps the fountain or reservoir G, and vent pipe L, in combination with the feed pipe H, receiver I, supply pipe J, and wick chamber or tube B; 2nd. The reservoir G, connected with a receiver I, arranged exterior to the lantern A, and provided with a supply pipe J, extending from said receiver to the wick or oil chamber B, within said lantern; 3rd. A street oil lamp having an intermediate receiver I, so arranged in relation to the fountain or reservoir G, and wick chamber or tube B, within said lantern that the supply of oil to the wick will be at all times equal to the consumption and at the same level in the wick tube or chamber B, as in the receiver; 4th. The feed tube H, having a slanting or oblique termination, in combination with the receiver I, and reservoir G; 5th. The fountain G, and vent tube L, in combination with the feed pipe H, and stop-cock K.

No. 3168. JAMES K. PROCTOR, Malden, Mass., U. S., (Assignee of L. L. Robinson), 3rd March, 1874, for 5 years: "Castor attachment to Sewing Machine Tables." (Ajustage des roulettes aux tables de machines à coudre.)

Claim.—The castor wheels B, lever arm C, pitman rods D, and rod E, all arranged and combined together for operation as described.

No. 3169. WILLIAM C. SHIPHERD, Cleveland, Ohio, U. S., 5th March, 1874, for 5 years: "Improvements on Whistle-tree Stubs." (Perfectionnements aux caboche des palonniers.)

Claim.—The slotted stub or pillar A, with its shank B, in combination with the pivoted button C, as described.

No. 3170. WILLIAM MCKEAN, Toronto, Ont., 5th March, 1874, for 5 years: "Improvements on Meat Cutters." (Perfectionnements aux hache-viande.)

Claim.—1st. The combination of the circular rotating knives J, revolving table C, and radial shaft H, operating as set forth; 2nd. The standard F, and post G, each having a vertical adjustment, as set forth.

No. 3171. JOHN W. MEAKER, Detroit, Mich., U. S., 5th March, 1874, for 5 years: "Self-closing Doors for Hatchways." (Panneaux d'écouilles à fermeture automatique.)

Claim.—1st. A door for enclosed hoistways consisting of two parts of different weights, the lighter being suspended to and under the heavier and both arranged to operate as described; 2nd. The combination of the cam G, lever F, and cord c, or its equivalent, with the doors D, and E, when constructed and arranged to operate as set forth.

No. 3172. ANDREW MUHLEISEN, Ottawa, Ont., 5th March, 1874, for 5 years: "Improvements on Hounds for Vehicles." (Perfectionnements aux apanons de voitures.)

Claim.—1st. The rear hounds for vehicles bent from a single piece of material; 2nd. The bent rear hounds constructed from a single piece of material in combination with the plate F, having socket G, to receive the coupling pin as described.

No. 3173. ROBERT C. MARGESON, Halifax, N. S., 5th March, 1874, for 5 years: "Medicine for the Cure of Stone, Gravel and other Diseases of the Urinary Organs." (Médecine pour la guérison de la pierre, gravelle et autres maladies des organes urinaires.)

Claim.—A medical decoction for cure of stone in the bladder, gravel, and other diseases of the urinary organs, prepared by in-

fusion or boiling the root, stalks, leaves or blooms of a certain plant or herb indigenous to the marshy or swamp lands of the Province of Nova Scotia and commonly called "Robin-run-roud."

No. 3174. JAMES A. TUPPER, Ottawa, Ont., 5th March, 1874, for 5 years: "Improvements on Washing Machines." (Perfectionnements aux machines à laver.)

Claim.—1st. A washing machine having a segmental form of rubber operating within a tub having a semi-cylindrical bottom, the bars K, of the rubber corrugated peripherally and the bottom G, of the tub having zig-zag or angular corrugations; 3rd. Securing the outward bent edges of the bottom sheet G, to the bars I, I, by insertion in the longitudinal grooves for forming a tight joint therewith as set forth.

No. 3175. DAVID MACK, Barnsville, Ka., U. S., 5th March, 1874, for 5 years: "Garden Cultivating Implements." (Instruments d'horticulture.)

Claim.—The combination of wheel D, jointed beam E, A, rear roller L, and standard F, with horizontal weed-cutter J, and rearward superposed rake I, as described.

No. 3176. GEORGE CASEY, Ottawa, Ont., 5th March, 1874, for 5 years: "Clothes Washer and Wringer." (Laveuse-tordeuse à linge.)

Claim.—The combination of wheels A, and D, and connecting crank B, the ogee curved bars K, and L, on bottom of box, and on rubber, and the attachment of the rollers E, E, as a part of the machine.

No. 3177. GEORGE J. WILSON, and JOHN R. WILSON, Ottawa, Ont., 5th March, 1874, for 5 years: "Machine for Washing Clothes." (Machine à laver le linge.)

Claim.—The combination of air chambers A, B, C, socket for handle D, handles E, and H, and vents F, and G.

No. 3178. JOHN A. KNIGHT, Auburn, Me., U. S., 6th March, 1874, for 5 years: "Drawing or Writing Table." (Table à dessiner et à écrire.)

Claim.—1st. The construction of a drawer with a hinged inner lid that may be supported at an inclination as described; 2nd. The combination of a drawer within a drawer, working within it and forming its side in the manner described; 3rd. The combination of a drawer with a swinging extension tray as described; 4th. The combination of drawers with supplementary slides, as the slides B, described or with extension slides working in separate planes as those of the drawers F, and H.

No. 3179. THOMAS A. NORRIS and CHRISTOPHER LOCKMAN, Hamilton, Ont., 6th March, 1874, for 5 years: "Apparatus for Sifting Coal Cinders without Dust." (Appareil à cribler le fraïsil sans poussière.)

Claim.—A dust tight coal cinder sifter, arranged as follows, viz.: The combination of the hopper B, slide D, sifter E, wire bottom drawer I, ash drawer J, with the frame A, and cap C, as specified.

No. 3180. SETH F. CAWLES, Coventry, Vt., U. S., 6th March, 1874, for 5 years: "Apparatus for Cooling and Preserving Milk." (Appareil à rafraîchir et conserver le lait.)

Claim.—The combination of the two cooling reservoirs B, B₁, and the spout C, arranged as described and their combination with the two milk pans D, D₁, the reservoirs being provided with the induction and eduction pipes, in the combination of the windlass or shaft E, and its line c₁, with the reservoirs B, B₁, spout C, and pans D, D₁, all being arranged together and in the frame A, as set forth, the milk pan made with the curved or arched end as specified, the milk pan as made with the main and auxiliary flanges or lips b, c, arranged as set forth.

No. 3181. GEORGE MORTIN, Orwell, Ont., 6th March, 1874, for 5 years: "Machine for Burnishing Photographs." (Machine à calendrer les cartes photographiques)

Claim.—1st. The double faced ends of the burnishing roller; 2nd. The method of connecting the supporting pillars with the platform; 3rd. The method of supporting the moveable table by two adjusting screws instead of one.

No. 3182. SAMUEL W. EMERY, Portland, Me., U. S., 6th March, 1874, for 5 years: "Four Wheeled Railway Safety Car." (Voiture de railroute, de sûreté, à quatre roues.)

Claim.—1st. A car body with bifurcated sills A, A; 2nd. The bifurcated sills A, A, in combination with the journal boxes and housings D, and D', and the independent axle b; 3rd. The bifurcated sills A, A, journal boxes and housings D, and D', axle b, and braces c, c, in combination with the safety shoe E.

No. 3183. WILLIAM R. JOLLEY, North Repps, Eng., 6th March, 1874, for 10 years: "Life Raft." (Radeau de sauvetage.)

Claim.—The saloon or deck cabin B, fastened by means of spikes E, E, and bolts D, D, and convertible into a navigable vessel when afloat by means of table G, rudder H, and spars and sails K, as and for the purpose set forth.

No. 3184. ANGUS MACKAY and GEORGES JONES, Montreal, Que., 7th March, 1874, for 5 years: "Process for Preventing and Neutralizing Sour Beer, Stout, Ale and other Malted Liquors." (Procédé pour empêcher et neutraliser l'acidification de la bière, du porter, de l'aile et autres boissons d'orge brassée.)

Claim.—1st. A compound consisting of a carbonate of potash, or carbonate of soda, and borax or boracic acid, mixed together and separate and melted in hot or cold water in the proportions set forth; 2nd. The process of preventing and curing acidity in beer and all other kinds of malt liquors, wines, finings and yeast by mixing with them, the above compound in the proportions and in the manner described.

No. 3185. JAMES MORRISON, Toronto, Ont., 7th March, 1874, for 5 years: "Combined Adjustable Check and Globe Valve." (Soupape mobile d'arrêt et à boulet combinée.)

Claim.—The combination and arrangement of the various parts of the device comprising this invention, viz.: The chamber A, valve seat B, adjusting stem C, with hand wheel W, valve D, stem E, with pin g, and cap F.

No. 3186. JAMES MORRISON, Toronto, Ont., 7th March, 1874, for 5 years: "Adjustable Water Gauge for Steam Boilers." (Echelle d'eau mobile pour les chaudières à vapeur.)

Claim.—1st. The combination and arrangement of the various parts of the device comprising this invention, viz.: The glass tube A, the sockets B, C the cocks D, E, with chambers d, e, having the sockets B, C, screwed into the chambers d, e, of the cocks D, E, as illustrated in Fig. 3; 2nd. The glass tube A, the sockets B, C, and the cocks D, E, the sockets B, C, constructed with a projecting body, or barrel b, or c, which is turned and fitted into the chambers d, or e, of the cocks D, E, as illustrated in Fig. 4.

No. 3187. ISRAEL M. ROSE, Brookhaven, N. Y., U. S., 12th March, 1874, for 5 years: "Embroidering Attachment for Sewing Machines." (Disposition des machines à coudre pour la broderie.)

Claim.—1st. The vibrating plate C, carrying the latch needle G, for the purpose of laying an embroidery thread upon the surface of the fabric, 2nd. The latch needle G, carried by the arbour H, which has an independent axial play on or in the vibrating plate C, 3rd. The latch-needle or embroidery thread guide C, of a sewing machine attachment when arranged so as to perform a longitudinal and also a slight lateral motion to carry the embroidery thread toward and by the sewing needle; 4th. The combination of a sewing machine needle with the vibrating embroidery thread carrier or latch needle G; 5th. The combination of an embroidery

thread guide with the sewing machine needle and vibrating embroidery thread carrier or latch needle; 6th. The combination with the latch needle G, having not only a longitudinal movement to and fro across the presser foot, but also a slight lateral movement relatively thereto, of the embroidery thread guide I, constructed and arranged to have the same combined movements as the embroidery thread carrier or latch needle G, and in common with the latter; 7th. The combination of the lever E, with the shoulders b, d, of the vibrating plate c for operation by the sewing needle bar or holder, whereby the vibrating plate c, which carries the latch needle, is retained in position during the upper portion of the stroke of the needle bar and is prevented from slipping; 8th. The mechanism described for applying an embroidery thread upon the surface of the fabric and stitching the same down by the sewing thread as set forth.

No. 3188. WILLIAM BEEMAN, Selby, Ont., 12th March, 1874, for 5 years: "Portable Fence." (Clôture portative.)

Claim.—The erection of fences in sections as shown in drawing Fig. 1, pivot post B, bolt or pin C, also bolt or pin H passing through standards E, E, and pivot post B, also short stake I, with bolts or pin passing through standards f, f, and stake I.

No. 3189. JOSEPH H. LIVINGSTON, New York, U. S., 12th March, 1874, for 5 years: "Improvements in the Processes of Making Cheese." (Perfectionnements dans les procédés de fabrication du fromage.)

Claim.—1st. The improvement in the art of manufacturing cheese by treating an emulsion of skim-milk and fat with rennet; 2nd. The mixture of animal fat or oil procured from the same with skim-milk and rennet.

No. 3190. VANDERLYN H. FELT, Brantford, Ont., 12th March, 1874, for 5 years: "Self-acting Rake Attachable to Reaping Machine." (Rateau automate de moissonneuse.)

Claim.—1st. The method in which the rake arms F are constructed with the brace G, the bar L, with cone pointed ends and counter sunk indentations in arm and brace, and the latches O; 2nd. The mode in which the rake arms F, with brace G, are attached to the crown wheel B, by lugs J, and pins K; 3rd. The construction of the upper guide plate M, and the under guide plate H, with hinged leaf I, and spring S, and arrangement of the same to retain the rake arms F, in an upright position; 4th. The adjustable hooks P, on the periphery of the crown wheel B, in combination with the rock shaft N, and its moveable foot lever 1, and spring T, and the rock shaft N, and its lever 2, for raising the rake arms F, from the platform; 5th. The moveable guide Q, on fender board R, by which the distance of the fall or descent of the rake or reel arms F, into the standing grain before the knives, is governed; 6th. The combination of the crown wheel B, rake arms F, brace G, and latches O, with the under guide plate H, with its hinged leaf I, and spring S, upper guide plate M, and rock shafts N, and N, with their levers 1, 2, and spring T, and the moveable guide Q, on fender board R, as set forth.

No. 3191. ASAHIEL SOPER, New York, U. S., 12th March, 1874, for 5 years: "Machine for Drying Grain." (Machine à sécher les grains.)

Claim.—The combination in a grain drier of a large number of triangular steam-pipes B, constructed and arranged as described, with the exhaust chambers C, D, and the apertures e, through the walls a, and b, immediately underneath the bases of the said steam-pipes, all constructed, arranged, and operating as specified.

No. 3192. PETER BROTHERHOOD, London, Eng., 12th March, 1874, for 15 years: "Triple-cylinder Engine and Pump." (Engin et pompe à trois cylindres.)

Claim.—1st. The slide K, worked by the crank E, in a jacket external to the cavity B, in combination with the supply and discharge pipes L, M, and the ports a¹, a², a³, whereby the outer surface of the pistons are alternately and successively subjected to and relieved from the working pressure their inner surface being always subject to the atmospheric or less pressure in the said cavity, 2nd. The segment or disc O, Fig. 3, and 4, with the stop ends o¹, o², of its slot in combination with the crank E, slide and slide spindle N, and hand wheel n, whereby the slide can be set so that the engine shaft shall rotate in either direction as described in reference to Figs. 3, and 4; 3rd. The governor Q, mounted on the rotating slide in combination with the racks r, r, pinion R, spindle S, split ring t, and cylindrical segment T, whereby the degree of expansion is regulated by the velocity as de-

scribed in reference to Figs. 5, 6, and 7; 4th. The adaptation of such triple-cylinder engines to be worked as pumps the plungers *c*, *c*, *c*, working in barrels *d*, *d*, *d*, connected by pipes *e*, *e*, *e*, to the slide jacket whereby the pressure of the discharged fluid is applied to aid the instruks of the main pistons; 5th. The lubrication of the moving parts of the triple-cylinder engines, and pumps by charging the central cavity with lubricating material in which the moving parts work.

No. 3193. GEORGE BOOTH, Toronto, Ont., 12th March, 1874, for 5 years: "Fire Extinguisher." (Extincteur d'incendie.)

Claim.—1st. The application of a detachable cap B₁, to the acid pot or bottle B, of a fire extinguisher; 2nd. Holding an acid pot or bottle B, in an upright position through the agency of the cap B₁, when applied in such a way that when the cap is pierced the pot B, will invert itself; 3rd. Supporting the acid pot or bottle B, within a pivoted casing *c*; 4th. The plunger piercer D, working within the cylindrical guide *d*, in combination with the detachable cap B₁, arranged as specified; 5th. Sealing the acid pot or bottle B, within the casing C, by means of the screwed cap B₂.

No. 3194. RICHARD M. WANZER, Hamilton, Ont., 12th March, 1874, for 5 years: "Sewing Machine" (Machine à coudre.)

Claim.—1st. The disc having grooves or guides crossing each other at a distance from its centre of rotation and the sliding pieces connected with and operating the needle bar of a sewing machine; 2nd. The take up lever H, when combined with and arranged between the stationary eye and the moving eye fixed to the needle *b* r; 3rd. The lever L, attached to the presser bars and arranged in connection therewith and with the face plate to elevate and turn the presser foot and retain it from turning when down; 4th. The bobbin winder *n*, arranged as shown so that the driving belt can be changed from machine to winder; 5th. The arrangement of the cam *e*, attached to shuttle driver *d*; 6th. The arrangement of the link *b*, and lever *l*, for shifting the working direction of the feeder at the will of the operator.

No. 3195. JONATHAN S. TIBBETS, Jeffersonville, Ind., U. S., 12th March, 1874, for 5 years: "Fire Extinguisher." (Extincteur d'incendie.)

Claim.—1st. The pipe C, for containing the acid made of lead or other non-corrosive material arranged within the alkali chamber of a fire extinguisher and made to communicate internally at both ends by means of openings *d*, and with the external atmosphere at one or more points by means of a controlling valve or stopper; 2nd. The pipe C, arranged within the alkali chamber E, and surrounded at its ends with the fixed case or sleeve P, to create an annular air space; 3rd. The bushing I, provided with the flange *a*, and seat *b*, in combination with a valve K, and a compressing plug or screw L; 4th. The bridge plate M, having a stop *f*, and compressing screw L, in combination with the lugs N, of the bushing I, and the valve K; 5th. The bushing provided with the flanges I, and seats *b*, in combination with the valve F, operating screw H, and caps G; 6th. The screw H, having groove *m*, and packing disc *o*, in combination with the valve F, having standards *k*, and flanges *i*, for operating in respect to the bushing and the flanged screw cap; 7th. The buckles Q, secured by metallic loops *p*, upon the exterior or the metallic body, of a fire extinguisher to receive the adjusting and supporting straps S, as specified.

No. 3196. PHILIP D. RODDEY, New York, U. S., (Assignee of William F. Thiers), 12th March, 1874, for 5 years: "Automatic Ship Ventilator, Fog Alarm and Bilge Pump." (Appareil automatique de ventilation, d'alarme et d'époussage de cale de navire.)

Claim.—1st. The system set forth for automatically ventilating or pumping vessels or sounding alarms, by the motion of the vessel or of the water in which it floats; 2. *d.* The diagonal arrangement of the connected chambers or cylinders of the respective systems to adapt them to be operated by either the pitching or rolling motion of the vessel; 3rd. The method and apparatus described, for ventilating vessels by means of chambers communicating at their lower parts with the water in which the vessel floats and at their upper parts with air pipes governed by valves.

No. 3197. EUCHARISTE DEGAGNÉ et SEM P. BROUSSEAU, Quebec, Que., 12th March, 1874, for 5 years: "Mode of Making Dish Cloths." (Manière de faire les lavettes.)

Réclame.—La forme de la tête de la lavette *a*, combinée avec l'introduction du morceau de métal *ai*, *ai*, de manière à faire des fils et du manche un tout solide et que les fils ne puissent ni tourner, ni remonter, ni s'échapper.

No. 3198. NATHAN A. BEACH, Stanstead, and TIMOTHY B. RIDER, and HAMILTON M. RIDER, Magog, Que., 12th March, 1874, for 5 years: "Improvement on Wheel Tires." (Perfectionnement des bandages de roues.)

Claim.—The forming of tire iron for wheels with a concave D, and remaining square or full corners E, as shown in Fig. 2, of the drawing to fit on the rounded felloe B, in the manner and for the purposes specified.

No. 3199. GEORGE MACFARLANE, Toronto, Ont., 12th March, 1874, for 5 years: "Step Ladder Lock." (Arrêt d'échelle à querc.)

Claim.—The quadrant shaped arm C, with one or more teeth with raised knob or button at the end, also locking pin D, in combination with raised portion and slot as set forth.

No. 3200. FRANCIS NORTHEY, Hamilton, Ont., 12th March, 1874, for 5 years: "Dampers for Cooking Stoves." (Régistres de poêle de cuisine.)

Claim.—The arrangement of the heat regulating dampers *c*, *ci*, in the space G, of cooking stoves at or about the line *x*, *x*, as specified.

No. 3201. JOHN J. MERVESP, Dobbs Ferry, N. Y., U. S., 12th March, 1874, for 5 years: "Improvement on Horse Shoes." (Perfectionnement aux fers à chevaux.)

Claim.—1st. The calks B, B, B, constructed and fitted to the shoe as specified jointly with the mode of attaching said calk to the shoe and to the hoof of the animal; 2nd. The grooves D, D, across the face of the shoe underneath the calk in which to insert a tool for removing said calks as described.

No. 3202. JAMES ARNOLD and JOSHUA C. TRES, Scott, Ont., 12th March, 1874, for 5 years: "Improvement in the Ball and Socket Joint." (Perfectionnement dans les joints sphériques.)

Claim.—The socket A, B, C, and D, formed in two parts and held together by the thumb screw H, and the V-shaped groove *cc* as to grip the arm G, G, when the thumb screw is tightened, also the ball I perforated by the hole J, which when inserted in the socket forms the ball and socket joint.

No. 3203. JOHN Y. SMITH, Pittsburg, Penn., U. S., 18th March, 1874, for 5 years: "Improvements on Air Ejectors." (Perfectionnements aux expulseurs d'air.)

Claim.—1st. The combination in an air ejector of the contracted portion A₂, and the cylindrical portions A₁, when said contracted portion is made of thin metal so as to cause it to operate as set forth; 2nd. The combination of the adjustable sections A₁, A₂ of the case with the stationary portion A, thereof as set forth; 3rd. The combination of the vacuum maintaining valve B₁, and the stationary portion A, of the case; 4th. The combination of the case A, of an air ejector and a drip valve D, for allowing the water of condensation to pass off; 5th. The combination of the valve E, and the case A, of an air ejector.

No. 3204. DAVID BOURGEOIS, Montreal, Que., 18th March, 1874, for 5 years: "Attachments to Pumps for Pumping Sand, Gravel, &c." (Attachements aux pompes pour pomper le sable, gravier, &c.)

Réclame.—1o. La combinaison des tuyaux en caoutchouc C, C₁, avec un spirail R₁; 2o. Le sucoir E, et sa douille I; 3o. Le dessous du sucoir E, avec son grillage latéral ou carreaux S; 4o. La combinaison des tuyaux en caoutchouc C, C₁, avec les tuyaux de fonte P, le sucoir E, la douille I, l'organeau G, la rainure J, la valve K, tel que décrit.

No. 3205. THOMAS RUSTON, Montreal, Que., 18th March, 1874, for 5 years: "Improvement on Paint Oils." (Perfectionnement des huiles pour la peinture.)

Claim.—The manufacture and preparation of a compound paint oil by mixing together fish oil, petroleum oil, and linseed oil, in about the proportions stated, with or without the addition of the mineral extract.

No. 3206. JOHN C. WANDS, Nashville, Ten., U. S., 18th March, 1874, for 10 years: "Improvements on Car Roofs." (Perfectionnements aux toits de wagons.)

Claim.—1st. The car-roof described having the wooden frame consisting of the parts A, B, C, W, the bands E, and K, the zinc sheets D, and grooved roof boards G, the several parts being constructed and arranged as specified; 2nd. A car roof, the central T-shaped parlor F, having a depressed body and covering flanges; 3rd. The combination of the parlor F, roof board G, and frisco boards C, constructed and arranged in a car roof as described; 4th. In a car roof, the boards C, G, having grooves f, on their under sides to form drains for leakage as specified.

No. 3207. JOHN Y. SMITH, Pittsburg, Penn., U. S., 18th March, 1874, for 5 years: "Improvements on Car Brakes." (Perfectionnements aux freins de wagons.)

Claim.—1st. In combination with the moveable heads and flexible tubes connecting the heads, the chains which connect the heads to sustain the strain from the retracting springs or hand wheel; 2nd. In combination with the moveable heads of the vacuum chamber guides or ways, for sustaining the chamber and preserving the parallelism of the head; 3rd. In combination with the connecting rods, the vacuum chamber forming part of the connection when the brakes are operated by hand, and acting in opposite directions on the brake mechanism when atmospheric pressure is employed; 4th. In combination with the moveable heads of the vacuum chamber and connecting rods, the adjustable lever F, capable of adjustment at both ends; 5th. Double vacuum chambers connected with the exhaust pipe and both attached to the connecting rods so as to equalize the action of the wheels upon both systems of trucks and brakes; 6th. In combination with a flexible tubular connecting piece, heads in form of tubes closed at one end and of different diameters so that one will shut into the other forming a vacuum chamber for an atmospheric car brake; 7th. In combination with the brakes of a railway car, flexible vacuum chambers with moveable heads for actuating the brakes, and an ejector for creating a partial vacuum in the chamber by the direct action of a jet of steam.

No. 3208. GEORGE S. TIFFANY, London, Ont., 18th March, 1874, for 5 years: "Brick Machine." (Machine à brique.)

Claim.—1st. A brick making machine having a tubular mill shaft F, the combination of the die C, and moulding N, on shaft K; 2nd. The use for the purpose set forth of the endless belt P passing around rollers n, n, and roller Q, when said rollers are arranged as represented; 3rd. The rise of the rockers V, V, V, for supporting the rack n, allowing it to have a reciprocating motion; 4th. The arrangement of the shaft or axis O, of the outer frame E, when said cutter frame moves with the clay in the operation of cutting, beneath the rollers S, S, &c., of the rack or parts used instead of rollers.

No. 3209. JOHN W. POST, New York, U. S., 18th March, 1874, for 5 years: "Improvements in Carbureting Apparatus or Lamp." (Perfectionnements dans les appareils ou lampes à carburer.)

Claim.—1st. A carbureting apparatus or lamp, consisting of reservoir A, stem b, carbureting chamber B, and the escape pipe c; 2nd. The combination with the service pipe a, of the argand burner D, constructed as set forth; 3rd. In combination with said lamp a bell J, and stop cock S; 4th. In combination with the lamp the drum or stove G fitting on burner D.

No. 3210. WILLIAM BRYAN, Whitby, Ont., (Assignee of A. Rusland.) 18th March 1874, for 5 years: "Improvement in making eave troughs." (Perfectionnement dans la fabrication des dalles de toitures.)

Claim.—1st. The base A, iron strip or bar B, the iron rod G, with the hooks H, H; 2nd. The curved face C, screw D, D, and moveable strip a and b; 3rd. The combination of the curved face c, screws D, D, iron rod A, hooks H, H, and iron strip B, with the base A; 4th. The combination of the strips a and b, with the curved face c.

No. 3211. JOSEPH A. SMITH, Jersey City, N. J., U. S., 18th March, 1874, for 5 years: "Improvements on Journal Boxes for Railway Carriages." (Perfectionnements aux boîtes d'essieux pour les voitures de chemins de fer.)

Claim.—1st. In combination with the box frame D, in which the bearings are secured the ball and socket joint described; 2nd. In combination with the box frame D, and journal A, the lining B, constructed as set forth; 3rd. In combination with the box frame D, journal A, and lining B, the moveable seat C; 4th. In combination with the box frame D, carrying the bearing B, the stopping bar F, secured in the said box frame; 5th. The combination of the bolt

H, roller K, tumbler I, web J, and oil well e, for oiling the journal; 6th. The combination with the recess in the bearing face of the stopping bar extending beyond the centre of the axle of the web N, tumbler M, roller L, and bolt II; 7th. In combination with the box frame D, well e, bearings B, and e, and oiling devices, the oil tank E, in which the oil is retained by atmospheric pressure and fed out automatically as required; 8th. The combination with the oil tank E and box frame D, of the valve h, and springs; 9th. The combination with the oil tank E, and box frame D, of the packing K, and hinge f; 10th. The combination of the stops or bolts T, with the box frame D, and stopping bar F; 11th. In combination with the box frame D, connected to the truck by the ball and socket joint described, the sliding cover O, as specified.

No. 3212. WILLIAM H. BOYD, Montreal, Que., 18th March, 1874, for 5 years: "Improvements on Creepers." (Perfectionnements aux crampons.)

Claim.—1st. The plate a, with spikes b; 2nd. The plate a, spikes b, with outer and inner covering for the foot.

No. 3213. JOHN J. FITZPATRICK, Philadelphia, Penn., U. S., 18th March, 1874, for 5 years: "Improvements in Drawers." (Perfectionnements dans les caissons.)

Claim.—The shaping of the crotch of drawers in accordance with the patterns A and B, as set forth.

No. 3214. MILFORD HARMON & EVANS A. WATSON, Shibly, N. Y., U. S., 18th March, 1874, for 5 years: "Improvements on Middlings Separators." (Perfectionnements aux séparateurs des graux.)

Claim.—1st. The combination in a middlings purifier of a series of shaking screens with means for inducing a current of air, and adjustable valves for controlling and directing the blast through the chest between and in the line of the length of the screens; 2nd. In such a machine a series of screens composed of close and open portions, the relative portion of the former increasing and of the latter decreasing in each screen in the successive series from top to bottom; 3rd. In combination with screens, the ends of which are arranged in relation to the air induction and ejection openings as set forth, a reel and hopper I, for separating the heavier and coarser material not perfectly separated by the air blast in manner as set forth.

No. 3215. ISRAEL P. MAGOON, St. Johnsbury, Vt., and CHARLES A. SHAW, Boston, Mass., U. S., 18th March, 1874, for 5 years: "Means for preventing Cinders from entering the exhaust pipes of Locomotive Steam Engines." (Dispositions pour empêcher les escarbilles de s'introduire dans les tuyaux d'épuisement des locomotives.)

Claim.—1st. In combination with the exhaust pipe nozzle of a locomotive steam engine the pipe D, arranged to discharge live steam in such a manner as to cover or fill the nozzle and prevent the entrance of cinders into the same; 2nd. The cap A, pipe D, and nozzle B, combined to operate as specified; 3rd. In combination with the throttle valve lever of a locomotive steam engine, a mechanism so arranged and operating that when said lever is moved to shut off steam from the cylinders, live steam will be discharged in such a manner as to prevent cinders and carbonaceous particles from entering the nozzle of the exhaust pipe, and when said lever is moved to let steam into the cylinders, the live steam being so discharged will be shut off as specified; 4th. In combination with the lever K, a mechanism so arranged as to let live steam pass to the nozzle B, in advance of shutting off steam from the cylinders as specified.

No. 3216. ROBERT BUSTIN, Saint John, N. B., 18th March, 1874, for 5 years: "Fire Escape." (Sauveteur d'incendie.)

Claim.—The combination of the several parts of the apparatus, viz: hook a, hand b, pulley c, pin d, rope e, hook f, ring g, bolt h, bolt i, as set forth.

No. 3217. HENRY GASKELL, Hamilton, Ont., 18th March, 1874, for 5 years: "Improvements in Fire Boxes and Coal Grates for Stoves and Furnaces." (Perfectionnements aux boîtes à feu et aux grilles pour les poêles et les fourneaux.)

Claim.—1st. The circular ended fire box in which the combined grates B, are fitted; 2nd. The conical shaped dumping bar C, on which the grates work on their centres; 3rd. The conical shaped shaking bar D, in which the grates work for sifting the ashes; 4th. The stop off plate K, for lessening the size of the fire.

No. 3218. FRANCOIS GENIN, EDMOND BEAUVAIS, JOSEPH E. ROHDIOUX, JOHN A. PERKINS & RAYMOND PREFONTAINE, Montreal, Que., 18th March, 1874, for 5 years: "Improvements on Paper Machinery and Chemical Compounds used in treating substances to be converted into paper stock." (Perfectionnements aux appareils et compositions chimiques employés dans le traitement des substances à convertir en pâte à papier.)

Claim.—1st. The trough *c*, and the roller *d*, in combination with the spout *t*, by an inclining grating *p*; 2nd. The trough *c* and crushing roller *d*, in combination with the rollers *h*; 3rd. The combination of the trough *c* and crushing roller *d*, with rollers *h* and grinding disc *p*; 4th. The combination of the pipe *a* with cylinder *l* and spout *t*, arranged so that the centrifugal force created by the disc *p*, will cause the material to ascend to the trough *t*; 5th. A novel combination of straw with lime water and soda; 6th. The pulp manufactured as described in combination with chloride of lime and sulphuric acid as described.

No. 3219. DAVID AKKIAN, Montreal, Que., 18th March, 1874, for 5 years: "Improvements on Machinery for manufacturing Peat." (Perfectionnements aux appareils à fabriquer la tourbe.)

Claim.—1st. The combination of the conveyer *d*, stick catcher *e*, and drum *n*, constructed, arranged and operating as described; 2nd. The combination of the net *p*, constructed, arranged and operating as described, with the travelling pressing surfaces *f*, constructed as described; 3rd. The novel combination of the bars *g*, conveyers *e*, screens *h*, and net *p*, all working together as described; 4th. The net work *p*, arranged as described to form a bag closing at one end and opening at the other, as the net work advances.

No. 3220. WILLIAM PETCH, Brantford, Ont., 18th March, 1874, for 5 years: "Machine for Bolting and Purifying Flour and Middlings." (Machine à bluter et purifier la farine et les gruaux.)

Claim.—1st. Forming the reel of separate and distinct frames or sieves and connecting them as described; 2nd. The heads *D* and *E*, fastened to shaft *B*, with stays *C*, also rods *I*, and springs *K*, to work in ratchet *F*.

No. 3221. JAMES C. WILSON, Montreal, Que., 18th March, 1874, for 5 years: "Improvements on Paper Bag Cutters." (Perfectionnements aux découpoirs pour les sacs de papier.)

Claim.—1st. The cutter *J*, having two chisel edges cutting angularly and adjustable by a frame *D*; 2nd. The combination of the cutters *J*, adjustable frames *D*, and bar *A*, as set forth.

No. 3222. RÉMI PARADIS, St. Hyacinthe, Que., 18th March, 1874, for 5 years: "Improvements on Shoe Sole Burnishers." (Perfectionnements aux brunissoirs de cordonnerie.)

Résumé.—1o. La douille à couteaux *N*, avec ses couteaux *P*; 2o. La combinaison de la targe *F*, avec la pédale *G*, l'équerre *I* la so. reha *J*; 3o. Dans la combinaison de la douille à couteaux *N*, avec les autres parties de la machine.

No. 3223. NICOLAUS A. OTTO, Deutz, Germ., 18th March, 1874, for 15 years: "Improvements on Caloric Engines." (Perfectionnements aux machines calorifiques.)

Claim.—1st. A caloric engine wherein atmospheric pressure is rendered available for producing motive power by drawing heated gases or gaseous products of combustions of high temperature but only at atmospheric pressure quickly into the engine cylinder and then cooling the fluid therein whereby the pressure on one side of the piston is reduced below that of the atmosphere, thus producing a corresponding excess of atmospheric pressure on the other side of the piston; 2d. In caloric engines operating as described in the first claim, admitting the heated gases to the cylinder during only a portion of the forward stroke and dilating them by the further motion of the piston whereby an increased gain of motive power is obtained; 3rd. In caloric engines, the jacketed cylinder *a*, opened to the atmosphere at one end with slide *g*, for cutting off the supply of heated gases, and valve *s*, for discharging the cooled gases operating in combination with the piston *c*, connected to the crank shaft *e*, with fly wheel *f*, in such a manner that the piston performs its outward stroke quicker than its return stroke.

No. 3224. URSULA L. WEBSTER, (wife of Daniel B. Webster,) New Haven, Ct., U. S., 18th March, 1874, for 5 years: "Improvements on Adjustable Patterns for Cutting Garments." (Perfectionnements aux patrons articulés pour le taillage des hardes.)

Claim.—1st. The rule *a*, in combination with the sliding rule *c*, main rule *d*, and shoulder and neck rule *f*; 2nd. The rules *a* and *c*, in combination with the rule *m* and *l*; 3rd. The rules *a* and *c*, in combination with the arm rule *n*, *r*, *q*, with rule *p*; 4th. The rule *t*, in combination with the rules *m*, *th*. The rule *r* in combination with the rules *a* and *c*; 6th. The rules *a*, and *c*, in combination with dart *i*; 7th. The adjustable pattern formed by rules *f*, *a*, *t*, *p* and *n*; 8th. The adjustable pattern formed by rules *f*, *a*, *t*, *p*, *n*, and *q*; 9th. The combination of the rules *a*, *c*, *g*, *h*, and *u*; 10th. The combination of the rules *a*, *c*, *g*, *h*, *u*, and *v*; 11th. The combination of the rules *a*, *c*, *g*, *h*, *u*, and *v*; 12th. The adjustable pattern formed by the rules *a*, *l*, *d*, *e*, *g*, and *z*; 13th. The adjustable pattern formed by the rules *a*, *l*, *d*, *e*, *g*, *z*, and *v*; 14th. The pattern consisting of adjustable rules *a*, *b*, *f*, *d*.

No. 3225. JAMES H. BEARDSLEY, Brooklyn, N. Y., U. S., 19th March, 1874, for 5 years: "Apparatus for Protecting the Eyes and Respiratory Organs of persons exposed to extreme Heat, Smoke, &c." (Appareil pour protéger les yeux et les organes respiratoires des personnes exposées à une chaleur intense, la fumée, etc.)

Claim.—1st. The duplex shell provided with transparent eye pieces, and constructed with edges capable of fitting snugly about the eyes of the wearer to prevent the passage of noxious matters thereto, in combination with the projecting and air filtering curtain, arranged to cover the lower portion of the face; 2nd. The combination of the spring with the duplex shell; 3rd. The shell constructed with the grooved sockets for the rotation of the eye pieces; 4th. The combination of the sponge or porous pad with the curtain attached to the duplex shell; 5th. The combination of the lenses or magnifying glasses with the duplex shell furnished with the depending curtain, the said lenses or glasses constituting the eye pieces of the shell; 6th. The combination of the coloured eye piece with the duplex shell furnished with the depending curtain.

No. 3226. FRANKLIN DODGE, Whiteside, Ill., U. S., 20th March, 1874, for 5 years: "Manufacture of Peat." (Fabrication de la tourbe.)

Claim.—1st. The process of treatment described, the said process consisting in grinding and kneading the peat into a paste in the peculiar manner described, next mixing the ground peat with water until the peat is taken up and held in solution, then pumping the mixture away to drying ground, allowing the peat to settle and condense, drawing off the water and permitting the peat to harden as described; and finally storing the peat in curing cribs to undergo the sweating operation; 2nd. The revolving cutters *F*, in combination with the bars *F*; 3rd. The revolving grinders *D*, in combination with the graduated perforated diaphragms *E*, *E*, *E*, *E*; 4th. The bevel gearing *C*, or their equivalent placed within the chamber in which the water is admitted to the ground peat; 5th. The hopper *A*, in combination with the series of grinding chambers *A*; 6th. The combination of the hopper *A*, the series of chambers *A*, the revolving shaft *B*, the revolving knives *F*, bars *F*, the revolving grinders *D*, the perforated diaphragms *E*, *E*, *E*, *E*, bevel gearing *C*, the feed water pipe *H*, reservoir *L*, pump *J*, and discharge pipe *G*; 7th. Curing the condensed peat taken from the drying ground by placing it in the peculiarly constructed cribs *K*.

No. 3227. JOHN LUTHVEN, Lévis, Que., 23rd March, 1874, for 5 years: "Gas Machine." (Machine à gaz.)

Claim.—1st. The arrangement of the air tank *A*, and combined oil and vapour tank *B*, connected by the pipe *C*, in combination with a pump or bellows *K*, for injecting air as set forth; 2nd. The perforated bottom *M*, and the arrangement of the pipe *C*, discharging air centrally thereunder downward in the tank *B*, for evaporating the oil as set forth.

No. 3228. WILLIAM SHARP, Portland, Me., U. S., 27th March, 1874, for 15 years: "Improvements in Preparing and Preserving Fish." (Perfectionnements dans la conservation du poisson.)

Claim.—1st. The process of preparing and preserving fish as an article of food, by smoking and subsequently canning and boiling them in the cans as described; 2nd. The improved article of manufacture obtained, by first smoking the fish and subsequently canning and boiling them in the cans as set forth.

No. 3229. JACOB D. SPANG, Dayton, Ohio, U. S., 27th March, 1874, for 5 years: "Portable Toy Race-Track for Field and Parlour." (Hippodrome-jouet portatif propre aux salons et aux champs.)

Claim.—1st A mimic race-course having enclosure B, a starting station, rows of transverse posts, cross-hurdles, stables and a final goal, arranged as specified, 2nd. In mimic race-courses, a starting station C, having the bottom hinged gate c, 3rd. In mimic race-courses, the transverse rows of posts arranged as described to retard the balls that come in contact therewith, and change the relative progress of different ones; 4th The hurdles arranged as specified. 5th. The stables to catch and arrest entirely more or fewer of the balls as set forth.

No. 3230. ANSEL R. THOMAS & LUCAS C. THOMAS, Huntingdon, Ind., U. S., 27th March, 1874, for 5 years: "Improvements on Cut-Off Valve and Sink Motions." (Perfectionnements aux soupapes de détente et aux mouvements des trappes.)

Claim.—The cut off valve J, with the combination of the fixed segment guide K, sliding sleeve k, link K', and arm l, shaft m, and hand lever m', combined with the slotted link L, guide n, valve rod j, and pitman rod H, as described.

No. 3231. WILLIAM F. BARNES, Rockford, Ill., U. S., 27th March, 1874, for 5 years: "Improvements on Mechanical Combinations for Converting Motion." (Perfectionnements aux combinaisons mécaniques pour convertir le mouvement.)

Claim.—1st. The combination of the treadles G and G', and their straps, with the driving plate D, having jaws D', pawl carrier E, pivoted pawl F', and toothed wheel E', constructed and operating as described, 2nd. The combination of the revolving driving plate D, having projecting jaws D', arm c, of pawl carrier E, and pawl F', having the close fitting arm f, as described.

No. 3232. HENRY J. P. WHIPPLE, Meriden, Ct., U. S., 27th March, 1874, for 5 years: "Improvements on Attaching Knobs to Spindles." (Perfectionnements dans l'ajustage des boutons de portes.)

Claim.—The detached knob and neck D, and E, in combination with the spindle A, when the said knob is provided with a screw c, and latch b, and the neck constructed with one or more notches a, by means of which the said latch, knob and neck are coupled together as set forth.

No. 3233 THOMAS WHITWELL, Stockton-on-Tees, Eng., 27th March, 1874, for 5 years: "Improvements on Fire Places and Stoves." (Perfectionnements aux foyers de cheminées et aux poêles.)

Claim.—1st The general combination of parts forming a fire-grate or stove consisting of a fire-grate, having at the back an air chamber D, pipes A, and chamber E, communicating with the interior of the room or building to be warmed and also of a door or doors B, and L, for controlling the direction of the draught and of a door or doors C, below the grate to allow of soot and dust being cleared away; 2nd. In combination with pipes A, for utilizing the waste heat of fires the use of a door, or doors B, for regulating the amount of heat allowed to pass directly up the chimney, or to pass between and to heat the pipes, such door or doors to be used for the purpose of cleaning the upper parts of the apparatus and the chimney from soot and dust, 3rd. In combination with pipes A, for utilizing the waste heat of fires the use of a door or doors L, for regulating the amount of heat allowed to pass between and to heat the pipes; 4th. In combination with pipes A, for utilizing the waste heat of fires the use of a door or doors C, to allow of the soot or dust being cleared away from the lower parts of the apparatus as described.

No. 3234. JAMES T. BUSTIN, St. John, N. B., 27th March, 1874, for 5 years: "Machine for Putting the Paste on Wall Paper." (Machine à appliquer la colle au papier de tenture.)

Claim.—The combination of the wood box or case a, the tin trough b, the rollers c, and d, and the thumb screw g.

No. 3235. SIMON P. BARNUM, Thurlov, Ont., 27th March, 1874 for 5 years: "Machine for Fastening Cords and Ropes." (Machine à assujétir les cordes et les câbles.)

Claim.—The combination of the two hooks c, c, between which the cord or rope is secured as set forth.

No. 3236. ANDREW J. SOMERVILLE, Toronto, Ont., 27th March, 1874 for 5 years: "Improvements in Paint Cans." (Perfectionnements dans les boîtes métalliques à peinture.)

Claim.—1st. The application of the handle C, to cans manufactured from annada plate or black sheet iron and containing white lead or similar pigments when prepared for the market, 2nd. The clasp B, or its equivalent in combination with the handle C, arranged as described, 3rd. The can A, with the handle C, in combination with the cover A', having attached the clasp B, arranged as described.

No. 3237. THOMAS HALL, Northampton, Mass., U. S., 27th March, 1874, for 5 years: "Bench Vice or Clamp." (Etau d'établi.)

Claim.—1st. In combination with the moveable jaw A, of the vice, the handle C, attached thereto constructed and operated as described; 2d The frictional bearings or straps T, for the purpose of holding said handle in any of its working positions, 3rd. The combination of handle C, moveable jaw A, and clutch G, with wedge D, and toggle E, F or their equivalents, rack H, and stationary jaw B; 4th. The combination of the projection K, on lever C, lever J, or its equivalent, with clutch G, and rack H; 5th. The combination of the dovetailed ring or flange B, on the vice, with the sectional dovetailed bed plate P; 6th. The combination of the ring or flange B, bed plate P, and notched bar H; 7th. The abutment H, in combination with sliding jaw A.

No. 3238. HENRY A. WHITE, Hamilton, Ont., 27th March, 1874, for 5 years: "Improvements in Dampers for Stove Pipes and Furnaces." (Perfectionnements aux clés de tuyaux de poêles et de calorifères.)

Claim.—1st The spring box B, fitted in the stove pipe A in connection with the spring F, and the saddle E; 2nd. The saddle E, in connection with the spring F, for holding the disc C, in its place; 3rd. The curved spring F, in connection with the saddle E, and box B, 4th. The round even edged disc working on the spindle of the damper in connection with the saddle E.

No. 3239. BENJAMIN G. DEVOE, and WILLIAM L. WALKER, Kenton, Ohio, U. S., 27th March, 1874, for 5 years: "Improvements on Iron Fences." (Perfectionnements aux palissades en fer.)

Claim.—1st. The combination of rolled hollow half round metallic pickets A, A, horizontal T-shaped rails B, B, and clamps C, C, with grasping lugs b, b, and d, d; 2nd The combination with a fence post H, of the plates G, G, bolts m, m, bolts l, l, plate J, and nuts h, h, with horizontal rails B, B, of a fence as set forth.

No. 3240. LEWIS MILLER, Jarvis, Ont., 27th March, 1874, for 5 years: "Improvements on Plough Mould Boards." (Perfectionnements aux versoirs de charrues.)

Claim.—A plough mould board having a rising sharp ridge A, diminishing rearward, and the lower edge C, curving from point to rear both emerging into the spiral twist given to the side of the mould-board and over-turning heel as set forth.

No. 3241. HORACE E. WELLS, Van Wert, Ohio, U. S., 27th March, 1874, for 5 years: "Lumber Drying House." (Sécherie à bois.)

Claim.—1st. A dry house hollow outside walls a, a continuous outlet opening b, from the drying chamber into the top of the hollow walls and a chimney F, communicating with the bottom of the hollow walls, 2nd. A dry house having the hollow walls a, tight air chamber c, opening b, and chimney F, the flue E, provided with the apertures d, as set forth for the purpose of equalizing the draft.

No. 3242. GEORGE A. KITTSON, Quebec, Que., 27th March, 1874, for 5 years: "Overshoe Fastener." (Agrafe de claque.)

Claim.—The parts of any boot or shoe or over-boot or over-shoe as represented by a, a, in combination with eye c, strap d, and clasp f.

No. 3243. HENRY W. CARR and MICHAEL TURNBULL, Hamilton, Ont., 27th March, 1874, for 5 years: "Improvements in Tool Boxes and Cutters for Iron Planers." (Perfectionnement des portes-outils et outils de machine à raboter le fer.)

Claim.—The combination of the two cutting tools D, D, with the swinging block B, of a tool-box for planers.

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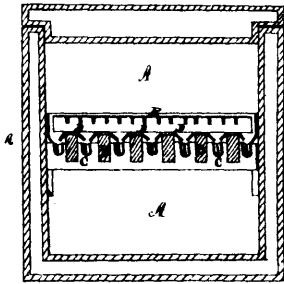
THE
CANADIAN PATENT OFFICE RECORD

ILLUSTRATIONS.

Vol. I.

MARCH, 1874.

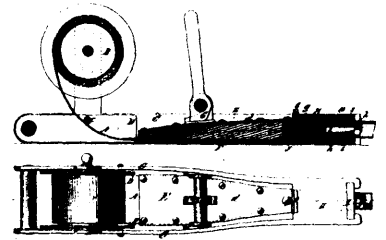
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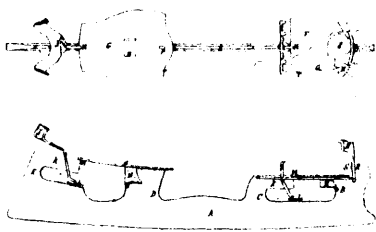
3119 Mixer's Improvements in Refrigerator Buildings.



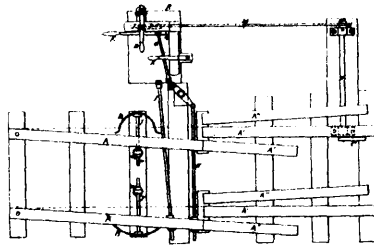
3120 Wilmot's Improvement on Sheet Metal Tubing.



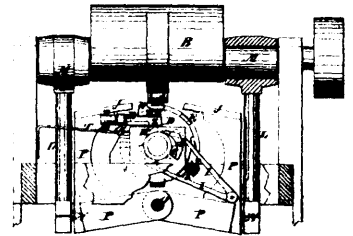
3121 Wilmot's Improvements on the Manufacture of Metal Tubing.



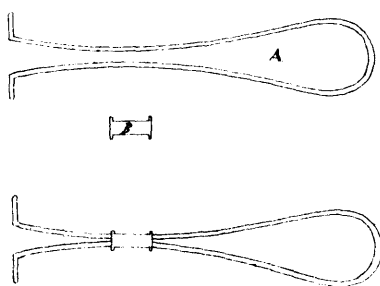
3122 Whelpley's Improvements on Skates.



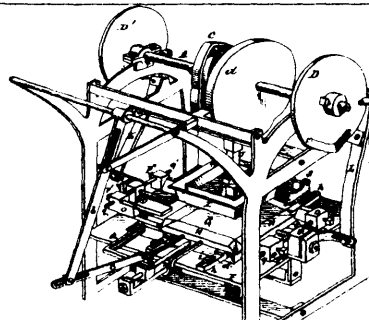
3123 Thomas' Railway Switch.



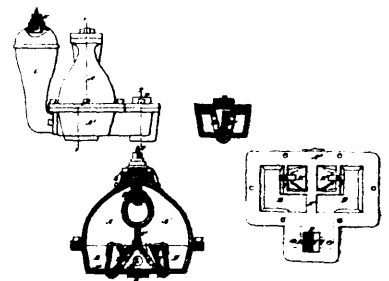
3124 Mills' Improvements on Horse Shoe Nail Machines.



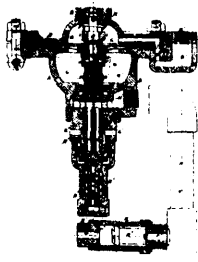
3125 Rose's Machine for Cleaning Lamp Glasses.



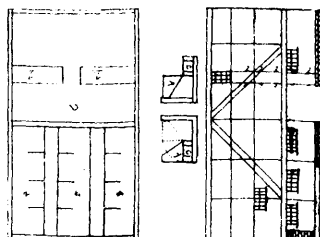
3127 Foglesong's Machine for Making Sheet Metal Pans.



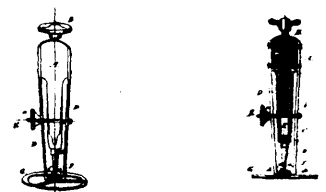
3128 Douds, Hartsuff & Douds' Steam Pump.



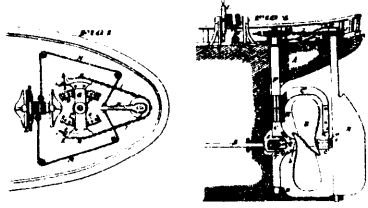
3129 Westinghouse's Machine for Regulating, Applying and Releasing the Fluid Pressure on Railway Air-Brake Apparatus.



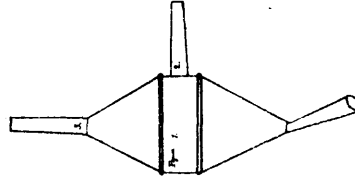
3130 Dennis' Improvements in Dennis' Economical Framed Log Barn.



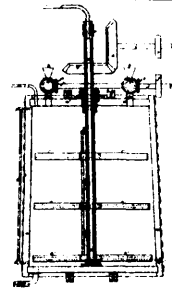
3131 Kay's Roller Abstractor for Lever Watches.



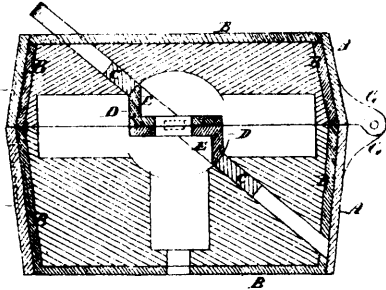
3132 Cathcart's Improvements on Vessel Propellers



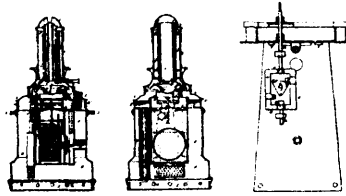
3134 Petrick's Traction Hydraulic Engine.



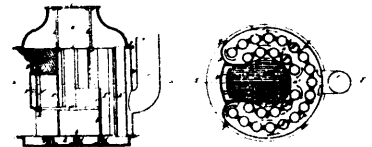
3136 Pearse's Improvements in the Manufacture of Glucose or Grape Sugar from Rice and other Grain.



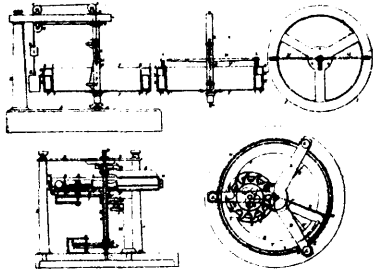
3137 Parker's Improvements on Moulds for Casting Cores.



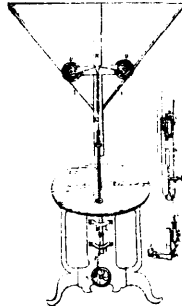
3138 Hitchcock's Forced Blast Heavy Oil Lamp.



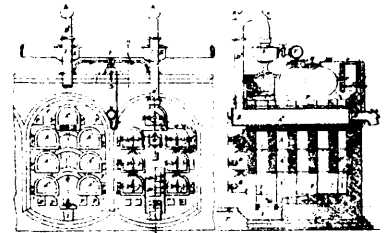
3139 Allison's Improvements in Steam Boilers



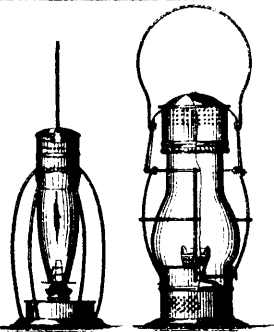
3140 Ludeke's Motive Power Machine.



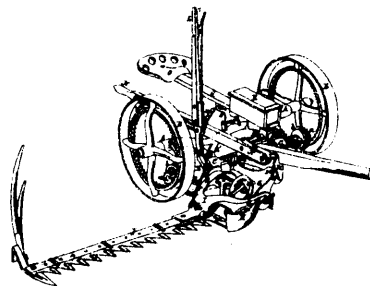
3141 Dowling's Improvements on Scroll Sawing Machines.



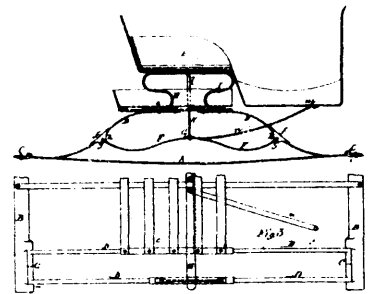
3142 Skoines' Gas Apparatus.



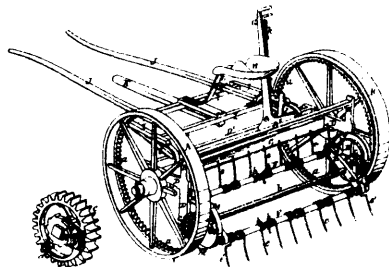
3143 Hughes' Improvements on Lanterns.



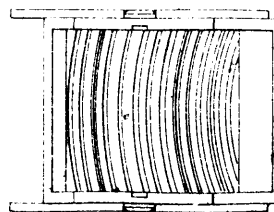
3144 Kirby & Osborne's Improvements on Mowing Machines.



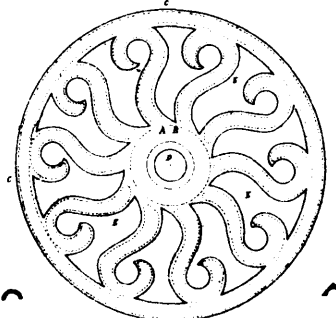
3145 Murgatroyd's Improvements in Carriage Springs.



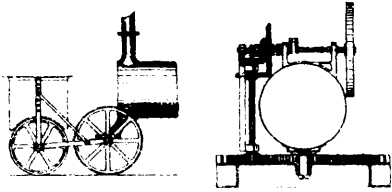
3146 Perry's Rotary Hay Tedder.



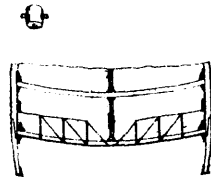
3147 O'Reilly's Machines for Washing Clothes.



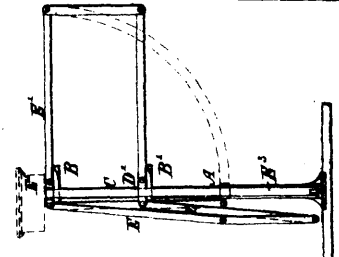
3148 McClure's Metallic Churn Dasher.



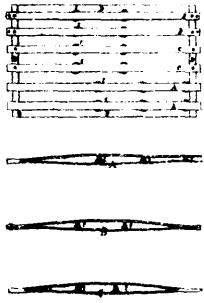
3149 Huntley, Gilchrist & Dixon's Improvements on Extracting Trees and Stumps by the Roots and in Engines therefor.



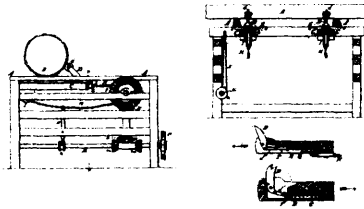
3150 Quintavalle & Lo Forte's Improvements on the Construction and Arrangement of Steam and Sailing Vessels.



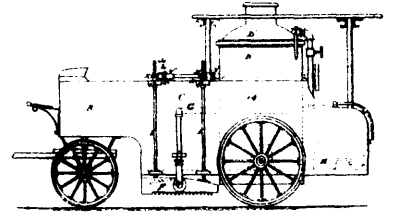
3151 Weir's Apparatus for Registering and Checking the Entries and Exits of Passengers to and from Tramway Cars, Omnibuses or other Carriages.



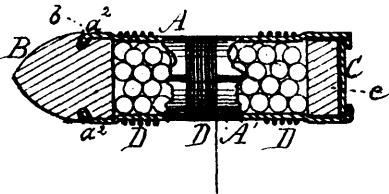
3152 Langworthy & Huntington's Improvement on Spring Bed Bottoms.



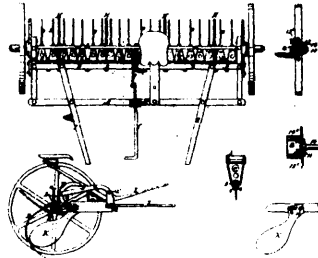
3153 Emery's Machine for Rolling Logs.



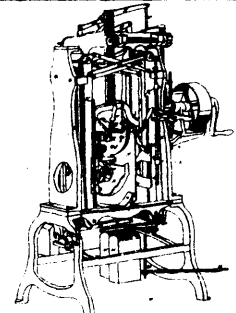
3154 Mullaly's Machine for Melting Snow and Ice on Streets and Railways.



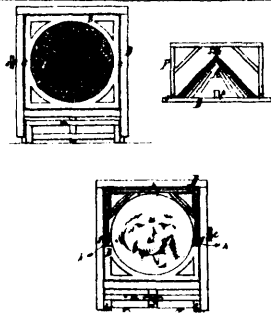
3155 Paine's Improvements on Shot Cartridges.



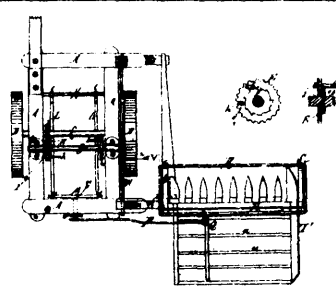
3156 Goss' Improvements on Horse Hay-Rakes.



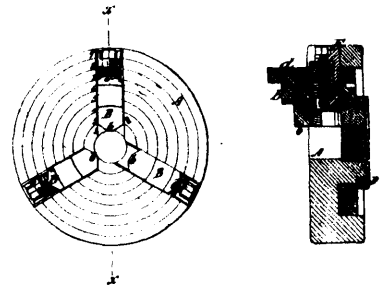
3157 Jamison's Machine for Crimping Leather for Boots and Shoes.



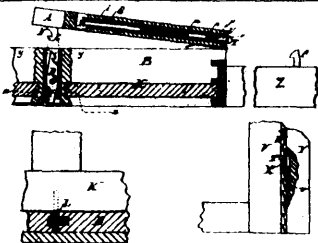
3158 Costello's Improvements in Photographic Backgrounds.



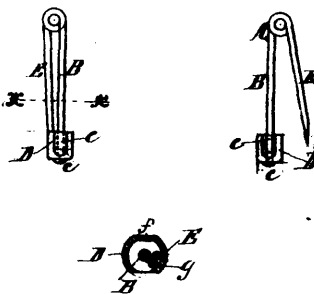
3159 Glover's Improvements in Reapers.



3160 Westcott's Improvement on Chucks.



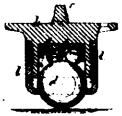
3161 Fry's Improvements in Combined Shutter and Window Fastener.



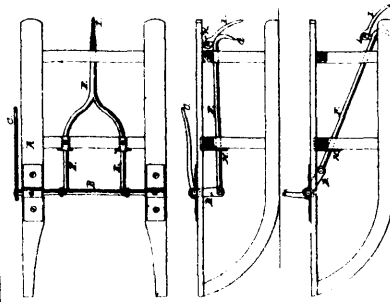
3162 Poznauski & Bethune's Safety Pin.



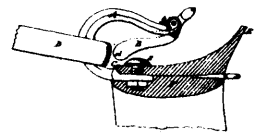
3163 DeWitt's Machine for Washing Clothes.



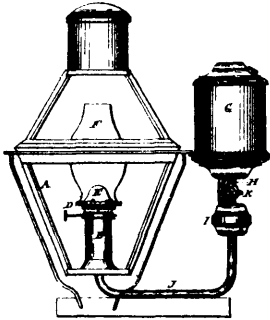
3164 Johnson's Improvements on Ball Castors.



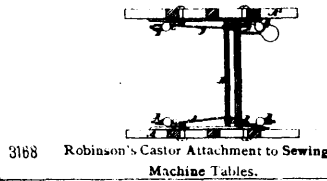
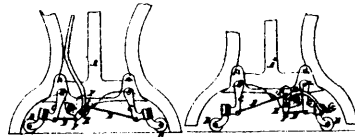
3165 Bromley's Improvements on Sled Brakes.



3166 Shipherd's Improvements on Check Hook Guard for Harness.



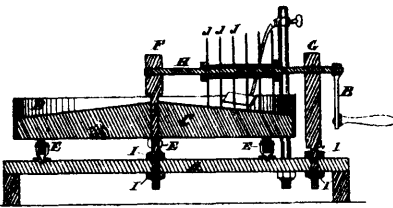
3167 White & Baker's Street Lamp.



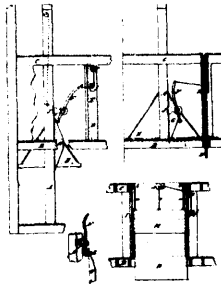
3168 Robinson's Castor Attachment to Sewing Machine Tables.



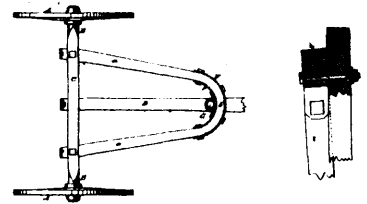
3169 Shipherd's Improvements on Whiffle-tree Stubs.



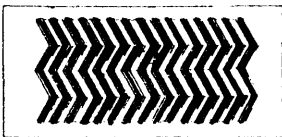
3170 McKean's Improvements on Meat Cutters.



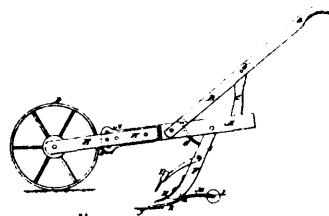
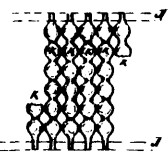
3171 Meaker's Self-closing Doors for Hatchways.



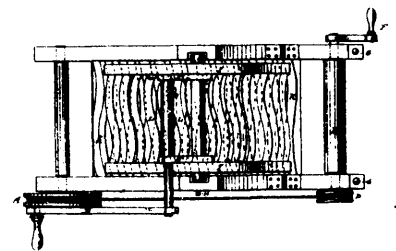
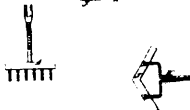
3172 Muhleisen's Improvements on Hounds for Vehicles.



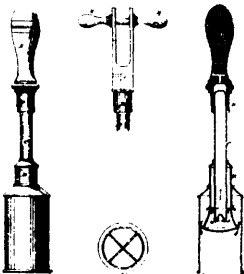
3174 Tupper's Improvements on Washing Machines.



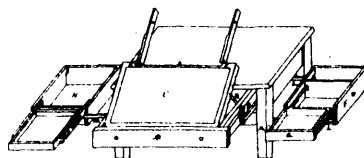
3175 Mack's Garden Cultivating Implements.



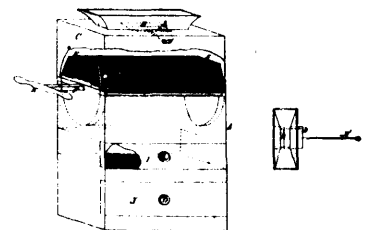
3176 Casey's Clothes Washer and Wringer.



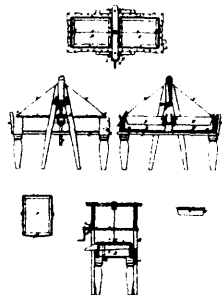
3177 Wilson's Machine for Washing Clothes.



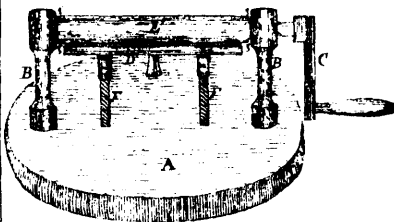
3178 Knight's Drawing or Writing Table.



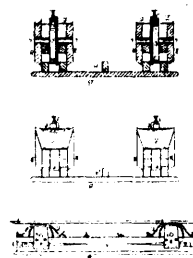
3179 Norris & Lockman's Apparatus for Sifting Coal Cinders without Dust.



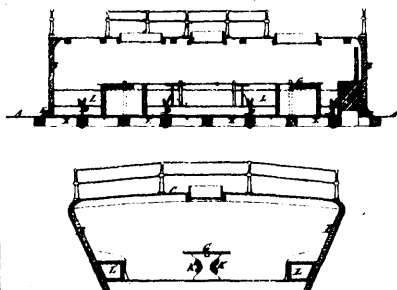
3180 Cawles' Apparatus for Cooling and Preserving Milk.



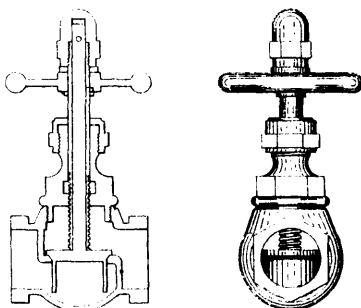
3181 Morin's Machine for Burnishing Photographs



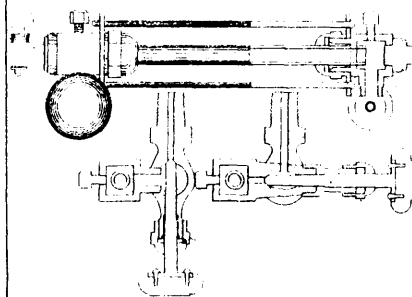
3182 Emery's Four Wheeled Railway Safety Car.



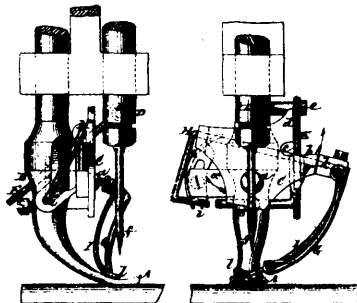
3183 Jolley's Life Raft.



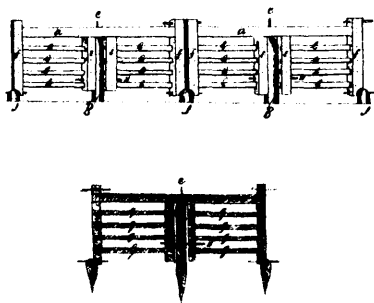
3185 Morrison's Combined Adjustable Check and Globe Valve.



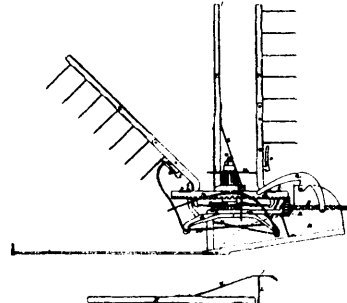
3186 Morrison's Adjustable Water Gauge for Steam Boilers.



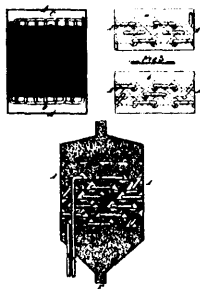
3187 Rose's Embroidering Attachment for Sewing Machines.



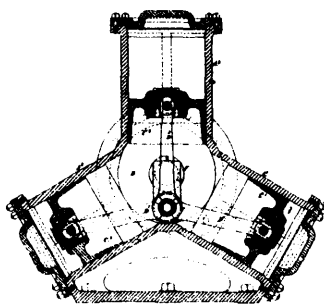
3188 Beeman's Portable Fence.



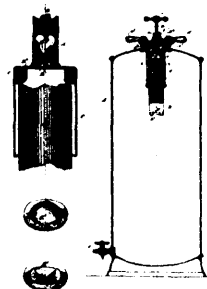
3190 Felt's Self-acting Rake Attachable to Reaping Machine.



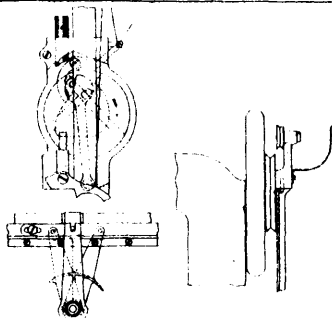
3191 Soper's Machine for Drying Grain.



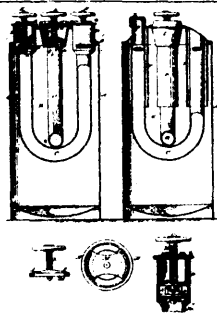
3192 Brotherhood's Triple-cylinder Engine and Pump.



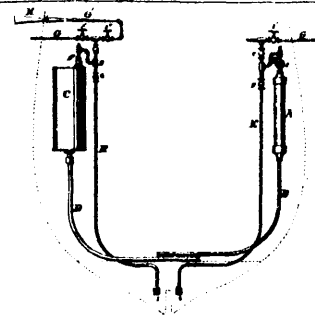
3193 Booth's Fire Extinguisher.



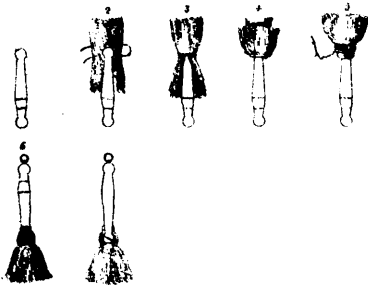
3194 Wanzer's Sewing Machine.



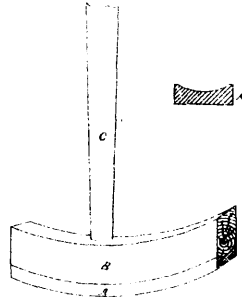
3195 Tibbets' Fire Extinguisher



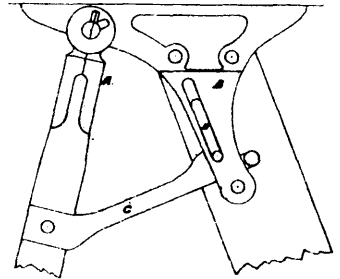
3196 Thiers' Automatic Ship Ventilator, Fog Alarm and Bilge Pump.



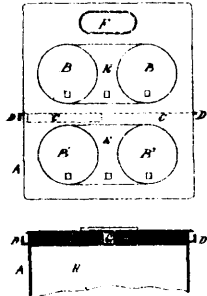
3197 Degagné & Brousseau's Mode of Making Dish Cloths.



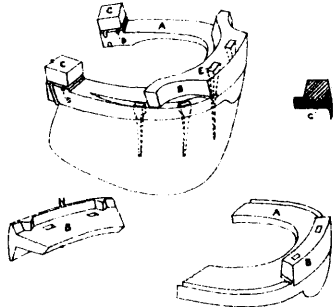
3198 Beach & Rider's Improvement on Wheel Tires.



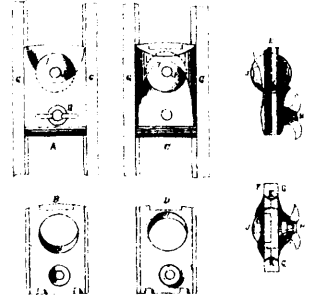
3199 Macfarlane's Step Ladder Lock.



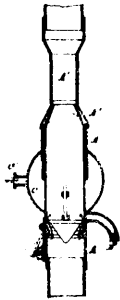
3200 Northey's Dampers for Cooking Stoves.



3201 Mervesp's Improvements on Horse Shoes.



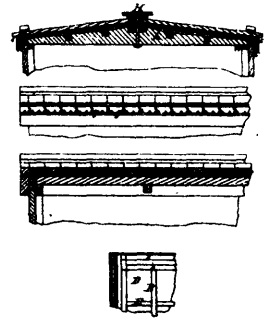
3202 Arnold & Bates' Improvements in the Ball and Socket Joint.



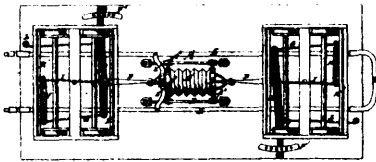
3203 Smith's Improvements on Air Ejectors.



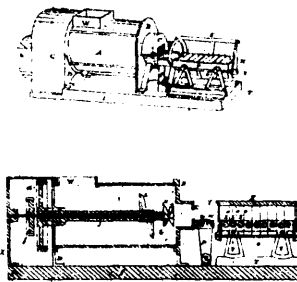
3204 Bourgeois' Attachments to Pumps for Pumping Sand, Gravel, &c.



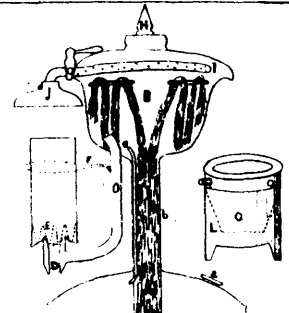
3206 Wands' Improvements on Car Roofs.



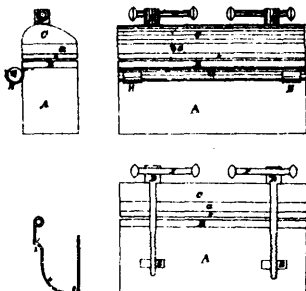
3207 Smith's Improvements on Car Brakes.



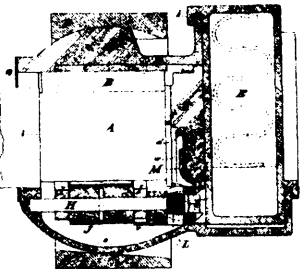
3208 Tiffany's Brick Machine.



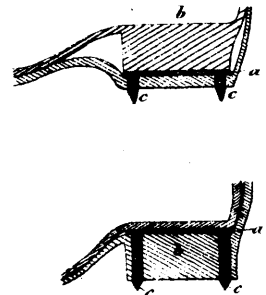
3209 Post's Improvements in Carbureting Apparatus or Lamp.



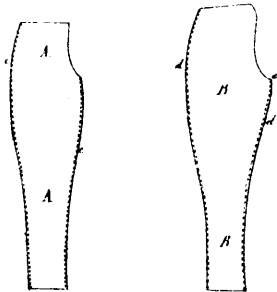
3210 Bryan's Improvement in Making Eave Troughs.



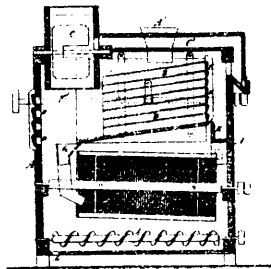
3211 Smith's Improvements on Journal Boxes for Railway Carriages.



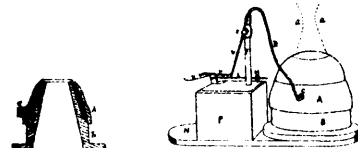
3212 Boyd's Improvements on Creepers.



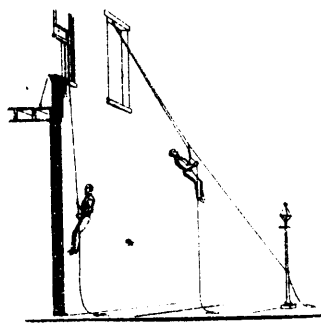
3213 Fitzpatrick's Improvements in Drawers.



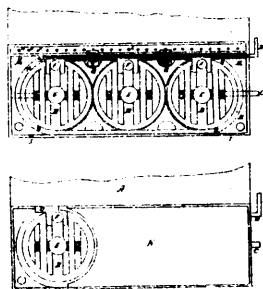
3214 Harmon & Watson's Improvements on Middlings Separators.



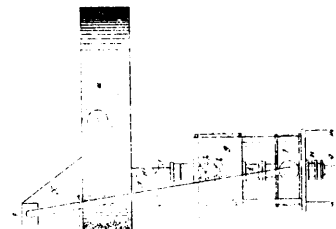
3215 Magoon & Shaw's Means for Preventing Cinders from Entering the Exhaust Pipes of Locomotive Steam Engines.



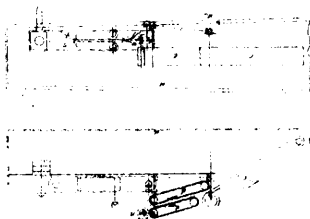
3216 Bustin's Fire Escape



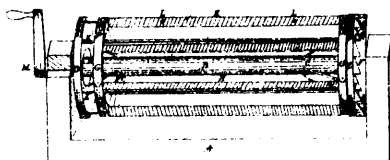
3217 Gaskell's Improvements in Fire Boxes and Coal Grates for Stoves and Furnaces.



3218 Genin, Beauvais, Robitoux, Perkins & Prefontaine's Improvements on Paper Machinery and Chemical Compounds Used in Treating Substances to be Converted into Paper Stock.



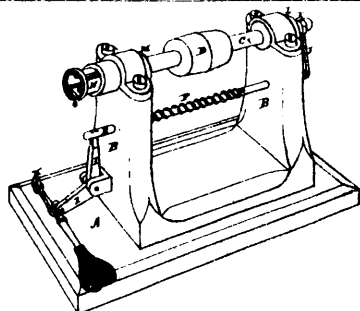
3219 Aikman's Improvements on Machinery for Manufacturing Peat.



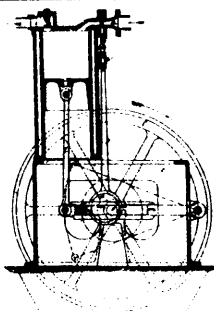
3220 Petch's Machine for Bolting and Purifying Flour and Middlings.



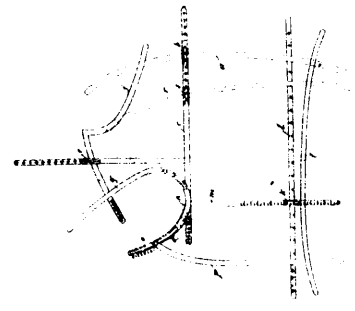
3221 Wilson's Improvements on Paper Bag Cutters.



3222 Paradis' Improvements on Shoe Sole Burnishers.



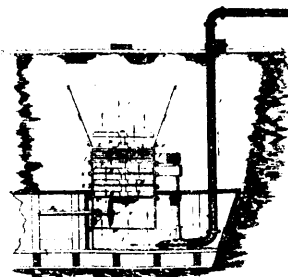
3223 Otto's Improvements on Caloric Engines.



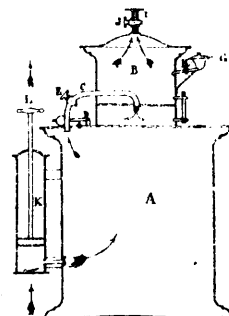
3224 Webster's Improvements on Adjustable Patterns for Cutting Garments.



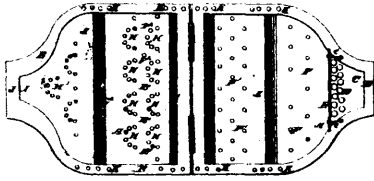
3225 Beardsley's Apparatus for Protecting the Eyes and Respiratory Organs of Persons Exposed to Extreme Heat, Smoke, &c.



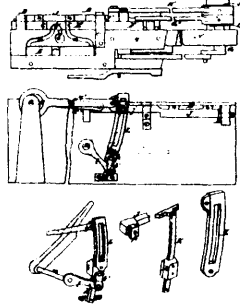
3226 Dodge's Manufacture of Peat.



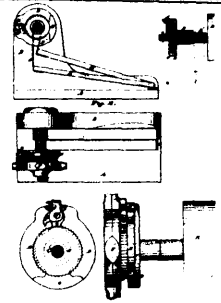
3227 Ruthven's Gas Machine.



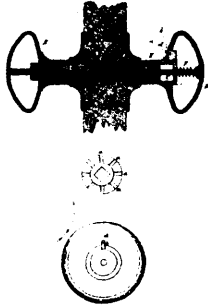
3229 Spang's Portable Toy Race-track for Field and Parlour.



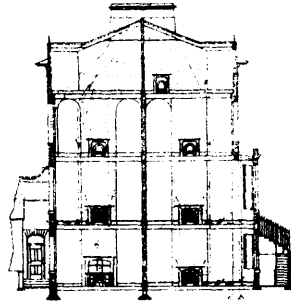
3230 Thomas' Improvements on Cut-off Valve and Sink Motions.



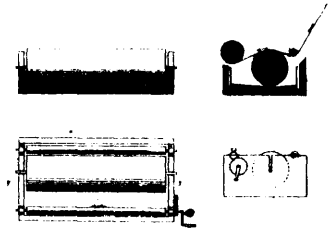
3231 Barnes' Improvements on Mechanical Combinations for Converting Motion.



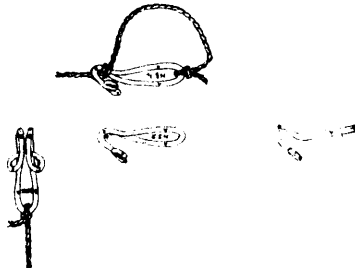
3232 Whipple's Improvements on Attaching Knobs to Spindles.



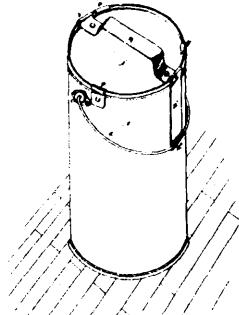
3233 Whitwell's Improvements on Fire Places and Stoves.



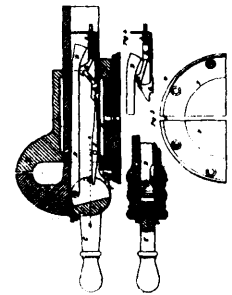
3234 Bustin's Machine for Putting the Paste on Wall Paper.



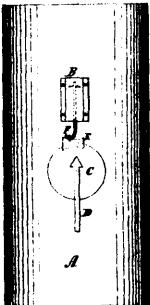
3235 Barnum's Machine for Fastening Cords and Ropes.



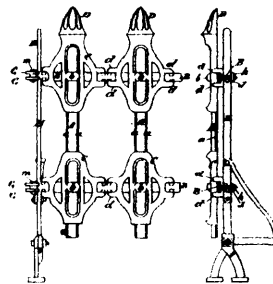
3236 Somerville's Improvements in Paint Cans.



3237 Hall's Bench Vice or Clamp.



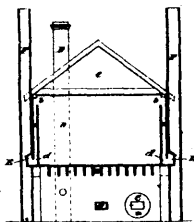
3238 White's Improvements in Dampers for Stove Pipes and Furnaces.



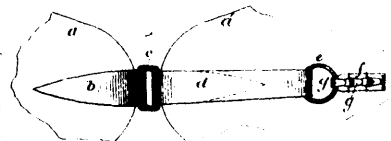
3239 Devoe & Walker's Improvements on Iron Fences.



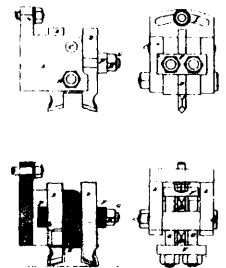
3240 Miller's Improvements on Plough Mould Boards.



3241 Wells' Lumber Drying House.



3242 Kitson's Overshoe Fastener.



3243 Carr & Turbull's Improvements in Tool Boxes and Cutters for Iron Planers.