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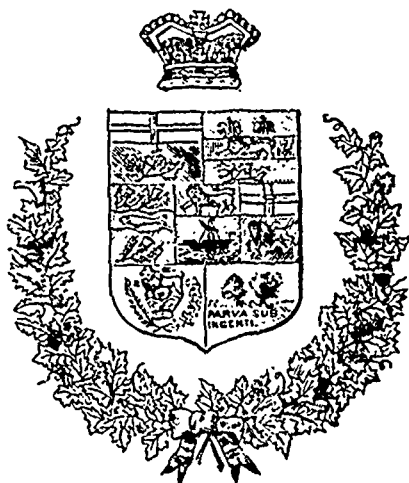
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INVENTIONS PATENTED.

No. 8146. Improvements on Furnace Doors.

(*Perfectionnements aux portes de fourneaux.*)

Thomas R. Butmar Milan, Ohio, U.S., 27th November, 1877, for 5 years.

Claim.—1st. The combination of the door B, movable hinged or pivoted deflector C, and chamber D. 2nd. The combination of the door B, movable hinged or pivoted deflector C, and chamber D, with the frame A. 3rd. The combination of the door, the deflector, chamber D and the nozzle or pipe I. 4th. The combination of the door B, deflector C, spring d, cog-gear e, e', with or without the weight c, whereby said door and deflectors are simultaneously opened. 5th. The combination in furnace-doors, of the door, its register and latch, chamber D, deflector C, pipe or nozzle I, etc. The door shaft and door, the deflector-shaft and deflector, the escapio at its lower end, the cog and spring weights, and door-fastenings, combined with the chamber D. 7th. The combination of the door-frames A, door B, deflector C and stops or rests J, whereby said deflector may be used for the double purpose of a coal distributor and air deflector.

No. 8147. Improvements on Sap Buckets.

(*Perfectionnements aux seaux de sucreries.*)

Eben Willis, Colton, N.Y., U.S., 27th November, 1877, for 5 years.

Claim.—1st. In combination with a pail A having a projecting rim B, the cover C having a flange D and lugs E E', to engage with the rim B, slidingly. 2nd. In combination with a pail A, the cover C having a raised aperture F. 3rd. The prop device H hinged to the bottom of the pail.

No. 8148. Improvements on Axle Lubricators.

(*Perfectionnements des graisseurs d'essieux.*)

Frank Corsa, Brooklyn, N.Y., U.S., 27th November, 1877, for 5 years.

Claim.—The combination of the central depression b in the axle, with the two spiral grooves a c extending from the said central recess in reverse directions, and both vanishing in the axle before reaching the collar and rib of the same.

No. 8149. Improvements on Window Shades.

(*Perfectionnements aux rideaux de fenêtres.*)

Thomas H Paling, Woodstock, Ont., 27th November, 1877, for 5 years.

Claim.—1st. A window shade cord-retainer, consisting of a spiral wire coil J, and prongs and loops. 2nd. The roller I having a tongue M fitting therein, confined by the spools H having slotted sockets N fitting over the ends, for securing the shade to the roller.

No. 8150. Machine for Cutting and Dressing Hoops.

(*Machin e à tailler et finir les cercles.*)

William Steele, St. Mary's, W.V., U.S., 27th November, 1877, for 5 years.

Claim.—1st. The combination and arrangement of the frames K K', with planer heads L L', gang bars S S', links P P', lever R, and pattern a, with the saw; 2nd. The adjustable head-block C D; D', with the cams E E', stop G, brace U, ratchet J, drum d and dog-chain I.

No. 8151. Improvements in Terrestrial Globes.

(*Perfectionnements dans les globes terrestres.*)

Mungo Turnbull, Toronto, Ont., 27th November, 1877, for 5 years.

Claim.—1st. An axial rotating terrestrial globe, permanently mounted in such manner that the line of its polar axis is placed at an angle of twenty three degrees and twenty-eight minutes, to the perpendicular or ecliptical polar axis; a globe thus mounted representing the true physical aspect of the earth in space. 2nd. The globe C provided with a depending stem C',

the said stem being placed in line with the polar axis and supported upon the bracket B, in such manner that the globe may be freely revolved at a fixed angle with the perpendicular. 3rd. A graduated adjustable axial vernier, with pointer mounted on the stem C', and arranged in connection with a revolving ecliptic, movable solar meridian and the zone or ring I, to determine mechanically the correct astronomical time of the dawn of twilight and sunrise, and the time of sunset and the end of twilight at any point on the earth, and at any time of the year. 4th. A revolving ecliptic G, with the sun's place exhibited therein. 5th. The twilight zone or ring I, arranged to represent continually the width and position of that band or zone of faint refracted light, known as terrestrial twilight, at all times in the earth's diurnal and annual motions. 6th. A movable solar meridian, arranged to show for every day the angular change that takes place between the ecliptical polar axis and that of the earth's, and the motion of which over the sun's place on the ecliptic gives his declinations north or south. 7th. An azimuth semi-circle placed between the ecliptic and the earth, on the sun's centre, by means of which the sun's altitude at any hour on each side of the meridian where he is visible can be shown at any point on the earth. 8th. The axial vernier E, with pointer arranged on the extension of the line of the south pole for the purpose of reading terrestrial longitude in either hours of time or degrees of an arc.

No. 8152. Improvements on Toy-Pistols.

(*Perfectionnements aux pistolets-jouets.*)

Bartley Kirkbride, Morgansville, Ohio, U.S. 27th November, 1877, for 5 years.

Claim.—The pistol-shaped body, having below its barrel a groove divided from the trigger recess d by a partition Z, plunger C, having a serrated plate b playing in said groove, springs S and s', and trigger D seated in said recess d, and having its tooth e arranged for direct engagement with said serrated plate.

No. 8153. Improvements in Gates.

(*Perfectionnements dans les barrières.*)

John C Cameron, Blanshard, Ont. 27th November, 1877, for 5 years.

Claim.—1st. The combination of the clevis bar f and the continuous round bar e. 2nd. The combination of the compound lever b b', with the chain c acting on the clevis bar f.

No. 8154. Improvements on Sole Edge Burnishers.

(*Perfectionnements aux astics pour la tranche des semelles.*)

Louis Côté Saint Hyacinthe Que. 27th November 1877 (Extension of Patent No. 1926), for 5 years.

No. 8155. Improvements on Sole Edge Burnishers.

(*Perfectionnements aux astics pour la tranche des semelles.*)

Louis Côté Saint Hyacinthe, Que., 27th November, 1877, (Extension of Patent No. 1926), for 5 years.

No. 8156. Improvements on Filtering Apparatus.

(*Perfectionnements aux appareils de filtration.*)

Thomas R. Sinclair, New York, U.S., 30th November, 1877, (Extension of Patent No. 1850) for 5 years.

No. 8157. Improvements on Mill Bed-Stones.

(*Perfectionnements aux gîtes de moulins.*)

Ferrand G Wallace Jackson Michigan, U.S. 3rd December, 1877, for 5 years.

Claim.—1st. Coil springs D D, in combination with the set screw bolts, for the purpose of preventing too great a far in the running of the upper stones of flouring mills. 2nd. The rubber packing round the lower stone, in combination with the adjustable set screws and coil springs.

No. 8158. Improvement on Portable Heaters.

(*Perfectionnements aux cuisinières-portatives.*)

George I. Thorne Buffalo N.Y. U.S., 4th December, 1877 for 5 years.

Claim.—1st. The combination with the heater A, of the pivoted supports D. 2nd. The combination with the vessel A, of the support D pivoted to said vessel A and provided with means for locking said supports; 3rd. The

combination with the heater A, having the pivoted supports J, of the vessels F and H arranged to form a covering for said heater; 4th. The combination with the heater A, of the pivoted locking supports D having the hooks d, and the tubes E having the open bent ends e; 5th. The combination with the heater A, of the wick tube B having an external screw thread, and the cap G provided with an aperture g; 6th. The combination with the vessels F and H having the ears f, of the spoon I having the bent part K; 7th. A portable cooking apparatus consisting essentially of the reservoir A having the wick-tube B and supports D, the vessels F H provided with the ears f, and the spoon I having the bent part K.

No. 8159. Square and Bevel Combined.

(*Equerre et sautoirelle combinées.*)

Jacob M. Rodkey and David F. McMillan, Priceville, Ont., 4th December, 1877, for 5 years.

Claim.—The stock A, cut with diagonal groove b and kerf a, and the blade B pivoted therein by the thumb screw C, whereby the blade when at a right angle is stopped by the portion D, and when at a bevel enters the groove b in the stock A.

No. 8160. Improvements on Looms.

(*Perfectionnements aux métiers de tissands.*)

Alexander Smith and Halsey Skinner, Yonkers, N.Y., U.S., 4th December, 1877, for 5 years.

Claim.—1st. The combination of the movable web-holders, at the two sides of the loom, and the web-carrier with a head which is both forked and hooked, whereby the fillings selected at the opposite sides of the loom are both introduced into the sheds, by the same web-carrier; 2nd. The combination of the web-carrier, and the yielding spring web finger, whereby the loop of filling is introduced into the shed, is engaged at the side thereof, and is held in the shed during the reversed movement of the web carrier; 3rd. The combination of the web-carrier, constructed with a head which is both forked and hooked, and two yielding spring web fingers, one at each side of the loom, whereby loops of fillings, selected at either side of the loom, are engaged at the opposite side thereof, and are held in the shed; 4th. The combination of the disc-cutter and the fixed cutter blade, with the cam, whereby they are moved toward and from the intermediate position, at which the tufting material is cut; 5th. The combination of the disc cutter, the fixed cutter-blade, the cam for causing the said two cutters to move to and from the intermediate position, at which cutting is effected, the cam for moving the disc-cutter crosswise of the loom, and the means for causing the disc cutter to revolve during its crosswise movement; 6th. The combination of the transferring arms, and the rocking clutches for rocking the spool frames; 7th. The combination of the carrying chains, the transferring arms, and the rocking clutches; 8th. The combination of the comb and the cam-guides, for causing the comb to move horizontally and vertically.

No. 8161. Improvements in Coffee Hullers.

(*Perfectionnements aux caulseuses de café.*)

John H. Pendleton, Brooklyn, N.Y., Alexander H. Tiers and Cornelius Tiers, New York, U.S., 4th December, 1877, for 5 years.

Claim.—1st. The combination with the cylinder a and plates b of the V-shaped cross-pieces d, blocks e and elastic rubbers k; 2nd. The combination with the cylinder a, side plates b and V-shaped cross pieces d, of the blocks e and yielding rubbers held in place by the cross rods g; 3rd. The combination with the hulling cylinder and hopper, of the throat movable gate and lip l; 4th. The adjustable frame c, in combination with the adjustable rubbers k and springs r; 5th. The combination of side plate b and the cross V, plates d forming parallel spaces for the rubbers.

No. 8162. Apparatus for Tilting Kettles.

(*Appareil à pencher les bouillottes.*)

John Grant and James Sheppard, Gananoque, Ont., 4th December, 1877 for 5 years.

Claim.—The jaws A and B, or their equivalents, which are constructed so as to straddle the edge or rim of the kettle, and grasp it on the outside, one or below its edge and at opposite sides, together with the cover holding spring E or its equivalent, with the connecting bar C, thumb-screw I and G, guide cap H, thumb catch J, slot K and handle D.

No. 8163. Improvements on Gas Regulators.

(*Perfectionnements aux régulateurs à gaz.*)

Thomas H. Haynes, London, Eng., (Assignee of John C. Schooley, New York, U.S.) 4th December, 1877, for 5 years.

Claim.—1st. The combination of the perforated conduit P, with the inverted cup D; 2nd. The combination of the hollow plug C, guide bridge M, cap B and valve rod F; 3rd. The case A, hollow plug K and its guide bridge L, and valve rod F; 4th. The combination of the annular perforated conduit P, inverted cups D and E, valve rod F, plugs C and K, and guide bridges M and L.

No. 8164. Improvements on Pens.

(*Perfectionnements aux plumes.*)

Joseph Reckendorfer, New York, (Assignee of Henry C. Benson Yonkers, N.Y.), U.S., 4th December, 1877, for 5 years.

Claim.—1st. The combination of the clasp, and the detachable and removable ink solid or stick, received and held by the said clasp; 2nd. A pen-holder whose inner barrel is formed with a tongue or extension, constituting a clasp to receive and hold an ink solid or stick; 3rd. The combination of the pen-holder, the pen proper and the ink solid spring clasp, arranged to bear against or towards the under side of the pen, with a yielding pressure

No. 8165. Improvements on Lamp Extinguishers.

(*Perfectionnements aux éteignoirs de lampes.*)

Samuel N. Long and Charles H. Kolly, Harwick, Mass., U.S., 4th December, 1877, for 5 years.

Claim.—1st. In combination with the spring a¹ provided with the shoulder a², the extinguisher g¹ provided with arms g² and weight h and hinged to said spring a; 2nd. The extinguisher g¹ provided with arms g²

and weight h hinged to a frame, adapted to fit on the wick-tube d or hinged to the same; 3rd. The spring a inserted in the wick-tube, and adapted to press the wick against the wicklet e.

No. 8166. Improvements on Washing Machines.

(*Perfectionnements aux machines à laver.*)

Gilbert R. Willett, Annapolis, N.S., 4th December, 1877, (Extension of Patent No. 1908) for 5 years.

No. 8167. Improvements on Halter Clasps.

(*Perfectionnements aux crochets de licous.*)

Benjamin F. Frazier, Grand Rapids, Wis., U.S., 6th December, 1877, for 5 years.

Claim.—1st. The combination of the two plates B and I, provided with openings i i and k, also pins f g and h; 2nd. The combination of the plates B and I, provided with openings i i and k, and pins f g and h.

No. 8168. Improvements on Shaft Coupling.

(*Perfectionnements aux armors de limonières.*)

Robert Smallwood, Charlottetown, P.E.I., 6th December, 1877, for 5 years.

Claim.—1st. The coupling A, the body of which is composed of a single piece with a slit through it longitudinally having ribs canges around each end and middle, and bored out a little smaller than the diameter of the shaft to which it is to be attached; 2nd. The arrangement of the hole I and recess E; 3rd. The combination of the arrangement of hole I and recess E, with the coupling A and bolt B or F.

No. 8169. Improvements on Store Stools.

(*Perfectionnement aux bancs de magasins.*)

Alexander A. Murphy, Montreal, Que. 6th December, 1877, (Extension of Patent No. 1906) for 5 years.

No. 8170. Improvements on Gas Governors.

(*Perfectionnements aux régulateurs à gaz.*)

Thomas H. Hicks, London, Ont., 6th December, 1877, for 5 years.

Claim.—The construction of gas engine L, double-acting air pump 2, valve R, valve K, K², K³, K⁴, the manner of increasing or diminishing the percentage of air by the movable stand V₂; also the manner of operating the valve I H with rod I, and forked lever A.

No. 8171. Improvements in Washing Machines.

(*Perfectionnements dans les machines à laver.*)

Antoine Lavigne, St. Pie, Que., 6th December, 1877, for 5 years.

Claim.—1st. The construction with a stage or platform, a rotary washing machine revolving thereon, held in place and restrained in its motion by straps or other means; 2nd. In combination with any rotary washing machine, either rotating on its axis or circumference, a double chamber or false bottom, formed between the outer shell and a perforated inner skin; 3rd. The combination of the machine A, platform H, flap K and bar L.

No. 8172. Fastener and Adjuster for Shutters, Windows, &c.

(*Ferrures de persiennes, croisées, &c.*)

Thomas B. Rogers, Jr., Brooklyn, N.Y., U.S., 6th December, 1877, for 5 years.

Claim.—1st. A fastener and adjuster provided with a slotted curved bar C or C' having cavities for receiving the convex portion of thumb-screw E; 2nd. The bars A, B joined together, in combination with the slotted bar C and clamping screw J; 3rd. The sub g₁, in combination with the bars A, B; 4th. The catch E, having the shoulder K, in combination with the bars A, B; 5th. The bars c, having notches a¹, in combination with the bars A, B.

No. 8173. Improvements on Lozenge Machines.

(*Perfectionnements aux machines à pastilles.*)

Thomas Robertson, Toronto, Ont., 6th December, 1877, for 5 years.

Claim.—1st. The reciprocating cutting table L, in combination with the stationary cutters F₁; 2nd. The reciprocating lozenge pushers or delivery head N L₁, in combination with the stationary cutters F₁ and reciprocating cutting table L; 3rd. The reciprocating frame L, and delivery head L₁, with pushers N, in combination with the cutters F₁; 4th. The reciprocating conveyor bars L₂, in combination with the plane H; 5th. The pivoted conveyer bars L₂ attached to the reciprocating frame L, in combination with the pivoted cam I₂; 6th. The lozenge receiving frame H, in combination with suitable devices for imparting a progressive motion to the lozenges, such delivered from the cutters, the said plane being arranged to allow the lozenge receiving boards to be shoved underneath, when empty, and led forward by conveyer hangers in unison with their delivery, by the last conveyer bar; 7th. The intermittently moving, embossing and printing head O, in combination with the conveyer bars L₂ or their equivalent, and the plane O₂; 8th. The intermittently moving lozenge receiving trays K, in combination with the conveyer bars L₂; 9th. The portable elevator frame R provided with a series of tray bearers R₂, corresponding to the side bars of lozenge receiving frame, and arranged to receive the lozenge trays one above the other as they are passed loaded out of the lozenge machine; 10th. In combination with a lozenge machine which delivers the finished lozenges on trays, the portable elevator frame K; 11th. The frame P mounted in such manner that the sheet of paste is received from the first set of rollers, in a horizontal position, and can then be elevated at an angle suitable for feeding the paste between the next pair of rollers; 12th. The revolving brush Q mounted on the arms Q₁ in such manner that it is, by means of a counterbalance, drawn out of the way when not in use.

No. 8174. Improvements in Liquid Measures.

(*Perfectionnements dans les mesures liquides.*)

Charles C. Redmond, San Jose, Cal., U.S., 6th December, 1877, for 5 years.

Claim.—In combination with the vessel A and funnel B, of the lid or cover D.

No. 8175. Improvements in Water Closets.

(Perfectionnements dans les lieux d'aisance.)

John Demarest, New York, U.S., 6th December, 1877, for 5 years.

Claim.—1st The combination with the basin and valve chamber c of the hollow cylindrical discharge valve closed at the top and provided with a dam and an overflow opening 2nd. The water supply valve made with a cylindrical nut on valve u fitting loosely the case f and closing up tightly and an auxiliary v for closing an opening through the main valve; 3rd The valve excluder f within the chamber containing the cylindrical valve e and provided with holes in said case f for jets of water to cleanse the interior of the said chamber, 4th. The strainer made of the tubes 12 and 13 and having a slit 14, and provided with the adjusting screw 17 5th The valve cylinder f passing through the chamber c and provided with a removable cap at the lower end.

No. 8176. Instrument for Gauging and Threading Needles.

(Instrument pour mesurer le fil et enfiler les aiguilles.)

Robert Super, London, Ont., 6th December, 1877, for 5 years.

Claim.—1st. The combination of the wire F sharp projection C, bolt D, washer E upright B and leaf A, 2nd. The combination of the wire J arm K, hook L, bolt H, washer I, flange P provided with aperture O 3rd. The combination of the frame A B C, needle gauge F and threader J.

No. 8177. Improvements in Railway Ventilators.

(Perfectionnements dans les ventilateurs de railroads.)

Samuel Seabury, New York, U.S., 6th December, 1877, for 5 years.

Claim.—The combined cylinders B and D, the latter with mouth piece N, wire gauge covering P, axle E with screw wheel and level cog wheel G, in combination with cylinder A with axle K, sleeve J with screw wheel J and level cog wheel H.

No. 8178. Improvements in Time Locks.

(Perfectionnements aux serrures à mécanisme d'horlogerie.)

Zephaniah Phillips, Bridgeport Ohio, U.S., 6th Dec. mber, 1877 for 5 years.

Claim.—1st The combination of the series of pivoted covers B B with their independent bolts C and springs D, and the main springs G G connected with the levers by cords or chains a, 2nd. In a time lock, the combination of the hand J with hub L having roller r, and the cog wheel I provided with cam hub f and movable out and in on the spindle e, and the clock work E with elongated pinion H for rotating said wheel, 3rd. The combination with the wheel I having cam hub f, of the spring elbow lever M with roller in spring casing R with pin r, and projection p, spring lever S, cam lever W, notched disk V and pulley T, connected by chain t with the main springs G.

No. 8179. Combined Broad-Cast Seeder, Cultivator and Seed Drill.

(Semoir à la volée, semoir-labour et cultivateur combinés.)

Thomas Galloway and John Larsen, Oshawa, Ont., 6th December 1877, for 5 years.

Claim.—1st. The hoppers C, provided with divergent grain passages C1 C2 and arranged in connection with the distributors B or their equivalent, to convey the grain into either of the tubes D or E respectively as required. 2nd. The swinging valve C1 uniformly mounted upon the rod or shaft I in combination with the hoppers C provided with divergent grain passages C1 C2; 3rd. The grain conductor tubes D with divergent branch tubes D1 D2, arranged to convey the grain from two separate distributors to a single scattering tube; 4th. The scattering tubes H supported in the grain conductor tubes, in such manner that they will yield to an obstruction and be automatically returned to their place after the obstruction is passed. 5th. A combined grain drill and broad-cast seeder tooth G J, formed by the attachment to the rear of a cultivator tooth of a grain conducting tube; 6th. The combination of the distributors B, hoppers C, with divergent grain passages C1 C2, and swing valves C1, grain conducting tubes B1 D1 D2 and J, scattering tubes H and teeth G J.

No. 8180. Improvement on Skirt Protectors.

(Perfectionnements des protecteurs de jupons.)

Charles L. Bullock and George Mowitt, Toronto, Ont., 6th December, for 5 years.

Claim.—1st. The application of the hooks or buttons z z to a dress supporter or pannier, whereby it may be attached to the lower portion of the skirts by loops, instead of encircling the waist, 2nd. The application of the rubber protector K K to a dress supporter or pannier.

No. 8181. Boot and Gaiter Tree.

(Embouchoir de bottes et de guêtres.)

William H. Lendon, Toronto, Ont., 6th December, 1877, for 5 years.

Claim.—1st. The plate D provided with the wedge shaped legs C, in combination with the rod P, wedge shaped blocks E and spring H 2nd. The foot A provided with a leg piece B.

No. 8182. Improvements on Trace Fastenings.

(Perfectionnements aux attache-trails.)

Neison Thomas, Taunton, Mass., U.S., 6th December, 1877, for 5 years.

Claim.—1st. The flattened shank A secured to the end of the whiffletree and having the transverse notch E in its face, and the flattened button B made hollow to receive the spring S and the screw C, by which the said button and spring are held to the shank, 2nd. The flattened button B combined with the flattened shank A, by means of the spring S and screw C contained within the button, the screw passing entirely through it to enter the shank at the bottom of its transverse recess E.

No. 8183. Improvements in Land Rollers.

(Perfectionnements aux rouleaux d'agriculture.)

Joel C Van Allen, Aurora, Ont., 6th December, 1877, for 5 years.

Claim.—The casting F F bolted to either end of the axle-trees E, and forming the socket f a, a quadrant-shaped recess h, in combination with the spindles G provided with the balls g, and passing through the tapered hole d made in the centre of the inside end of each roller D D.

No. 8184. Machine for Breaking Pegs.

(Machine à casser les chevilles.)

Ouféme St Amant, Quebec, Que. 6th December, 1877, for 5 years.

Resumé.—1. La forme donnée à la bête H g, pour atteindre le fond des chausures; 2. La combinaison des roues horizontales a a c, avec les roues à arête de 45 degrés E F, prises sur l'arbre de couche G; 3. La disposition horizontale de la fraise d.

No. 8185. Improvements on Street Washers.

(Perfectionnements aux bornes-fontaines.)

Frederick Jarecki, Erie, Pa. U.S. 6th December, 1877, for 5 years.

Claim.—1st. The combination of a street washer, having extensible water pipe and an extensible cut off casing, whereby the street water pipe and casing can be adjusted together simultaneously. 2nd. A street washer of the kind provided with a vertical extension water pipe, which is adapted to be lengthened or shortened at will and communicating with the main pipe; 3rd. The combination with a street washer having an extensible water pipe and an extensible cut off casing, of the cut-off rod I having a guide collar and flattened upper end, 4th. The combination of cover G having button H with cap E, having lip f, plate D and tube C.

No. 8186. Improvements on Steam Boilers.

(Perfectionnements aux chaudières à vapeur.)

Samson Fox, Leeds, Eng., 6th December, 1877, for 5 years.

Claim.—1st. In a steam boiler, the flues constructed with plain bottom plate 1 and plate 2 forming the sides and top, and having corrugations at right angles to the axis of the flue; 2nd. The flues of steam boilers having corrugations extending entirely round them and either helical or at right angles to the axis, formed either by swinging or embossing, after the metal of the flue has been brought to the cylindrical shape; 3rd. A locomotive fire-box having its top front and side plates corrugated, but with plain borders, and formed in addition with a general curvature convex towards the steam pressure. 4th. In a locomotive the part of the outer shell of the boiler enclosing the fire box formed of corrugated plates with plain edges having a general curvature convex towards the steam pressure.

No. 8187. Improvements on Boot and Shoe Stiffenings.

(Perfectionnements aux contre-forts de chaussures.)

David Stryngesour, Foxborough, Mass. U.S., 6th December 1877, for 5 years.

Claim.—1st. Producing boot and shoe stiffenings from a web of pulp, made upon a Fourdrinier machine. 2nd. The method of making boot and shoe stiffenings inner-soles, &c., by the employment of pulp, in a moist and unfinished state, as it is formed upon the machine or mould. 3rd. The combination with a Fourdrinier paper-making machine, of an auxiliary or a second oscillated or foraminous endless apron, operating in connection with the apron proper of the machine, to produce results as stated; 4th. Boot and shoe stiffenings, made from pulp in a moist and unfinished state; 5th. A mode for pressing hollow articles of pulp, lined with a woven cloth.

No. 8188. Machine for Opening and Shutting Canal Lock Gates.

(Machine à ouvrir et fermer les portes d'écluses des canaux.)

Elmer V. Bodwell, St. Catharines, and John E. Scott, Dunnville, Ont., 6th December, 1877, for 5 years.

Claim.—The mode of opening and shutting lock gates, by means of one force applied to the top of the gate by the shaft A and the combination of wheels C D and P, and their arrangement.

No. 8189. Improvements in Lime Kilns.

(Perfectionnement dans les fours à chaux.)

Joseph Patullo, Orangeville, Ont. 7th December, 1877 (Extension of Patent No. 1876), for 5 years.

No. 8190. Improvements on Washing Machines.

(Perfectionnements aux machines à laver.)

John W. Calef, North Easton, Mass., U.S., 7th December, 1877, for 5 years.

Claim.—1st. The longitudinally corrugated rubber rollers a a1 a2 b b1 b2; 2nd. The longitudinally corrugated rubber roller a a1 a2 firmly secured to its shaft e in combination with the longitudinally corrugated rubber roller b b1 b2, provided with a central hollow metallic tube or sleeve f, running loosely on its stationary shaft f. 3rd. In combination with the longitudinally grooved rubber rollers a a1 a2 b b1 b2, the upright frame e c, foot pieces z z, with their notches k k, the bolting pieces l l, with their projections n n and thumb screws o o.

No. 8191. Improvements on Tricycles.

(Perfectionnements aux vélocipèdes.)

Rachel A. Mason (Assignee of Allan Masou), Paisley, Ont., 7th December, 1877, for 5 years.

Claim.—The combination of driving wheels B, with pulleys E and ratchet wheels F, brakes G, driving stirrups L and driving pedals M, counter-poise N and direct lever P.

No. 8192. Improvements in Dress Protectors.*(Perfectionnements dans les protecteurs de jupons.)*

Gabriel Schwab, New York, U.S., 7th December, 1877, for 5 years.

Claim.—In a combined dress protector and train extender the main body of which is formed of textile fabric supplied with the ordinary dress protector B, and stiffened and shaped with lateral and cross ribs C.

No. 8193. Improvements on Roller Skates.*(Perfectionnements aux patins à roulettes.)*

John P. Lovett, (Co-inventor with, and assignee of Alfred J. Peerless) Toronto, Ont., 10th December, 1877, for 5 years.

Claim.—1st. The arrangement to obtain the curvature of the wheels from a horizontal plane, without the use of an inclined plane as applied to roller skates. 2nd. The application of the guides D and D' in combination with the hanger A or hangers, for the purpose of making the skate adjustable. 3rd. The application of the rubber band to the centre of the wheels of the roller skate. 4th. The combination of the spring J and J', between the spring rest P or rocker plate with the bed piece L. 5th. The application of the stops N.

No. 8194. Machine for Carbureting Air or Gas. *(Machine à carburer l'air ou le gaz.)*

David E. Bangs, Boston, Mass., U.S., 10th December, 1877, for 5 years.

Claim.—1st. In combination with the jacketed carbureting tank B the surrounding oil reservoir A having an exterior condensing chamber C and the non-conducting jacket D surrounding said chamber, the said carbureting chamber being connected with the condenser; 2nd. The oil reservoir A, having an exterior space C filled with soapstone, pebbles, or other like substance, and surrounded by a casing filled with a non-conducting substance; 3rd. The combination with a carbureting chamber and a surrounding oil reservoir, of a connecting pipe E having a rose upon its lower end and a valve seat at its upper end, the exterior perforated guide pipe B, the reticulated guard C encircling said pipe, the plunger E' working in pipe B, the vibrating lever F, a float F', rod F'' connecting said lever and float, and a guide tube E' in which said rod reciprocates. 4th. The combination with the feed pipe E connecting the reservoir and carbureter of the pipe B, having apertures c, the encircling reticulated guard C, the rose b and the plunger E'; 5th. The combination with an oil reservoir, a carbureting chamber, separated therefrom by a diaphragm, and a feed pipe extending through said diaphragm, of a rose applied upon the lower end of said pipe and perforated upon its upper side, whereby the oil is discharged scatteringly in the carbureting chamber. 6th. The combination with the oil reservoir a carbureting chamber a separating diaphragm, a feed pipe and a rose, of the spaced independent evaporating layers below said rose. 7th. The combination with an open ended supporting frame, of the spaced evaporating layers supported thereby; 8th. The combination with the reservoir having conical head H with lateral passages f f', the conical sleeve Q having up turned tubular branches g g', in line with said passages and the flexible pipes p p' of the filling vessel J having two way cocks I, with independent nozzles h h' and ducts i i', and the pipe K extending from the duct i to the top of the vessel; 9th. The combination with the carbureting chamber B, having spaced partitions z forming a labyrinthine passage from the gas induct to the duct, the subsidiary evaporating clothes arranged between said partitions and dipping into the oil.

No. 8195. Improvements in Vehicle Axles.*(Perfectionnements aux essieux de voitures.)*

Andrew Keiser, Prophetstown, Ill., U.S., 10th December, 1877, for 5 years.

Claim.—The adjustable straps D D in combination with the flange A and shield B.

No. 8196. Improvements on Fastenings for Shoes, Gloves, &c.*(Perfectionnements aux agrafes de soulers, gants, &c.)*

John S. Hall, San Francisco, Cal., U.S., 10th December, 1877, for 5 years.

Claim.—1st. A slide B with curved ends b b and a plate or bar c beneath them, in combination with a raised rim or bead placed around the edge of the opening to be closed. 2nd. In combination with a raised bead, or filled of any suitable elastic or non-elastic material, placed upon or around the edge of an opening, a sliding fastening constructed and applied to grasp the bead, and to be moved up and down upon it to draw and hold the edges of the opening together.

No. 8197. Improvements on Seed Sowers.*(Perfectionnements aux semailles à grains.)*

Richard H. Jarvis, Mitchell, Ont., 10th December, 1877, for 5 years.

Claim.—1st. The shape, mode or plan of the front scuffer shares R R, and the mode or plan of setting or placing the shares R R and S on each side of the centre of machine; 2nd. The wheels K K on knife shanks I I, in connection with shaft E and universal joint N, the movable bearing O and cutting knives J J; 3rd. The lining knife L combined with the cutting knives J J; 4th. The cleaner P, the mode or plan of setting the cleaner in the position; 5th. The handles Q, the mode or plan of setting the handles at an angle with the frame A; 6th. The combination of the frame A, driving wheels B B, bevel gearing D, driving shaft E, seed canister F, canister support G, seed share M, front shares R R, back shares S S, wheels on share legs T T, disc H, shanks I I, cutting knives J J, wheels on shanks K K, lining knives L L, seed share M, universal joint N, movable bearing O, cleaner P and handles Q.

No. 8198. Improvements in Trussed Whistle-trees. *(Perfectionnements aux palonniers armés.)*

Samuel W. Belles, Orion, Mich., U.S., 10th December, 1877, for 5 years.

Claim.—The body A made of sheet metal bent into a concave form, the tension-rod B, strut a, hoop b and link c.

No. 8199. Improvements in Seals and Stamps.*(Perfectionnement dans les sceaux et estampes.)*

John Dewe, Ottawa, Ont., 10th December, 1877, for 5 years.

Claim.—The combination of the paper colored on one side, its perforation with numerous holes, the fitting up of these holes by subsequent pressure and the coating of the colored side of the paper with gum or other adhesive material.

No. 8200. Improvements in Sewing Machines.*(Perfectionnements dans les machines à coudre.)*

Richard M. Wauzer, (Assignee of James F. Chamberlain.) Hamilton, Ont., 10th December, 1877, for 5 years.

Claim.—1st. The combination with the lever G which actuates the take up lever E the needle bar and the connecting link H of a stud or projection H' on the needle bar, and adapted to operate in conjunction with the free end I of the take-up actuating lever G whereby the initial movement of the take up is effected. 2nd. In combination with the take-up mechanism of a sewing machine, of the lever G, with or without the free end I, and the needle bar D, with or without the stud or projection H'.

No. 8201. Mowing Machine Knife Grinder.*(Rémoleur des couteaux de faucheuses.)*

Alexander Cameron, Colborne, Ont., 10th December 1877, for 5 years.

Claim.—1st. The lever slanted in the centre to receive crank D, 2nd. Right angle at base end of slotted lever C' attached to connecting rod I at pivot; 3rd. In combination with knife rest E, knife holder F, clamp G and the connecting rod I.

No. 8202. Improvements on Gang Ploughs.*(Perfectionnements aux charrues à socs multiples.)*

John Yocom, Strathroy, Ont., 10th December, 1877, for 5 years.

Claim.—The combination and arrangement of the frame A C, when cast with brace A, and having the projection C, when fitted with a groove to receive the arm of the ratchet D, also the formation of the arm of the ratchet D to fit in the said groove which is bolted thereto.

No. 8203. Improvements in Tackle Blocks.*(Perfectionnements dans les moufles de palans.)*

Joseph W. Norcross, Boston, Mass., U.S., 10th December 1877, for 5 years.

Claim.—1st. In a block frame, the combination with the central hub c, of the radial arms b b, tapering from the hub toward the rim and the rim G. 2nd. The combination with the open cast metal block frame a b c, of the becket holes f f arranged in the sides of the frame. 3rd. The combination with the open cast metal block frame of the stirrup g arranged for a single block and secured within the bosses s s. 4th. The combination with the partition frame of the double block, of the recessed bosses arranged to relieve the pin bolt or rivet from part of the strain. 5th. A block sheave in which the concave rim is connected with the hub, by two sets of spokes inclined inward, and set one opposite the other. 6th. A block consisting of the sheave E, one or more of them, the sides or frames having an egg-shaped outline and rim, and radial arms connecting the central hub with the rim, arranged so that the strain exerted on the sheave is distributed. 7th. The combination with a cast metal block, of the hinged loop m arranged to be secured to both sides of the block frame; 8th. The combination with a cast metal block frame, of the hinged side k and latch l and loop n, arranged to form a tackle block or snatch block. 9th. A cast metal block in which one of the side frames is provided with an eye and latch, or staple, and the other with a hinged portion arranged to be locked to the staple and secured by the latch. 10th. A cast metal block-frame provided with rounded edges on the outside and inside, to prevent injury to the rope and rigging, a raised boss to form the axis of the sheave, and radial arms connecting the boss with the outer rim. 11th. A cast metal tackle block-frame, containing one or more sheaves of egg-shaped outline, in which the central hub is connected with the rim, by radial arms, the whole frame being cast in one piece.

No. 8204. Improvements on Millstone Drivers.*(Perfectionnements aux anilles de meules.)*

Wells E. Sergeant, Minneapolis, Min., U.S., 10th December, 1877 for 5 years.

Claim.—1st. The combination with a mill spindle and bail, a transverse rock-shaft having a cranked or bent end, and central eye or bent passing around the spindle. 2nd. The rock shaft with a central eye or bent to pass around the mill spindle. 3rd. In combination with the mill spindle, the driving block D, the bail B having recesses in its lower ends, and the rock shaft C having its cranked ends mounted in said recesses; 4th. The rock shaft C having the elevated central eye or bent, with the journals thereunder seated in a support D; 5th. The rock shaft C having journals seated in the block D and secured by the inserted steel blocks F. 6th. The combination of the spindle A, drive block D and rock shaft C, having a central eye or bent, and the points O to prevent end motion. 7th. In a millstone driver, a transverse rock shaft with cranked ends, constructed to pass around the spindle; 8th. In a millstone driver a transverse cranked shaft. 9th. The chambers s in rollers r.

No. 8205. Improvements in Reaping and Harvesting Machines.*(Perfectionnements aux faucheuses-moissonneuses.)*

Charles J. F. Wilkins, Windsor N.S., 10th December, 1877, for 5 years.

Claim.—1st. The drive or castor wheels O and G, at the rear end, and in combination with the main and harvesting frames respectively. 2nd. The connecting bars E E, between the main framing and harvesting platform, said bars being jointed so as to admit of a free relative vertical motion between the two frames; 3rd. The suspension rod and bars a, in combination with the main framing and harvesting platform, to connect the same mutually from the driving axle; 4th. The pawls b b, or their equivalents, fitted to take into ratchets, on outer surface of internal spur driving wheels, or to act by friction on the same; 5th. As an improvement upon the ordinary method of

giving motion to the cutter-bar, through the bevel wheel K, in mowing and reaping machines, in the circular plate or disc K₁ on the shaft G, with the corrugated groove h₁ adapted to work into a pin on the alldo bar, connected by the rod K to the cutter bar so as to give a rapid reciprocating motion to the latter; 6th. The train or system of bevel wheels and pinions L, M, E, F, F, or alternatively, the worm I and spiral or worm wheel M, in combination with the pinions F, F, the whole being adapted and arranged so as to give a certain regulated oscillating or reciprocating motion to the shaft G, in place of the bevel pinions F, F, the use of conical rollers adapted to work by friction on the back of the wheel M or M₁. 7th. The shaft G with universal joint to adapt it to the irregularities of the ground, in combination with the wheel M or M₁, band pulley O, band or strap pulley P, slide Q, rake-bar R and rakes o o o, passing through slots or openings p p p in the platform D, the whole being arranged so as to give an alternating or reciprocating motion to the rake, transversely to the harvesting platform, so as to convey the cut grain into the cradle S. 8th. The spring S fixed under the boards of the harvesting platform in combination with the arm or prong r on the rake bar shaft q, and operating in conjunction with the notches in the framing, to depress the same together with the other rake prongs o o o, underneath the harvesting platform, on the return stroke of the rakes; 9th. The rake bar R fixed to the slide Q and carrying the shaft q with prongs o o o and arm r, adapted to pass through slots or openings p p p in the platform, the said prongs being kept in an upright position by the spring I, which nevertheless allows them to be depressed under the platform on the return stroke; 10th. The block to on the rake t, in combination with slides r r r, inclined plane z, rod u and frame W, m, zed and adapted to clear away the grain from outer end of platform to w, w the rake prongs to sprang upwards. 11th. In combination with the cradle S the grain compressing arm y pivoted to the upright frame N, and operated by the levers, rods and guides Z Z Z or their equivalents. 12th. The construction and arrangement of the binding mechanism, in combination with the other parts of the machine, said mechanism consisting of the circular tongs a a with reel for binding wire b, the spring points and supports, the stem or shank C, working vertically in guides d d, on the sliding rail or frame m, and with sunk feather for a certain part of its length to preserve its parallelism, the double arm e e with spring f, i and pulley g for operating the tongs, the cock band or friction wheel P with its shaft and crank handle m and stop o to raise and lower the tongs, the band wheels K, p, q, handle r r r, slot j, in wheel k and inclined guides h, h, to raise and close the tongs at the top and bottom of their stroke. 13th. The cord or band z, to give a self-acting motion to the twisting apparatus, together with the methods, represented and described, of giving an automatic motion, if required, to the mechanism for compressing the gavel twisting and cutting the wire, elevating and depressing the tongs and discharging the sheaves from the reciprocating motion of the rake, or otherwise. 14th. The treadle S₁ or its equivalent mounted upon on a shaft carrying the fork t, working under the cradle for discharging the sheaves. 15th. In a mowing or reaping machine the relative arrangement and combination of the frame U, with sockets u, v, for receiving the pole V and joined to the main driving frame by the pins and links m, n, the whole being designed in the case of using two horses to replace the ordinary shafts, which would be used when only one is employed, also in the former case to vary the point at which the draught is applied.

No. 8206. Machine for Rolling Horse Nail Blanks. (*Machin a roller les chauchons de clous a cheval.*)

Randolph Hersey, Montreal, Que., 10th December, 1877, for 5 years.
 Claim.—1st The combination of the four positive revolving nail rolls, of equal diameter A, B, C, D. 2nd The combination of the rolls A, B, C, D, with the spout g having a charge ment, as at h. 3rd. The combination of the spout e, stop f, connecting rod at, arm b, rock shaft e₁, arm d₁ and cam i, 4th. The adjustable spout K and adjustable guide c, in combination with the rollers A, B, C, D. 5th. The guide c having its points provided with a curve z. 6th. The combination of the coupling f, with the shafts provided with a pair of rolls. 7th. The combination of a pair of shafts, having cast rolls at one extremity, with the cushion e placed between the journal boxes a, b, at their other extremities.

No. 8207. Improvements on "Harrington's Movable Fence."

(*Perfectionnements a la cloture portative dite "de Harrington."*)
 Hiram Harrington, Mansfield, and Jacob Harrington, East Zorra, Ont., 10th December, 1877, for 5 years.
 Claim.—The combination of a b and h, as forming the upper and lower hinges of the gate, the brace c, the pin or bolt d, the piece of timber e, the stationary brace f and the top rail g.

No. 8208. Improvements on Ventilating Apparatus.

(*Perfectionnements aux appareils de ventilation*)
 George Von Montreal, Que., 10th December, 1877, for 5 years.
 Résumé.—L'application des tuyaux T de ventilation à toute espèce de tuyaux d'éclairage, prise d'air ou de tuyaux de poêles, soit pour les courants d'air pris de dehors des appartements pour les aérer d'air pur, soit pour en chasser l'air impur du dedans au dehors, et appliqué sous les hottes des poêles ou des cheminées: le double bras de levier N O appliqué aux valves M des ventilateurs, sa rainure P dans laquelle glisse la queue f du contre-poids d'équilibre q, le défil. cement de ce contre-poids et ce contre-poids lui-même q, le système de cordon H et son gland G ainsi que sa masse équilibrante G, employé(s) pour ouvrir sans le secours de crochets d'attache, les dites valves ou lames de ventilateurs, ou bien pour les fermer le trou k pour le passage du cordon dans les plaques B de recouvrement, ainsi que la petite massolette à nervure F destinée dans les lames à persiennes, à recevoir le poids q appliqué dans les valves. celui de disposer le double levier N O de manière à pouvoir appliquer les valves de ventilateurs, et l'appareil ventilateur lui-même, dans n'importe quelle position où il peut devenir utile de le poser.

No. 8209. Improvements in Pruning Shears.

(*Perfectionnements dans les sécateurs.*)
 William W. Wait, Meriton, Ont., 12th December, 1877, for 5 years.
 Claim.—1st. A double acting pruning shears, consisting of the retaining book with spur A C pivoted to the double-edged cutting law B; 2nd. The

retaining book A provided with the spur projection C, which spur projection performs the double service of a supplemental cutting law and of a bearing face for the cutting blade B

No. 8210. Railway Track Cleaner.

(*Chasse-pierre de railroat.*)
 Augustus Day, Detroit, Mich. U S 14th December 1877. (Extension of Patent No. 1911), for 5 years.

No. 8211. Improvements on Advertising Tables. (*Perfectionnements aux tables de publicité*)

James S. Fox, Oshawa, Ont., Caroline C Cable Montreal, Que., and Josephine E Christian Richmond Vt U S 14th December, 1877 for 5 years.
 Claim.—1st The surface of a table A A to be used as an advertising medium, in combination with a spring hinge C. 2nd The arrangement of spring hinge C

No. 8212. Boot and Shoe Peg Rasper.

(*Bouton de corrommir.*)
 William B. Arnold, North Abington, Mass., U S 14th December 1877 for 5 years.
 Claim.—1st. The toe and heel rasps E F their carrying arms, and the mechanism for actuating or successively operating the rasps, as occasion may require. 2nd The combination of the adjustable gauge D, its check nut E, and screw a, with the rotary peg rasper A and its arbor B, and the carrier C thereof.

No. 8213. Improvement on Lubricating Compounds. (*Perfectionnement des composés lubrifiants*)

George G. Munger, Rochester, N. Y., U.S., 14th December 1877 for 5 years
 Claim.—The compound composed of petroleum or other oil plumbago, palm oil and soda, (with or without tallow)

No. 8214. Improvements on Condensers for Engines.

(*Perfectionnements aux condensateurs de machines*)
 William J. Allen, Buffalo N.Y. U S 14th December 1877 for 5 years
 Claim.—The combination of the condenser head A steam pipe B, water tube C, air pipes a and the water pipes b, the latter leading from the condenser into the air-pipes a respectively, to get a greater velocity of water and greater suction of air when the air and water meet.

No. 8215. Improvement on Machinery Belts.

(*Perfectionnements aux courroies de machines*)
 Maurice Gaudy, Liverpool, Eng. 14th December, 1877 for 5 years.
 Claim.—A belt or band for driving machinery, constructed of hard woven cotton, canvas or duck, stretched and saturated, and interlarded with oil, such as linseed oil, or any combination thereof.

No. 8216. Machine for Cleaning Dried Fruit for Grocers' Use.

(*Machin a nettoyer les fruits secs a l'usage des grociers*)
 Thomas Knowles, Westminster, Ont., 14th December 1877 for 5 years
 Claim.—1st The combination with the brushes Q Q₁ of the screen E, front and back plates C D, arms P P₁ P₂ P₃, brace rods F F₁ shaft N, covering plates S and spout R. 2nd In combination with the above the hopper G, shaft I, fingers M M₁ crank H, balance wheel I and operating wheel and pinion J K.

No. 8217. Improvements in Soldering Bolts.

(*Perfectionnements aux fers a souder.*)
 Charles A. Bangs, Richmond, and George H. Pierce, Cleveland Que., 14th December, 1877, for 5 years.
 Claim.—1st The application of heat to the interior of a soldering bolt: 2nd. The use of a long working face or tip, in connection with ground solder or solder in sheets, so that it may be applied to the full length of the joint to be soldered, at the same time

No. 8218. Improvements on Cultivators.

(*Perfectionnements aux cultivateurs.*)
 David Archer, Jr Brier Hill N.Y., U S., 18th December, 1877, for 5 years.
 Claim.—1st. The combination of the tongue I and standards G and N having wheel H, with the front bar F pivoted between beams A A and provided with lever J. 2nd The combination of the shaft M pivoted to beams B lever P secured to said shaft and bar R pivoted thereto and to the beams A.

No. 8219. Improvements on Water Meters.

(*Perfectionnements aux compteurs à eau*)
 Thomas Walsh Montreal, Que. 18th December 1877, for 5 years
 Claim.—1st. The combination of the inlet B, with a wheel E having an upper and lower plate with spiral blades placed between them. 2nd. The combination of the inlet B, having guide C and flat rim en l, received within enclosed spiral blades being enclosed by the upper and lower sides of the wheel b. 3rd. The combination of the inlet B wheel E having spindle D and dished disc V, and sleeve L. 4th. The combination of the inlet B, wheel E, having spudle D and disc V, diaphragms P and R, sleeve U and pipes B.

No. 8220. Improvements on Wash-boards.

(*Perfectionnements aux planches a savonner.*)
 John M. Gorham, Cleveland, Ohio, U.S., 18th December, 1877, for 5 years.
 Claim.—A wash-board plate having a corrugated body roughened by embossed designs running diagonally to the line of transversal corrugations.

No. 8221. Improvements on Car-couplers.

(Perfectionnements aux attelages de wagons.)

Robert J. Caron Ottawa and William Moffat Pembroke, Ont., 18th December, 1877 for 5 years.

Claim.—1st The combination with the bell mouth A, having formed in it the slope L and slot N, of the frame D, pin C and draw-bar B. 2nd The swinging of the coupler in two parts. 3rd The combination with the bell mouth A, of the dog J having its upper and lower parts sloped, spring M and levers O O. 4th The combination with the draw B of the frame H, rod I and rubber springs P and G.

No. 8222. Joint for Sidewalks.

(Joint de trottoirs.)

Henry B. Dyer Toronto, Ont., 18th December 1877, for 5 years.

Claim.—The bevelled block B fitting in to correspondingly shaped notches cut in the planks A, and secured to the sleepers D by the screws C or their equivalent for the purpose of banding the planks A together and at the same time hold them to the sleepers D.

No. 8223. Combined Cornice and Picture-rod Moulding.

(Montage des corniches et des cadres d'images.)

Loring J. Baker, Boston, Mass., U.S., 18th December, 1877, for 5 years.

Claim.—A moulding proper a cornice above, and an intermediate nail receiving channel.

No. 8224. Process and Apparatus for Preserving Meat.

(Procédé et appareil de conservation de la viande.)

Henry Bell, James Bell and Joseph J. Coleman, Glasgow, Scot., 18th December, 1877, for 5 years.

Claim.—1st. The combination of refrigerative processes for preserving meat or other food or beverages, wherein compressed air is cooled first by injecting during compression, secondly, by intermingling opposite currents of water with the air, thirdly, by passing it through considerable lengths of piping traversing the chamber or chambers containing the substances to be preserved, and having a temperature never below the freezing point. 2nd The arranging or combining together of steam engine air compressing and air expansion apparatus, 3rd. The application of the perforated diaphragm H or equivalent materials for insuring the effectual cooling of the compressed air, by breaking up and intermingling the opposite currents of air and water; 4th The application of the perforated diaphragm I or equivalent materials, arranged for the repeated impingement of the air in its separation of moisture thereby. 5th. The application of the pipes C, provided for the passage of the compressed air to the expansion cylinders, and traversing the chamber in which the meat or other food, or beverages are subjected to the refrigerant preservative action.

No. 8225. Improvements on Churn Dashers.

(Perfectionnements aux pistons de barattes.)

John L. Maxwell, Bentonville, Ark., U.S., 18th December, 1877, for 5 years.

Claim.—The combination of the valve tube E provided with guide ribs e, hollow cone valve F and cage or spider G with hollow handle D of the dasher A B C.

No. 8226. Improvements on a Root Seed Drill.

(Perfectionnements à un tracteur à graines de légumes.)

James Clayton, Whitby, Ont., 18th December, 1877, for 5 years.

Claim.—The frame of the machine which is formed by the arms A A and cross-bars B B transversely secured together, and the two flanges M M in the seed wheel, also the slide N in the seed box, and attaching two seed boxes of the same kind on the axle of the machine, if desirable, to plant two rows at a time instead of one.

No. 8227. Improvements on Ploughs.

(Perfectionnements aux charrues.)

John Sampson, Nelson, and David McKelvie Hannahville, Ont., 18th December, 1877 for 5 years.

Claim.—1st A plough beam A constructed hollow or with longitudinal slots a, one or more. 2nd The combination of the wheel C, slotted bar e, spindle d the seed wheel being made adjustable thereby on the plough beam; 3rd The plough share F constructed with socket g to fit the sheath F.

No. 8228. Improvements on Feed-cutters.

(Perfectionnements aux coupe-paille.)

Andrew Hershey Berne Ort., 18th December 1877, for 5 years.

Claim.—1st The arms B of the driving wheel X, 2nd The combination of the cam wheel N with the dog Q which drive the ratchet wheel P, 3rd The combination of the feeding rollers D, with the cog wheels E F G H.

No. 8229. Improvements in Connecting Links for Chains.

(Perfectionnements aux sabots de chaînes.)

James Mann, William A. Mann and Daniel Mann, Buffalo, N. Y., U. S., 18th December, 1877, for 5 years.

Claim.—In combination with two contrarily pivoted halves A A, the lug c c and corresponding recesses d d.

No. 8230. Improvements on Carriages.

(Perfectionnements aux voitures.)

Thomas F. Van Leven Mirvale, Ont., 18th December 1877, for 5 years.

Claim.—1st. In combination with the plate A of the seat springs B, the headed tubular bolt D, sleeve E, screwing thereon, plug F fitting into said

bolt and screw G securing the parts. 2nd The combination of the tubular prop arm H having flange I, headed bolt J passing through the eyes of the prop arms I, and secured by pin M. 3rd The prop arm H having flange I and the tubular portion enlarged to receive washers N O.

No. 8231. Improvements on Feed-cookers.

(Perfectionnements aux poêles de cuisine.)

Christian Hershey, Falls City, Neb., U.S., 18th December, 1877, for 5 years.

Claim.—1st A submerged feed cooker made of an outer shell concave bottom, interior perforated half shell or partition, draft tube and cover; 2nd. The combination of the interior perforated partition and draft tube, with a retaining frame and binding ring, resting on groove or bend of shell; 3rd. A feed cooker having a perforated interior partition and draft tube at opposite point thereto, to form a central fuel chamber with air supply at one side and smoke escape at other side. 4th. The combination of the shell having interior perforated partition and draft tube with a fixed cover section carrying smoke pipe, and with a detachable cover section that leaves draft tube open and has registers for regulating fire. 5th. The stationary cover section of cooler having fixed rings, cross rod and suspension hook; 6th The permanent cover section of cooler having top ring and recessed seats cast in one piece therewith in combination with the detachable cover section that locks by projecting lugs to seats of top ring.

No. 8232. Self-Locking Stove Leg.

(Pied de poêle à ajustage automatique.)

George Brown, Toronto, Ont., 18th December, 1877, for 5 years.

Claim.—A block D placed either on the stove leg or upon the stove and arranged to engage with a corresponding retaining face, shoulder, lug or projection.

No. 8233. Improvements on Combined Umbrella and Cane.

(Perfectionnements à un parapluie-canne.)

Alexander Mungle, Newark, N. J., U.S., 18th December, 1877, for 5 years.

Claim.—1st. The combination of a tubular umbrella stick having split handle with a cane stored at the interior of the stick and handle. 2nd. The combination of a tubular umbrella stick with a cane inserted into the stick, and secured thereto at the handle by a ferrule or other retaining device. 3rd. The tubular stick having a split handle formed of a fixed and movable section and a suitable closing device in combination with a cane stored at the interior of stick and handle. 4th. The combination of tubular umbrella stick, having a split handle made of a fixed and hinged section and sliding ferrule with a cane stored at the interior of the stick and split handle. 5th. The combination of the umbrella stick having recessed perforated catches, with the runner having recesses for the catches, and with an axially turning and spring acted locking sleeve, having hooks or tongues entering the catches.

No. 8234. Improvements on Boot and Shoe Burnishers.

(Perfectionnements aux astres de carbonnerie.)

James Woodley, Quebec, Que., 18th December, 1877 for 5 years.

Claim.—1st In combination with a burnishing tool H operated lengthwise of the last a carriage S, to rock in line therewith bearing on a frame P supporting the same and moving in line thereto, and a frame U suspended from said carriage and vibrating laterally to its line of motion having a suitable jack V for supporting the boot, whereby all parts of the shank and top piece can be brought to the action of the burnishing tool and the jack moved clear of the tool; 2nd. A carriage S to rock longitudinally and a frame U suspended thereto, vibrating laterally to such motion, and a burnishing tool A depressed by a treadle K having a spring connection and springs for lifting the burnish ing tool and treadle simultaneously. 3rd. The frame P supporting the carriage S and frame U and jack V having a curvilinear pivotal motion when withdrawing the same, to allow the placement and removal of the boot from the last; 4th. The last S having pivotal motion on the jack V by means of the rod P. 5th. The last S having a hinged joint S connecting the heel and foot pieces for the placement and removal of the boot therefrom without straining. 6th. The sliding bar W for moving the last in line with the burnisher.

No. 8235. Safety Lock.

(Serrure de sûreté.)

August Kleiman, Hamburg, Germany, 18th December, 1877, for 15 years.

Claim.—1st. The combination of the bolt r provided with the recesses e1 e2 e3 and e4, the spiral spring f having its straight end passed through a part of the bolt and one or more tumblers l, the bolt being provided with the knobs K or with rack and pinion for moving the same; 2nd. One or more tumblers falling into recesses in the bolt, the key provided with an inclined shoulder j on one or both sides to operate on the bolt; 3rd. The lever h and slides z and z1 in combination with a recessed bolt, one or more tumblers; 4th. The combination of the bolt r provided with recesses e1 and e2 and slot g the tumblers h and h1 having each one slot the tumbler l two slots, and the key having projections n n1. 5th The combination of the bolt having recesses e1 and e2 and a series of tumblers made each in two parts l and m, the lower parts m moving with the bolt; 6th. The tongue u in the bolt or the combination of the tongue u with tongues r and r1 in the bolt, the key having one slit o or the slits o and o1. 7th. The tongue z in the tumblers m2 and m3. 8th. In combination with a lock having gravitating tumblers, the inclined tubes w1 w2 w3 with loose pins inside for the purpose stated. 9th. In combination with the bolt r, the tumbler parts m having bevelled tongues z. 10th. The bolt r of a lock, the notch y2 together with the toes or projections z1 on the tumbler parts l1 l2, or the inclined teeth y1 on the bolt r and the corresponding teeth z1 in the tumbler parts l1 l2.

No. 8236. Improvements on Portable Fences.

(Perfectionnements aux clôtures mobiles.)

Edmund S. Hotham, Potsdam, N.Y., U.S., 18th December, 1877, for 5 years.

Claim.—1st. A portable fence panel constructed with end cleats B notched at the ends. 2nd. A portable fence post constructed of vertical bars F F, inclined brace H H and horizontal bar G, whereby a "w" is formed for the insertion of a key piece I; 3rd. The supplementary crossed posts J pivoted together and supporting the post of a portable fence in line with the fence. 4th. A portable panel fence constructed of panels having cleats B notched at the ends and stepped on a horizontal bar G, between vertical posts F, secured thereto by braces H H and held in place by a key piece I.

No. 8237. Improvements on Sad Irons.

(Perfectionnements aux fers à repasser.)

John G. Baker and Thomas H. Asbury, Philadelphia, Pa. U.S., 18th December, 1877, for 5 years.

Claim.—1st. The combination of the base B, packed with non-conducting material, with the handle A and the intermediate plate D connected to the said base so as to be readily detached therefrom; 2nd. The cast-iron handle made hollow and having perforations; 3rd. The combination of the perforated hollow handle with the plus a cast to the closed ends of the same and the plate D.

No. 8238. Improvements on Railway Cars.

(Perfectionnements aux wagons de railroads.)

John D. Imboden, Philadelphia, Pa. U.S., 18th December, 1877 for 5 years

Claim.—1st. An engine truck frame carrying the engine and boiler having at one end the engine seat, and having the rest of its surface level and free for the reception of an independent car body; 2nd. The under truck carrying the boiler and engine having a pivotal connection for the car in front and receiving its weight upon a traverse track or bearing; 3rd. In a truck frame a horizontal boiler having at each side a horizontal parallel cylinder heater at one end and a transverse smoke box connecting said boilers and heaters, and at the other end the steam dome and furnace; 4th. The combination with the flattened elliptical boiler to economize space under the car of the parallel lateral cylinder heaters connected thereto; 5th. In a truck frame, the combination with a horizontal tubed boiler of lateral tube heaters connected thereto transverse smoke box and vertical furnace and steam chamber; 6th. In a car motor, the combination with the transverse fixed double chambered steam cylinder bearing K, of the oscillating cylinders having head bands encircling said boiler and receiving and discharging steam through the ports in said head bands; 7th. The combination in a truck frame of the horizontal boiler D E E' and the oscillating engines arranged thereunder; 8th. In a truck frame, the combination of the longitudinal horizontal boiler and arranged thereunder, the oscillating engines, the ends of which bear on a fixed cylinder provided with double steam passages; 9th. A car motor consisting of a truck, a boiler arranged therein and an engine arranged under the boiler, the combination with the piston cylinders and their transverse bearing the throttle and reversing and stopping valves and the closed safety valve; 10th. A pivotal under engine or motor truck carrying boiler and engine mechanisms and adapted to oscillate horizontally under a car.

No. 8239. Pumps and Condensers for Motive Power Engines.

(Pompes et condenseurs pour les machines motrices.)

Robert M. Marchant, London, England, 18th December, 1877, for 5 years

Claim.—1st. Constructing pumps with condensers within them, the said pumps receiving and transmitting the steam vapour or gas, and the said condensers receiving cold air with or without water saturation and circulating it; 2nd. In combination with the pump chambers E E' and pump piston F the slotted tubular pump rods A B and condenser compartments H; 3rd. The slotted pipes A B in combination with the condenser compartments H.

No. 8240. Improvements on Paper Boxes.

(Perfectionnements aux boîtes en papier.)

Charles M. Arthur, Ansonia, Ct. U.S., 18th December 1877 for 5 years

Claim.—The principal side A with the parts E F F' projecting from one side and the flaps P I transversely from the part E, the parts D L projecting from the second side, the part C from the third side with the transverse flaps G H and P on the said part C, the closing side B and its tongue T projecting from the fourth side and the flap L turned inward from the flap I, the whole formed and folded from a single piece.

No. 8241. Improvements on Fluid Meters.

(Perfectionnements aux compteurs à fluides.)

John R. Norfolk, Salem, Mass. U.S., 18th December, 1877 for 5 years.

Claim.—1st. The combination and arrangement of the spring R with the stirrup G and dog F, operated directly by the piston rod and used to move the valve O; 2nd. Two latches H H' operated by the piston C C' for the purpose of controlling the movement of the valve O; 3rd. The combination with the mechanism for moving the valve by the direct action of the pistons through the spring R of the latches H H' by which the movement of the valve is controlled.

No. 8442. Improvements on Thill Couplings.

(Perfectionnements aux armons de brancards.)

Thomas J. Hubbard, Touhyville Cal. Joseph Dot, a d Reuben Doty, Wellsville, N.Y., U.S., 18th December 1877, for 10 years

Claim.—The box A having the packing in combination with the fixed bolt D, movable cam C and hooked thill from B.

No. 8243. Improvements in Curtain Fixtures.

(Perfectionnements aux ajustages de rideaux.)

Walter B. Novell, Charlestown, Mass. U.S., 18th December, 1877 for 5 years

Claim.—1st. The cap E spun or otherwise formed of sheet metal with the conical projection, pivot a formed of the same piece of metal with the apertures; 2nd. A pulley for curtain rollers formed of two sheet metal pieces L, shaped in cross section with their flanges having angular corrugations, and surrounded and connected directly to the end of the roller; 3rd. The bracket L constructed with two arms L' L'', the arm L' having the conical recess h and the arm L'' the eye-nut and stop, said bracket being adapted to receive and support the roller D having the sheet metal caps E E' provided with conical bearings a.

No. 8244. Improvements on Sad Iron Grinders.

(Perfectionnements aux aiguiseurs des fers à repasser.)

John G. Baker, Philadelphia, Pa., U.S., 18th December, 1877, for 5 years.

Claim.—1st. The mode of grinding the edges of sad irons by making the edges in the arcs of circles, and causing the said edges to move in a circle co-

inciding with the said arcs while they are subjected to the action of a grind stone; 2nd. The combination of the hub A of the chuck and the plate b attached to the said hub and having retaining or restraining projections adapted to the sad irons with devices for combining the sad irons to the chuck; 3rd. The chuck composed of the hub A, projections a and plate b, with a device for securing sad irons to the said plate b; 4th. The combination of the plate b of the chuck, with the central bolt H and its pivot cross bar I; 5th. The combination of the hub A and plate b of the chuck, with the springs d.

No. 8245. Stopper for Bottles Containing Aerated Beverages.

(Bouchon de bouteilles à boissons aérées.)

Luthehan Ross, London, Eng., 18th December 1877 for 5 years.

Claim.—The fixing or adjusting of a comparatively light body such as cork vulcanite, horn non porous woods or other suitable materials to the ends of the stopper the body of which is of greater specific gravity for the purpose described; as also the particular form of construction and application of weight to light bodied stoppers, whereby such weight is secured from contact with the liquid.

No. 8246. Process and Apparatus for the Manufacture of Peat Fuel.

(Procédé et appareil de fabrication de la tourbe combustible.)

William E. Wright, Rome, N.Y., U.S., 26th December 1877 for 5 years.

Claim.—1st. The combination of natural with artificial drying influences for the purpose of drying peat; 2nd. The two exhaust blowers as operating above and below the peat in the drying room in combination with the first blower, as arranged to promote and intensify combustion; 3rd. The passing of a pipe from the boiler, for smoke and exhaust steam, through the drying room; 4th. Placing the floor joists diagonally from the centre to the sides of the distributing chamber C so that the heat shall be equally distributed; 5th. The shafts b from the roof downward, as guides to the currents of air passing through the kiln from the blowers; 6th. The combination of the blower T valve b and reservoir J the blower M reservoir K valve d, exhaust steam pipe X blower Y pipe a and valve c; 7th. The location and arrangement relatively of the shafts and storage rooms L to utilize the surplus heat; 8th. Forming the front plate of the boiler furnace double to contain a feed water heater; 9th. Enclosing a part of the bog as an excavated pit; 10th. The whole process, manner and arrangement of treating and handling the substance of peat, as it lays in the bog and each and every step in said process till completely ready for use as a fuel.

No. 8247. Improvements in Ventilators.

(Perfectionnements dans les ventilateurs.)

John Sandall Jr. St. John, N.B., 26th December, 1877 for 5 years.

Claim.—1st. The combination in any ventilating apparatus for a central duct, with two or more passages, external thereto communicating with the outer air and connected with said duct at its upper end, of which they form a continuation; 2nd. In combination with the duct and air passages E, the trough F.

No. 8248. Improvements on Metal Shears.

(Perfectionnements aux cisailles à métaux.)

John E. Wheeler, (Assignee of John M. Barnett Lynn Mass., U.S., 26th December, 1877, for 5 years

Claim.—The combination of the swinging blade D pivoted to the stand and C and provided with a handle bent arm B or its equivalent and the short blade A rigidly fastened to the bent arm.

No. 8249. Improvements on Watches.

(Perfectionnements aux montres.)

Cécile Domon (Assignee of Ovide Domont, Bièvre, Switzerland, 26th December, 1877; for 5 years.

Claim.—1st. The combination of the crown C, rod T, and wheel E, with the wheel D; 2nd. The combination of the crown C, rod T, and wheel E, with wheel C; 3rd. In self winding watches the wheel E arranged to operate from one of its edges, the winding mechanism and from the other edge, the hand setting mechanism; 4th. The pendulum B in combination with the watch plate A being attached thereto; 5th. The combination of the watch plate A having flanges to engage with the flanges of the case, and with or without hinges; 6th. The combination of the spindle I and wheel E with the spiral spring R and crown C.

No. 8250. Improvements on Drag Sawing Machines.

(Perfectionnements aux scies portatives.)

John S. Suetzinger Moulmette Ont. 26th December, 1877, for 5 years.

Claim.—1st. The combination with a horse power having a driving wheel C, of the pulley wheel F, belt G, shaft L, crank wheel G, pitman H and pendulum I, for driving the saw arm and saw; 2nd. The attachment of the cross-head J of the pendulum I to the post B of the horse power frame; 3rd. The base piece L having a slot K and the foot of the pendulum swinging therein; 4th. The combination of the gate Q, post R and a ring bar S for supporting the saw elevated; 5th. The combination of the spiked spool of W ratchet wheel X, and lever Y having pawl Z.

No. 8251. Improvements in Furniture for Bedrooms.

(Perfectionnements dans l'aménagement des chambres à coucher.)

William Couper, Montreal, Que. 26th December, 1877, for 5 years.

Claim.—1st. In any bedstead the combination of the rails A, posts B, B' frame C and drawers D; 2nd. In combination with any bedstead, the drawers D, chamber closet E, compartment F, and shoe G; 3rd. In combination with any bedstead, the shelves X and supports O.

No. 8252. Improvements on Artificial Manures.

(Perfectionnements aux engrais artificiels.)

William S. Ames, London, Eng., 26th December, 1877, for 5 years.

Claim.—A manure composed of carbon and sulphate of iron

No. 8253. Improvements in Dermopathic Instruments. (*Perfectionnements aux scarificateurs de chirurgie.*)

Charles B. Tucker, Lyons, N.Y., U.S., 26th December, 1877, for 5 years.

Claim.—1st. The combination with the needle head and shank D d, of the hollow cylinder C C perforated bearing of, into which screws the shank of the needle head, and opening h for the introduction of the medicinal preparation. 2nd. The combination with the outer stationary case A provided with shoulder a, of the inner movable cylinder C C provided with needle head and shank D d, and perforated head f, spring b, interposed between the outer case and movable cylinder and cover I b secured to the latter and provided with shoulder i.

No. 8254. Improvements on Terrets. (*Perfectionnements aux ches de harnais.*)

Charles L. Pond, Buffalo N.Y., U.S. 26th December, 1877 for 5 years.

Claim.—The terret A B C in combination with one or more springs D, or their equivalent.

No. 8255. Improvements on Printing Presses. (*Perfectionnements aux presses d'imprimerie.*)

Kenneth McKenzie, London, Ont., 26th December, 1877: for 5 years.

Claim.—The combination of a sheet-metal bed A, bearings P secured to the rolled metal bed and rollers E F.

No. 8256. Improvements in Sewer Traps. (*Perfectionnements aux trappes d'égouts.*)

Hon. e A. Palmer, Rochester, N.Y., U.S., 26th December, 1877; for 5 years.

Claim.—1st. The valve B provided with the offset hanger hooks h, in combination with the inclined bearing face of the ledges c. 2nd. In combination with an open hinged automatically acting valve for sewer-traps, a guard a.

No. 8257. Improvements on Waggon Racks. (*Perfectionnements aux ranchers de wagons.*)

William Alhn, Jr., Orono, Ont., 26th December, 1877; for 5 years.

Claim.—A waggon rack constructed of longitudinal bars B, bolted to brackets C in the ordinary manner, said brackets having an arm D bent downwardly, to be in contact with the inside of the waggon box, the outward portion E resting against the outside of the same, whereby the rack hooks to, and is supported by the edge and sides of the waggon box, without the aid of bolts, &c.

No. 8258. Apparatus for Suspending Garments. (*Appareil pour suspendre les hardes.*)

John W. Barrow, Quebec, Que., 26th December, 1877, for 5 years.

Claim.—1st. The combination with a pair of separate braces or suspenders, carried straight up over the shoulder in front, and taken diagonally across the back, of means for securing their ends at points either side of and close to the line of suspension; 2nd. In combination with the attachment A, provided with loop A1 and secured to the waist band of the trousers, the brace B having at its end a slide C.

No. 8259. Adjustable Handles for Rolling Barrels. (*Manivelles mobiles pour rouler les barils.*)

Chester O. Dodge, Colebrook, Ohio, U. S., 26th December, 1877, for 5 years.

Claim.—1st. The limb a provided with a slot G, in combination with the set screws H, limb d and section A; 2nd. The jointed sections A A1 provided with arms and centre pivots B D, in combination with the limb a having a slot therein, set screws H and limb a; 3rd. In combination with the arms E and D, the segmental rack J, pawl K, rod L and collar e; 4th. The hinged or jointed arms having return points at one end thereof, and handles at the other, and provided with mechanism for holding the said arms in place upon the barrel, &c., when in use, and for releasing the same as may be required.

No. 8260. Improvements on Capstans and Windlasses. (*Perfectionnements aux cabestans et aux gindieurs.*)

Thomas J. Southard, Richmond Mo. U. S. 26th December, 1877, for 5 years.

Claim.—The capstan base or cap C, provided with the rack channel f and chambered as described, in combination with the capstan B and the sprocket wheel g applied to its shaft, the combination of the sprocket wheel g and the bevel gears e f, arranged with the capstan B and windlass A, and their shafts disposed as set forth, in combination with the sprocket-wheel g and open cap C applied to the capstan B, the chain guide wheel K arranged with the port or opening h of the cap.

No. 8261. Utilizing Sour Tan Liquor by Distillation for Plumping Hides. (*Réutilisation de l'eau tannique sâre par la distillation, pour gonfler les peaux.*)

Henry J. Batchford, Leyden, N.Y., and William E. Nickerson, Somerville, Mass., U. S., 26th December, 1877, for 5 years.

Claim.—The distillation from the sour liquors of the tanner's vat, by the ordinary process of evaporation, and condensation of the same, of the acetic and gallic and aceto-gallic acid therein contained, and the immediate utilization of the resultant in their solutions for the plumping of hides in the process of tanning into leather.

No. 8262. Improvements on Governors for Water Wheels and Steam Powers. (*Perfectionnements aux gouverneurs des roues hydrauliques et des machines à vapeur.*)

Henry T. Farnsworth, Francis P. Green and Francis M. Webb Bellefonte Pa. U. S., 26th December, 1877, for 5 years.

Claim.—1st. The construction of the main frame, consisting of the base A having step E, post B, curving horizontally at top and terminated by a vertical journal bearing C1, and having a central horizontal journal bearing D for mounting the operating machinery; 2nd. The integral construction of the hollow spool F and friction cones F1, at each end, and a collar at top for the fixed connection of the same to the governor; 3rd. The hollow spool F F1, sliding on the shaft C, friction wheel L engaging the rework, and horizontal shaft M provided with suitable gear for actuating the gate-stem, in combination with a governor; 4th. The horizontal shaft Q having a lever R engaging with the lower friction cone F1, and a toothed lever S engaging with a worm T on the gate-stem, in combination with a spool F, wheel L and a governor; 5th. The lever S engaging with a worm on the gate-stem P and having connection with the lever I.

No. 8263. Improvements in Shoes and Fasteners. (*Perfectionnements dans les souliers et les agrafes.*)

Garnett R. Biskers, Farmville, Va., Martin L. Frank, Simon L. Frank and Myer A. L. Frank, Baltimore, Md., U. S., 26th December, 1877, for 5 years.

Claim.—1st. A shoe having a fastener attached to its vamp or tongue, the said fastener being adapted to directly secure quarters of the shoe, whereby the lateral displacement of the fastener or quarters is prevented; 2nd. A shoe having its quarters elongated to form fastening straps, in combination with a fastener secured to this vamp, tongue or front of the shoe. 3rd. In combination with the shoe A, the fastener B secured to the vamp or tongue thereof, and having the vertical centre pin b1 and cover plate C; 4th. In combination with the fastener B having pin b1 and plate C, the quarters a provided respectively with the slotted plate d and slotted and perforated strip a1, 5th. The fastener B having catch d and hinge c struck up from the body of the plate, and having the headed pin b1 and plate C.

No. 8264. Improvements on Frame Buildings. (*Perfectionnements aux bâtiments en charpente.*)

William R. Morris and Joseph Stanzer, Larue, Ohio, U. S., 26th December 1877, for 5 years.

Claim.—1st. In the construction of frame buildings, the combination of the posts made of a number of planks, with beams of similar construction, the planks of the respective parts being interposed and bolted together; 2nd. The combination of the mortised plank-posts, with the lateral girders and with smooth and recessed wedge keys; 3rd. The combination of the recessed and tenoned upper end of the plank post A, with the mortised rafter plate D and lateral supporting piece D1; 4th. The combination of the compound plank post A, which is not tied to the building, with a trussed brace A1 resting on end shoes and centro stiffening bolt.

No. 8265. Improvements on Window Blinds. (*Perfectionnements aux persiennes.*)

Elmer Green and John N. Hitchcock, North-East, Pa., U.S., 26th December 1877, for 5 years.

Claim.—1st. The meeting stiles joined with an O-G rabbit; 2nd. The cross-rails provided with an og or other rabbit for giving a lip beside the slat adjoining; 3rd. The stiles provided with conical-shaped pivot holes; 4th. The slats provided with conical-shaped pivot tenons; 5th. The combination, within a window blind, of a stile having conical-shaped pivot holes and slats having conical-shaped pivot tenons; 6th. The actuating rod provided with a spring C1 for adjusting the same.

No. 8266. Improvements in Harrows. (*Perfectionnements dans les herse.*)

Moses Hill, Cleveland, Ohio, U.S., 26th December, 1877, for 5 years.

Claim.—1st. A harrow provided with curved spring teeth which extend from the point of attachment upward and backward, and thence downward to the point of contact with the ground, said teeth so constructed and arranged with respect to the harrow frame, that they will sink the ground in the open spaces between the frame work; 2nd. A harrow tooth constructed in arched or bowe' form and provided with a removable point; 3rd. A harrow tooth provided with a removable point, that portion of the said tooth between the working point and the point of attachment made of metal and in such form and proportions as will enable it to spring over obstacles; 4th. A spring harrow tooth provided with a reversible point; 5th. A spring harrow tooth provided with a reversible and adjustable point; 6th. A spring harrow tooth provided with a reversible point, the opposite ends of which are finished with different shaped working edges.

No. 8267. Improvements on Root-Cutters. (*Perfectionnements aux coupe-racines.*)

Thomas Forfar, Watertown, Ont., Ont., 26th December, 1877, for 5 years.

Claim.—1st. The feed box A made at an angle of 130°, with the main posts of machine; 2nd. The removable face plates H on the main posts B. 3rd. The bevelled breaker M, in connection with the knife G and slide C. 4th. The strip knives K, in connection with the bar I, the frame of the slides C and the hook eyes L.

No. 8268. Improvement on Horse Nail Machines. (*Perfectionnements des machines à clou à cheval.*)

John E. Wheeler, Lynn, and David B. Loring, Boston, Mass., U.S., 26th December, 1877, for 5 years.

Claim.—1st. The combination of a feed tunnel either with or without a detent, one pair of revolving dies adapted to shape the head of a blank, and to thicken and lengthen its shank, a short intermediary tunnel and a pair

of revolving dies, adapted to draw down and indent the shank of the blank.
 2nd The process in the manufacture of horse shoe nails consisting first in punching from a ribbed metal plate a blank having a head forming portion wider and thinner than the head of the finished nail, second, in upsetting the head forming portion of the blank, and thickening and lengthening its shank by a lateral pressure exerted upon its edges, third, in reducing the shank by a pressure exerted upon its front and back, transversely to that exerted in forming the head, whereby the head and the shank are successively formed by cold rolling, and but one pressure exerted upon the completed blank, 3rd A horse shoe nail made in accordance with the manipulations described, having one density throughout consequent upon subjecting a hot rolled blank to but one pressure in two operations from cold rolling.

No. 8269. Improvements on Book-Cases.

(Perfectionnements aux corps des bibliothèques.)

Charles F. Hill, Hazelton Pa. U.S. 26th December 1877 for 3 years.
 Claim.—1st A folding show case, cabinet or book case in which a central section A made in one or more parts and having a glazed front portion combined with end sections B B also provided with glazed front portions and hinged to said central section, 2nd A book case composed of a number of sections, each section having a glazed front through which the titles of the books can be observed, and open at the back, and one section having an opening d, the said sections being hinged together and combined, so that they can form an inclosure or part of an inclosure from which books can be handed through the opening 3rd The combination of the end sections B B, with a central section A made in two parts A' and A'', connected together so as to be folded in either direction 4th The combination of the central section A and end sections B or B' with the two sets of loose bolt hinges y y' and brace z.

No. 8270. Improvements on Stay Strip

(Perfectionnements aux jalousés à piquer les cours.)

Charles Turner Lynn Mass. U.S. 26th December 1877 5 years.
 Claim.—1st A sewing machine presser foot provided at its bottom with a longitudinal recess a to receive the centre of a stay strip pressed upward thereon by the ridge of a seam to which the stay is being applied, and with ledgers or faces at the edges of the recess, lower than the central recess, to rest upon and extend to the edges of the stay strip, and with a needle passage to permit a needle to penetrate the stay strip between its outside edge and its more elevated central or seam covering portion, in order that the stitches may be formed below the surfaces of the stay strip, 2nd A sewing

machine presser foot provided with longitudinal central groove to receive the centre of a stay strip, and a ledge to bulge upward thereon, when applied to cover a seam, and with edges or faces g h at the sides thereof, to bear upon the upper edges of the stay strip at a lower level than the central portion of the foot and with edge guide to guide the outside edges of the strip.

No. 8271. Improvements on Pumping Engines.

(Perfectionnements aux machines à vapeur.)

Dewar C. Cregut, Chicago, Ill. U.S. 26th December 1877, 5 years.
 1st The combination with a water pumping engine, of an air pump connected with said engine by the necessary pipes, valves and an air chamber or receiver for the introduction of compressed air into the pump at any desired point in the stroke for the purpose of supplying an air cushion to receive the impact of the piston and thus relieve the shocks to which the pumping engine is ordinarily subjected, 2nd The compression air pump L, in combination with pipe P P check valve u and receiver I, 3rd the receiver I in combination with pipe X pipe III branch pipe T stop-valves b a Y and back valves K and X.

No. 8272. Improvements in Speculums.

(Perfectionnements dans les spéculums.)

Alexander Shiland West Troy, N.Y. U.S. 26th December 1877
 Claim.—The dilators A A having a series of rings C C hinged thereto and so at intervals apart, in combination with the handle D having ears D' straddling the dilator A and pivoted to the upper ring.

No. 8273. Improvements on Post Hole Diggers.

(Perfectionnements aux soules de puits.)

Thomas S. Disston Philadelphia, Pa. U.S. 26th December, 1877, for 5 years.
 Claim.—1st. A post hole digger in which two or more digging-blades hinged to a stem, are combined with an operating rod H, and with devices through the medium of which the said rod is caused to operate the blades, 2nd the combination in a post hole digger of the hinged digging blades D with the lever M and devices whereby the said lever can be used to both move the blades inwards and back the blades when the latter are open, 3rd. The combination of the blades D and their arms with the rod F and roller G.

List of Patents issued up to 26th January, 1878, but not yet Officially published in the Patent Office Record.

- No. 8274. S. P. Locke, Waterville, Me. U.S.A. Fertilizer, 27th December, 1877
- No. 8275. D. Maxwell Paris Ont. Reaping Machine, 4th January, 1878
- No. 8276. R. A. Brudley Ottawa Ont. Bedstead, 4th January 1878
- No. 8277. S. W. Ludlow, Cincinnati Ohio U.S.A. Vehicle Spring and Axle, 4th January, 1878
- No. 8278. F. M. Wood, Worcester Mass. U.S.A. Knife grinder for Harvesters, 4th January, 1878
- No. 8279. J. E. Wheeler Lynn, Mass. U.S.A. D. B. Loring and F. W. Coy, Boston Mass., U.S.A. Horse Shoe Nail Machine, 4th January 1878
- No. 8280. E. M. Hulton and F. Etches, Jackson Mich. U.S.A. Abdominal Supporter, 4th January, 1878
- No. 8281. M. E. Sinnott Bakersfield, Cal. U.S.A. Cloth Cutting Machine, 4th January, 1878
- No. 8282. P. H. Green Hespeler Ont. Pump, 4th January 1878
- No. 8283. M. L. Hitchcock, and J. Bergin, Cornwall Ont. Apparatus for Manufacturing Cotton Warp, 4th January, 1878
- No. 8284. R. M. Marchant, London, England. Gaseous Fluid and Apparatus for Motive Power Purposes, 4th January, 1878
- No. 8285. G. Browne, J. Hamilton and F. Massey, Montreal Que., Packing Cau., 5th January, 1878
- No. 8286. F. Gibford Newton, Iowa, U.S.A. and W. Gibford New York U.S.A., Car Coupler, 5th January, 1878
- No. 8287. A. G. Cummings, and J. R. Falcott, North Woburn Vt., U.S.A., Clothes Pin, 5th January, 1878
- No. 8288. L. Perkins, England. Engine (Extension of Patent No. 1962), 9th January, 1878
- No. 8289. L. Perkins, England. Engine (Extension of Patent No. 1977), 9th January, 1878
- No. 8290. A. Lemay, Ottawa Ont. Bedstead Fastener, 9th January 1878
- No. 8291. H. Faugrrieve, Hamilton, Ont. Compound Engine, Single Feed Slide Valve, (Extension of Patent No. 1961), 9th January, 1878
- No. 8292. D. W. Copeland, Theresa, and W. A. Nichols, Evans Mills, N.J., U.S.A., Ribbon Roll (Imp.), 12th January, 1878
- No. 8293. H. F. Howie, Sarnia, Ont., Process and Apparatus for Treating Refractory Ores, (Re-issue of Patent No. 7994), 12th January, 1878

- No. 8294. G. P. Drum and Ottawa, Ont. Machinery for Obtaining Printing Surfaces for Reading Matter by Compressed Metric or Embossed Letters, 12th January, 1878
- No. 8295. C. Tyson Philadelphia Pa. U.S.A. Steam Generator, 12th January, 1878
- No. 8296. J. Bennett, Belleville, Ont. Lancing Mill, 12th January 1878
- No. 8297. D. Carroll, Spring Creek Pa. U.S.A. Nautical Log, 12th January, 1878
- No. 8298. Jas. H. Edmonds Valparaiso, Ind. U.S.A. Earth Scraper, 12th January, 1878
- No. 8299. I. Perkins England. Engine (Extension of Patent No. 1962), 14th January, 1878
- No. 8300. T. N. Egery Bangor Me. U.S.A. Bob Shifter, 14th January, 1878
- No. 8301. W. Giberson Belleville Ont. Machine for Cleaning Grain, 14th January, 1878
- No. 8302. J. Best, Montreal, Que. Gig-Saw Attachment, 14th January, 1878
- No. 8303. G. H. Merrill Boston, Mass., U.S.A., Axle Grease, 14th January, 1878
- No. 8304. J. H. Preator Brooklyn, N.Y., U.S.A., Camster, 14th January, 1878
- No. 8305. T. Hoag Springfield, Ont. Boiler and Cooking Apparatus, 14th January, 1878
- No. 8306. A. Jardine Hespeler, Ont. Hand Drilling Machine, 21st January, 1878
- No. 8307. D. Harrington, Woodbridge, N.J., U.S.A. Method of Dressing Sheep and Removing Wool from Pelts, 21st January, 1878
- No. 8308. E. P. Needham, New York, U.S.A., Wind Instrument, 21st January, 1878
- No. 8309. G. Fielden, Dundas, Ont. Rake Trap for Harvesting Machines, 21st January, 1878
- No. 8310. R. C. Gould and S. G. Day, Montreal, Que., (Assignees of J. Sherman, Jr., Chi ago, Ill., U.S.A.), Tan Bark Bale, 21st January, 1878
- No. 8311. W. Heckert, Providence, R.I., U.S.A., Printing Press and Tag Machine Combined, 21st January, 1878
- No. 8312. F. A. Howig, San Francisco, Cal., U.S.A., Process of Manufacturing Wooden Bottle Stoppers and Bungs, 21st January, 1878

No. 8313. S. W. Jamson, Brooklyn, N. Y., U. S. A. "Boot and Shoe Crimper." 21st January, 1878.

No. 8314. J. P. Boss, (Assignee of E. R. Weston, Bangor, Me., U. S. A.) "Burnishing Machine" (Extension of Patent No. 1995.) 22nd January, 1878.

No. 8315. J. Paret, New York, (Assignee of A. P. Silva, Elmira, N. Y., U. S. A.) "Coat for Protection from the Weather" (Re issue of Patent No. 7016.) 22nd January, 1878.

No. 8316. T. H. Babcock, Brooklyn, N. Y., F. C. Upton, N. Y. and S. Babcock, Middletown, Ct., U. S. A., "Self-Lighting Cigar." 22nd January, 1878.

No. 8317. W. A. Wharton, Belle Centre, Ohio, U. S. A. "Felties." 22nd January, 1878.

No. 8318. S. S. Newton, Binghamton, N. Y., U. S. A. "Bottles." 22nd January, 1878.

No. 8319. A. Allen and T. C. Clark, Marietta, Ohio, U. S. A. "Car Coup Ing." 22nd January, 1877.

No. 8320. C. A. Massey, M. Garvin and W. Johnston, Newcastle, Ont. "Self-Dumping Rake." 22nd January, 1878.

No. 8321. H. B. Doolittle, Doolittle Falls, Ind., U. S. A. "Slide Valve Adjuster." 22nd January, 1878.

No. 8322. A. V. Vallette and F. Dodge, Pictou, Ont., "Process of Manufacturing Steel Scrap into Steel Castings." 22nd January, 1878.

No. 8323. C. C. Ball, Boston, Mass., and R. M. Hall, Mont. Clair, N. J., U. S. A., "Bath Wash Stand." 22nd January, 1878.

No. 8324. B. Fatham, New York, U. S. A. "Shot Apparatus." 22nd January, 1878.

No. 8325. M. Bourke, Youngstown, Ohio, U. S. A. "Boat Launching Apparatus." 22nd January, 1878.

No. 8326. D. C. Breed, Buffalo, N. Y., U. S. A. "Compound for Facilitating the Combustion of Anthracite Coal, &c." 22nd January, 1878.

No. 8327. G. Beadle, Syracuse, N. Y., U. S. A. "Pare Box." 22nd January, 1878.

No. 8328. Z. A. Willard, Boston, Mass., U. S. A. "Process and Apparatus for Treating Ores." 22nd January, 1878.

No. 8329. H. Aylmer, Melbourne, Que. "Milk Cooler and Setter." 22nd January, 1878.

No. 8330. Alex. McDonald, Belmont, Mass., U. S. A. "Stone Dressing Hammer." 22nd January, 1878.

No. 8331. J. Gilray, Toronto, Ont. "Lace Curtain Stretcher." 22nd January, 1878.

No. 8332. R. F. Pickard and H. H. Pickard, Tonawanda, N. Y., U. S. A., "Axle." 22nd January, 1878.

No. 8333. M. Bourke, Youngstown, Ohio, U. S. A. "Life Boat." 22nd January, 1878.

No. 8334. W. Dunn and D. B. Buffer, Philadelphia, Pa., U. S. A. "Boiler Tube Cleaner." 22nd January, 1878.

No. 8335. A. King and R. P. King, Lowville, N. Y., U. S. A. "Buckboard Wagon." 22nd January, 1878.

No. 8336. L. R. Blake, Brooklyn, N. Y., U. S. A., "Boot and Shoe Pegging Machine." (Extension of Patent No. 2014.) 22nd January, 1878.

No. 8337. J. Farrar and J. C. Siehol, Montreal, Que. "Tobacco Cutter." 22nd January, 1878.

No. 8338. G. Roy, Truckee, Cal., U. S. A. "Snow Plow." 22nd January, 1878.

No. 8339. J. J. McTigue, Alpyville, Pa., U. S. A. "Magneto Electric Machine or Speaking Telegraph." 22nd January, 1878.

No. 8340. W. Merzies and W. Meuzes, Jr., (Assignees of W. B. Turner of New York, U. S. A.) "Shutter." 22nd January, 1878.

No. 8341. L. H. Goff, Richford, Vt., U. S. A. "Table and Clothes Rack." 22nd January, 1878.

No. 8342. B. C. Brown, Clinton, Iowa, U. S. A. "Shingle Machine." 22nd January, 1878.

No. 8343. B. F. Olmsted and W. Meune, St. Thomas, Ont. "Steam Engine." 22nd January, 1878.

No. 8344. A. A. Philbrick, Coldwater, Mich., U. S. A. "Vehicle Wheel." 22nd January, 1878.

No. 8345. G. W. Herrick, Detroit, Mich., U. S. A. "Stove Damper and Flue Strip." 22nd January, 1878.

No. 8346. G. Bryden, Hartford, Ct., W. L. Banks, Brooklyn, N. Y., and J. B. White, New York, U. S. A. "Horse Shoe and Apparatus for Making the same." 26th January, 1878.

No. 8347. G. Bryden, Hartford, Ct., W. L. Banks, Brooklyn, N. Y., and J. B. White, New York, U. S. A. "Horse Shoe and Apparatus for Making the same." 26th January, 1878.

No. 8348. S. H. Penley, Toronto, Ont. "Art of Manufacturing Cylindrical Boxes and Hollow Shapes." 26th January, 1878.

No. 8349. S. H. Penley, Toronto, Ont. "Art of Manufacturing Cylindrical Wooden Boxes." 26th January, 1878.

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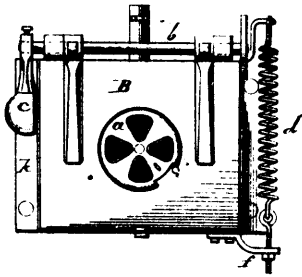
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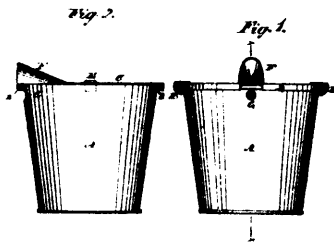
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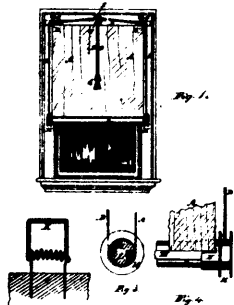
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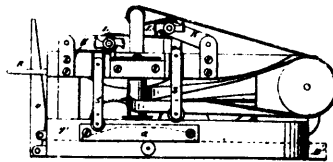
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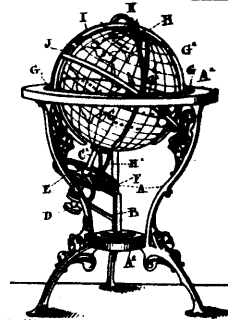
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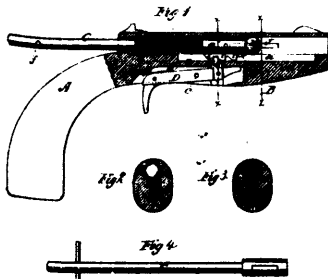
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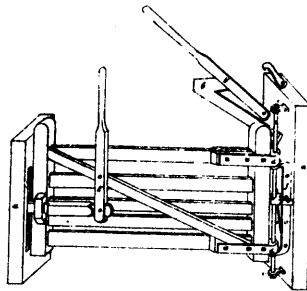
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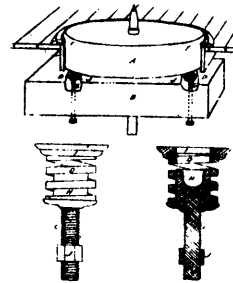
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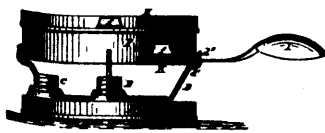
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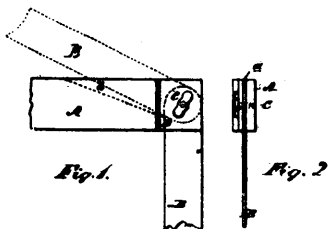
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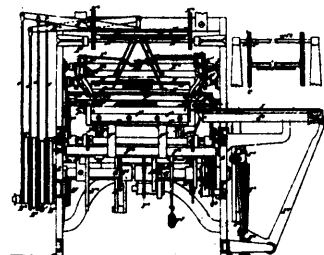
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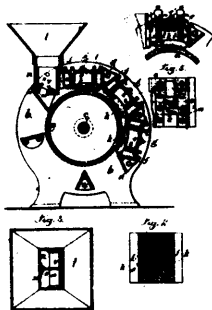
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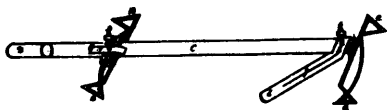
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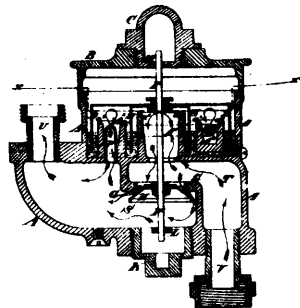
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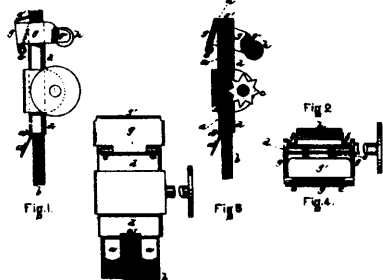
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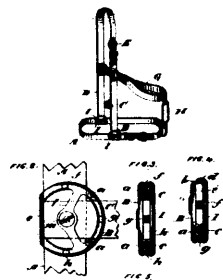
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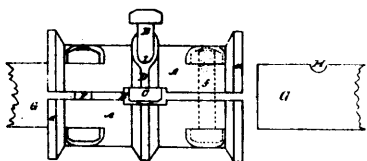
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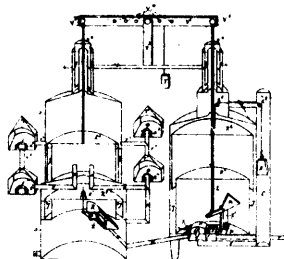
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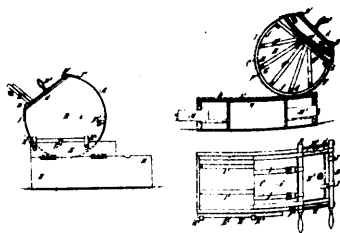
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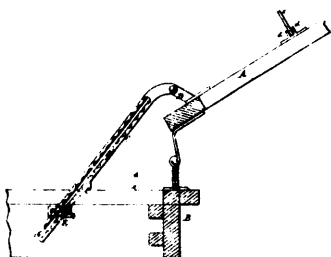
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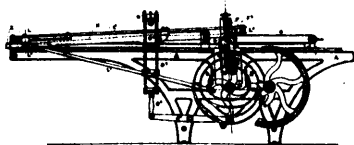
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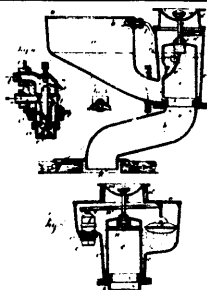
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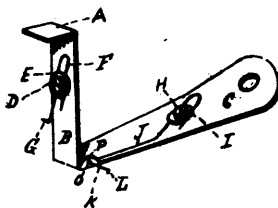
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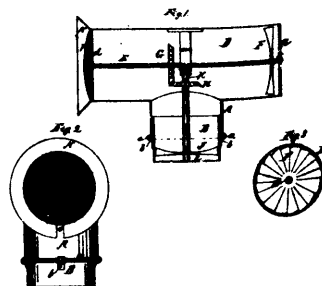
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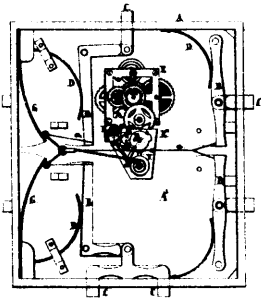
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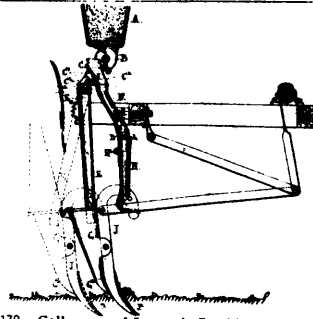
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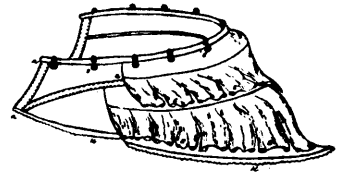
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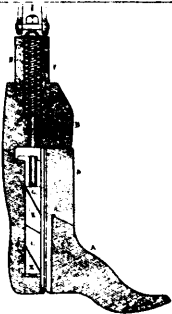
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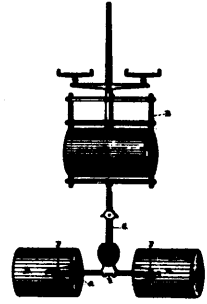
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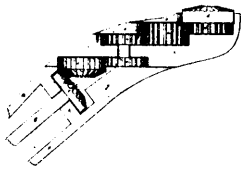
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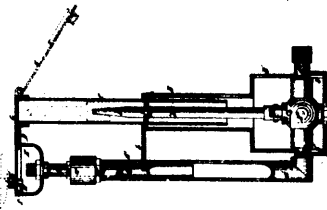
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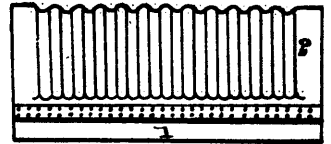
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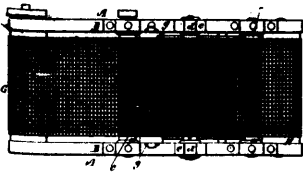
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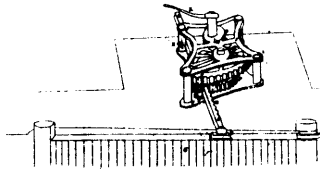
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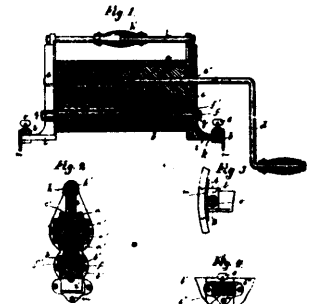
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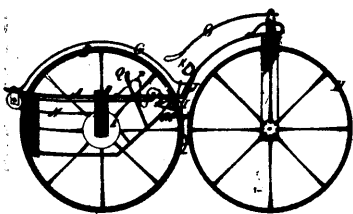
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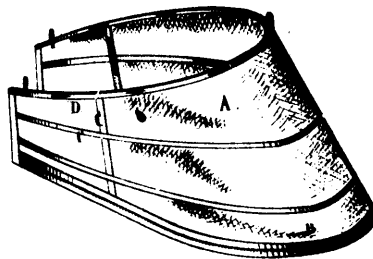
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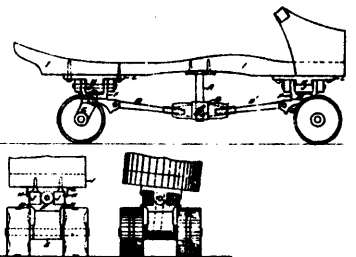
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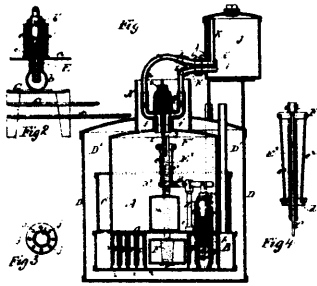
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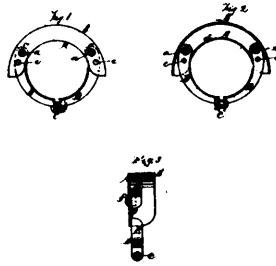
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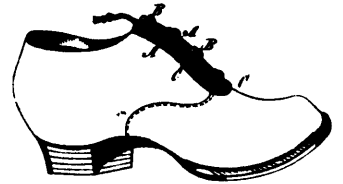
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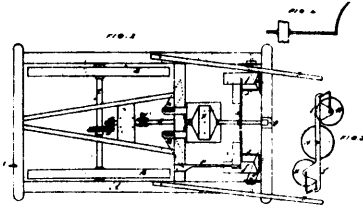
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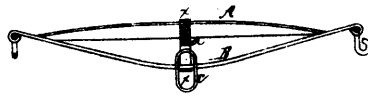
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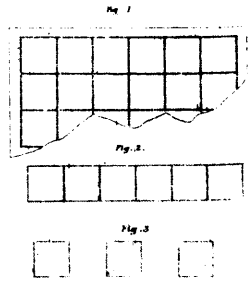
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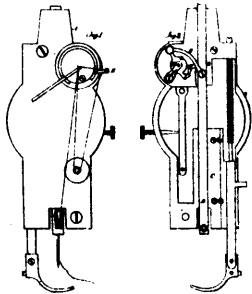
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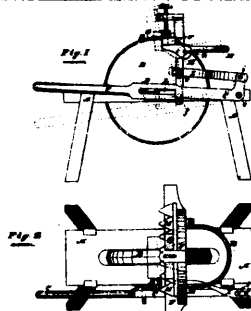
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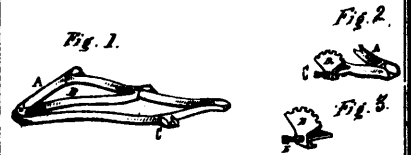
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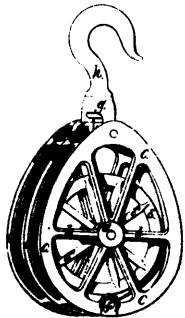
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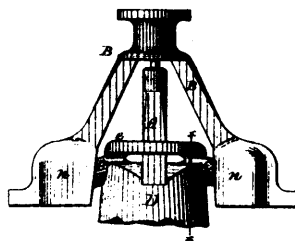
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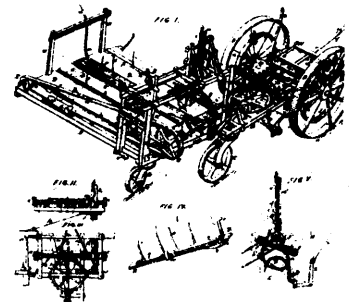
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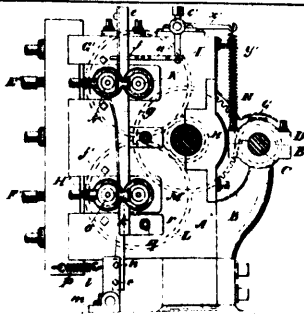
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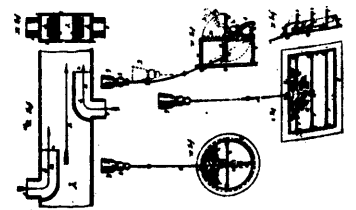
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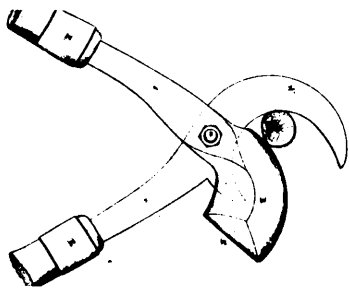
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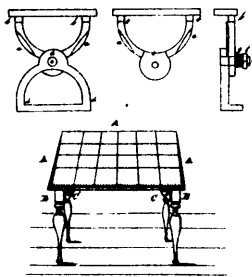
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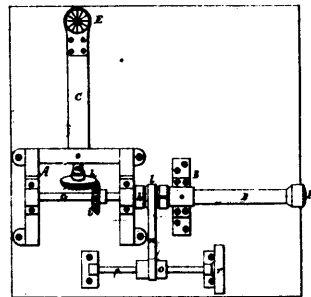
8208 Yon's Improvements on Ventilating Apparatus.



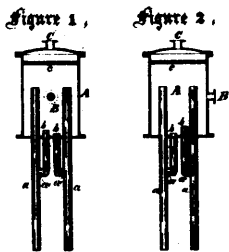
8209 Wait's Improvements in Pruning Shears.



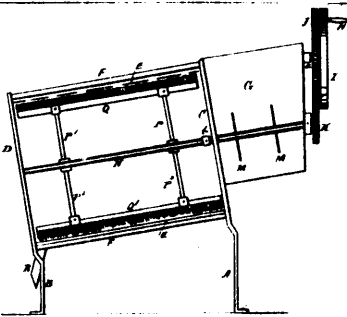
8211 Fox, Cable and Christan's Improvements on Advertising Tables.



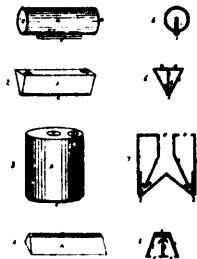
8212 Arnold's Boot and Shoe Peg Rasper.



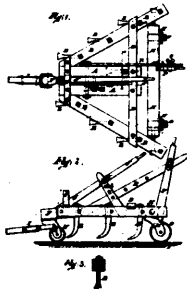
8214 Allen's Improvements on Condensers for Engines.



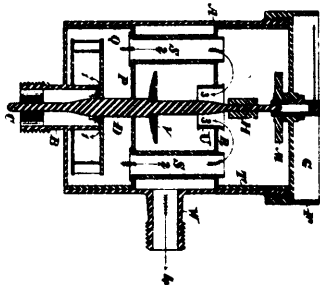
8216 Knowles' Machine for Cleaning Fruit for Grocers' Use.



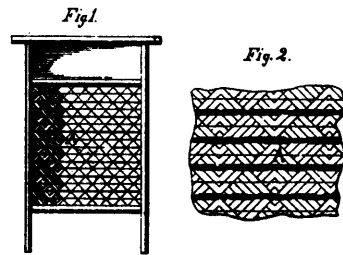
8217 Bangs and Pierce's Improvements in Soldering Bolts.



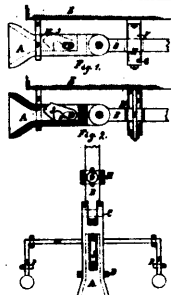
8218 Archer's Improvements on Cultivators.



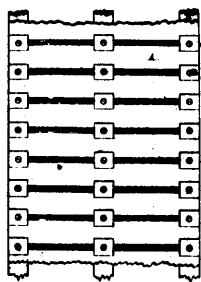
8219 Walsh's Improvements on Water Meters.



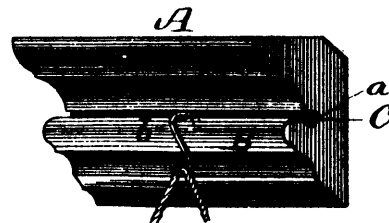
8220 Gorham's Improvements on Wash-Boards.



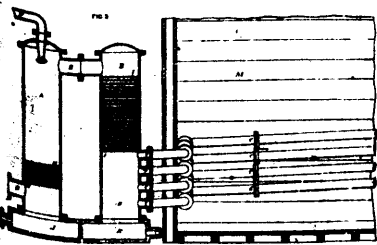
8221 Caron and Moffat's Improvements on Car-Couplers.



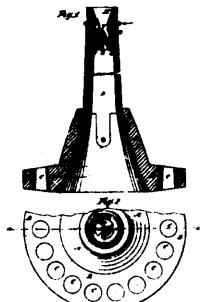
8222 Dyer's Joint for Sidewalks.



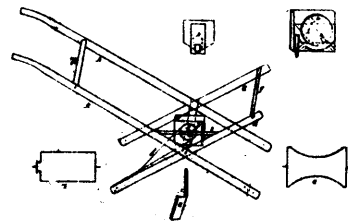
8223 Baker's Combined Cornice and Picture-rod Moulding.



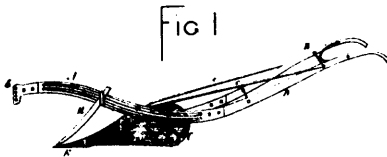
8224 Bell and Coleman's Process and Apparatus for Preserving Meat.



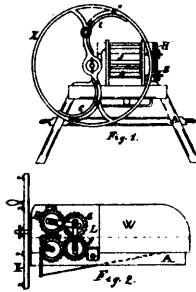
8226 Maxwell's Improvements on Churn Dashers.



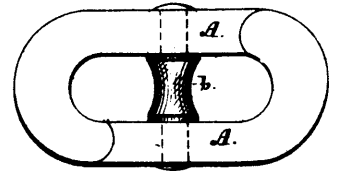
8226 Clayton's Improvements on a Seed Drill.



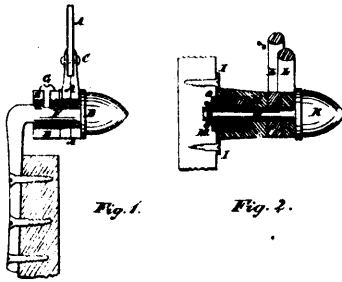
8227 Stinson and McKerie's Improvements on Ploughs.



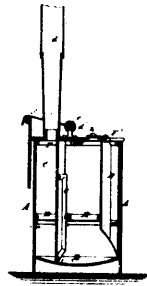
8228 Hershey's Improvements on Feed-Cutters.



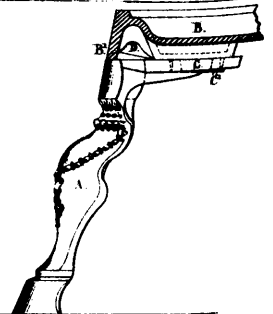
8229 Mann's Improvements in Connecting Links for Chains.



8230 Van Lewen's Improvements on Carriages.



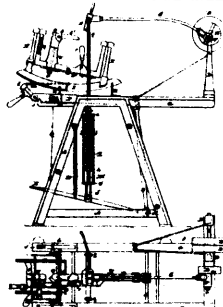
8231 Hershey's Improvements on Feed-Cookers.



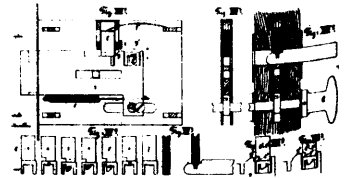
8232 Brown's Self-Locking Stove Leg.



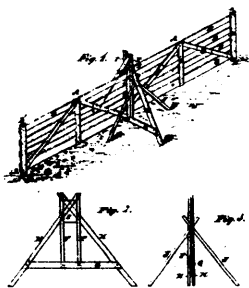
8233 Mungle's Improvements on Combined Umbrella and Cane.



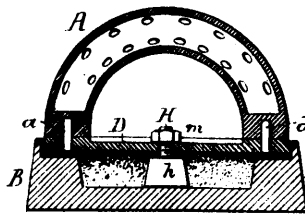
8234 Woodley's Improvements on Boot and Shoe Burnishers.



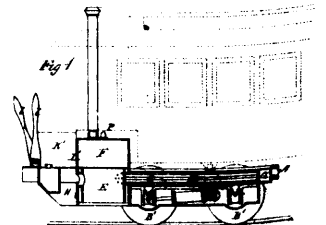
8235 Kleinan's Safety-Lock.



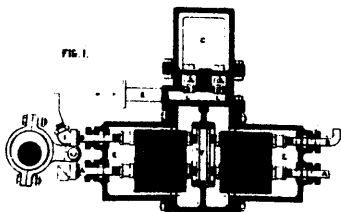
8236 Hotham's Improvements on Portable Fences.



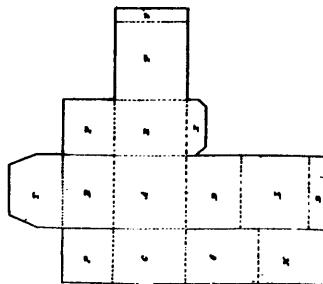
8237 Baker and Asbury's Improvements on Sad-Irons.



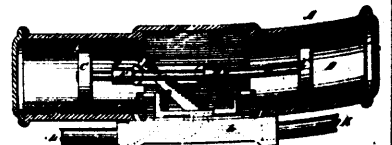
8238 Imboden's Improvements on Railway Cars.



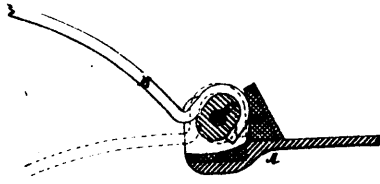
8239 Marchant's Pumps and Condensers for Motive Power Engines.



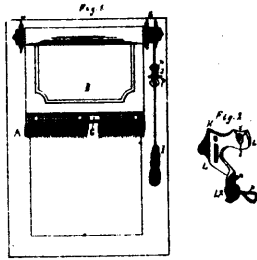
8240 Arthur's Improvements on Paper Boxes.



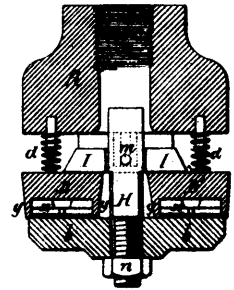
8241 Norfolk's Improvements on Fluid Meters.



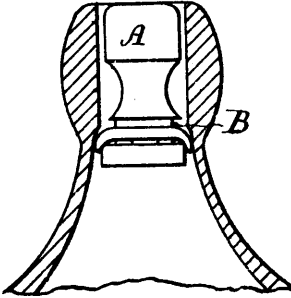
8242 Hubbell and Doty's Improvements on Thill Couplings.



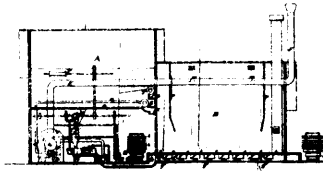
8243 Noyes' Improvements in Curtain Fixtures.



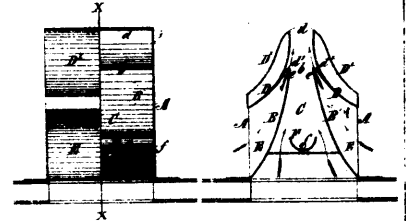
8244 Baker's Improvements on Sad Iron Grinders.



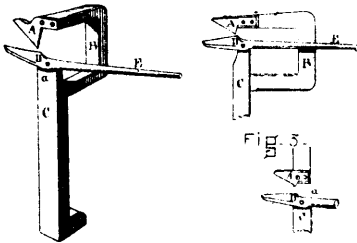
8245 Rose's Stoppers for Bottles containing Aerated Beverages.



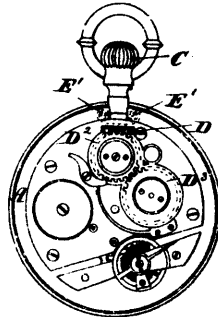
8246 Wright's Process and Apparatus for the Manufacture of Peat Fuel.



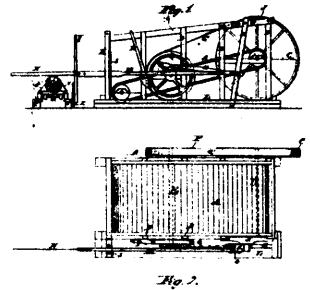
8247 Sandall's Improvements in Ventilators.



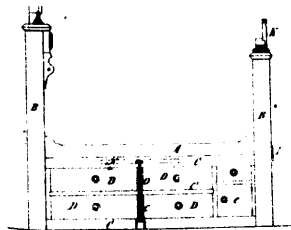
8248 Barnett's Improvements on Metal Shears.



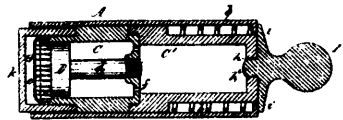
8249 Domon's Improvements on Watches.



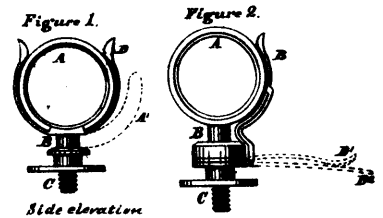
8250 Snetinger's Improvements on Drag Sawing Machines.



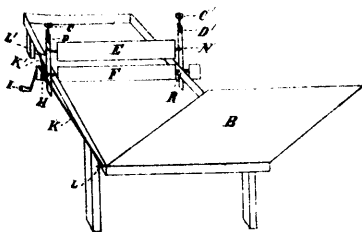
8251 Cooper's Improvements in Furniture for Bed Rooms.



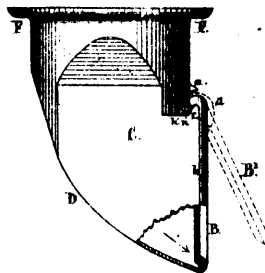
8253 Tucker's Improvements in Dermatopathic Instruments.



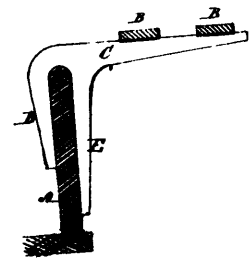
8254 Pond's Improvements on Terrets.



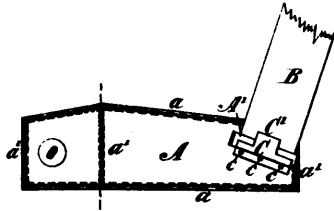
8255 McKenzie's Improvements on Printing Presses.



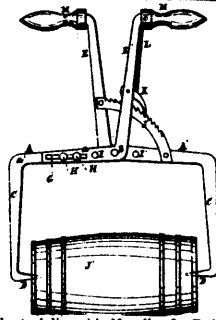
8256 Palmer's Improvements in Sewer Traps.



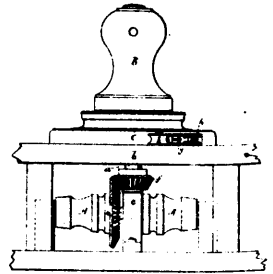
8257 Allin's Improvements on Waggon Racks.



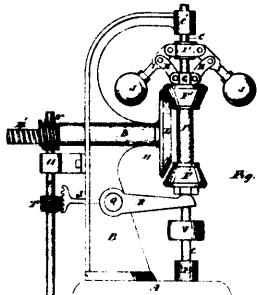
8258 Barrow's Apparatus for Suspending Garments.



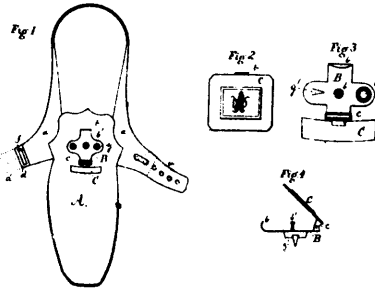
8259 Dodge's Adjustable Handles for Rolling Barrels.



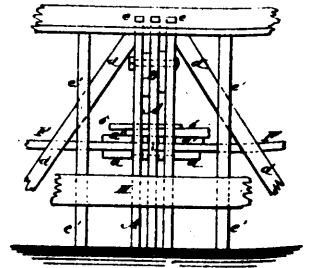
8260 Southard's Improvements on Capstans and Windlasses.



8262 Farnsworth, Green and Webb's Improvements on Governors for Water Wheels and Steam Powers.



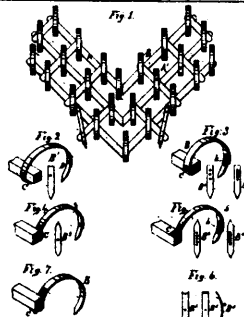
8263 Bickers and Frank's Improvements in Shoes and Fasteners.



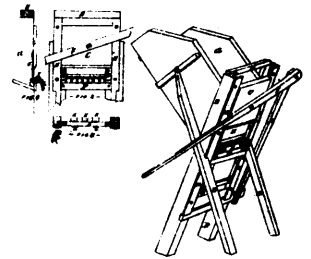
8264 Morris and Slanzer's Improvements on Frame Buildings.



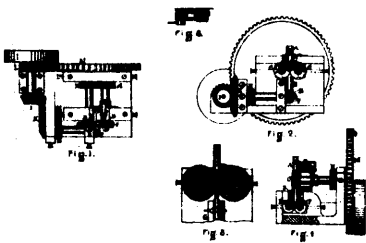
8265 Hitchcock's Improvements in Window Blinds.



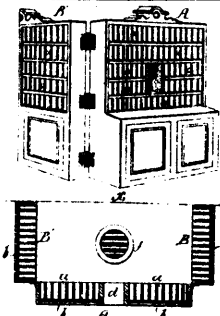
8266 Hill's Improvements in Harrows.



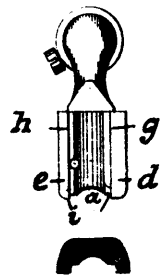
8267 Forfar's Improvements on Root-Cutters.



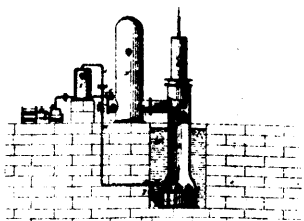
8268 Wheeler and Loring's Improvement on Horse Nail Machines.



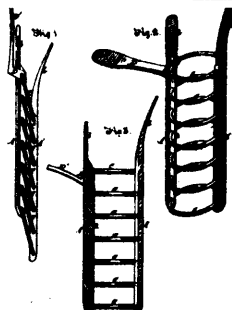
8269 Hill's Improvements on Book Cases.



8270 Turner's Improvements on Stay Strip Gauges.



8271 Cregier's Improvements on Pumping Engines.



8272 Shiland's Improvements in Speculums.



8273 Diseton's Improvements on Post Hole Diggers.