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### INVENTIONS PATENTED.

No. 2219. GEORGE B. STOCK, Toronto, Ont.,  
7th April, 1873, for 5 years: "Shaft Attach-  
ment for Carriages." (Ajustage des limonnières  
de voitures.)

Relates to the method of joining the shafts to the axle-trees with draw-heads, and to the combination of a vulcanized rubber wedge with a clamp screw for the purpose of keeping the shaft-shank in its place and doing away with the usual noise of bolts and nuts.

*Claim.*—1st. The combination of the clamp screw A, with vulcanized rubber wedge B; 2nd. The combination of shafts H, H, with shaft-shanks I, I, and the peculiar form of said shaft-shanks.

No. 2220. MARCELLUS G. HOLTON & SETH GREEN, Rochester, N. Y., U. S., 7th April, 1873, for 5 years: "Fish Spawn Hatcher." (Appareil pour l'incubation des œufs de poisson.)

*Claim.*—1st. A spawn hatching apparatus so constructed as to permit an upward flow or circulation of the water through the trays; 2nd. A spawn hatching device, the trays C, and water inlet opening d, in combination with the deflector h, arranged to operate as described; 3rd. Combination with the spawn hatching apparatus a, the over-flow channel C, arranged to equalize the over-flow on all sides; 4th. Combination with the spawn-trays C, the hopper-shaped bottom, or its equivalent, for the purposes set forth.

No. 2221. ISRAEL KINNEY, London, Ont., 7th April, 1873, for 5 years: "Bed, Lounge and Chair Bottoms." (Fonds de lit, de siège et de causeuse.)

*Claim.*—1st. The combination of the hooks or gripes with the cords, wires or other material stretched across a frame and forming the bed, chair or lounge bottom; 2nd. The use of corrugated wires or flat strips of metal as set forth.

No. 2222. BEAUCHAMP COKLEY, Mooers, N. Y., JAMES SHERLOCK & ROBERT E. CASEY, Ellenburgh, N. Y., U. S., 7th April, 1873, for 5 years: "A Water Wheel." (Une roue hydraulique.)

*Claim.*—1st. The combination of the shaft a, sleeve C, water-wheels d and e, secured respectively to a and c, and gear-wheels f, and g, respectively to a and c, working in combination with a wheel h, or its equivalent; 2nd. The wheel d, with buckets set in one direction in combination with wheel e, having buckets set in the opposite direction; 3rd. The arrangement on a main shaft a, of water wheels secured thereto, and arranged alternately with wheels fixed by their rims and serving as spouts as described.

No. 2223. CHARLES W. SIEMENS, Westminster, London, Eng., 7th April, 1873, for 15 years: "Process and Apparatus for the Manufacture of Iron and Steel." (Procédé et appareil de fabrication du fer et de l'acier.)

*Claim.*—1st. The method of effecting the separation of metallic iron from heated ore mingled with fluxing materials by causing

carbonaceous matter to be mixed therewith by means of the slow rotation of a rotative furnace and forming the separated metal by means of a quicker rotation into balls for the production of wrought iron or puddle steel or for the production of cast steel by the employment of a separate furnace; 2nd. The method of separating metallic iron from ore in the manner and by the means above referred to, and converting the separated metal into cast iron or cast-steel, in one and the same rotative furnace by the further addition of solid carbonaceous matter, cast iron, spiegeleisen or ferro manganese; 3rd. The use for the manufacture of iron and steel of a rotative regenerating gas furnace constructed, arranged and operating as described with reference to the Figures on sheets 1, 11, and III, of the accompanying drawings, that is to say the cylindrical furnace chamber A, with truncated conical ends, the one of which A<sup>2</sup>, is fitted with a working door a<sup>1</sup>, and provided with a tap-hole a<sup>2</sup>, and the other of which A<sup>1</sup>, forms a throat through which the heated air and gas are admitted by one of the two flues C, C<sup>1</sup>, for a pair of the regenerators D<sup>1</sup>, D<sup>2</sup>, D<sup>3</sup>, D<sup>4</sup>, and also through which throat the products of combustion after having acted in the furnace chamber A, are emitted by the other of the flue C, C<sup>1</sup>, to the other pair of the said regenerators; 4th. The use for lining rotative furnaces of bricks or lumps compounded chiefly of bauxite and dense carbonaceous matter; 5th. The method described of lining rotative furnaces with bricks or lumps such as are above referred to, built loosely in and cemented and glazed by fused ore or hammer slag; 6th. Forming the lining of rotative furnaces with internally projecting circular ribs R, R, for the purpose of dividing the metallic contents of the furnace into several balls; 7th. The use in combination with a rotative furnace of gearing B, for effecting its rotation so arranged that the furnace can be stopped and several definite velocities of rotation can be imparted to it from a prime mover working at regular speed.

No. 2224. RICHARD SMITH, Sherbrooke, Que.,  
7th April, 1873, for 5 years: "A Navigation  
Apparatus." (Un appareil de navigation.)

Consists of two floats propelled by paddle-wheels working between them. The person operating the floats occupies a seat over and between the paddle-wheels which are made to revolve either by foot or hand power. The floats being connected together by a frame and by the seat supports.

*Claim.*—1st. The floats i, j, of oak or other suitable material made in a double conical form (the bases of the two cones being placed together, and their vertices being respectively at bow and stern), or in other similar form; 2nd. The construction of the floats i, j, by means of pieces of oak, or other light material fastened together by means of a bar or rod n, a, Fig. III, passing through the centre of the float; 3rd. The application of two or more paddle-wheels g, g, for propulsion of the apparatus and to be worked in unison or adversely; 4th. The combination of the hand and foot power obtained by means of the hand-wheels a, a, and pedals K, K, attached to the crank-wheels l, l.

No. 2225. CHRISTIAN KUMPF, Waterloo, Ont.,  
7th April, 1873, for 5 years: "A Harvester  
Reel." (Un râtelier de moissonneuse.)

Relates to the motion gained which extricates the teeth of the rake-bar from the grain after having raked the grain on to the platform of a reaping machine and returns the teeth into position keeping them firm in their places for the purpose of raising fallen grain on to the platform.

*Claim.*—The combination of the rack-bar sliding on each of the arms of the reel with teeth in the inside of the end of it gearing into the pinion fixed on the rake-bar, the said rake-bar being regulated in its motion by a rack roller revolving on a shaft affixed to the end of the rack-bar at right angles to it into the groove of an eccentric cam within which the shaft of the reel revolves. Also the combination of a connecting bar connected by a pin with an eccentric fastened to the end of the rake bar, the said bar being regulated in its motion in the manner described by the rack-bar.

No. 2226. JAMES COOK, London, Ont., 7th April, 1873, for 5 years: "A Mop for Cleaning Floors."  
(Un balai à laver.)

Relates to the method of fixing and removing the cloths forming the head of the mop to and from the handle.

Claim.—The application of screw C, to either ferrule B, or nut E, and the arrangement of springs H, and F, for the purposes of mopping or cleaning floors.

No. 2227. WILLIAM P. SCOTT, Chatham, Ont., 7th April, 1873, for 5 years: "A Railway Car-Coupler."  
(Un attache-char de chemin de fer.)

Claim.—1st. A tongue or catch B, fastened in the mouth of the jaw of the draw-head over which the pivoted link E, will slip, whenever said tongue is used in combination as described; 2nd. A crank or lever C, C, for raising the pivoted-link E.

No. 2228. THOMAS B. FOGARTY, New York, U. S., 7th April, 1873, for 5 years: "Machine for the Manufacture of Illuminating Gas."  
(Appareil de fabrication du gaz d'éclairage.)

Claim.—1st. The construction and arrangement of a gas machine consisting of a tank, retort and gas holder automatically operating the requisite valves; 2nd. The air pipe connecting the external atmosphere with the chamber in which volatile vapor is mixed with air for the formation of gas; 3rd. The combination of the gas holder or of a separate float therein with mechanism for operating the valves in the gas and hydro-carbon pipes in the manner specified.

No. 2229. WARDEN KING, Montreal, Que. (Assignee of Archibald Spence), 7th April, 1873, for 5 years: "A Boiler for Heating Water."  
(Une chaudière pour chauffer l'eau.)

Claim.—1st. The combination of the outer water space c, and pipes d and e, cone f, with opening g, tubes i, segment of ring k, pipes l and m, and ring n; 2nd. The boiler constructed of the outer shell a, inner shell b, water-space c, and other parts as described, in combination with pipe d, cone f, ring k, tubes i, and segment of ring k, and pipe l; 3rd. In combination with shells a, and b, and water-space c, the sediment chamber formed by projections a1 and b1 secured by rust joint and furnished with plugs u.

No. 2230. JOHN W. WRIGHT, Montreal, Que., 8th April, 1873, for 5 years: "Tubular Block Fire Proof Building Material."  
(Matériel de construction en block tubulaires-réfractaires.)

Claim.—The tubulated blocks t, for the walls and partitions of houses and the hollow spaces c, left in the concrete or other composition of matter used under the flooring of buildings.

No. 2231. CHAUNCEY O. CROSBY & NATHAN A. BALDWIN, Milford, Ct., U. S., 8th April, 1873, for 10 years: "A Welt and Turned Sole Sewing Machine."  
(Machine à piquer les trépointes et les semelles tournées des chaussures.)

The object of this invention is to perform the work with what is known as the "lock stitch," and to overcome the difficulties which exist in the use of the chain stitch.

Claim.—1st. In a sewing mechanism the combination of a needle carrying one thread, a race, and a shuttle carrying a second thread, when so arranged that the shuttle moves in a path diagonal to the path of the needle; 2nd. In combination with a needle race, and shuttle, arranged and operating as above described, the cam e, or its equivalent for operating the said shuttle; 3rd. The arrangement of a lubricating device, in connection with the shuttle-race, so that the point of the shuttle will receive the lubrication.

No. 2232. JOHN BLANTON, Drummondville, Ont., 8th April, 1873, for 5 years: "A Boiler Washing Machine."  
(Appareil de buanderie.)

Relates to the manner of fastening the ends of the bevelled bars which are let into the false bottom of the machine.

Claim.—The method of fastening the ends of the bevelled bars a, a, to the flange k, k, across the entire width h, of the face of the bars.

No. 2233. GEORGE H. COPPING, Toronto, Ont., 8th April, 1873, for 5 years: "A Lozenge Machine."  
(Une machine à pastilles.)

Claim.—1st. The mechanism p, p1, and q, q1, of the rolling apparatus as arranged and described; 2nd. The mechanism comprising bevel wheels k, l, diagonal shaft m, worm n, and worm wheel o, for communicating motion to the said rolling apparatus; 3rd. The frame h, as constructed with the cutters o1, o2, and the mechanism comprising pulleys d, f, shaft e, belt g, and cams, i, i, for giving motion to the same and the option of using the frame h,

either movable or stationary; 4th. The head v, as constructed with rollers s, apron f, and roller r, and a piece of cork-wood e, and the mechanism comprising stud r, rod s, arm t, and shaft u, for giving motion to the same as described; and the option of using this head v, either movable or stationary; 5th. The mechanism comprising arm v, link z, and connecting rod q, for giving an intermittent motion to the aprons x, x1, from rock shaft u by means of the arms b b, pawls c c, and ratchets d d; 6th. The rollers w, w, m, for printing the lozenges before they are out.

No. 2234. JOSEPH K. FEICK, Berlin, Ont., 8th April, 1873, for 5 years: "A last for making seamless felt shoes."  
(Une forme pour les souliers de feutre sans couture.)

Claim.—The combination of the parts A B and C, of a last in the manner specified, also in the catch D.

No. 2235. JOSEPH C. TIFFANY, Portsmouth, N. H., U. S., 8th April, 1873, for 5 years: "Apparatus for manufacturing and storing illuminating gas."  
(Appareil pour produire et emmagasiner le gaz d'éclairage.)

Claim.—1st. In retort furnaces the combination and arrangement of the grate ring, and the air chamber ring H, with the fire chamber D, and the retort K, when constructed and arranged as described; 2nd. The combination and arrangement of the adjustable top J, of the furnace shell with the air chamber ring H, when constructed and arranged as described; 3rd. The combination and arrangement of the fire chamber D, the non-conducting substance between the fire chamber and the shell A, and the enveloping furnace shell A1, when constructed and arranged as described; 4th. In gas retorts the movable bottom K1, in combination with the shoulder M, when constructed and arranged as described; 5th. In the waste bowl P, channelled radially upon its lower surface as described; 6th. The protector T, in combination with a retort when constructed and arranged relatively with the retort as described; 7th. The stationary bottom D, and movable crown or head L, of a gasometer connected together by a flexible curtain or body K, said curtain being guided in its vertical movement by loops or eyes Q, travelling on guide stems P; 8th. The flexible body K, of the gasometer secured to the bottom D, and movable head L, by clamping bands or rings M; 9th. The bottom D, of a gasometer made concave or corrugated for the reception of condensed material or substance; 10th. A screen or false bottom arranged and supported at or near the bottom of a gasometer; 11th. The combination with a concave or corrugated bottom D, of the diaphragm or false bottom R; 12th. One or more siphon or discharge tubes S, combined with the bottom D, of a gasometer; 13th. The movable crown or top L, of the gasometer consisting of a skeleton metallic head and a flexible covering attached to the same; 14th. One or more hoops or bands connected with the flexible curtain of a gasometer.

No. 2236. HENRY O. FREEMAN, Sherburne, N. Y., U. S., 8th April, 1873, for 15 years: "Process of making cheese."  
(Procédé pour faire le fromage.)

Claim.—The art of manufacturing cheese by treating an emulsion of skim milk, and fat with rennet as described.

No. 2237. ADAM BULMAN, Newburgh, N. Y., U. S., 8th April, 1873, for 15 years: "A steam lighter for loading timber in vessels."  
(Une barge à vapeur pour charger le bois dans les vaisseaux.)

Claim.—The floating steam lighter, C1, C2, C3, with holstways Y1, Y2, E E, carriages D1, D2, with rollers r, r, yokes T1, T2, with the attachments to hold the lighter to the vessel in connection with steam engine B, boiler O, and hoisting rigging Q.

No. 2238. SALMON B. ROWLEY, (Assignee of Lewis F. Betts), Philadelphia, Pa., U. S., 8th April, 1873, for 5 years: "A sheet metal screw ring for Jar covers."  
(Cercle de tôle en vis pour les couvercles de jarres.)

Claim.—A new manufacture in a sheet-metal screw-ring, made of a strip of metal and having a lug b1, formed by bending the tongue, which locks the opposite ends of the strip together. Also in the retention of the strip in its annular form during the threading process by a lip, at one end of the strip, passing through a slot near the opposite end as set forth.

No. 2239. ISAIÉ FRECHETTE, St. Hyacinthe, Que., 8th April, 1873, for 5 years: "A Shingle Mill."  
(Une machine à bardeaux.)

Claim.—1. Les roues à double friction a et b; 2. Les roues à double friction a et b, en combinaison avec le bras g ou son équivalent et le frein F, ou son équivalent avec ou sans le coussinet; 3. La grappe n; 4. Le crochet i, ou son équivalent attaché au bras pivoté k ou son équivalent, A; 5. Dans la grappe n, attachée à un frein mobile, combinée avec le rouleau supérieur q, ou le rouleau inférieur p, ou leurs équivalents.

No. 2240. EDWARD T. GILMORE, Westborough, Mass., U. S., 8th April, 1873, for 5 years: "An Adjustable Spring Bed Bottom." (Un fond de lit à ressorts.)

By the action of tension spring levers the webbing is always kept tight, the heli-conical springs are retained in an upright position and the end slats are prevented from assuming an outwardly inclined position when the bed is used.

Claim.—1st. The tension spring levers *b*, in combination with the webbing *c*, and slats *d*; 2nd. The combination of the spring *b*, tension spring levers *b b*, and plugs *c c*, slats *d* and webbing *c*, arranged and operating as described.

No. 2241. ASHLEY D. COLE, Toronto, Ont., 8th April, 1873, for 5 years: "A Turbine Wheel." (Une turbine.)

Consists in adjustable chutes or gates connected by levers to a movable ring operated by a rack and pinion.

Claim.—The combination of the pinion *t*, rock *k*, rings *f*, rods *g*, levers *e*, for operating the gates *a*, as specified.

No. 2242. CARL W. VOLNEY, Brockville Ont., 8th April, 1873, for 5 years: "Apparatus for Manufacturing Nitro-Glycerine." (Appareil de fabrication de la nitro-glycerine.)

The object of this invention is to avoid the decomposition and danger arising in the manufacture of nitro-glycerine under the ordinary processes.

Claim.—1st. The arrangement and combination of the injecting tube *g*, and mixing shaft *d*, revolving in opposite directions whereby the glycerine is fed to the acids and mixed by circuitous motion; 2nd. The injecting tube *g*, having a circuitous motion in the vessel *a*, at or near its bottom to distribute the glycerine; 3rd. The combination of the funnel *c*, valve *v*, injecting tube *g*, hollow mixing shaft *d*, and bevelled gear wheels *f*, operating as set forth, whereby the glycerine is simultaneously fed and mixed with the acids.

No. 2243. RICHARD WARMINTON, Montreal, Que., 8th April, 1873, for 5 years: "A Knife Opening Can Top." (Couvercle de boîte à conserve s'ouvrant avec un couteau.)

Claim.—1st. A can top *d*, from which the cover *g*, is cut at a single stroke; 2nd. Combination with the can top *d*, the lugs *c*, and the cover *g*, with the indentations *h*; 3rd. Combination with the can top *d*, and the cover *g*, the small groove *e*, to receive a slight coat of solder, to permit the opening of the can, without spoiling the cover or the edges of the can top.

No. 2244. DANIEL M. LAMB, Strathroy, Ont., 8th April, 1873, for 5 years: "Water Proof Gum." (Une gomme hydrofuge.)

Manufactured from the milk weed or from the seeds or other parts of plants possessing similar properties.

Claim.—1st. The process of producing a vulcanizable water proof gum by the fermentation of fibrous or other matter in which it is contained; 2nd. The elastic vulcanizable water proof gum produced by the fermentation of the fibrous or other matter, in which it is contained.

No. 2245. OEL B. AUSTIN, Potsdam Junction, N. Y., U. S., 12th April, 1873, (Extension of Patent No. 2121 for a second period of 5 years.) "A Horse Rake." (Un râteau à cheval.)

No. 2246. OEL B. AUSTIN, Potsdam Junction, N. Y., U. S., 13th April, 1873, (Extension of Patent No. 2121 for a third period of 5 years.) "A Horse Rake." (Un râteau à cheval.)

No. 2247. GEORGE BOOTH, Toronto, Ont., 12th April, 1873, for 5 years: "A Fire Extinguisher." (Appareil pour éteindre les incendies.)

Claim.—1st. A hermetically sealed acid pot *a*, in combination with the pointed rod or pin *c*; 2nd. The application of the siphon shaped pipe *c*, to the escape cock *b*.

No. 2248. HENRY BOLTON, Elizabethtown, Ont., 12th April, 1873, for 5 years: "A Carriage Dashboard." (Garde-crotte de voiture.)

Claim.—An improved dashboard, of which the frame *a*, is made of cast metal, as described, and the panels *c c*, are cut from sheet metal the proper size and soldered into the frame.

No. 2249. WARREN O. CAMPBELL, Montgomery Vt., U. S., 12th April, 1873, for 5 years. "A compartment milk pan." (Boîte à lait à compartiments.)

Claim.—1st. The pans *a* and *e*, with divisions *c*, and diaphragm *f*, inlet *e*, outlets *e* and *f*, pipes *f* washer or stuffing box *g* and pipe *h*, in combination with platform *b*, arranged to be raised and lowered as described; 2nd. The pans *a* and *e* placed on any stationary platform with division *c*, inlet *e*, outlets *e* and *f*, pipes *f*, with washer or stuffing box *g*, pipes *h*, and diaphragm *f*; 3rd. The pan *a*, diaphragm or diaphragms *f*, opening or openings *g*, and pipes *h*.

No. 2250. CHARLES H. PERKINS, Providence, R. I., U. S., 12th April, 1873, for 5 years. "Manufacture of Horse Shoe Nail." (Fabrication du clou à cheval.)

Claim.—1st. In forming a sheet of metal with ribs or pairs of ribs, arranged parallel to each other and transversely of the grain of the metal, (all essentially as shown in figures 1 and 7) and next separating such sheet between the ribs of each pair into sections (having the form indicated by figures 2 and 3), and next, cutting each or either of such sections crosswise, alternately from one rib to and through the other (as indicated by the lines *C*, in figure 4) such producing blanks having the grains of the metal running lengthwise of the shank and head of each, also in the blanks, made as described by said process, and subsequently pointed and hammered or reduced to the necessary form or finish for use.

No. 2251. BENJAMIN PRINCE, Almonte, Ont., 12th April, 1873, for 5 years. "Manufacture of Woven Fabrics." (Fabrication des tissus.)

Claim.—The peculiar system of interchange or weaving of the weft threads with the warp threads, whereby in each *r* and of five weft and four warp threads, wefts Nos. 1, 3, and 4, alternate with each of the warps, and weft No. 2 passing over No. 1 warp, and No. 5 weft over No. 3 warp; and under the interrening warps as set forth, for the production or manufacture of a cloth in character as specified.

No. 2252. GEORGE MACKAY, Woodstock, Ont., 12th April, 1873, for 5 years. "A Ribbon Box." (Une boîte à ruban.)

Claim.—The combination of the circular cards *A*, with the spindle *B*, and rings *C*, enclosed in a suitable box *D*.

No. 2253. CORNELIUS E. HAYNES, Boston, Mass., U. S., 12th April, 1873, for 5 years: "A Clothes Wringer." (Machine à tordre le linge.)

Consists of a furcated base or clasp for attachment to a tub, provided with a peculiar clamping latch or cam, and an S shaped spring for supporting the rolls, and pivoted to a furcated base by means of a vertical bolt.

Claim.—1st. The spring consisting of the two bows and the bends *h, h*. 2nd. In combination the spring *B*, furcated block *A*, and latch or clamp *c*, the whole operating as explained.

No. 2254. JAMES J. CARTER, Seaforth, Ont., 12th April, 1873, for 5 years: "Side return flue salt evaporator." (Évaporateur à tuyau de retour latéral pour le sel.)

The object being to utilize the heat from the furnaces for heating the evaporating pans.

Claim.—The construction of evaporating furnaces, the return flues *I, I*, arranged and formed within and against the side walls *A, A*, to pass to chimneys *K, K*, at the two front corners of the furnace block in combination with the fire chambers *C*, and evaporating pans *L*.

No. 2255. HENRY FRASER, Pictou, N. S., 12th April, 1873, for 5 years. "A Door Latch." (Une planche de porte.)

Claim.—1st. The friction roller *H*, applied to the catch piece of a latch for raising the latch bar *B*, when the door is being closed; 2nd. The latch bar *B*, bevelled on its underside as set forth.

No. 2256. JOHN MCKENZIE, East Missouri, Ont., 18th April, 1873, for 5 years. "A Harrow." (Une herse.)

Claim.—1st. The combination of the iron bars *A, B*, and *C*; 2nd. The combination of the double tree *D*, and regulator *E, F*; 3rd. The shape and construction of teeth and their disposition in the bars.

No. 2257. GEORGE T. SMITH, Minneapolis, Minn., U. S., 18th April, 1873, for 5 years: "Machine for dressing flour." (Un bluteau.)

*Claim.*—1st In combination with the bolting surface of a flour bolt, through which a current of air is made to pass by means of an air chamber and fan or its equivalent; a brush or a series of brushes arranged to traverse the under surface of said bolt, substantially as and for the purpose set forth; 2nd. In combination with a reciprocating bolt and an exhaust fan or its equivalent, a series of air chambers E, F, G, when arranged above said bolt, and provided with separate air outlets and suitable valves or dampers for regulating the strength and velocity of the separate air currents passing upward through the bolt cloth; 3rd. In the brushes H, H, when attached to an endless belt, chain, rope or an equivalent of the same, and travelling in one direction on ways and around pulleys, as shown in combination with a reciprocating bolt upon the cloth of which they are made to impinge as described.

No. 2258. GEORGE T. SMITH, Minneapolis, Minn., U. S., 18th April, 1873, for 5 years "Machine for dressing flour." (Un bluteau.)

*Claim.*—1st In a flour dressing machine, a shaker C, C, divided into longitudinal sections, the cloth in one section differing in fineness from that in the other section or sections for receiving and bolting flour of different grades; 2nd. In combination with a reciprocating flour bolt divided into sections, an upper transverse feeding bolt which receives the meal and delivers it to the lower bolt in different grades of fineness; 3rd. In combination with the shaker the inclined wing board e, e, for the purpose of increasing the draught of air at the throat, through which the bran passes after leaving the bolt; 4th. The combination with the shaker, the brushes F, crank wheel E, and pitman f.

No. 2259. ALFRED RICHARDSON, London, Ont., (Assignee of Thomas F. Nicholl,) Denver, Col., U. S., 18th April, 1873, for 5 years: "Improvement on Washing Machines." (Perfectionnement des machines à laver.)

The washer is made of sheet tin, having an upper and two lower flanges, either straight or curved, and proportioned to the size of the boiler. The water boils from the centre of the boiler upwards on the inside of the washer returning on the outside to the bottom and forms a complete circuit, rendering the ordinary hand rubbing unnecessary.

*Claim.*—The washer B, upper flange C, lower outside flange D, and inside flange G, and the manner in which washer B, is constructed and applied for the purpose of self-washing.

No. 2260. DAVID WATSON, London, Ont., 18th April, 1873, for 5 years: "Process for separating and recovering the waste alkali or caustic soda used in the refining of coal oil." (Procédé de réification de l'alkali ou de la soude caustique employé dans le raffinage du pétrole.)

*Claim.*—1st. The recovery of the soda in the application of heat to the black liquid in an iron vessel, until the density ranges from 30 to 55 degrees Baumé's hydrometer; 2nd. The application of saltpetre to the caustic lye for bleaching of the same; 3rd. The recovery of the lead in the further application of heat to the deposit or residue from first treatment, until the temperature ranges between 500 and 550 degrees Fahrenheit.

No. 2261. MATTHEW WAKEFIELD, Toronto, Ont., 18th April, 1873, for 10 years: "Slide Valve Reliever." (Boîte supplémentaire de tiroirs de vapeur.)

*Claim.*—1st. The attachment of the cylinder A, to the top of the valve chest; 2nd. the combination of the piston B, connecting rod D, and slide valve C.

No. 2262. JONATHAN MILLER WATKINS and JOHN X. TUCKER, Buffalo, N. Y., U. S., 18th April, 1873, for 5 years: "A Tea and Coffee Press." (Appareil pour l'infusion du thé et du café.)

*Claim.*—1st. The combination with the tea and coffee reservoir A and water receptacle c, of the closed and perforated press cup E, suspended from the latter; 2nd. The combination with the coffee reservoir A, water receptacle c, and filtering cup E, perforated at the top and bottom of a tight deflecting cone f, arranged at the latter; 3rd. The arrangement with the closed filtering cup E, provided with the deflecting cone f, of secondary cone g, perforated at the base; 4th. The combination with the flanged cover D, d and receptacle c, of the yielding ring b, secured to the latter and forming a V-shaped seat for the flange of the cover; 5th. The combination with the closed water boiler N, and liquid receptacles A, A, of the depressed cup q, perforated at the bottom for receiving the displaced water.

No. 2263. MALCOLM FRASER, Sutherlands River' N.S., 18th April, 1873, for 5 years: "A Solar Compass Dial." (Un cadran solaire.)

*Claim.*—1st. The hour circle B, and quadrant C, each having scales of degrees thereon, and adjustable on a base and pedestal A; 2nd. The declination arch E, inscribed with degrees and hour pointer J, centrally pivoted to the hour circle b, 3rd. The sun pointer F, pivoted to the declination arch E, and provided with a shadow indicator or disc H; 4th. The combination of the sun pointer F, declination arch E, hour circle B, quadrant C, and base A, all arranged and operating as set forth.

No. 2264. JOHN DENNIS, Newmarket, Ont., 18th April, 1873, for 5 years: "Fan Pier Bridge." (Pile de pont en éventail.)

The object of the invention is to spread the supporting power more broadly under the bridge or weight to be supported and at the same time to reduce the foundation, and also the obstruction in the water way to a minimum.

*Claim.*—1st. The spreading of the bents in the form of a fan; 2nd. The introduction of the oakum or other similar material saturated in coal tar and the box of tar into the mortise; 3rd. The throat or gutters d, combined w. the throat g, also the weathering i, combined with the throat g; 4th. In the aprons f, combined with the throat or gutter d.

No. 2265. MOLT B. BROOKS, Brockville, Ont., 18th April, 1873, for 5 years: "A Revolving Extension Table Top." (Tablier de table à rallonge à révolution.)

*Claim.*—An improved table top revolving on the centre of the frame with hinged leaves, which may be folded upon the frame as shown b b, and c c, fig. 2, or turned down into position for use as shown in the dotted lines b b and c c, fig. 2, or extended the whole size of the leaves as shown in fig. 1, by turning the top at right angles to the frame, also in the support bars D D, in combination with the revolving top, the whole as described.

No. 2266. JOSEPH B. SARGENT, New Haven, Ct., U. S., (Assignee of William E. Sparks), 18th April, 1873, for 10 years: "A Door Bell." (Une sonnette de porte.)

*Claim.*—1st. In combination with the bell, hammer and escapement for operating the hammer, the lever J, N, one arm of which extends within the periphery of said bell, so as to operate said escapement which with the hammer is also within the periphery of the bell, the other arm being outside the door to serve as a pull; 2nd. In combination with the arm D, of a bell hammer the lever E, and sliding piece F, operating to raise the bell-hammer and allow it to escape.

No. 2267. JOSEPH BROTHERS, Milton, and WILLIAM DOWNS, Trafalgar, Ont., 18th April, 1873, for 5 years: "A Threshing Machine" (Machine à battre les grains.)

For more effectually agitating the straw as it passes through the machine and separating the grain from it than by any other process now in vogue.

*Claim.*—1st. The arrangement of the first grain belt I, running on the pulley F, and shaft D, as shown in combination with a grain separator; 2nd. In combination with the canvas-belt I, the arrangement of the picker B, and drop H, as specified.

No. 2268. ALBERT E. BRAYMER, Chicago, Ill., U. S., 18th April, 1873, for 5 years: "Railroad Fish Plate Fastener." (Ajustage des éclisses de rails de chemin de fer.)

Consists in securing the fish plates to the rails by gibs and keys instead of by means of the customary bolts and nuts.

*Claim.*—The fish plates B, secured to the rails A, by the gibs C, and keys D.

No. 2269. JOHN DEWE, Ottawa, Ont., 18th April, 1873, for 5 years: "Machine for economizing fuel." (Appareil pour économiser le combustible.)

The machine being placed in, or affixed to a grate stove, or furnace with the open bottom, exposed to the draft, fills up a portion of the space occupied by the fuel, thereby decreasing the quantity burned whilst the air passing through the open end, and perforated sides perfects the combustion and increases the heat.

*Claim.*—The hollow iron or metallic box case, or cone open at the bottom or end a, and perforated at the sides b, of a shape and size adapted for the grate stove or furnace in which it is to be used.

No. 2270. DAVID CROWELL, Florence, Ont., 18th April, 1873, for 5 years: "Improvements in Vehicles." (Perfectionnements aux voitures.)

The invention relates to the construction of the wheel hubs, axles, and running gear of vehicles.

*Claim.*—1st. In constructing the hubs of the wheels in two parts, B, and D, the part B, having raised flanges to receive between them the spokes C, and the other secured thereto by bolts a; 2nd. In constructing the axle E, in two parts and connecting the ends by a thimble or sleeve K, one part having a rotary motion in the sleeve and collar J, the other keyed fixedly therein; 3rd. In providing the axles E, with recessed journals to run in boxes formed in the jacks H, which are secured to the braces or hounds T; 4th. In constructing the rear brace, with a tube or sleeve L, to receive the reach bar J.

No. 2271. ALVAN H. MOORE, Magog, Que., 18th April 1873, for 5 years: "A Washing Machine." (Une machine à laver.)

*Claim.*—A new combination of gearing or cog-wheels D, rollers C, and springs I, I.

No. 2272 EDWARD L. STEVENS, MILTON ANDERSON and HENRY R. FAWCETT, Sackville, N. B., 22nd April, 1873, for 5 years: "A Cooking Stove." (Un poêle de cuisine.)

Consists in changing or adapting the stove to burn hard and soft coal or wood.

*Claim.*—1st. The combination of the T ash pit, the front doors A, the vertical damper and shaker b, the hole in bottom of stove m, the grate figure 4, the air holes and buttons C, the damper with ratchet and pawl below the oven d, to burn coals with stoves having elevated ovens or ovens setting on top of stoves; 2nd. The combination of the T ash pit, the front doors a, the air holes and buttons C, and perforated bed plate figure 6, instead of the grate figure 4, and vertical damper to burn wood with stoves having elevated oven or ovens on top.

No. 2273. MARTIN RAE, Uphall, Linlithgow, Scotland, 22nd April, 1873, for 5 years: "Preparation of Fuel." (Préparation du combustible.)

*Claim.*—1st. The preparation of bituminous mastic from shale tar and the use and application of the same in conjunction with either coal dust, small coal, dress, coal slack, bituminous shale, spent shale, bituminous "blac," or coaly "blac," peat, spent tar, saw dust and coke breeze, all by preference in a state of division or with mixtures of two or more of the same for the preparation of fuel; 2nd. The novel combination and arrangement of the steaming vats a, distilling vats c, heated respectively by steam coils at, and c', or their equivalents condenser d', tank f and oil store tank d; 3rd. The hopper e, with rollers e', and heater g, with chains and scrapers p in combination with pipe h, pug mill s, and cock k; 4th. The fuel press k', acting in combination with double acting ram t, drying oven h, and travelling table m, or its equivalent; 5th. The combination of a roller press o, separator n, and shoot q, with hopper e, and the other parts of the apparatus for the preparation of peat as described.

No. 2274. JACOB B. HUNSBERGER, ELIAS LATSHAW, DANIEL B. LATSHAW and JACOB LATSHAW, Vincent, Pa., U. S., 22nd April, 1873, for 15 years: "Dust Conveyer for threshing Machines" (Conduit à poussière pour les machines à battre.)

*Claim.*—1st. The combination with the shaker of a threshing machine, of the cap D, a dust conveyer, a suction fan, and a spout through which the dust is carried outside of the barn; 2nd. In combination with the fan and conveyer the adjustable spout i, which carries the dust outside the barn; 3rd. Combination with the feed and discharged openings of a threshing machine the dusting attachment described, consisting of the cap or caps, box or conveyer with flues or passages fan and spout constructed and arranged as and for the purposes set forth.

No. 2275. JOHN J. HABICH, Waterloo, Ont., 22nd April, 1873, for 5 years: "A Blind Fastener." (Ajustage des persiennes.)

*Claim.*—The combination of the grooved square bar a, with the slat b, and look c; 2nd. The combination of the grooved roller bar D, with slat E, and spring pin F; 3rd. The spring pin F.

No. 2276. MOSES W. DILLINGHAM, Amsterdam, N. Y., U. S., 22nd April, 1873, for 5 years. "A Broom Screw Ferrule." (Douille de balai à écrou.)

Consists in a ferrule constructed with a screw thread on its inner side and adapted to clasp over and screw into the butt of the broom straw, upon the handle holding the same securely and dispensing with the wires and tacks usually employed.

*Claim.*—The screw ferrule A, constructed and adapted for use in the manufacture of brooms as specified.

No. 2277. JAMES FINDLAY, Toronto, Ont., 22nd April, 1873, for 5 years. "Shaft Coupling and Fastening." (Ajustage des arbres de couche.)

*Claim.*—The application of friction rollers C, C', C'', to metal collar B, adjustable collar D, and wheel or pulley P.

2278. CHARLES E. PATRIC, Springfield, Ohio, U. S., 22nd April, 1873. (Extension of Patent No. 238, N. B., for 5 years.) "Grain and Seed Drill." (Traceur pour les grains et les graines.)

Capable of planting and sowing all descriptions of grain at a uniform depth and of distributing the grains either thickly or thinly as may be desired by automatic arrangement affected by changing the gear of the distributing shaft which is actuated by the revolution of the ground or driving wheels.

*Claim.*—1st. The novel combination and arrangement of frame work a, ground or driving wheels b, seed box C, grain or seed distributors d, grain spout e, flexible conductor tubes f, ground tubes g, chains or analogous suspenders h, roller i, draw bars n, locking stud u, spiral spring o, pivot connections l, 2, 3, sliding hopper bottom p, bevelled blocks q, side strips r, shafts s, gear wheels t, t', t'', lever t, sector u, spring bar v, lever w, geared wheels u', racks u'', cam B, lock N, guard V, pawl W, staple W', all working together or independently in the manner described; 2nd. The distribution in its novel combination and arrangement of side pieces A and B, wheel 4, hub 5, double flanged periphery 6, projection 7, conducting chamber 8, boss 9, chamber 10, projections and recesses 11, slots 12, diaphragm 13, all working together or independently in the manner described.

2279 LAFAYETTE I. STONE, Hatley, Que., 22nd April, 1873, for 5 years: "An Axle Set." (Devers d'essieu.)

Relates to a device by which the pitch of an axle may be determined according to the radius and disk of the wheel.

*Claim.*—1st. The arms A, and B, pivoted at one end, the latter provided with scales G and H, and operating as described, by which to determine the pitch of the axle; 2nd. The slotted segment plate D, and thumb screw device E, F, applied as set forth to the arms A and B, for securing the arms in an adjusted position as specified.

No. 2280. NELSON JOHNSON and GEORGE D. MAITLAND, Newmarket, Ont., 26th April, 1873, for 5 years: "Pump Log Coupling." (Assemblage des tuyaux de pompes en bois.)

Forming a collar or ferrule through which the pump rod works, preventing the rod from wearing the log, also enabling a smooth joint to be made on the outside so that no dripping water can find lodgment in the joints and rot the logs above water.

*Claim.*—The hollow metal coupling figs. 1, 2 and 3, formed of greater diameter in the centre than at the ends, with the flange D, round the outside of the centre.

No. 2281. MARY G. BRIGGS, wife of EVANS E. BRIGGS, Boston, Mass., U. S., 26th April, 1873, for 5 years: "Improvement in Gaiters." (Perfectionnement dans les guêtres.)

*Claim.*—The new gaiter as described, provided with the extension or toe-cap b, c, and the sole and heel openings e, f.

No. 2282. HUBERT LAFONTAINE, Montreal, Que., 26th April, 1873, for 5 years: "A Railway Turn-Table." (Plaque tournante de chemin de fer.)

The rings of balls resist the pressure of the weight of the engine placed on the platform, distributing the load and diminishing the friction on the travelling bearers.

*Claim.*—The combination of balls F, placed in concentric grooves on the foundations d, and the grooved saddles e.

No. 2283. JOHN MCFARLANE, Otterville, Ont., 26th April, 1873, for 5 years: "Machine for Cutting Bolts and Rivets." (Machine a couper les boulons et les rivets.)

*Claim.*—The combination of the lever A with the rest B, B, and the sliding bit or cutter D, in such a manner as to impart to the cutters D and B, an amount of power and a facility of application not yet attained by any machine or instrument now in use for the same purpose.

No. 2284. HUGH M. SWEENEY, Worcester, Mass., U. S., 26th April, 1873, for 5 years: "A Book Stand." (Un lutrin.)

*Claim.*—1st. The arrangement of the hinged plates *i, k, i, k*; 2nd. The construction and arrangement of the hinged arm *d*, forked arm *e*, and thumb screw *p*, in combination with the grooves *h, h*; 3rd. The leaf-holder consisting of the rod *m*, cross head *p*, hinged and grooved arm *q*, head *r*, spring *u*, and plate *t*, as described

No. 2285. ALONZO S. GEAR, Boston, Mass., U. S., 26th April, 1873, for 15 years: "Stone Cutting Apparatus." (Appareil à tailler la pierre.)

*Claim.*—1st. The described rotary cutter-head, studded with diamonds in combination with adjustable mechanism for moving the same vertically and laterally, and a movable carrying bed for feeding the stone to be cut; 2nd. The rotary cutter-head, composed of shaft *D*, hub *L*, and sectional rim pieces *K, K, K*, studded with diamonds, having a bevelled surface and connected to the hub by means of set-screws or their equivalents in the manner described; 3rd. The chilled cast-iron rotary wedge or disc *N*, in combination with a rotary cutter head studded with diamonds; 4th. The cutter head *P*, with its diamond or carbon points *p, p*, set at low angles relatively to the cutting path, and with edges out of radial lines; 5th. In combination with the carbon pointed or studded cutter head, the guide collar *C*; 6th. The improvement in the art of dividing stone, &c., consisting in giving rotation to a diamond studded spindle *Q*, and relative movement between the stone and the rotating spindle in the manner described to form angular or sinuous surfaces as set forth.

No. 2286. ALONZO S. GEAR, Boston, Mass., U. S., 26th April, 1873, for 15 years: "Machine for Moulding, Carving, &c." (Machine à mouler, sculpter, &c.)

*Claim.*—1st. The guide *a*, in combination with the vertically moving cutter spindle when arranged to be adjusted, relatively to the cutter in the manner described; 2nd. Combination with the intermediate shaft *k* and arm *p*, the set-screws *p*, for adjusting the shaft in position; 3rd. The mechanism for locking together the ratchet-bar *f*, and the arm or frame *h*; 4th. Combination with the clamp frame, the springs *g, g*; 5th. The dovetailing clamp frame described having two separate clamps, in combination with the adjustable guides *p*; 6th. Combination with the clamp frame described, the adjusting screws or pins *b*, for placing the works in position as described

No. 2287. ALONZO S. GEAR, Boston, Mass., U. S., 26th April, 1873, for 15 years: "Machine for Turning Stone." (Machine à tourner la pierre.)

*Claim.*—In combination with an engine-lathe *A*, a rotary cutter head *D*, studded with diamonds for turning stone in the manner described.

No. 2288. HIRAM B. SEVEY, Vienna, Me., U. S., 26th April, 1873, for 5 years: "Machine for Cutting, Punching, and upsetting Metals." (Machine à couper, percer et refouler les métaux.)

*Claim.*—1st. In the combination of the lever *C*, with the link *f*, eccentric *g*, rod *i*, and vice *b, a*; 2nd. The combination of the lever *c*, link *f*, eccentric *g*, with the rod *k*, and puncher *j*; 3rd. The combination of the lever *c*, link *f*, eccentric *g*, rod *k*, piece *p*, arm *o*, with the cutters *o*, *n*, *s*, *z*, and spring *m*; 4th. The upsetting devices consisting of the cans *u, v*, piece *p*, and rod *k*, eccentric *g*, link *f*, and lever *c*; 5th. The countersink *b*, *d*, *o*, *z*, *z*, arranged as set forth.

No. 2289. PHILIP NICOLLE, Lindsay, Ont., 26th April, 1873, for 5 years: "Winter Attachment to Bee-Hives." (Disposition pour des ruches pour l'hiver.)

*Claim.*—1st. The improvement of the lower attachment Fig. 1; 2nd. The glass-light *A*, the sliding-door *B, C, e, e*, the strips elevating the perforated bottom. 3rd. The elevated adjustable perforated bottom *D*, the alighting board *F*, the entrance hole *G*, the back-strip of wood *H*, the bottom-space *V, V*; 4th. The improvement of the upper attachment Fig. 2, the honey-board *o, o*, the box *Q, Q, Q*, the metallic pitched-roof *R, R*, the space for packing *T, T*, the air-hole *S*

No. 2290. JAMES NOAD, London, Eng., 26th April, 1873, for 5 years: "Manufacture of Paper Pulp." (Fabrication de la pulpe à papier.)

*Claim.*—1st. The manufacture of paper pulp from wood reducing the blocks or pieces of wood *A*, to a fibrous condition by means of cutters *f*, constructed, arranged and operating as described while the fibres are saturated with a solution of chloride of lime or other suitable liquid and thereby converted into pulp, or half stuff, without any subsequent treatment, 2nd. An apparatus or machine

provided with toothed-cutters *f*, constructed and arranged in relation to each other and operating to reduce the wood to a fibrous condition; 3rd. The said apparatus or machine the reciprocating table *b*, provided with the cutters *f*, the frame of bars *g*, moving to and fro laterally or across the said table *b*, the inclined or oblique bar *k*, and rollers *l*, for producing the said motion, the weighted levers *h*, and other parts, combined and operating together as set forth.

No. 2291. DARIUS W. SIPRELL, Rimouski, Que., 29th April, 1873, for 5 years: "Machine for Boring the Beds of Mines." (Machine à creuser les chambres des mines.)

*Claim.*—A chisel *B*, working circularly, horizontally up and down, right and left by means of a screw *G*, said chisel *B*, working in a mortise passing through a bar of iron or steel and regulated at the top of the bar as specified and described.

No. 2292. JAMES L. CATHCART, Washington, D. C., U. S., 29th April, 1873, for 5 years: "A Self Releasing Hook." (Crochet à détente automatique.)

*Claim.*—1st. A self detaching hook, constructed with a pivoted point so formed and applied that the preponderance in weight will cause the said point to fall and thereby release its burden; 2nd. The pivoted point *B*, and arm *D*, formed together and applied to the hook *A*; 3rd. The hook *A*, point *B*, and arm *C*, constructed and combined as described, so that the preponderance in weight of the said point beyond its pivot will cause said point to fall and release the hook when relieved of the weight of the burden

No. 2293. JOSEPH GRAY, Toronto, Ont., 29th April, 1873, for 5 years: "Fire-Place Heater." (Une grille de foyer.)

Relates to the peculiar combination of an air-chamber and fire-place chimney by which all the advantages of a hot-air furnace are secured without affecting the draft in the chimney.

*Claim.*—The placing of tubes or pipes *D*, or a chamber of any description, within a chimney and connecting the interior of the same with the atmosphere in such a manner as to cause a draught of air to pass through the same, which air when heated may be utilized for warming the building as described.

No. 2294. WILLIAM J. WOODLEY & JULIUS JACOBS, San Francisco, Cal., U. S., 21th April, 1873, for 5 years: "Fibre for Upholstering Purposes." (Matière textile pour les tapisseries.)

*Claim.*—A new article of commerce, in the fibrous substance made from the bark of the cedar tree and its various species as described for the purposes set forth

No. 2295. ASA F. REYNOLDS, Woodstock, Ont., 29th April, 1873, for 5 years: "A Lamp Glass" (Une cheminée de lampe.)

The object of the invention being to enable the glass to expand or contract without fracture.

*Claim.*—The vertical opening or slit *A*, either square or on a bevel.

No. 2296. GEORGE STEWART, Hullett, Ont., 29th April, 1873, for 5 years: "A Land Roller." (Rouleau à terre.)

The bearings, shafts and circular bars are so arranged that by simply taking out three bolts the whole machine can be taken apart. When the machine is used in rolling grain both circular bars will be loose at the rear end which adapts the rollers to roll uneven land with a uniform pressure.

*Claim.*—1st. The moveable circular bars *d, d*, in combination with the rollers *a, a*, and tongue *k*; 2nd. Combination with the bars *d, d*, the hinging of the rollers *a, a*; 3rd. The arrangement and combination of the uprights *l, l*, dividing bar *s*, spring *o*, and braces *j, j*; 4th. The arrangement of securing the bars *d, d*, by a bolt at the outer end; 5th. The arrangement of securing the bars *d, d*, to the uprights *l, l*, for the purpose specified.

No. 2297. WILLIAM E. JAMES, Peterborough, Ont., 29th April, 1873, for 5 years: "A Hose-Hydrant." (Une borne-fontaine.)

*Claim.*—The attachment of a hydrant (of form shown in drawings) to hose at *A*, whereby two or three hose-branches attached at *A, A, A*, with appropriate nozzles, may be worked from one main hose connected to engine or other propulsive power

No. 2298. GEORGE H. PIERCE, Richmond, Que., & GEORGE O. DOAK, Coaticooke, Que., (Assignees of Willard Corney & Sidney S. Turner), 29th April, 1873, for 5 years: "Stop Motion for Looms." (Mouvement des touches des métiers.)

Claim.—1st. In combination with the lay of a loom, the vertical reciprocating rods E, F, so arranged and operating that as the lay beats up they shall project above the lay and thus prevent the threads, that have already been beaten up from falling back upon the lay and thus interfering with the action of the web detector; 2nd. The combination of the bar A, with the ratchet comb H, A, A, the sliding pin N, and lever M, operating as described.

No. 2299. GEORGE W. McDOWELL & ROBERT J. CAMPBELL, Chicago, Ill., U. S., (Assignees of Robert W. Davis), 29th April, 1873, for 5 years: "Excavating Machine." (Machine à excavation.)

Claim.—1st. In combination with the dirt-receiver E, the revolving series of pivoted elevating buckets G, controlled by springs G, to admit of the yielding of the buckets; 2nd. The combination with the spring held pivoted buckets G, of the eccentrically-hung rising and falling scraper I, and the dumping dirt-receiver F; 3rd. In the dirt-receiver F, fast to the main axle D, in combination with the crank or arm B, the stops C, C, and the loose running wheels C, C; 4th. The knuckle-jointed pin H, carried by the bucket frame, in combination with the loose running-wheel C, arranged to engage with said pin when the latter is swung upwards to effect the rotation of the buckets; 5th. The combination with the dumping dirt receiver E, and independently revolving bucket frame F, of the pin K, arranged to move inwards for action against a stop S, to effect the dumping of the receiver as specified.

No. 2300. GEORGE L. WITSIL, Beverly, N. J., U. S., 29th April, 1873, for 15 years: "A Washing Machine." (Machine à laver.)

Claim.—The combination and arrangement of the lever C, connecting rods C, C, and rollers B, whereby one set of the rollers is caused to remain stationary while the others are in motion and vice versa.

No. 2301. JAMES WEBSTER, Birmingham, Eng., 29th April, 1873, for 5 years: "Process of Refining Metals and apparatus therefor." (Procédé d'affinage des métaux et appareil pour cet objet.)

More especially intended for the refining or purifying of iron. The gas used is obtained from the admixture of vegetable carbon with hydrochloric or nitric acid combined with atmospheric air and in some cases with the addition of ordinary coal gas.

Claim.—In the apparatus described for the purpose of applying gases or vapor to the refining or purifying of metals.

No. 2302. SOLOMON ROCK and SOLOMON TEETER, Teeterville, Ont., 29th April, 1873, for 5 years: "Boot and Shoe Counter." (Contre-fort de chaussure.)

Claim.—A toothed metal counter A constructed as, and in combination with the heel of boots and shoes as specified.

No. 2303. ROBERT R. BALL, West Meriden, Ct., U. S., 29th April, 1873, for 15 years: "A Stove-pipe Damper." (Une clé de tuyau.)

Claim.—1st. In combination with a damper for stove-pipes and similar purposes a tapering washer as seen at E; 2nd. The combination of the washer E, tapering section D, and nut F, with the spindle of a damper; 3rd. The non-conducting handle or knob J, in combination with a damper as described.

No. 2304. ROBERT MARTIN, Clinton, Ont., 29th April, 1873, for 5 years: "A Straw-Cutter." (Un hache-paille.)

Relates to the arrangement of knives on a rotary cylinder, to the construction of the feed rollers and the gear for operating same, the object being to cause the knives to cut in a line diagonal to the plane of the rollers and so to operate the feed rollers that during the cutting of the knives the feed motion shall be suspended.

Claim.—1st. The knives E arranged diagonally on and affixed to revolving discs C, and having their outer cutting edges parallel with the plane of the cut; 2nd. The combination of the ratchet wheels K, K, spring pawls Q, bifurcated arms L, L, feed arms M, shaft N, cam groove P, with the frame A, cylinder discs C, and feed roller journals C, whereby an intermittent motion is given to the feed rollers G; 3rd. The feed rollers G constructed of central cylinder a, and annular rings b, applied and fitting thereon by V, grooves and projections.

No. 2305. WILLIAM W. KITCHEN, Grimsby, Ont., 29th April, for 5 years: "A Farm Fence." (Une clôture.)

Claim.—1st. The rail trestles composed of posts A, A, base pieces B, B, and diagonal stays C, C, arranged and combined to receive the rails E, E; 2nd. The pins F inserted in the rails E and blocks G in combination with the rail trestles, constructed as specified; 3rd. The anchoring chains H applied, as set forth in combination with the rail trestles constructed as specified.

No. 2306. EDOUARD MERCIER, Springfield, Mass., U. S., 29th April, 1873, for 5 years: "Self-Operating Railway Switch." (Aiguille automate de chemin de fer.)

Claim.—In combination with the switch D, the frame H combined eccentric and crank F, eccentric V, shaft X, with handle M, and connecting rods H, W. The parts being all constructed and arranged as set forth.

No. 2307. ABRAHAM SPENCER, Grampian Hills, Pa., U. S., 29th April, 1873, for 5 years: "A Ditching Machine." (Une machine à fossoyer.)

Consists in the arrangement of the mechanism whereby the ditcher is revolved and moved forward, and in the construction and arrangement of a spring scraper for removing the dirt from the diggers.

Claim.—1st. The arrangement of a double miter wheel D, with sweep E, the miter wheel G for operating the diggers and the miter pinion b, for propelling the machine, through the means of the shaft d, worm c, and the cog-wheel H; 2nd. The combination of the scraper m, spring n, and cams i, i, on the digger-head T, all constructed and arranged to operate as set forth.

No. 2308. HENRY D. DANN, Oshkosh, Wis., U. S., and JOHN H. SWARTWOORT, Toronto, Ont., 1st May, 1873, for 5 years: "A Saw Mill Dog." (Clameau de scierie.)

Claim.—1st. The boxes B, B, provided with interlocking knives D, D, and operating in the manner set forth; 2nd. The combination of the box or case A, bars B, B, with interlocking knives D, D, inclined slots b, b, pins, A, A, connecting bars C, C, cross-head D, and lever E; all constructed and arranged as set forth.

No. 2309. HIRAM J. LIVERGOOD, Brantford, Ont., 5th May, 1873, for 5 years: "Machine for Sharpening and Cleaning Knives." (Machine à affiler et nettoyer les couteaux.)

Claim.—1st. In the manner in which frame A is constructed as shown in drawings figure 2, in combination with the rotary knife-cleaner; 2nd. The combination of internal gearing B and D; 3rd. The wheels E, F, running in a perpendicular position on a horizontal shaft, slipped loose on a square shaft and a square hole is left in the wheels E, F, so that they may be easily removed for the purpose of renewing the cloth or chammois; 4th. The manner in which the wheels E, F, are constructed concave, or hollow so that they may be stuffed for the purpose set forth; 5th. The wire hoops H, H, which hold the chammois or cloth on the wheels E, F; 6th. The steel spring J, shown in drawings figure 1 for the purpose of giving tension pressure to the wheel E; 7th. The grindstone or emery wheel F in combination with a knife-cleaner.

No. 2310. FREDERICK PROUDFOOT, Toronto, Ont., 5th May, 1873, for 5 years: "A Smoke Pipe." (Une cheminée.)

Claim.—1st. A stamped corrugated smoke pipe of sheet metal, terracotta or other suitable material composed of sections A, A, formed by dies or stamps telescoping together, whose inner and outer surfaces are corrugated longitudinally; 2nd. Combination with such corrugated smoke pipe, a core pipe C or air-chamber internally placed as set forth; 3rd. In combination with such corrugated smoke pipe a core pipe C, provided with tubes I, funnel-shaped cap and dampers J; 4th. The combination with a stove or open fire-place or grate of the stamped corrugated smoke pipe provided with an inner core C, applied to the throat of a chimney or grate, and arranged to pass upwards through the floors or partition walls as set forth.

No. 2311. JAMES C. RANDLETT, PATRICK KELLEHER and FREDERICK H. COOMBS, Bangor, Me., U. S., 5th May, 1873, for 15 years: "Method of Manufacturing Mocassins." (Manière de fabriquer les mocassins.)

Claim.—1st. In making a mocassin boot with a bottom and tip cut as shown so as to enable them to be joined together and to the other parts of the boot by machinery as in figs. 1 and 3, 2nd. In cutting a leg for a mocassin boot in two pieces A and B, figs. 4 and 5, bringing the seams together at each side of the leg and shaped so as to allow them to be joined together and to the other parts



of the back by machinery; 3rd. In cutting the leg for a moccasin boot as in fig. 9, having one half of the back B, extending on each side of and integral with the front A, in such a manner that it can be closed up behind, lapping far enough to allow a machine to be used in closing the seam; 4th. In cutting the leg of a moccasin boot with the front A and back b integral and shaped as in fig. 10, so that the edges may be brought together and form the seam on one side of the leg; 5th. In cutting the parts A B C D E of a moccasin boot as shown in figs. 1 and 2, so that machinery can be applied to all the seams and the entire boot, sewed together by machinery; 6th. In cutting the tip d, and front A, with such reference to each other as to allow the tip to be crimped on to the front during the process of stitching; 7th. In turning the tip D on the front A of the boot or the top F of the shoe while sewing the parts together, thereby crumpling them, for the purpose of improving the shape of the moccasin; 8th. In cutting the parts F, G, H, E, to form a moccasin shoe, in which all the seams may be sewed by machinery as shown in figs. 11 and 15; 9th. In cutting the tops D, E, of figs. 13, 14 and 16 of such shape as to enable the seams of the top to be sewed up by machinery, and used in connection with the bottom I to form shoes, as shown in the said figures; 10th. In joining the top or quarter F to the bottom I, as described before the ends G, H, are sewed together, being cut and applied in such a manner as to allow of being sewed to the bottom by machinery.

No. 2312. ALEXANDER W. NICOLSON, Dartmouth, N. S., 5th May, 1873, for 5 years: "A Steam Washing Machine." (Machine à laver à la vapeur.)

*Claim.*—1st. The connection with a common cooking stove boiler A, of the inner perforated vessel or washer B, constructed with sloping sides and ends; 2nd. The connection of the loop or handle E, with the inner boiler or washer B for detaching the same from the outer boiler A; 3rd. The combination as seen at D, of the mouth or upper rim of the inner vessel or washer B with the inside of the outer boiler A.

No. 2313. HENRY H. BEACH, Rome, N. Y., U. S., 5th May, 1873, for 5 years: "Process and Apparatus for Curing Corn and other Grain." (Procédé et appareil pour conserver le blé et autres grains.)

*Claim.*—1st. The mode described of curing grain and destroying the germ therein by first subjecting the grain to the action of steam by direct contact therewith and then drying the same as set forth; 2nd. An apparatus for curing grain and destroying the germ therein, composed of a steam-heating chamber B, in combination with a drying chamber C, organized and operating as described; 3rd. The arrangement of the perforated steam-pipes C, C, within the steam-chamber, so as to equally diffuse the heat throughout the mass of grain; 4th. Combination with the drying column C, the perforated grain receiving funnel D, with sides inclined to an angle of eighty degrees or thereabout to the horizontal.

No. 2314. FRANCIS N. DAVIS, Beloit, Wis., U. S., 5th May, 1873, for 5 years: "Improvement in Oil Cloths." (Perfectionnement des prélaris.)

*Claim.*—1st. A new article of manufacture and trade in a floor covering composed of straw board in continuous lengths having a hard firm surface, painted or printed in suitable ornamental designs and coated with varnish; 2nd. In floor coverings composed of continuous lengths of straw board ornamented in suitable designs with water colors as described.

No. 2315. GEORGE W. AINSWORTH, Montpelier, Vt., U. S., 5th May, 1873, for 5 years: "A Clothes Drier." (Un séchoir à linge.)

*Claim.*—The combination of standards A, rounds B, bars C, and lock bars D, all constructed and arranged together as described.

No. 2316. JOHN OLIVER, Toronto, Ont., 5th May, 1873, for 5 years: "Art of Preserving and Drying Lumber." (Art de sécher et conserver le bois.)

*Claim.*—1st. The subjecting of the lumber in a tank, or vessel, to the action of steam impregnated with sulphate of zinc and alum under a moderate pressure in the manner specified; 2nd. The combination and arrangement with each other of the longitudinal steam heating pipes S, S, and draught pipes E, by which the lumber in the tank B, is more expeditiously and thoroughly dried than by using a coil of steam-heating pipes and the blast of a prior system; 3rd. In the combination and arrangement with each other of the steam chambers V, V, and the draught pipe E, also the steam chambers V, V, in combination with the pipes S, S, and draught pipe E.

No. 2317. JAMES A. WOODBURY, Boston, Mass., U. S., 5th May, 1873, for 15 years: "Elastic Car Wheel." (Roue de voiture de chemin de fer élastique.)

*Claim.*—1st. A car wheel made in two parts a and b, completely isolated from each other by a double flanged continuous ring of

rubber h, compressed to a density at which it is always retained part of said continuous flange d ring being forced by a projection f, on the tire into a recess d', in the hub and the whole constituting an improved article of manufacture in which all the strains to which the wheel is subjected, namely, direct radial strains, lateral strains and torsion are resisted by a part of said rubber ring; 2nd. A car-wheel with rubber or other elastic packing fitted to and inserted between the bearing surfaces of the tire, and hub portion of the wheel in such a manner that the lateral pressure occasioned by securing the parts together, shall increase the radial tension of the packing; 3rd. One or more projections i, and o, on the tire or the hub portion of the wheel, fitting into corresponding recesses d', and E, formed in the other part, with elastic packing interposed between the parts to prevent injurious movement of the tire, on the portion of the wheel; 4th. A car-wheel made in three parts with elastic packing, between them the bolts l, passing through all three of said parts; 5th. In combination with the elements of the last claim, the enlarged holes i, in the tire to prevent the bolts from coming in contact therewith substantially as described; 6th. A car-wheel made, in two or more parts with elastic packing interposed between the inner periphery of the web portion of the tire, and the hub portion, and between the sides of the web portion of the tire and flanges or binding rings formed on or secured to the hub portion, with bolts passing through said flanges or binding rings and through enlarged holes in the web portion of the tire substantially, as described.

No. 2318. WEBSTER ROBERTS, Cleveland, Ohio: U. S., 5th May, 1873, for 5 years: "Machine for making Horse Shoes" (Machine à faire les fers à chevaux.)

*Claim.*—1st. The vibratory beams C, D, and dies G, E, as arranged to operate in relation to and in combination with the lower or female die I, consisting of the sections O, P; 2nd. In the segmental gears F, H, as arranged to operate in relation to each other, and in combination with the beams C, D; 3rd. In the segmental gears T, U, as arranged in combination with the beams C, D, rack S, bed I, and rack L; 4th. In the combination of the rectilinearly reciprocating, opening, and closing female die I, consisting of the sections O, P, and two male dies G, E, to cooperate successively therewith, the one to mold the shoe and the other to crease and punch the same thereby forming or making the said article in the manner described; 5th. The slides R, Q, having therein slots b, in combination with the female die I, consisting of the sections O, P, for opening and closing the same; 6th. The female opening and closing die I, consisting of the sections O, P, pivoted to the bed I, in combination with the mechanism to impart to said die reciprocating motion, and slides R, Q, for opening and closing said die; 7th. The combination with the opening and closing reciprocating female die I, the head H, and mechanism to impart to said head the specified movement thereof; 8th. The lever I, screw b, spring c, sleeve E, stem G, and head H, constructed and arranged to operate in combination with the reciprocating bed I, and die I, 9th. In the lever a, and shank V, as arranged to operate in combination with the bed I; 10th. In the adjustable rack z, spring i, and table D, as arranged in relation to and operating conjointly with the lower die I, and upper dies E, G; 11th. The slide e, provided with a depending yoke I, to receive the clutch, the rollers a, a, in combination with the inclines g, h, in the rack L; 12th. In the lever V, rollers a, a, in combination with the inclines g, h, for the purpose of operating the clutch shifter in connection with the intermediate links and levers described; 13th. The movable shifter P, in combination with the yoke L, of the clutch; 14th. The vibrating barrel P, having a spring n, therein in combination with the head N, and stem O; 15th. The evener r, as arranged in relation to and in combination with the female die I, consisting of the sections O, P, and head H; 16th. The spring I, in combination with the stay F.

No. 2319. THOMAS W. F. SMALLWOOD, Toronto, Ont., 5th May, 1873, for 5 years: "A Suction Washing Machine." (Une machine à laver à suction.)

Consists of a vessel made of metal and worked with a wood handle inside of which seven tin tubes or suction-pipes are fastened.

*Claim.*—The tubes or suction-pipes marked 1, 2, 3, 4, 5, 6, and 7, combined with and fastened to bottom of basin or vessel marked "A," as set forth.

No. 2320. JACOB DAVIS, Florida, Mass., U. S., 5th May, 1873, for 5 years: "A Washing Machine." (Machine à laver.)

*Claim.*—1st. The novel combination and arrangement of the inclined bottom E, with the plate K, and plate l; 2nd. The construction and arrangement of the flues a, f, for the purpose of forcing the hot water through the openings j, j, upon the clothes; 3rd. The arrangement of the plates e, f, and A; 4th. The arrangement of the hinged rim d, and plate k; 5th. The guard-plate n, when combined with the bottom e; 6th. The arrangement of the valve m, with the plate l, and bottom e; 7th. The openings j, j, as combined with the plates f, and flue A; 8th. The arrangement of the washing-machine described with the pipes b and c, and vent c, for the purpose of using steam or hot-water either as heaters or for motive power.

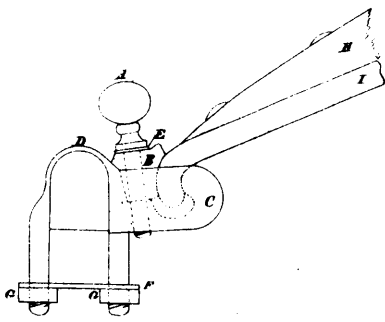
# THE CANADIAN PATENT OFFICE RECORD.

## ILLUSTRATIONS.

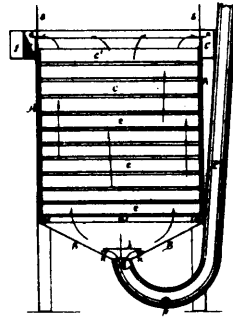
Vol. I.

JULY, 1873.

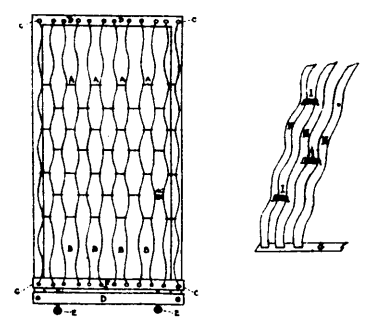
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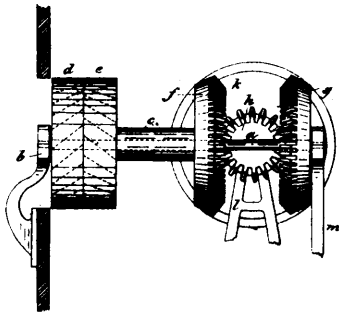
2219 Stock's Shaft Attachment for Carriages.



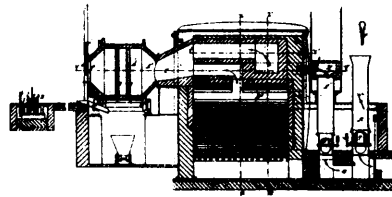
2220 Holton & Green's Fish Spawn Hatcher.



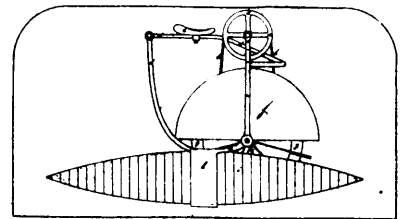
2221 Kinney's Bed, Lounge and Chair Bottoms.



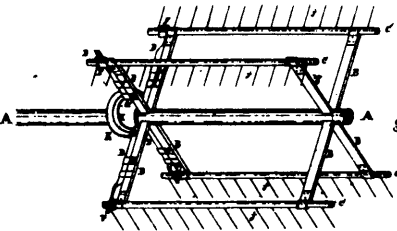
2222 Cokley, Sherlock & Casey's Water Wheel.



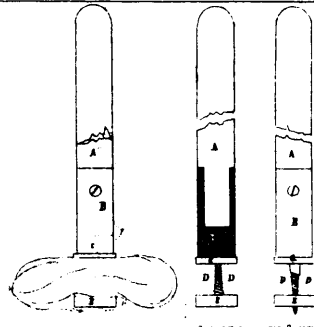
2223 Siemens' Process and Apparatus for the Manufacture of Iron and Steel.



2224 Smith's Navigation Apparatus.



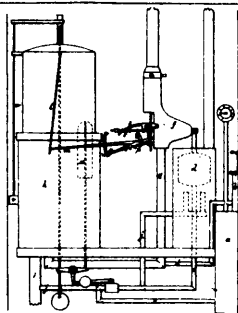
2225 Kumpf's Harvester Reel.



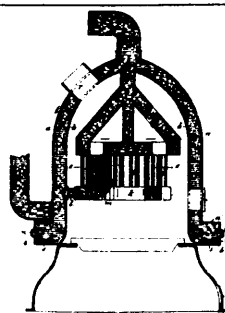
2226 Cook's Mop for Cleaning Floors.



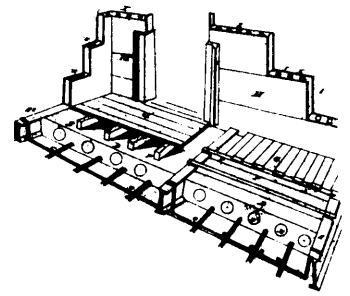
2227 Scott's Railway Car-Coupler.



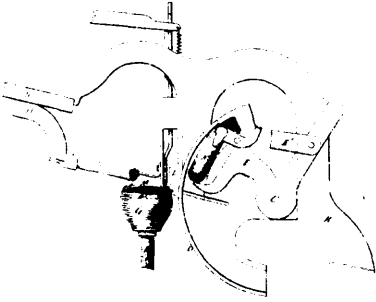
2228 Fogarty's Machine for the Manufacture of Illuminating Gas.



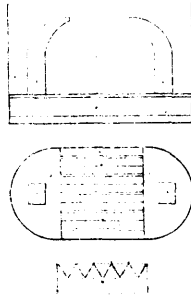
2229 Spence's Boiler for Heating Water.



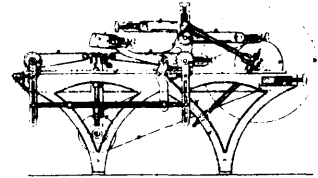
2230 Wright's Tubular Block Fire Proof Building Material.



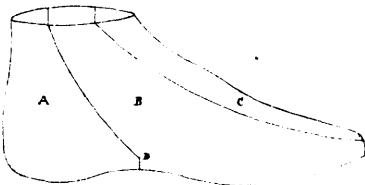
2231 Crosby & Baldwin's Welt and Turned Sole Sewing Machine.



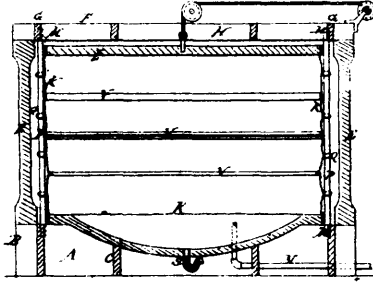
2232 Blanton's Boiler Washing Machine.



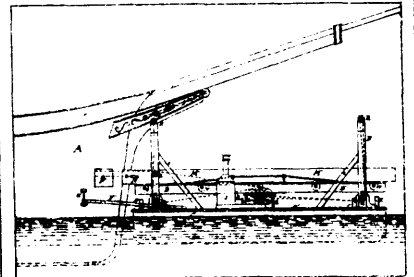
2233 Copping's Lozenge Machine.



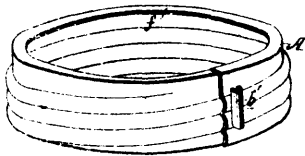
2234 Feick's Last for Making Seamless Felt Shoes.



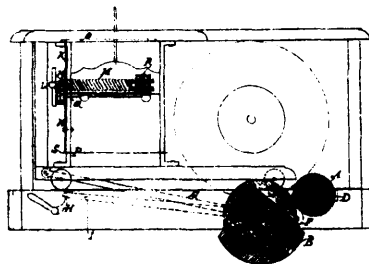
2235 Tiffany's Apparatus for Manufacturing and Storing Illuminating Gas.



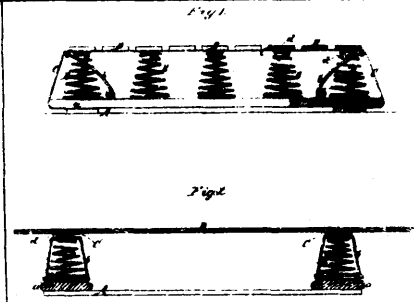
2237 Bulman's Steam Lighter for Loading Timber in Vessels.



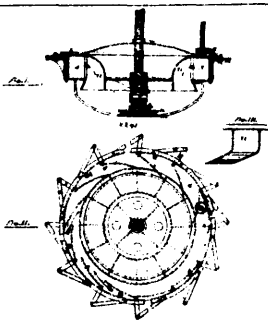
2238 Betts' Sheet Metal Screw Ring for Jar Covers.



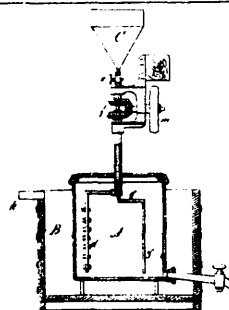
2239 Frechette's Shingle Mill.



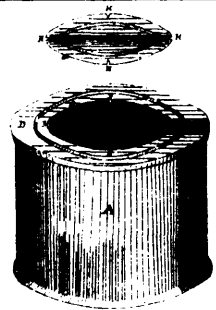
2240 Gilmore's Adjustable Spring Bed Bottom.



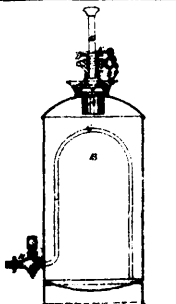
2241 Cole's Turbine Wheel.



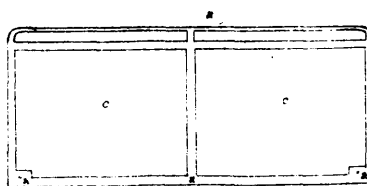
2242 Volney's Apparatus for Manufacturing Nitro-Glycerine.



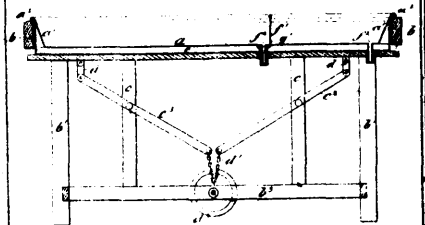
2243 Warminton's Knife Opening Can Top.



2247 Booth's Fire Extinguisher.



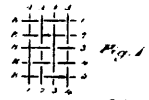
2248 Bolton's Carriage Dashboard.



2249 Campbell's Compartment Milk Pan.



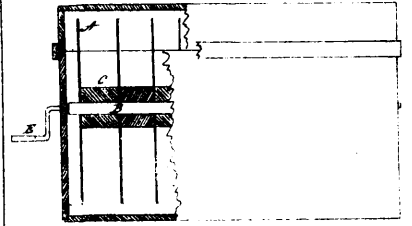
2250 Perkins' Manufacture of Horse Shoe Nail.



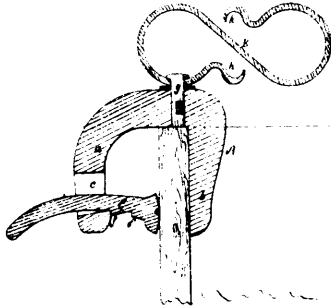
2251

Fig. 2.  
Fig. 3.  
Fig. 4.  
Fig. 5.  
Fig. 6.

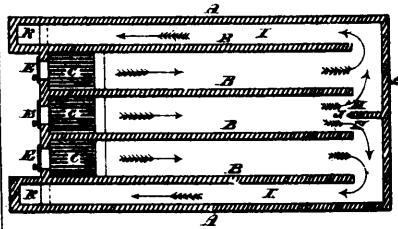
2251 Prince's Manufacture of Woven Fabrics.



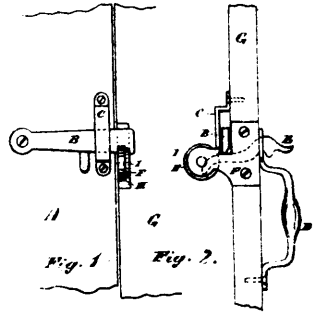
2252 Mackay's Ribbon Box.



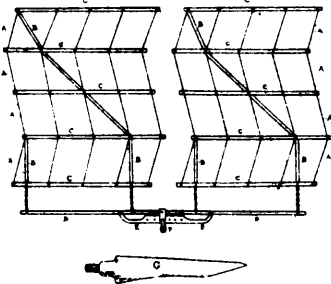
2253 Haynes' Clothes Wringer.



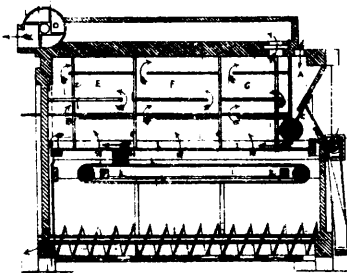
2254 Carter's Side Return Flue Salt Evaporator.



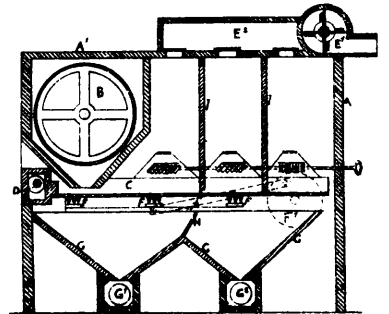
2255 Fraser's Door Latch.



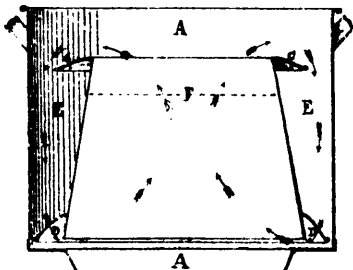
2256 McKenzie's Harrow.



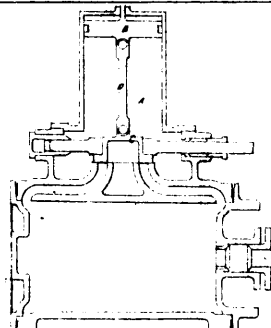
2257 Smith's Machine for Dressing Flour.



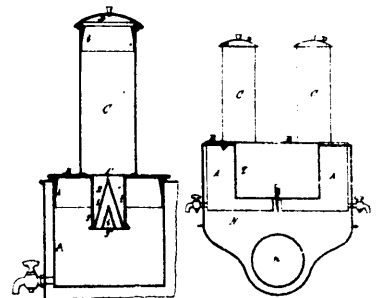
2258 Smith's Machine for Dressing Flour.



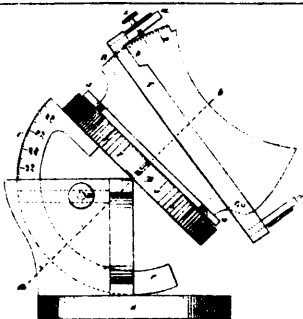
2259 Richardson's Improvement on Washing Machines.



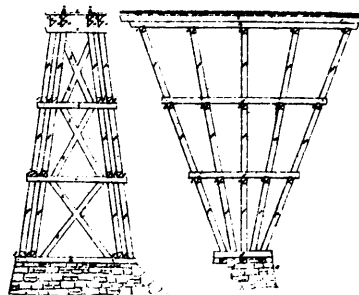
2261 Wakefield's Slide Valve Reliever.



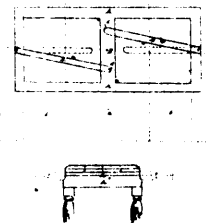
2262 Watkins & Tucker's Tea and Coffee Press



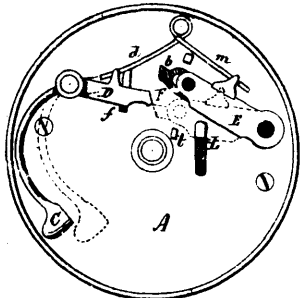
2263 Fraser's Solar Compass Dial.



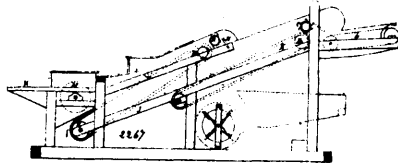
2264 Dennis' Fan Pier Bridge.



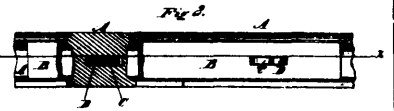
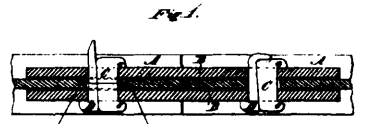
2265 Brooks' Revolving Extension Table Top.



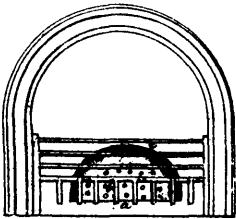
2266 Sparks' Door Bell.



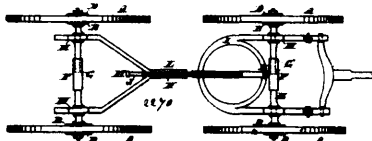
2267 Brothers & Downs' Threshing Machine.



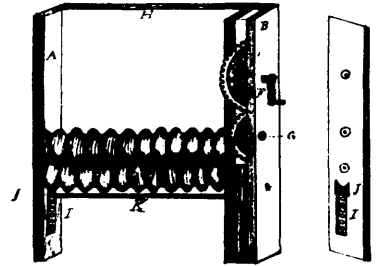
2268 Braymer's Railroad Fish Plate Fastener.



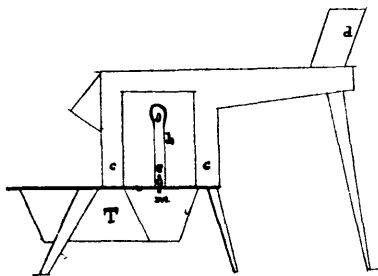
2269 Dewe's Machine for Economizing Fuel.



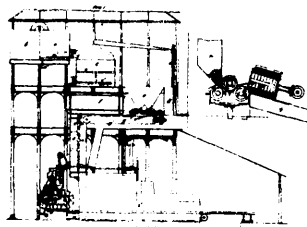
2270 Crowell's Improvements in Vehicles.



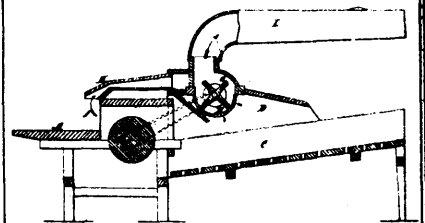
2271 Moore's Washing Machine.



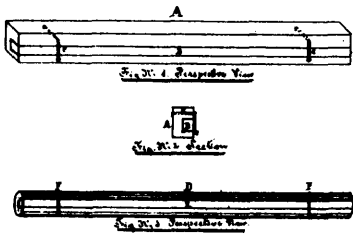
2272 Stevens, Anderson & Fawcett's Cooking Stove.



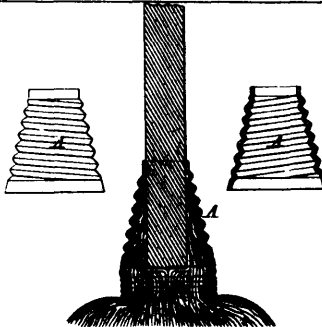
2273 Rae's Preparation of Fuel.



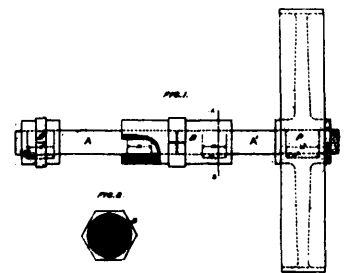
2274 Hunsberger & Latshaw's Dust Conveyer for Threshing Machines.



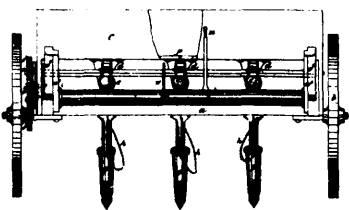
2275 Habich's Blind Fastener.



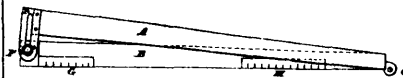
2276 Dillingham's Broom Screw Ferrule.



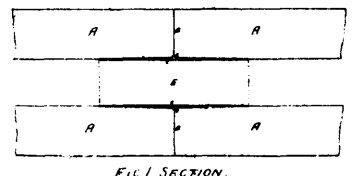
2277 Findlay's Shaft Coupling and Fastening.



2278 Patric's Grain and Seed Drill.



2279 Stone's Axle Set.



2280 Johnson & Matland's Pump Log Coupling.

No. 2321. GEORGE P. CLAPP & HARLEY D. COWLES, Montreal, Que., 5th May, 1873, for 5 years: "A Boot and Shoe r'astener." (Attache de chaussures, etc.)

*Claim.*—1st. The flaps *a* and *b*, eyelets *e*, *f*, and *c*, hooked, plate *g*, with holes *e*, *k*, *l*, *m*, and lace arranged and working together as described; 2nd. The flaps *a*, and *b*, eyelets *e*, *f*, and *c*, plate *g*, with holes *e*, *k*, *l*, *m*, and lace, constructed, arranged, and operating as described; 3rd. The flaps *a* and *b*, eyelet *c*, plate *g*, having but two holes, and lace as described.

No. 2322. RALPH D. KENDALL, Richville, N. Y., U. S., 5th May, 1873, for 5 years: "A Breast Collar for Harness." (Une bricole de cheval.)

*Claim.*—1st. The metal spring-plate A, provided with metal loops *a*, *b*, rigidly secured thereto and arranged to project through the leather sheathing; 2nd. Securing the trace buckles D, to the ends of the plate A, by bending the same through the buckles and fastening the lapping portions by riveting; 3rd. Securing the trace loops F, by rivets G, passing through the sheathing and plate A, as described.

No. 2323. ANDREW TURNBULL, RODOLPHUS L. WEBB and JAMES D. FRARY, New Britain, Ct., U. S., 5th May, 1873, for 10 years: "Improvements in Bed Bottoms." (Perfectionnements aux fonds de lits.)

Consist in a net work formed of longitudinal and transverse links attached at the head and foot to springs secured to the frame.

*Claim.*—1st. A bed bottom composed of a succession of non-flexible links D, D, made elastic by means of springs C, as described and with or without the transverse links F; 2nd. Combination with the subject matter of the first clause of claim, the auxiliary springs S and their triangular links T, T; 3rd. A frame for bed bottom, consisting of the transverse bars A, B, and longitudinal bars L, L, the seat or socket *a*, *d*, by which the said transverse bars A, B, and longitudinal bars L, L, the seat or socket *a*, *d*, by which the said transverse bars are attached to the longitudinal bars; 4th. In the sections or links for a bed bottom as described, formed from cast metal and each provided with means for attachment to the adjoining sections in the manner specified; 5th. The sections or links for a bed bottom formed from a single piece of iron as described.

No. 2324. BARTHOLOMEW GOMMENGINGER, Rochester, N. Y., U. S., 5th May, 1873, for 5 years: "Improvements on Hot Air Furnaces." (Perfectionnements aux calorifères à air chaud.)

*Claim.*—1st. The body I of the furnace constructed with the elevated seats *r*, *r*, and the inclined planes *s*, *t*, lying at right angles to each other and employed for rendering the interior of the furnace self-clearing from ashes; 2nd. Combination with the seats *r*, *r*, provided with the ports *d*, *a*, the air cone K, constructed with the flues *f*, *f*, cone *g*, and jacket *h*, and employed intermediately between the water chamber H and top plate L; 3rd. Combination with the dome consisting of the two drums E, E, connected by the flue N, the two ring registers N, N, when so relatively arranged that by turning said ring registers in proper positions the draught may be made direct or indirect; 4th. The arrangement as a whole consisting of hollow ring *g*, with tubes *b*, *b*, water chamber H, pipes C, C, body J, air cone K, and the dome consisting of drums E, E, with ring registers N, N, the whole operating in the manner described; 5th. Combination with the grate B, of a furnace or stove, the removable standard P, arranged and operating as described; 6th. In combination with the pipes C, C, the covering shields R.

No. 2325. JOHN GREENWOOD, Rochester, N. Y., U. S., 5th May, 1873, for 5 years: "Machine for Crozing and Chamfering Barrels." (Machine à jâbler et chanfreiner les futailles.)

Relates to a machine in which barrels are placed after being "set up" for the purpose of forming the "oro-e" and "chime" at the ends of the staves and it consists, more particularly, in a pair of revolving barrel clamps used in connection with adjustable cutter heads and rotary gauges which regulate the depth of the cut.

*Claim.*—1st. The disk gauge G in combination with the cutter head F, and clamp C or C, operating as set forth; 2nd. Combination with the revolving clamp C or C, the friction wheels *j*, *g*, arranged to support said clamp and one of which constitutes its driver; 3rd. Combination with the disk gauges G, the spring P arranged to operate as described.

No. 2326. AUSTIN D. CABLE and JOHN C. FORD, Montreal, Que., (Assignees of Nathaniel Marshall, Plattsburg,) N. Y., U. S., 5th May, 1873: for 5 years: "A Spinning Machine." (Machine à filer.)

Capable of feeding itself and of giving a more even and uniform thread than that manufactured by machines in general use.

*Claim.*—1st. The spinner head composed of disc X, provided with rollers C, rotating together and with the disc; 2nd. The combination of the disc X projections *a*, rollers *b*, gear wheels C, screwed shaft *d*, gears *f* and hollow shaft *y*, all working together as described; 3rd. The feed rollers *l* and *l*; 4th. The combination of the plate I, opening U, projections K, gear wheels *n*, screw shaft O, and gears *q*, and *r*; 5th. In the combination of the double reversed thread on the neck *g*, the tie *u*, arm V, and standard *t*; 6th. The combination of the spindle *a*, collar *b*, screw *c*, and spiral spring *d*; 7th. The rollers *e*, consisting of axle *g*, rollers *h*, india rubber coating *g*, and outer metallic shell *k*.

No. 2327. JEROME J. WEBSTER, Magog, Que., 5th May, 1873, for 5 years: "Apparatus for Measuring and Rolling Cloth." (Appareil à mesurer et rouler les tissus.)

*Claim.*—1st. The roller I, and gears L, and N, or their equivalents, dial P, and finger O, all working together as set forth; 2nd. The roller I, in combination with the boards G and G, and holders *j*; 3rd. The roller I in combination with tension pulley R.

No. 2328. EDDY T. THOMAS, Boston, Mass., U. S., 5th May, 1873, for 5 years: "Adjustable Braider for Sewing Machines." (Perfectionnement aux machines à coudre.)

Consists in the arrangement within a sloping or diagonal slot in the presser foot of a cylindrical guide piece, provided with a circumferential V shaped groove and adapted to rotate on its axis whereby the passage of the braid may be enlarged or contracted in width.

*Claim.*—1st. The cylindrical piece *d*, provided with the circumferential V shaped groove E and adapted to be turned on its axis, when arranged transversely to the inclined slot B of the pressure foot as specified; 2nd. The set screw F, applied to the presser foot, as set forth for securing the cylinder B, when in the desired adjustable position.

No. 2329. JOHN FENSOM, Toronto, Ont., 5th May, 1873, for 5 years: "Improvements on Hoists." (Perfectionnements aux élévateurs.)

*Claim.*—1st. The moving of the hatchet B, backwards and forwards, and leaving it over the opening in the floor without the use of counter weights, ropes, and pulleys, but solely by means of the cage A, in the manner specified; 2nd. The locking of the hatch B, when in its original position over the opening in floor by means of a roller and bolt, operated upon by the cage A, or by a spring S, and the unlocking of the latch by means of the cage A, in the manner specified; 3rd. The device for securing the parallel motion of the hatch B, consisting of the arm *d*, and wheel E, E, as specified.

No. 2330. WILBUR F. WHITE, Belchertown, Mass., U. S., 5th May, 1873, for 5 years: "Manure Spreading Cart." (Voiture à distribuer les engrais.)

*Claim.*—1st. A cart for spreading manure, the combination and arrangement of the rotary spreader *h*, revolving so as to raise the manure as described, with the series of fingers, or grid K, and guard B, constructed and operating as described; 2nd. The combination and arrangement of the series of fingers or grid K, with the series of spring teeth X, and the spreader *h*, all constructed and operating as set forth.

No. 2331. LEWIS LINTON, Libbytown, Que., 5th May, 1873, for 5 years: "A Safety Whiffle-tree." (Un palonnier de sûreté.)

Consists of a bent arm or hook at each end of the whiffle-tree to receive the loop of the trace tug. The inner end of each hook engages with spring bolts affixed to the forward face of the whiffle-tree and these when drawn rearward by means of a coupling chain within convenient reach of the driver at once liberate the horse.

*Claim.*—The combination of the pivoted bent-arms C, bolt D, barrels E, springs F, and ropes G, applied to the whiffle-tree A, and operating as set forth.

No. 2332. EDE W. LEE, Stanstead, Que., 6th May, 1873, for 5 years: "Sap Pan Elevator and Car." (Élévateur et chariot pour les casseroles à sucre.)

*Claim.*—1st. The combination of the ropes E, E, E, E, pulleys F, F, F, shaft G, wheel H, rope I, and pawl J; 2nd. The combination of the tracks B, B, trucks D, D, D, D, frame A, rope K, and pulley L.

No. 2333. HENRY McPHILLOMY, Chatham, Ont., 6th May, 1873, for 5 years: "Marine and Stationary Boiler." (Chaudière à vapeur marine et fixe.)

*Claim.*—A smoke box in the interior of the boiler in which the large flue or flues, and also the small tubes terminate, the whole being surrounded by water as set forth.

No. 2334. FRANCIS B. MCNAMEE & JOHN MURRAY, Montreal, Que., 6th May, 1873, for 5 years: "Platform for Loading and Unloading Stone." (Plateforme pour charger et décharger la pierre.)

*Claim.*—1st. A platform A, the combination of the trimmer opening C, to receive the crushing box; 2nd. The combination of the incline plane or sluice G, with the crushing box of a stone breaking-machine in order to cause the broken stones to slide down in a cart; 3rd. The combination of the trench H, and truck way I, with the platform A.

No. 2335. JOHN A. MCKINSTRY & WILLIAM WALDEN, Springfield, Mass., U. S., 8th May, 1873, for 5 years: "A Mitre Box." (Une boîte à onolet.)

Consists mainly in a new arrangement of the saw-guide and in the combination of a mitre-box with a revolving clamp or wedge-shaped cam for the purpose of setting the saw at any desired angle or fraction of a degree.

*Claim.*—1st. The swinging extension arm D, E, in combination with the saw guide of a mitre-box; 2nd. The revolving clamp I, P, for setting the sliding-post C, or the saw-guide at any desired angle, or fraction of a degree as set forth.

No. 2336. GEORGE WHITNEY, Philadelphia, Pa., U. S., 8th May, 1873, for 15 years: "Metals for Castings." (Métal pour la fonte.)

*Claim.*—An improved metal for castings, in the product of wrought iron and pig-iron, or of wrought iron, pig-iron, and steel (the pig-iron preponderating in the charge) melted together as set forth.

No. 2337. HENRY C. KIBBE, San Francisco, Cal., U. S., 7th May, 1873, for 5 years: "Railway Car-Coupler." (Attache-chars de chemin de fer.)

*Claim.*—1st. The bumper head, slotted as shown to receive the slide B, with the projection C, carrying pin D; 2nd. The triangular forked lever or piece F, with arms E and H, with handle C; 3rd. The pin K, with its bevelled lower end, when constructed to operate upon the arm E, of the lever; 4th. The oscillating plate I, and the pin K, in combination with the pin D, when constructed to operate as described; 5th. The combination of the bumper head A, slide B, with projecting head C, coupling pin D, plate I, pin K, and triangular forked-lever F, in combination with coupling link as described.

No. 2338. OSCAR J. BACKÜS & ALBERT F. SAWYER, San Francisco, Cal., U. S., (Assignees of Isaac Hyde, of Oakland, Cal., U. S.) 7th May, 1873, for 5 years: "Application of Motive Power to Sewing and other Machines and Water-Wheel therefor." (Manière de faire mouvoir les machines à coudre et autres.)

Relates to the combination of a water-wheel with a sewing or other machine in such manner that water from a hydrant—or from some elevated source can be employed to drive the wheel and propel the driving shaft of the machine.

*Claim.*—1st. The water-wheel C, in combination with the sewing machine A, and the pipes or hose E and F, with the regulating cocks or equivalents; 2nd. In combination with the water-wheel C, and pipe E, the cocks g, with horizontal operating rod h, and foot board I; 3rd. The combination of the case D, having the inlet pipe E, and discharge pipe f, with a vertical or hurdy gurdy water-wheel C.

No. 2339. J. NOTTINGHAM SMITH, Jersey City, N. J., U. S., 8th May, 1873, for 5 years: "A Faucet." (Un robinet.)

*Claim.*—1st. The combination with the tube A, of the movable nozzle piece or tube B, and lever C, when the motion of the said tube B, is employed to actuate the valve d; 2nd. Combination with the moveable tube B, the stud or bearing plate i, and pin b, and the stud e, with arms h; 3rd. Combination with the valve-seat C, of the valve D, packing M, and india-rubber tubing E, the whole forming a valve with the shoulder f, for actuating it; 4th. Combination with the tubes A and B, and tubing E, of the strainer g, held in place by the said tubing and surrounding rod e.

No. 2340. FREDERICK H. DATE, Niagara, Ont., 8th May, 1873, for 5 years: "Furnace Retorts for the Manufacture of Steel." (Cornues de fourneau de fabrication de l'acier.)

*Claim.*—1st. The combination in a furnace block A, of the furnaces D, D, E, carburetter C, retorts B, F, and heating chamber O, whereby hydrocarbon fed to the retort F, is generated into vapor by the furnace E, and passed into the retort B, heated by the furnaces D, D; 2nd. The arrangement of furnaces D, D, under the retort B, furnace return flues N, N, rising flues Y, Y, lateral flues U, U, and chimneys d, d, whereby the heat from the furnaces is

returned under the retort B, to the chamber O, near its ends, and thence passed to the central flues H, H; 3rd. The combination of the carburetter chamber C, and retorts B and F, the arrangement of the pipes Q, P, H and I, and application of blower R; 4th. The heating chamber O, connected with the flues of the furnace in combination with the retort B; 5th. The arrangement and employment between the chimneys d, d, and retort heating chamber of dampers J, in the flues U, U, whereby the draft of the furnaces may be regulated for maintaining the retort B, at a uniform standard of heat.

No. 2341. FREDERICK H. DATE, Niagara, Ont., 8th May, 1873, for 5 years: "A Carburetter." (Machine à carburer.)

*Claim.*—1st. The combination of a series of carburetter divisions A, A, A, arranged and connected vertically in a carburetter tank B, in each of which divisions the atmospheric air is passed horizontally in a rectangular eccentric course from circumference to centre and vice versa; 2nd. The tubes L, provided with perforations and applied to the pipes J, K, in combination with the carburetter division a; 3rd. Submerging the tank B, in a close vessel or tub buried in the earth for the purpose set forth.

No. 2342. WILLIAM W. BUTCHER, London, Ont., 8th May, 1873, for 5 years: "A Swinging Baby's Chair." (Un branle.)

*Claim.*—In the application of a round or square chair or basket fastened by cords E, and spring D, to brace B, and the arrangement of pivot H, strap C, and stand A, as and for the purpose set forth.

No. 2343. GEORGE B. BRAYTON, Boston, Mass., U. S., 8th May, 1873, for 5 years: "A Gas Engine." (Une machine à gaz.)

*Claim.*—A pumping engine for condensing air and gas; a reservoir for containing such agents; either separated or mixed and a cylinder and working-piston provided with suitable and automatic valve-gear, operating induction and eduction valves, when such cylinder is furnished with a perforated partition whose office is to maintain a torch to fire the successive charges of gaseous mixture as they are entering the cylinder, and prevent the back action of the ignited charge, as described.

No. 2344. RILEY WYMAN, Barnston, Que., 8th May, 1873, for 5 years: "A Sleigh-Plough for Levelling Snow and Ice." (Traineau-charrue pour aplanir la neige et la glace.)

Relates to a frame carrying ploughs mounted on sleighs for trimming the road-way and cabots of snow.

*Claim.*—1st. The combination of the adjustable sills E, rocker beams C, reach bar F, and sleighs A, constructed and operating as described; 2nd. The combination and arrangement of the posts H, J, plough shafts L, M, N, levers I, ploughs 1, 2, 3, and sills E, operating as set forth; 3rd. In providing the sleigh runners with knife edges B, as specified.

No. 2345. WILLIAM H. JOHNSON, ANDREW BUCKHAM & CHARLES A. FOOTE, Delhi, N. Y., U. S., 13th May, 1873, for 5 years: "A Milk Strainer." (Un couloir à lait.)

*Claim.*—1st. The applicable strainer-trough A, provided with a back or closing band B, when constructed and operating as specified; 2nd. The removable strainer-frame C, groove C, and cross-bar E, in combination with the applicable strainer-trough A, the whole being constructed, arranged, and operating as specified; 3rd. The employment of a receptacle or receiving-chamber behind the strainer when constructed and operating as specified.

No. 2346. CONSTANT HERVEUX, Islington, London, Eng., 13th May, 1873, for 5 years: "Method of and Apparatus for Tanning." (Appareil de tannage des peaux.)

*Claim.*—1st. Tanning hides or skins by fluid applied under pressure between the surfaces of the hide as described; 2nd. Construction and use of apparatus described with reference to the drawings in which the moveable pieces marked B, are arranged in combination with the frames A, A', for the purposes stated.

No. 2347. CHARLES PAGE, Meriden, Ct., THEODORE A. CURTIS & ARTHUR B. TAYLOR, Springfield, Mass., U. S., 13th May, 1873, for 5 years: "Window Stop Attachment." (Arrête-croisée.)

Relates to a device to be used to attach the stop of a window to its casing in such manner that the stop when attached and in place, shall adjust itself automatically to the sash, as well in wet or damp weather as in dry, and yet permit the sash to be raised or dropped freely and easily.

*Claim.* An automatic adjustable window stop attachment, consisting of the spring a, and knob b, constructed and operating as described.

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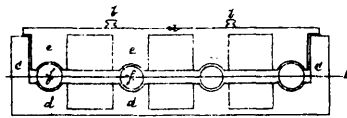
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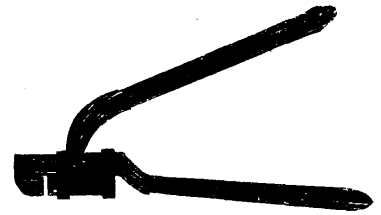
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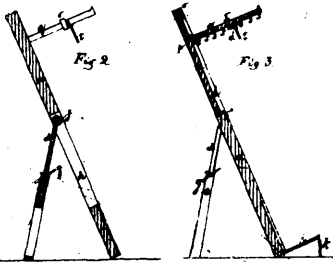
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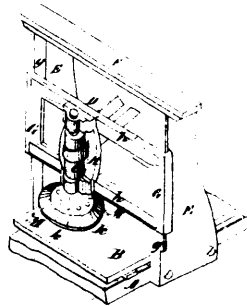
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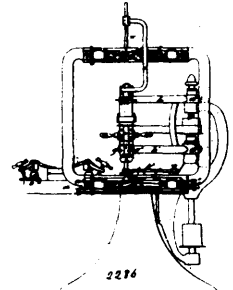
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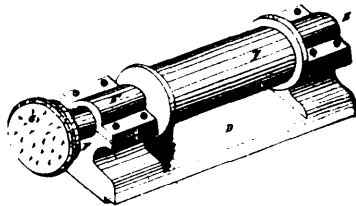
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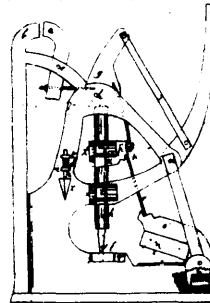
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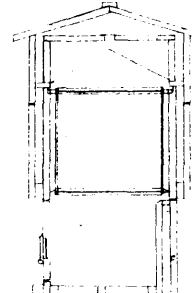
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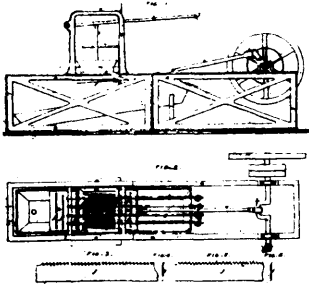
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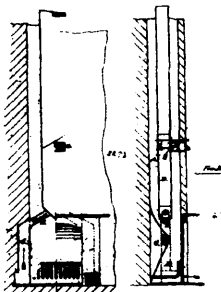
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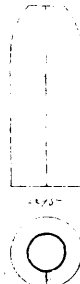
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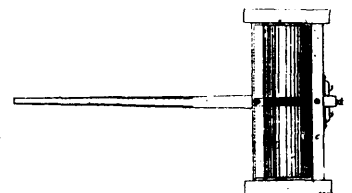
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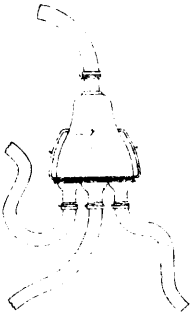
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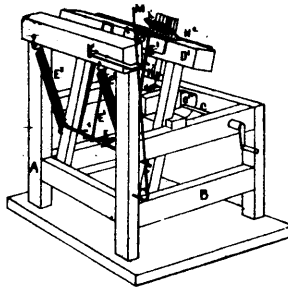
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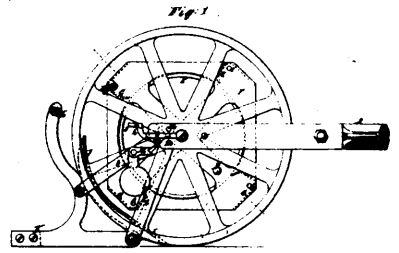
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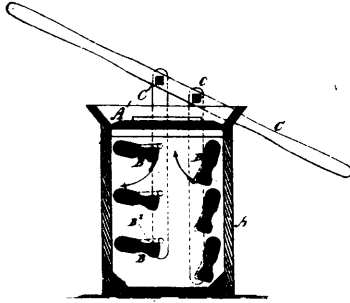
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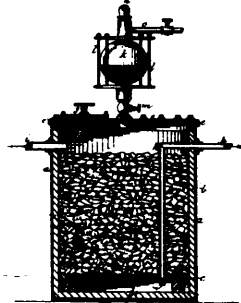
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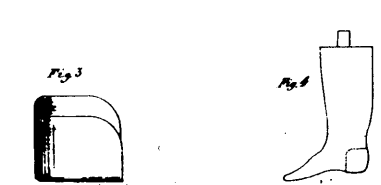
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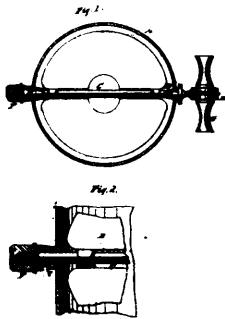
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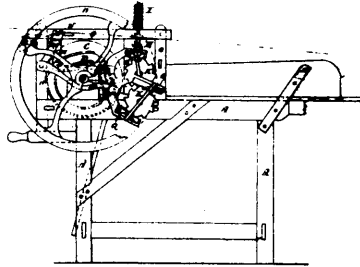
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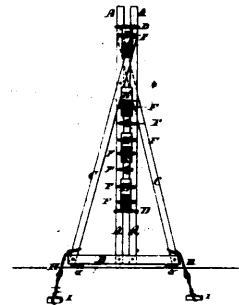
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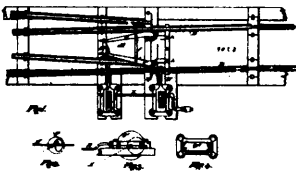
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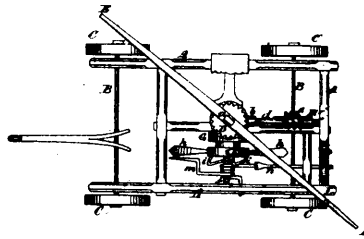
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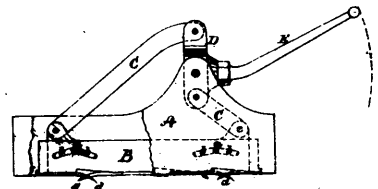
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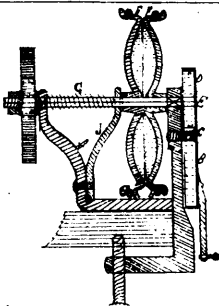
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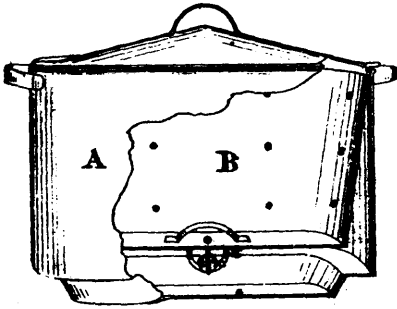
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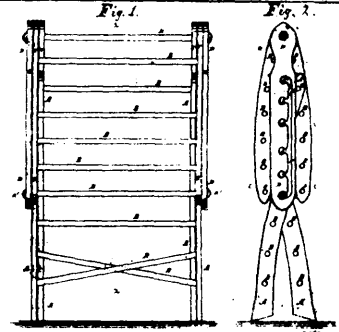
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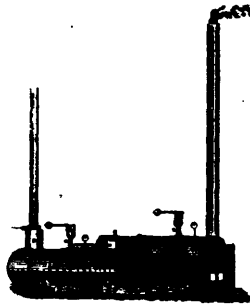
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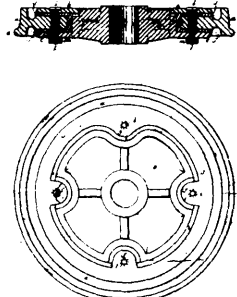
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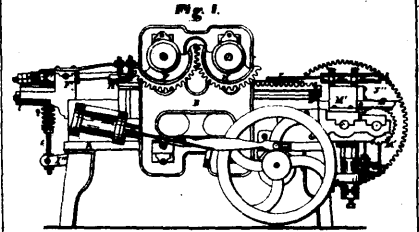
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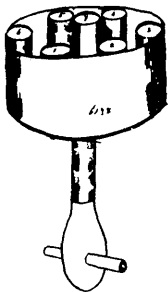
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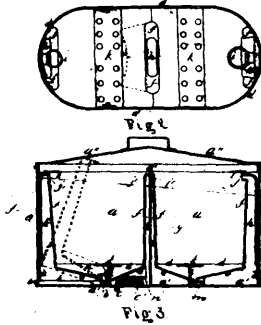
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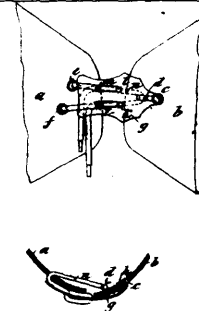
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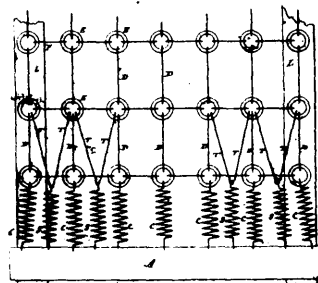
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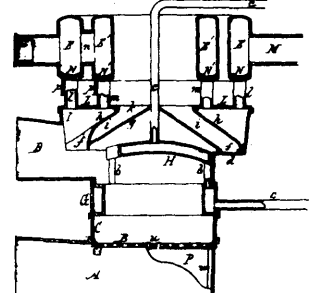
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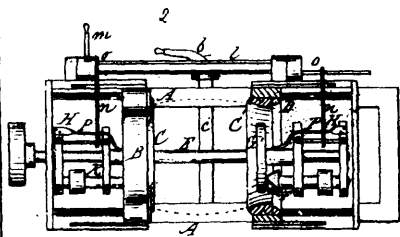
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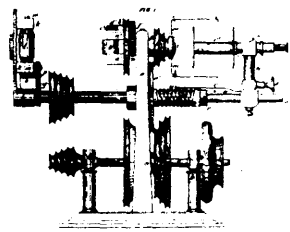
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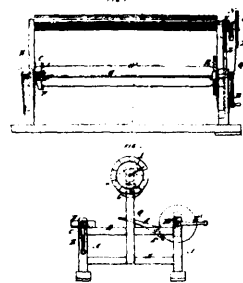
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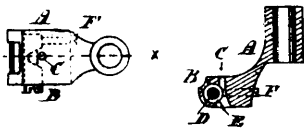
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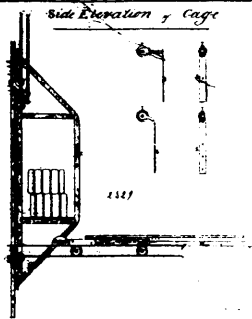
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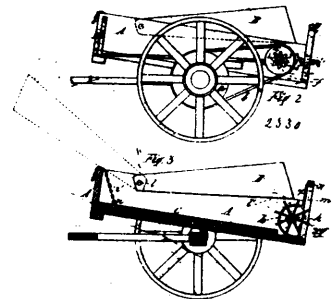
2327 Webster's Apparatus for Measuring and Rolling Cloth.



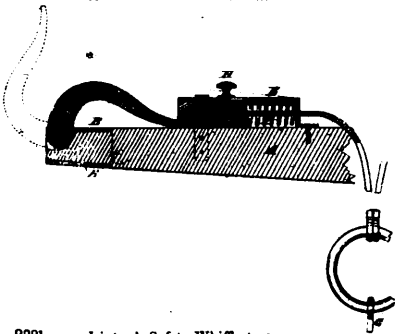
2328 Thomas's Adjustable Braider for Sewing Machines.



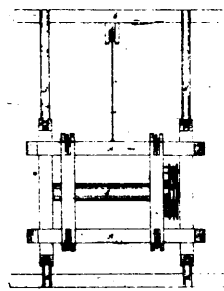
2329 Fensom's Improvements on Hoists.



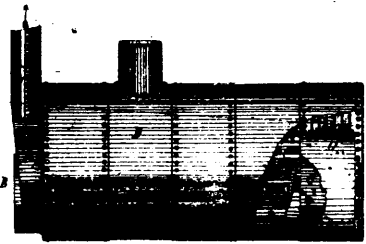
2330 White's Manure Spreading Cart.



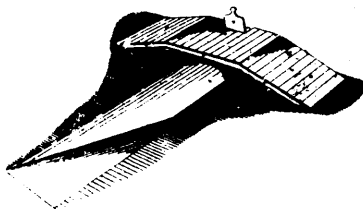
2331 Linton's Safety Whistle-tree.



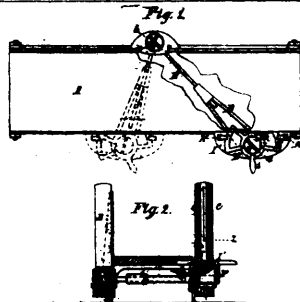
2332 Lee's Saw-Pan Elevator and Car.



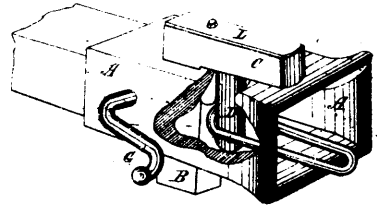
2333 McPhillomy's Marine and Stationary Boiler.



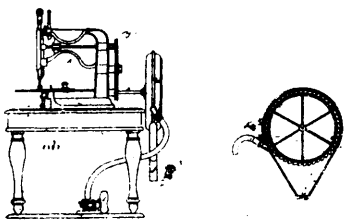
2334 McNamee & Murray's Platform for Loading and Unloading Stone.



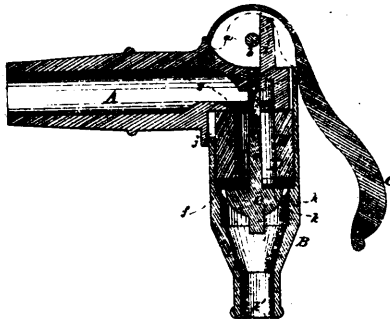
2335 McKinstry & Walden's Mitre Box.



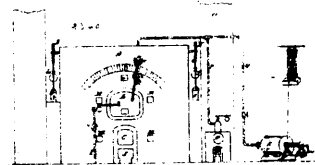
2337 Kibbe's Railway Car-Coupler.



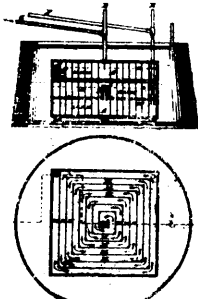
2338 Hyde's Application of Motive Power to Sewing and other Machines and Water-Wheel therefor.



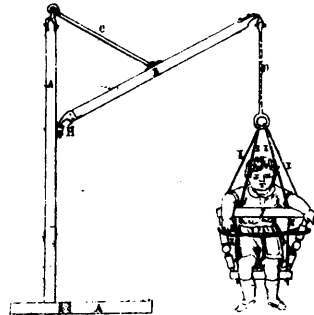
2339 Smith's Faucet.



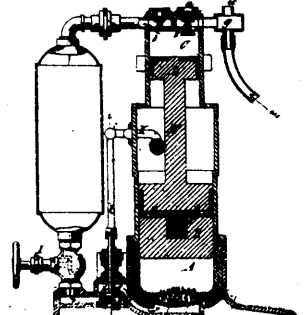
2340 Date's Furnace Retorts for the Manufacture of Steel.



2341 Date's Carburetter.



2342 Butcher's Swinging Baby's Chair.



2343 Brayton's Gas Engine.