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# The Canadian Patent Office

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### INVENTIONS PATENTED.

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

Relates to a frame carrying ploughs mounted on sleighs for trimming the road-way and cahots 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 movable pieces marked B, are arranged in combination with the frames A, A', for the purpose 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-croisèe.)

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 whether 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 a spring a, and knob b, constructed and operating as described.

No. 2348. GEORGE BIGGAR, Corning, Iowa, U. S., 13th May, 1873, for 5 years: "A Wash Boiler." (Une chaudière de buanderie.)

*Claim.*—The device B, formed by a cylindrical or elliptical truncated cone of sheet metal punctured around the base, as a new article of manufacture; to be used in combination with a boiler, for washing clothes.

No. 2349. ALLEN J. ALEXANDER, JOHN F. DAVIS, & JONATHAN T. SCHOFIELD, (Assignees of Charles Kugler), Barnsville, Ohio, U. S., 13th May, 1873, for 5 years: "A Furnace Grate." (Une grille de fourneau.)

*Claim.*—1st. The section of the bar C, with the fire supports j, all on one side of the rib, constructed and arranged as set forth; 2nd. The section of the bar C, with the fire supports j, all on one side of the rib, and used in connection with another section of reverse construction to form a bar having a central air space, constructed and arranged as set forth; 3rd The pivoted oscillating supporting bar B, having the bearings for the grate bars on different arcs of a circle, with its pivot at a point between the arcs to give the compound motion; 4th. The stationary bars A, placed in the furnace parallel to the grate bars C, D, to furnish a support for the oscillating grate and bar B, as described.

No. 2350. ROBERT O. BECK, Elora, Ont., 13th May, 1873, for 5 years: "Universal Motive Power." (Pouvoir moteur universel.)

The power is obtained from the action of the weighted lever and communicated from the crank-shaft by pulley, cog-wheels or other equivalent means.

*Claim.*—The tilting bar or lever B, provided with weights C, at each end, in combination with the frame A, pitman D, and crank-shaft E, all operating as set forth.

No. 2351. ROBERT BLAKE, New York, U.S., 13th May, 1873, for 5 years: "Improvements in a Machine for forming and punching axes." (Machine à former et percer les haches.)

*Claim.*—1st. The forming dies E, E, made of cast metal when used in a machine for forming and punching axe-polls and other irregular forms in metal; 2nd. The rollers C, C, when used to compress the matrix-blocks D, D, for the purpose of forming and punching axe-polls and other irregular forms in metal.

No. 2352. JAMES H. THORP, Ottawa, Ont., 13th May, 1873, for 5 years: "A Tea-Kettle." (Une théière.)

*Claim.*—1st A tea-kettle having an opening in the centre with vertical side or sides inclining upward to the top to allow heat to pass through the vessel; 2nd. In combining the said described tea-kettle with other vessels to be used in cooking.

No. 2353. PETER TAYLOR, Petrolia, Ont., 13th May, 1873, for 5 years: "Steam Super Heater." (Appareil à surchauffer la vapeur.)

*Claim.*—1st. The adaptation of one or more tubes f, f, f, and the super heater F; 2nd. The hot air chamber E; 3rd. The waste or condensed steam pipe.

No. 2354. HECTOR MACKINNON, Toronto, Ont., 13th May, 1873, for 5 years: "Improvements in Cooking Stoves." (Perfectionnements aux fourneaux de cuisines.)

*Claim.*—The application of a window pane *a*, of glass, mica, or any other transparent material to a cooking oven of any description for the purpose specified.

No. 2355. HENRY BOLTON, Brantford, Ont., 13th May, 1873, for 5 years: "A Churn Dasher." (Un piston de baratte.)

Consists of a disc of cast iron or other material having curved radii from the centre to the periphery; these radii cross others and then leave spaces for the cream to pass through the periphery, and the radii are tapered to the upper side and arched on the under side to admit the air.

*Claim.*—The ring *D*, radii *E*, and centre *F*, also in the application of grooves *G*, on the under side of ring *D*, and radii *E*, and centre *F*.

No. 2356. EDWARD W. KELLEY, Lowell, Mass., U.S., 13th May, 1873, for 5 years: "A Horse Shoe Nail Machine." (Machine à clou à cheval.)

*Claim.*—1st. In combination with the male-dies *b*, *c*, on the clipping wheel *a*, of the projecting lips *p*, *q*, for the purpose of keeping the nail in its proper position till the dies are firmly pressed together; 2nd. In combination with the wheel *a*, and its male dies *b*, *c*, of the arched guide *h*, *h*, with its side springs *i*, *i*, lever *k*, and spring *l*, or their equivalents; 3rd. The employment of the wedge shaped piece *m*, with its spring *n*, and guide pin *z*, or their equivalents in combination with the stationary swell or incline *o*, for the purpose of throwing out the nail from the dies; 4th. In combination with the engraved roller *e*, *l*, of the regulator *p*, *q*, *r*, incline *T*, lever *u*, *x*, and the springs *S*, *W*, or their equivalents for the purpose of regulating the admission of the nail blanks, to the rollers; 5th. In the automatic feeding mechanism as shown consisting in the hopper *1*, roller *2*, inclined guide *3*, slotted cylinder *4*, gears *7*, *8*, stopper *5*, semi-circular guide *6*, and the rotary arms *9*; 6th. The improved roller *e*, *l*, faced on two or more opposite sides in combination with the engraved segments *13*, *13*, and screws *f*, *f*, or their equivalents; 7th. In combination with the dies *b*, *b*, *b*, and the lower dovetail thereof, the gibs *16*, *16*, and screws *16*, *16*, arranged in the manner described.

No. 2357. JOHN HARRIS, Montreal, Que., 13th May, 1873, for 5 years: "A Beer Cooler." (Un réfrigérant à bière.)

*Claim.*—1st. In the combination of the cask or vessel *A*, pipes *B*, and *E*, funnels *C*, and *E*; 2nd. In the combination of the cask or vessel *A*, pipe *B*, or channel *M* pipe *E*, funnel *C*, and overflow *D*; 3rd. In the combination of the cask *A*, pipe *B*, or channel *M*, air space *E*, or *M*; 4th. In the combination of the cask or vessel *A*, (with opening *A*'), with gland or moveable flange *F*.

No. 2358. FRANKLIN KEENAN, Brownsville, N.Y., U.S., 14th May, 1873, for 5 years: "A Coffin." (Un cercueil.)

*Claim.*—In the manufacture of coffins from pulp by the compression of a follower in a mould charged with the pulp in a wet state and subsequently drying the same in the mould by the application of steam as set forth.

No. 2359. JOHN M. MURE, Curragh Camp, Ireland, 15th May, 1873, for 5 years: "Auxiliary Sights for Fire-arms." (Mires auxiliaires d'armes à feu.)

The auxiliary sights are placed at either side of the weapon and project therefrom by means of arms or brackets to a sufficient distance from the side to enable the instructor or overlooker to look through the auxiliary sights while the firer is taking his aim through the proper sights of the weapon.

*Claim.*—In the application to fire-arms of a second or auxiliary set of sights to enable an instructor or overlooker to inspect or overlook and thereby direct or guide a firer's aim as described and shown in the drawings.

No. 2360. JOSIAH OOTHOUTD, Minneapolis, Minn., U.S., 15th May, 1873, for 5 years: "Lath and Shingle Machine." (Machine à latte et à bardeaux.)

*Claim.*—1st. The manner in which the lath bolt is held by clamp *o*, and bar *a*; 2nd. The combination of the cutting of the series of lath in carriage *C*, and the series of shingle in carriage *D*, by one large saw *B*.

No. 2361. OLIVER FISK, Coulterville, Cal., U.S., 15th May, 1873, for 5 years: "A Self-Acting Waggon Brake." (Un frein de wagon automate.)

Relates to a locking and unlocking device which is operated by the same backward movement of the tongue so that when the vehicle is descending an incline the holding back of the horses will not only apply the brakes but also lock the tongue when the brakes have been applied and thus keep a steady and uniform strain upon the wheels as long as the waggon moves down hill. The forward pull of the horses will throw off the locking device, and consequently allow the brakes to be removed from the wheels upon reaching level ground.

*Claim.*—1st. The slotted tongue *C*, connected with the brake beam by means of the rod *j*, double acting lever *k*, and rod *m*, in combination with the ratchet *h*, and pawl *o*; 2nd. The bell crank *f*, pivoted at its centre and operated by the pull upon the double-trees to release the pawl *o*, as described.

No. 2362. GEORGE WHITNEY, Philadelphia, Penn., U.S., 15th May, 1873, for 15 years: "Manufacture of Cast Chilled Wheels." (Fabrication des roues en fonte trempée.)

*Claim.*—A new article of manufacture in a cast chilled car-wheel made from the product of wrought iron and pig iron, or of wrought iron, pig iron & steel, melted together, the pig iron preponderating in the charge as set forth.

No. 2363. GEORGE WHITNEY, Philadelphia, Penn., U.S., 15th May, 1873, for 15 years: "Art of Melting and Working Iron and Steel Dust, Shavings, &c." (Art d'utiliser les limailles, les planures, etc., de fer et d'acier.)

*Claim.*—Improvement on the art of melting and working dust shavings, borings, turnings, and other small pieces and scraps of iron and steel, by inclosing them in carbonizable boxes, casings, or envelopes, and charging such packages into the furnace.

No. 2364. JOSEPH A. SMITH, Jersey City, N. J., U.S., 15th May, 1873, for 5 years: "An Improved Steam Pump." (Une pompe à vapeur perfectionnée.)

Consists in a self-sealing and self-regulating holder which completely retains the water already raised into the pump and admits the water to the steam vacuum chamber automatically without loss from running back, also regulating the flow thereof.

*Claim.*—1st. The sealing holder *D*, constructed and arranged in connection with the steam pump; 2nd. The concentric case *b*, inclosing the holder *D*, and arranged in connection with the vacuum chamber of the pump; 3rd. The upwardly projecting flange, or flanges *p*, *p*, and induction tube *a*, in combination with the sealing edges of the holder; 4th. The set screw *t*, in combination with the holder as specified.

No. 2365. ROSWELL R. ROUSE, Indianapolis Ind., U.S., 15th May, 1873, for 10 years: "A Drive Well Tube Point." (Une sonde de puits artésien.)

*Claim.*—A cast metal drive well tube point having the surfaces recessed in the parts having the holes for the admission of the water, in the strainers *C*, and perforated metal guards *D*, applied to recessed and perforated point as specified.

No. 2366. JAMES H. THORP, Ottawa, Ont., (Assignee of John A. Frey,) 15th May, 1873, for 5 years: "A Coal Oil Stove." (Un poêle à pétrole.)

*Claim.*—The water tight casings *G*, *G*, and tubular connections *H*, *H*, secured to the wick tubes and bottom of water chamber and enclosing the ratchet wheels *c*, *c*, and shafts *d*, *d*; 2nd. The struts *I*, applied as set forth for supporting the chimney ring *J*, from the wall of the water chamber; 3rd. Hinging the chimney *N*, to a strut *L*, or its equivalent for the purpose set forth.

No. 2367. JAMES H. THORP, Ottawa, Ont., 15th May, 1873, for 5 years: "A Coal Oil Stove." (Un poêle à pétrole.)

Relates to the manner of applying water to prevent the over heating of the wick tubes.

*Claim.*—1st. The water-chamber *C*, and *D*, communicating through tubes with a reservoir *F*; 2nd. The chimney *T*, supported or secured by a hoop or rim band *L*, resting on the reservoir *F*, and ratchet shaft *H*, or other equivalent way to dispense with legs resting on the deck of the reservoir, *A*, as set forth.

No. 2368. CHRISTOPHER LOCKMAN, Hamilton, Ont., 15th May, 1873, for 5 years: "A Machine Hand or treadle power." (Une pédale de machine.)

*Claim.*—1st. The arrangement and combination of the loose pulleys, D, D', on a solid or hollow driving shaft, A, outside or inside of the stand with spring H, H', bracket, g, ratchets and pawls e, f, operated by the lever arms G, G', and lever, U, as shown, or by a treadle or treads, for driving sewing or other machines to which it may be applied; 2nd. The arrangement of the slot O, in the stand for the admission of the lever G, as specified.

No. 2369. WILLIAM W. RICHARDSON, Ypsilanti, Mich., U.S., CUTLER LAFLIN, and GEORGE L. LAFLIN, Westfield, Mass., U.S., 20th May, 1873, for 5 years: "A Whip Holder." (Un fourreau de fouet.)

*Claim.*—1st. In combination with the socket N, the friction springs B, B, and flexible fastening bands C, C, constructed and arranged as described; 2nd. In combination with the socket H, the friction springs B, B, constructed and arranged in the manner set forth; 3rd. In combination with the socket H, the flexible fastening straps C, C, with metallic re-inforcements D, D, constructed as described.

No. 2370. HENRY BUSHNELL and ELIAS P. MERRIMAN, New Haven, Ct., U. S., 20th May, 1873, for 15 years: "A Compressed Air Motor." (Un moteur à air comprimé.)

Consists in the means employed for injecting into the escape from the engine a jet of hot air sufficient to prevent the crystallizing or freezing which takes place under the ordinary processes.

*Claim.*—1st. A motor employing a compressed gaseous medium, the injection of heated air or its equivalent into the exhaust passage, from the said motor; 2nd. In combination with the cylinder A, and its exhaust passage N, B, the air pump E, and pressure valve H; 3rd. In combination with the cylinder A, and its exhaust passage N, B, inclosed by a jacket C, a valve f, opening from the chamber formed by the said jacket into the valve chamber d. 4th. In combination with the cylinder A, and its exhaust passage N, B, inclosed by a jacket C, a passage, L, leading from the chamber formed by the said jacket to said exhaust passage.

No. 2371. GEORGE WALKER, Hamilton, Ont., 20th May, 1873, for 5 years: "A Railway Chair." (Un coussinet de chemin de fer.)

The object of the invention is to adapt the chair to be used in combination with what is known as the V rail so as to cause the said rail to fit with a perfect joint and prevent them from breaking at their weakest point.

*Claim.*—A flanged solid chair B, constructed as shown, to fit the V rail, and to be used in combination with it as specified.

No. 2372. GEORGE N. SANDERS and GEORGE N. SANDERS, Jr., New York, U. S., 20th May, 1873, for 5 years: "Improvement in spikes, pins, bolts, &c." (Perfectionnement des clous, chevilles, boulons, etc.)

*Claim.*—1st. In the combination of the shoulder, neck peninsula and bevel of all or any of them whether of curved or plane surfaces regulating the curvature point of inflexion, and degree of tenacity rendering insertion and extraction non-destructive to the fibre, &c. 2nd. The shoulder, cut out of the shank and either plane or curved so as to reduce the volume and weight to a minimum whilst retaining all the strength required to resist the transverse strain, and so as to force the hook of the head firmly against the base of the object to be fastened and to form a tighter joint; 3rd. The peninsula cut out of the shank and smaller than it is at the top and curved so as not to tear the fibre, to be easy of insertion, difficult of extraction and to form a tight chamber to itself; 4th. The curved bevel at the extremity of such curvature so as to exert a greater deflecting force and to make no edge with the side of the spike; 5th. The neck commencing below the reach of the transverse strain, and tapered and bevelled so as to curve and hold as described.

No. 2373. IRA ELLIS TYLER, Texas, U. S., 20th May, 1873, for 5 years: "Safety Harness." (Harnais de cheval de sûreté.)

Designed to enable the horse to be released therefrom instantaneously, &c.

*Claim.*—1st. The harness A, when the sides thereof are hinged together at the top, and its ends connected by the fastening, d, and lever B; 2nd. In combination with the shafts D, and harness A, the cap H, the sliding bar E, and springs F, and G, connected and operating as set forth; 3rd. In the bridle of the harness, when its bit is connected at one end by the spring catch q, and the throat strap by spring catch r; 4th. In combination with the shafts D, and cross pieces N, and O, the lever M, with handle m, and foot rest n.

No. 2374. SAMUEL W. SHORRY, Boston, Mass., U. S., 20th May, 1873, for 5 years; "Seam for Leather Work." (Couture pour les objets en cuir.)

*Claim.*—It consists in the improved staple and wire seam, formed of metal fastenings driven or inserted and twisted together as described.

No. 2375. WILLIAM A. HOLWELL, Quebec, Que., 20th May, 1873, for 5 years: "Construction of Pulleys." (Fabrication des poulies.)

*Claim.*—The construction of a pulley or roller, composed of three distinct but conjoined portions or divisions, the middle portion or division having a larger diameter than that of the two outer or end portions, together with a spiral, or other suitable groove or channel leading from each of the said outer or end portions to a division of smaller diameter into the middle portion or division of larger diameter as set forth.

No. 2376. CYRUS W. SALADEE, St. Catharines, Ont., 20th May, 1873, for 5 years: "Mode of Suspending Railway Car Bodies." (Manière de suspendre les voitures de chemin de fer.)

*Claim.*—1st. In the independent frame-work B, C, Figs. 1 and 2, within or upon which to support the body of the car; 2nd. In combination with the ends of the body a, the springs J and K; 3rd. In combination with the bottom of car bodies A, and frame B, the equalizing shafts D, D', 4th. The springs J, or their equivalents, when placed above the frame work B, or bottom of the car body and provided with suitable hangers or connections L, on which to suspend the body A, or interior frame and bottom B, B'; 5th. In the interior frame work B, B', supported within the body upon suitable springs, and provided with sides and ends P, Figs. 4 and 5, the whole suspended by the hangers L; 6th. The springs S, Figs. 4 and 5 so arranged in relation to the sides and ends of the bottom of the body as to diminish as far as may be, side and end jar to the load carried thereon.

No. 2377. ALEXANDER McCALLUM and THOMAS MOFFAT, Dundas, Ont., 20th May, 1873, for 5 years: "Monumental Grave Tablet." (Pierre tumulaire.)

*Claim.*—The outer casing a, the back d, and the marble slab B, combined as set forth.

No. 2378. HERBERT H. WHITE, Leominster, Mass., U.S., 20th May, 1873, for 5 years: "An Ice Creeper." (Un crampon.)

*Claim.*—The combination of the metal plate C, constructed as described with the rubber heel calk a, when the former is imbedded in the latter during the process of vulcanization as specified.

No. 2379. JOHN C. HODGINS, Toronto, Ont., 20th May, 1873, for 5 years: "Lock-up Safety Valve (Soupape de sûreté à ressort.)"

*Claim.*—1st. The valve C, shaped with an angular projection in combination with the valve seat-casting B, found to correspond as described, so as to protect the entire bottom surface of the valve when closed from the pressure of the steam save and except that portion which covers the steam passage or passages O; 2nd. The combination of the valve C, and lever N; 3rd. The combination of the valve casting I, spindle D, spiral spring E, cap F, diaphragm L, and nuts C', 4th. In the combination of the protection cap J, and cover or cap L, arranged as specified.

No. 2380. ISAAC BROWN, Edinburgh, Scotland, 20th May, 1873, for 5 years: "Apparatus for Watering Streets and Roads." (Appareil pour arroser les rues et les chemins.)

*Claim.*—1st. The application and use to and in the watering of roads, streets, footpaths and other places open to traffic of the punctured lead or other soft metal pipes A, arranged as described and illustrated in the drawings; 2nd. The combination with the said punctured lead or other soft metal pipes A, of the perforated metal or othershields D, as described and illustrated in the drawings.

No. 2381. CYRUS W. SALADEE, St. Catharines, Ont., 20th May, 1873, for 5 years: "Compound Spiral Spring." (Ressort spiral combiné.)

The spring is formed of a number of thin plates laid together and bent into the required form at one operation so that such complete spring is formed of two or more plates instead of a single one as is now the custom.

*Claim.*—A compound spiral or scroll spring made up of two or more plates, bars, rods, or strands a, as set forth.

No. 2382. FRANCIS CULHAM, Widder Station, Ont., 20th May, 1873, for 5 years: "Machinery for operating Semaphore Signals." (Mécanisme pour faire fonctionner les signaux sémaphores.)

Claim.—The combination of the endless or double rod A, A, in the manner specified.

No. 2383. FERDINAND PELLETIER, St. Arsène, Que., 20th May, 1873, for 5 years: "A Harpoon Spear." (Une lance harpon.)

Claim.—Elle consiste 1o. Dans un harpon D, à rainure C, construit de la manière et pour les fins décrites; 2o. En combinaison avec le fusil à harpon A, le tambour B, pour recevoir la corde retenant le harpon; 3o. Dans la manière d'enrouler la corde dans le tambour B, pour les fins décrites.

No. 2384. THOMAS J. WINSHIP, Montreal, Que., 20th May, 1873, for 5 years: "Apparatus for Manufacturing Cigars." (Appareil à fabriquer les cigares)

Consists in the arrangement of the press used for pressing the "bunches" forming the inner body of cigars, which are afterwards covered by any suitable wrapper

Claim.—The combination of the leaves, provided with handles and pins, with guides *g*, and cross bar *h*, all constructed and arranged to operate as described.

No. 2385. JACOB B. VANDYNE, Louisville, Ky., U.S., 20th May, 1873, for 15 years: "Carbonic Acid Gas Fire Extinguishing Apparatus." (Appareil à gas acid carbonique pour éteindre les incendies.)

Consists in the arrangement of one or more cylinders provided with chemical ingredients which are mixed by the inversion of said cylinders, on pivots in the frame of a wheeled vehicle, or in stationary bearings and holding them in position by a latch. Also in providing the sides of the frame with hooks for ladders and in the use of a weighted stopper.

Claim.—1st. The fire-extinguisher H, pivoted to the chemical sides *c, c*, of a wheeled vehicle, and held in position by latches *G*. 2nd. The pieces *e, e*, of a fire engine provided with hooks *F*, on the outside; 3rd. A fire extinguisher provided with vitriol vessel B, having a weighted stopper C; 4th. The screw cap D, having the two armed lever L, and wrench-head M, as described.

No. 2386. JAMES DE P. BREWER, Muncy, Penn., U.S., 20th May, 1873, for 15 years: "Chute and Fish Way." (Passe à poisson.)

Claim.—A series of isosceles or equilateral triangles extending from the opposite side walls of the chute of a dam, and laid and secured in the bottom thereof, in the manner set forth

No. 2387. AIMÉ N. N. AUBIN, LOUIS GAUTHIER and GEORGE T. MAYRAND, Montreal, Que., 23rd May, 1873, for 5 years. "Stone Shaping and Polishing Machine." (Machine à tailler et polir la pierre.)

Claim.—1st. In the grinding disc *e*, so arranged that it can, at the same time, or independently move horizontally and vertically, while it is rotating on its own axle; 2nd. In the combination, with the grinding disk above described, of adjustable supports or bearings, by which a stone can be presented to the abrasive action of said grinding or polishing disk so that straight, curved, or plane surfaces, and their combinations can be obtained and duplicated as and for the purpose set forth.

No. 2388. JOSEPH M. PARKER, La Grange, Mo., U.S., 23rd May, 1873, for 5 years: "A Lamp." (Une lampe.)

Claim.—1st. The combination of the burner and wick supporting tube D, the hollow elastic wedge E, fitted to the inverted cone C, with the frustrum of a cone A, with the open top or safety valve to facilitate the exit of the explosive force of the gases; 2nd. The lamp fount T, having the conical sides A, and concave or conical or pyramidal bottom B, and the inverted and open conical top C, all as specified.

No. 2389. EDWARD H. COPLAND and HARRY McLAREN, Montreal, Que., 23rd May, 1873, for 5 years: "Wire Brush for Cleaning Castings." (Brosse en métal pour nettoyer la fonte.)

Claim.—The method of attaching the wire to the block by the combination of iron plates and slips of wood so that steam or water power may be applied without undue injury to wire or brush.

No. 2390. JOHN B. PARSON, JOSEPH BAKRET, and ROBERT C. MARWICK, Petrolia, Ont., 23rd May, 1873, for 5 years: "Petroleum Burner." (Appareil à consumer le pétrole.)

Claim.—The combination of the convergent passages *s, s, s, s*, for discharge of steam and the air passages *d, d*, and tar or oil feed pipe *F*, as set forth.

No. 2391. JAMES H. MILLER, Fredericton, N.B., 23rd May, 1873, for 5 years: "Railway Track Cleaner." (Chasse-neige de chemin de fer.)

Consists in a metal blade attached to each side of the cow-catcher worked by the Engineer by means of a rod running back to the cab of the engine.

Claim.—1st. The blades A, applied to each side of the cow-catcher of a locomotive or to a snow-plough for the purpose of removing snow and ice from the rails; 2nd. The combination with the blades A, and the rod *F*, long arm *E*, short arm *D*, rods *C*, and rock shaft *G*, for the purpose of raising and lowering the blades or scrapers; 3rd. A track cleaner composed of the above parts and attached to the cow-catcher of a locomotive as and for the purpose set forth.

No. 2392. RALPH L. WHYTE, Hamilton, Ont., 23rd May, 1873, for 5 years: "Tar Burner." (Appareil à brûler le goudron.)

Claim.—1st. The mixing of the steam by means of jets with the other elements of combustion; 2nd. The steam chamber *C, c, c*, and the pipe with angular perforations *D, D*, also the mode of keeping the pipe in its place and getting into the chamber to clean out by means of cap *E*, in the arrangement of steam pipe *A*, by which the steam is admitted into steam chamber *C, c, c*. Also in the arrangement of lower elbow or steam pipe *a*, whereby the centre is brought in a line with centre of *Tee* on the bottom of tar pipe *B*, allowing the burner to be moved up or down, or turned round as on a centre as and for the purpose set forth.

No. 2393. LEWIS GOODWIN, GOLD HILL, Nev., and SAMUEL A. WEST, San Francisco, U.S., 23rd May, 1873, for 5 years: "A Force Pump." (Une pompe foulante.)

Relates to certain improvements in that class of pumps known as "rotary" pumps.

Claim.—1st. The piston I, in combination with the rollers K, and the adjustable eccentric H; 2nd. The rollers K, when constructed in the form of a double cone, together with the bevelled eccentric H, and the bevelled interior of the piston for the purpose of retaining the latter in its central position, in the case at all times; 3rd. The piston I, operated as shown and provided with the elastic face J, for the purpose of giving a perfect rolling contact at all times; 4th. The side plates P, with their adjusting screws Q, in combination with the piston I; 5th. Combination with the adjustable packing plates P, the piston I, when channelled or chambered at L, for the purpose of furnishing a water packing; 6th. The sliding diaphragm or partition M, with its friction rollers O, and N, in combination with the piston I, channelled at L, the whole operating as described; 7th. A moveable diaphragm and its slide between the section pipe and discharge pipe; 8th. The vibrating valve T, constructed to operate as specified.

No. 2394. JOHN A. KLEY, Chicago, Ill., U.S., 23rd May, 1873, for 15 years: "A Chemical Fire Extinguisher." (Appareil chimique extincteur d'incendie.)

Relates to that class of chemical fire extinguishers in which the acid for a single charge is stored in a small receptacle suspended within and near the top of a larger receptacle containing the alkaline solution.

Claim.—1st. A fire extinguisher, the acid receptacle, B, made of glass and provided with a recess *b*, upon the outside as specified; 2nd. The ring C, when so constructed that the same can be opened for the purpose of inserting the bottle B, therein, and provided with bearings *c, c*, as specified.

No. 2395. JOHN L. POPE, Cleveland, Ohio, U.S., 23rd May, 1873, for 5 years: "A Machine for Tapping Gas Fittings." (Machine à tarauder les joints de tuyaux de gaz.)

Claim.—1st. The rotating carrier C, having or provided with a system of teeth or leaves, D, and pinion, R, in combination with the segmental gears, S, and T; 2nd. The construction and arrangement of the frame or bed, A, in combination with the rotary carrier C, and pinion E; 3rd. The wheel Q, and pinion L, in combination with the taps H, I, J, as arranged and operating in relation to and in connection with the rotary carrier; 4th. The spindle or mandrel K, nut P, in combination with the feed screw M, pinion R, wheel Q, and pinion L, arranged and operating as set forth; 5th. The cam D, pin or finger N, spring M, and slide J, in combination with the arms or levers *d, d*, and jaw A; 6th. The tapping apparatus so combined and arranged in relation to the rotary carrier C, that the taps are operated by means of segmental gears S, T, for entering and withdrawing said taps from the article to be tapped in the manner set forth; 7th. The stationary feed screw M, in combination with jam nut O, spindle R, and nut P, as described.

No. 2396. THOMAS FORFAR, Waterdown, Ont., 23rd May, 1873, for 5 years: "A Clothes Wringer." (Machine à tordre le linge.)

*Claim.*—The combination and arrangement of the several parts, namely the small roller B, in connection with the large roller D, for increasing the leverage power, the fluted shaft M, in the small roller for preventing the shifting of the rubber, the coil springs K, fitted inside of the frame for pressing the rollers to, also in the eccentric E, for holding the wringer on the tub, and the set screw for securing the handle on the shaft, all operating as set forth.

No. 2397. FREDERICK H. DATE, Niagara, Ont., 23rd May, 1873, for 5 years: "A Steam Gas Apparatus." (Appareil à gas à vapeur.)

Relates to improvements in that class of gas generating machines in which hydro-carbon vapor is generated by the heat of steam in a retort.

*Claim.*—1st. In combination with a retort B, the arrangement and combination of the supply pipe C, tube M, and casing tube T, enclosing the same, steam injection pipe E, and branch education gas pipe F; 2nd. The arrangement and combination with a gasometer A, and retort B, having the specified combination of a mixing chamber U, air induction valve D, lever arm H, connecting rod L, needle rod and needle valve operating as described whereby the excess and supply of gas for consumption is automatically regulated as set forth; 3rd. In combination with a gasometer A, rising and falling in a tank Y, the arrangement of the submerged air chamber or cylinder Z, within, and gas chamber S, below the tank and pipe W, connecting the gas chamber, with the gasometer, whereby an equalized pressure, in the distribution pipe, J, is maintained as set forth.

No. 2398. MYRON H. BOTSFORD, Sidney, Ont., 23rd May, 1873, for 5 years: "Machine for Washing Clothes." (Machine à laver le linge.)

*Claim.*—In the combination and arrangement of the case or cover A, the flanges C, and D, and the hollows or chambers E, and F, as and for the purpose set forth.

No. 2399. JAMES L. WILKIE, Woodstock, Ont., 23rd May, 1873, for 5 years: "Improvement on Boots and Shoes." (Perfectionnement des Chaussures.)

*Claim.*—The manufacture of boots and shoes, the application of an elastic piece C, secured to one of the quarters, and attaching to the opposite quarter by buttons, clasps, loops or other fastening device, with or without the intervention of the piece D, as set forth.

No. 2400. GEORGE W. SCOLLAY, New York, U. S., 23rd May, 1873, for 5 years: "Process of Preserving Animal Matter." (Procédé de conservation des substances animales.)

*Claim.*—1st. The blood of the animal, or the animal proteins compounds treated as set forth by which it is made or maintained in a fluid state, kept from separating or putrifying and rendered an antiseptic and preserving influence upon the animal meat or matter subjected to its action or influence; 2nd. The vegetable proteins compounds treated as set forth by which they are rendered antiputrescent, and an antiseptic and preserving influence upon animal flesh or tissue, treated with or subjected to its influence; 3rd. In immersing, packing or treating the carcass, flesh or tissues of the animal with or into the blood thereof or the proteins compounds animal or vegetable treated or prepared as described for the purpose of preserving the same; 4th. In preparing the carcass or meat of the animal for the more effectual preservation of the same, in or by the prepared blood, or proteins compounds or neutral solution by introducing in the arterial and venous systems thereof an antiseptic fluid, an antiseptic gas or vapor, either separately, or in combination, or a gas vapor or fluid which being so introduced will unite with and exert an antiseptic and preserving influence upon the flesh or tissues, of the body or any part thereof; 5th. In combining the internal and external application of the aforesaid antiseptic influence, to animal matter, for the purpose of preserving the same.

No. 2401. MARTIN P. HAYES, Seaforth, Ont., 23rd May, 1873, for 5 years: "Tubular Brine Evaporator." (Evaporateur d'eau de mer tubulaire.)

*Claim.*—1st. In the application to the underside of the fire chambers of an evaporating furnace of connected metal pipes or food tubes B, arranged under the grate bars A, for heating brine in its passage to the evaporating pans; 2nd. In constructing the fire chamber of an evaporating furnace with connected hollow bars, or tubes E, to serve as fire bars, and through which to pass the brine before admitting it to the evaporating pans D, as set forth.

No. 2402. RICHARD N. ALLEN, Pittsford, Vt., U.S., 23rd May, 1873, for 5 years: "A Railway Car Wheel." (Une roue de wagon de chemin de fer.)

*Claim.*—1st. In a cast-iron tire having an annular flange or web B, in combination with the corresponding annular paper filling or

packing C, C', plates D, D', and hub H; 2nd. In the construction of railway car wheels the filling or packing C, C', in combination with a tire and hub; 3rd. In a railway car wheel having paper filling or packing arranged between the tire A, and the hub H, secured together by suitable means as set forth.

No. 2403. FREDERICK OAKLEY, Toronto, Ont., 23rd May, 1873, for 5 years: "Machine for Washing Currants, &c. (Machine à laver les groseilles, etc.)

*Claim.*—In the combination of the perforated cylinder A, having moveable end C, with the tubes or rods H, together with axles or shafts D, E, and crank with adjustable bearings G, G, as described.

No. 2404. JAMES STONE, London, Eng., 4th June, 1873, for 5 years: "Apparatus for Economizing Heat." (Appareil pour économiser la chaleur.)

For the purpose of heating buildings or rooms, the main portion of the apparatus consists of two suitably shaped vessels or receptacles, one of which is placed within the other, the space between them with a layer of non-conducting material composed of pounded carbonate of lime, glass or silica. The inner vessel is filled with water impregnated with starch, chloride of calcium or other suitable heat absorbing material which will not act injuriously on the metal of which the apparatus is constructed.

*Claim.*—1st. In the outer vessel A, space C, filled with non-conducting, or partially non-conducting material, either in one or more layers, and one or more non-conducting, or partially non-conducting substances in combination with inner vessel B; 2nd. In the outer vessel A, space C, fire box E, flue or flues D, and chimney F, all arranged and working together as described.

No. 2405. JOHN S. ROBINSON, London, Ont., 4th June, 1873, for 5 years: "Petroleum Tar Burner." (Machine pour consumer le goudron de pétrole.)

*Claim.*—1st. In the formation of a steam chamber C, in an iron block, 2nd. In the extension of the tar nozzle one-eighth of an inch beyond the steam nozzle surrounding it; 3rd. In the insertion of short iron pipes and nozzles into an iron block as shown in figure 3.

No. 2406. STEPHEN F. GATES, Taunton, Mass., U.S., 4th June, 1873, for 5 years: "A Railroad Car Axle Box." (Boite d'essieu de wagon de chemin de fer.)

*Claim.*—1st. In the air tight oil-fountain forming a part of the axle box as described and arranged to regulate automatically the supply of oil to the axle through the agency of heat, the heat serving to force oil from the box by reason of the expansion of the oil or of the air and oil in the box; 2nd. In the glasses E, E, applied to the oil fountain of a car axle-box; 3rd. In the air tight oil fountain D, the plug screw K, or its equivalent, and the regulating faced valve H, or its equivalent, in combination with the aperture L, bearing B, and shaft A; 4th. In the pipe N, in combination with an air tight oil reservoir in or upon the car or platform, and with the axle-box as described.

No. 2407. FRANK BRAMER, Little Falls, N.Y., U.S., 4th June, 1873, for 5 years: "A Combined Wheel Harrow and Seeder." (Herse à avant-train et semoir combinés.)

*Claim.*—1st. In the main frame composed of the longitudinal bars A, and oblique transverse gang bar C', arranged as set forth; 2nd. In the combination with a wheel harrow of a seeding attachment having its seed distributor or agitator connected with and operated by the rotating axle or shaft of one of the wheel gangs or harrows as described; 3rd. In the construction of the pitman connection of the seed distributor and harrow wheel shaft of the parts J, J', J', to permit the adjustment of its length and angle as described; 4th. In the spools or thimbles L, provided with notches or perforated hubs or bosses or pins for securing the harrow wheels and causing their uniform rotation as described; 5th. In the removable seat socket O, applied to the frame bars A, as described.

No. 2408. ALLAN STIRLING, Troy, N.Y., U.S., 4th June, 1873, for 5 years: "Balanced Slide Valves." (Tiroirs de vapeur d'équilibre.)

*Claim.*—In the valve C, and balancing piston D, connected by a rod which has a central joint, the pivot of which stands at right angles to its bearings E, and B, at either end as specified.

No. 2409. GEORGE T. SMITH, Washington, D.C., U.S., 4th June, 1873, for 5 years: "Process of Making Flour from Middlings." (Art de faire de la farine avec les graux.)

*Claim.*—In the process of manufacturing flour from middlings by regrinding, rebolting and repurifying by currents of air substantially as set forth.



No. 2410. HENRY G. W. KETTRIDGE, Petrolia, Ont., 4th June, 1873, for 5 years: "Tar and Petroleum Burner." (Fourneau consommant le goudron et le pétrole.)

Relates to the method of arranging the several pipes so as to unite the hot air with oil or tar and steam and to the principle of a downward discharge.

Claim.—1st. In the combination of steam pipe D, oil pipe F, and air pipe I; 2nd. In the combination with steam pipe D, oil pipe F, and air pipe I, the downward discharged pipe M.

No. 2411. DAVID E. TAYLOR, Charlton, and THOMAS H. DODGE, Worcester, Mass., U.S., 4th June, 1873, for 15 years: "A Spring Bed." (Un lit à ressorts.)

Claim.—1st. In the combination with the canvass F, of tension springs C, having their upper parts bent, as shown at e; 2nd. In a tension bed spring c, having an upper supporting bend e, and lower coiled and bent ends; 3rd. In a holding button K; 4th. In the combination with the springs B, and slats J, of the buttons K; 5th. In the combination with a base rail A, and a canvass strap F, of the slotted holding parts G; 6th. In the combination with a base rail and canvass F, of the tension springs C, buttons a, and screws b; 7th. In the combination with the base rail A, and slats J, of the tension springs c, canvass F, supporting springs B, attaching parts G, and buttons K.

No. 2412. ELBRIDGE G. LIBBY, Medford, Mass., U.S., 4th June, 1873, for 5 years: "A Turbine Water Wheel." (Une turbine hydraulique.)

Claim.—1st. In the bed plate E, with its portion 12 to 13 inclined down and toward the axis of the wheel and provided with apertures d, in combination with a wheel D, the floats or buckets of which are inclined downward and inward, and discharge the water at its outer periphery; 2nd. In an inclined gate G, in combination with an inclined bed plate E, and wheel D, operating in the manner set forth; 3rd. In a gate G, provided with openings s, as described.

No. 2413. MILLINGTON H. SYNGE, London, Eng., 4th June, 1873, for 5 years: "A Deodorizing Apparatus." (Un appareil désinfectant.)

Consists in combination with a self-acting deodorant discharge apparatus of a series of intercepting pans applied to a closet and capable of receiving an intermittent axial motion by means of which empty pans are brought in succession into position and when filled are caused to discharge their contents into a receptacle below. Also in the means employed for preventing the apparatus from being tampered with.

Claim.—1st. In the arrangement of rotating pans as described in the drawings sheet 1, and the mechanism in connection therewith for automatically supplying the charcoal or other deodorant to the pans; 2nd. In the combination of a horizontal shaft with a series of measuring wheels or instruments for effecting the intermittent discharge of a deodorant on to faecal matters when the axial motion of such shaft is controlled by a locked lever or equivalent device.

No. 2414. ROBERT C. PARVIN, Farmington, Ill., U.S., 4th June, 1873, for 5 years: "Improvements on Traction Engines." (Perfectionnements aux locomotives.)

Claim.—1st. In a traction engine having the following parts namely: a frame supporting an endless traction band or carrier, a boiler and forward guiding wheels, when said frame and wheels are united by an intermediate joint; 2nd. In a traction engine or land carrier so constructed that the front and rear sections may adapt themselves independently of each other to uneven surfaces or obstructions upon the ground; 3rd. In a traction engine in which the boiler is located between the rear frame and front driving wheels of the engine and while supported by both said frame and wheels does not rest directly upon either; 4th. In a traction engine provided with an endless carrier or band for moving the engine over the ground the construction of the feet with convex or rounded surfaces for the purpose set forth; 5th. In the combination of the boiler c, and frame a, when said parts are swivelled or jointed as described; 6th. In the described combination and arrangement of the axle D, boiler C, frame A, and traction band B, as described.

No. 2415. GEORGE BOLTON & RICHARD ROTHWELL, Arnprior, Ont., 4th June, 1873, for 5 years: "A Pump." (Une pompe.)

Claim.—1st. In the sheet metal tubular lining B, applied to a wooden pump cylinder A; 2nd. In constructing the piston of two portions C, D, the upper portion tapering as set forth, and the application of the annular packing ring E, of leather or other material.

No. 2416. JOHN M. VANALSTYNE, and WILLIAM MITCHELL, West Troy, N. Y., U. S., 4th June, 1873, for 5 years: "A Culinary Boiler." (Une chaudière de cuisine.)

Claim.—In the combination of the pipe E, with the steamers A, C, and D, also in the detached perforated bottom in each steamer and the oval shaped steamer on top.

No. 2417. ANSON T. BUTTON & SAMUEL J. LUNDY, Uxbridge, Ont., 4th June, 1873, for 5 years: "Gang Plow Attachment." (Disposition des charrues à socs multiples.)

Claim.—1st. In the radial wheel K<sub>1</sub>, and its application to the forward part of gang plows, so as to run in the furrow; 2nd. In the combination of the radial wheel K<sub>1</sub>, with the arm M, bracket L, rack T, pinion P, shaft H, circular flange S, connecting rod F, motive lever A, catch lever C, spring B, wheel E, ratchet segment R, boss X, studs Y, and journal Z, whereby the plow can be raised or lowered by the plowman as he may desire, the depth of the plowing uniformly gauged, and the plow easily turned without lifting or handling.

No. 2418. TIMOTHY F. ALLYN, Nyack, N. Y., U. S., 4th June 1873, for 15 years: "Railway Freight Car Spring." (Ressort de wagon de chemin de fer.)

Claim.—In the combination of the spring plates E, E, with the end clasps A, A, and the frame C, or its equivalent, thus securing the end clasps A, A, in place without subjecting the frame C, to vibration from the action of the spring plates E, E.

No. 2419. TIMOTHY F. ALLYN, Nyack, N. Y., U. S., 4th June, 1873, for 15 years: "Railway Car Elliptic Spring." (Ressort elliptique de voiture de chemin de fer.)

Consists in constructing a steel plate spring so as to obtain the maximum elasticity and sustaining capacity of the material employed.

Claim.—1st. In the combination of the spring plates E, E, and clasps B, B, bolts or rivets F, F, auxiliary springs A, A, housings D, D, and india rubber bearings C, C, all working together in the manner described; 2nd. In the combination of the spring plates E, E, constructed in the manner described with the end clasps B, B, and bolts or rivets F, F; 3rd. In the auxiliary springs A, A, arranged between the ends of the plate springs E, E, in the manner described.

No. 2420. JOSEPH C. FIRTH, St. Catharines, Ont., 4th June, 1873, for 5 years: "A Grain Separator." (Un séparateur des grains.)

Claim.—1st. In the fan box K, and fans L, and counter screen E, arranged and combined with a hopper A, and series of screens F, of a grain separator; 2nd. In the arrangement of the counter screen E, in combination with a series of screens F, and hopper A; 3rd. In the adjustable pich board B, applied to the hopper a, in combination with a sliding bottom C; 4th. In providing the hopper A, with a sliding bottom C; 5th. In the drawer P, provided with partitions inclined bottoms, and openings Q as set forth.

No. 2421. LYMAN TOWER, Berlin, Ont., 4th June, 1873, for 5 years: "A Washing Machine." (Une machine à laver.)

Relates to that class of washing machines in which a vertically arranged perforated beater is operated by a horizontal lever to press the clothes against a vertically arranged wash board.

Claim.—1st. In the adjustable cover formed of sections E, and F, hinged together in combination with the box A; 2nd. In the segment brace G, in combination with the lever D, and beater B.

No. 2422. EBENEZER TUTTLE, Canaan, Me., U.S., 4th June, 1873, for 5 years: "A Water Wheel." (Une roue hydraulique.)

Consists in placing a circular disc below the seat of the wheel leaving a space between the wheel and the bottom of the shaft for the reception of water for the purpose of buoying up the wheel and thereby removing friction from the lower end of the driving shaft.

Claim.—In the combination of the wheel A, having the buckets A, A, of the form shown, the gate G, having the horizontal plates g, g, the shaft H, disk D, rim b, and arms h, h, extending upward and attached to the shaft H, as described.

No. 2423. DEXTER CURTIS, Sun Prairie, Wis., U.S., 4th June, 1873, for 5 years: "Harness Lining." (Doublure de harnais.)

The object of the invention is to prevent the chafing or galling of a horse by the harness and to promote the healing of the flesh when thus galled or chafed.

*Claim.*—1st. In the lining of horse collars and sweat pads with sheet lead or its alloy; 2nd. In the lining of such parts of harness as come in contact with the flesh of the horse with sheet lead or its alloy.

No. 2424. JAMES GRIFFING & BENJAMIN H. SMITH, Ipswick, Mass., U. S., 5th June, 1873, for 5 years: "Machine for Heading Barrels." (Machine à faire les fonds de futailles.)

*Claim.*—In the lever A, bearer B, hooked arm C, hanger D, and spur E, or stirrup F, or both, all combined and arranged together as specified.

No. 2425. DAVID HEATON, Providence, R. I., U. S., 5th June, 1873, for 5 years: "Combination Tools." (Combinaisons d'outils.)

Consists of a combination and arrangement of several well known tools in one, in convenient form for the separate use of either one of the combination, with the object mainly to produce a belt-mending implement for use in manufactories, &c.

*Claim.*—1st. In the combination and arrangement of the guide K, notch F, and toothed slot G, with the two screws forming the jaws and handles constructed as described; 2nd. In the combination of the file the prying implement L, awl reamer knife blade, rule and pinchers as described; 3rd. In the belt-mending tool having a knife blade on one handle, and an awl on the other, the sheath O, for the blade and the sheath P, for the awl as described; 4th. In the combination in a single implement of the several tools described.

No. 2426. THOMAS H. HICKS, Chatham, and THOMAS A. PARISH, Ridgeway, Ont., 5th June, 1873, for 5 years: "Process and Machine for the Manufacture of Gas." (Procédé et appareil de fabrication du gaz.)

*Claim.*—The generation of an electro-oxo-hydro carbon gas by means of the action of sulphuric acid on water, quicklime, oil and proteins in the cylinders A, and B, and the combination of A, and B, with C, D, E, F, G, H, as a machine therefor for the purpose set forth.

No. 2427. JAMES COLLINGE & CHRISTOPHER W. J. POOLE, Toronto, Ont., 5th June, 1873, for 5 years: "Metallic Venetian Shutter." (Jalousie en métal.)

So arranged that by raising or lowering the shutter the amount of light admitted can be more perfectly adjusted than by the venetian shutters now in ordinary use. The window sash being rendered burglar proof.

*Claim.*—The combination of metallic venetian sash blinds or shutter B, B', B'', sliding vertically past each other in upright metallic frame C, as set forth.

No. 2428. DENISON CHASE, Orange, Mass., U. S., 5th June, 1873, for 15 years: "Dog for Saw-mills." (Clameau de scierie.)

More particularly adapted to circular saw-mills.

*Claim.*—1st. In a dog for holding saw logs consisting of an adjustable claved bar E, and stand D, made and operating as described; 2nd. In the combination of the aforesaid dog with the slotted guide C; 3rd. In the combination of the lugs J, with the stand D, and bar E; 4th. In a dog for holding saw logs consisting of the head plate A, slotted upright C, vertical stand D, and dog proper E.

No. 2429. ELI J. SUMNER, Chicago, Ill., U. S., 11th June, 1873, for 10 years: "Dry Kil for Lumber." (Four de séchage du bois.)

*Claim.*—The floor S, in combination with the register O, the tub A, the opening H, the curtains I, and D, the metal strips C, the openings G, and the air drafts A, G, and M, all being arranged and used as set forth.

No. 2430. LOFTUS PERKINS, London, Eng., 11th June, 1873, for 5 years: "Packing Rings for Steam Engine Pistons and on the Wearing Surfaces of Slide Valves, &c." (Garnitures métalliques des pistons de machines à vapeur et surface de frottement des tiroirs de vapeur, etc.)

*Claim.*—The construction of piston rings and the wearing surfaces of slide valves and bearings and other such like wearing surfaces of a metal capable of burnishing or polishing in presence of water or steam without the use of oil and composed of copper and tin within the proportions given.

No. 2431. MARTIN P. HAYES, & PETER McEwan, Seaforth Ont., 11th June, 1873, for 5 years: "Brine Evaporating Furnace." (Fourneau d'évaporation de l'eau de mer.)

*Claim.*—1st. The construction of evaporating furnaces the return flues E, E', arranged and formed within and against the side walls A, A', to pass to smoke stacks H, H', at the two front corners of the furnace in combination with the furnace chambers D, D', and evaporating pans F; 2nd. The application to the bottom of all the flues of a heat radiating composition compounded of ash, and water lime, or other non absorbent heat of which ashes forms the chief ingredient; 3rd. In providing the evaporating pans F, with angle or T bars of iron bedded into the top of the walls between the return flues and furnace chambers.

No. 2432. JAMES L. SMITH & BENJAMIN MOR-TON, Toronto, Ont., 11th June, 1873, for 5 years: "Art of Road Making." (Art de faire les chemins.)

*Claim.*—The use of blocks of wood in their natural rough state with a filling of gravel, or gravel, sand and lime, or any other similar hard binding and good wearing substances for the making of pathways and roadways.

No. 2433. DAVID RENSCHAW, Syracuse, N. Y., and LOUISA A. LONG, wife of F. LONG, Hingham, Mass., U. S., 11th June, 1873, for 5 years: "Steam Generator." (Générateur de vapeur.)

The object of the invention is to secure a greater economy of space for any given amount of boiler power and also to produce a more economical generation of steam.

*Claim.*—1st. The combination of the reverberatory furnace a, the pipe D, the pipes E, the pipes E', branching out from the pipes E, and returning thereto, and the steam drum G; 2nd. The combination of the reverberatory furnace a, steam drum G, placed outside of the said furnace, horizontal pipe B, and flat disc or equivalent shaped sections H, H', each connected to the said steam drum G, and horizontal pipe D, and having all its surfaces upon which the contained water rests, and upon which sediment can form or deposit, inclined downwardly toward its connection with the horizontal pipe D, and the whole being constructed as set forth; 3rd. The combination with the reverberatory furnace a, of the flat section N, N', made broader in the middle thereof than at their ends and stay bolted by means of stay bolts cast therewith, the pipes E, E', the cross-cylinder or pipes M, M', the cylinders or pipes D, and L, L', and the steam drum or steam chest G, 4th. The sections N, N', with stay bolts cast in the same piece and hollow with the outer ends of the openings through them enlarged and the inside angles rounded so as to unite the said stay bolts with the shell of the section upon a curve both inside and outside instead of at an angle.

No. 2434. DAVID RENSCHAW, Syracuse, N. Y., and LOUISA A. LONG, wife of F. LONG, Hingham, Mass., U. S., 11th June, 1873, for 5 years: "Sectional Steam Boiler." (Chaudière à vapeur à compartiments.)

*Claim.*—1st. The reverberatory furnace built up of sections, each section or any number of them being cast in a single piece and stay bolted as described; 2nd. The combination of a fire chamber or furnace built up of sections, each section or any number of them, being cast in a single piece and stay bolted with steam generating apparatus, contained within said furnace; 3rd. The reverberatory furnace having its sides composed of a series of flat or flattened sections A, A', curved so as to form an arch when put together, each being complete in itself and connected at or near the top with the steam drum E, and at or near the bottom with the lower water space H; 4th. The combination of the horizontal cross-pipe C, the vertical pipes F, connecting directly with the pipes C, and the pipes G, also connecting directly with the pipes C, at their lower ends, and with the pipes F, at their upper ends; 5th. The combination of the horizontal cross-pipes C, the vertical pipes F, connecting directly with the cross-pipes C, also connecting directly at intervals with the cross-pipes C, and the steam drum E; 6th. The combination of the horizontal cross-pipes C, the vertical pipes F, connecting directly with the said pipes C, the pipes G, also connecting directly with the said pipes C, at their lower ends and with the pipes F, at their upper ends, and the removable heads C, attached to the ends of the horizontal pipes C; 7th. The combination with the reverberatory furnace a built up of sections and stay bolted of the vertical pipes O, opening into the crown thereof, 8th. The combination of the said reverberatory furnace the vertical tubes O, O', opening into the crown thereof and the cross pipes or cylinders C, C'; 9th. The combination of the said reverberatory furnace the tubes O, O', opening into the crown of the said furnace, and the steam drum E; 10th. The combination with the steam drum E, of the vertical pipes F, curved pipes Q, branching from the said pipes F, and returning thereto, and cross pipes placed in a reverberatory furnace.

No. 2435. ALEXANDER MCCALLUM & THOMAS MOFFAT, Dundas, Ont., 11th June, 1873, for 5 years: "Portable Parlor Grate." (Grille de salon portative.)

Relates to the class of grates usually composed of a metal front and metal grate and set in masonry which forms the back and it



consists in having an iron hook permanently secured to the front piece which dispenses with the masonry and renders the grate portable.

*Claim.*—In the combination of the back casting B, with smoke conveying nozzle C, the same permanently attached to the front A, of a parlor grate.

No. 2436. FREDERICK P. THOMPSON, Fredericton, N. B., 11th June, 1873, for 5 years: "A Safety Washer." (Une rondelle de sûreté.)

*Claim.*—In the washer with an eccentric centre and the loose collar with the fastener, in combination forming safety washer as shown in the annexed plans.

No. 2437. CHARLES A. GREGORY & WALTER M. RICE, Montreal, Que., 11th June, 1873, for 5 years: "A Fire Escape." (Appareil de sauvetage.)

This invention have for its object the production of a cheap and portable fire-escape. Simple in its construction and requiring no practice to operate it.

*Claim.*—In the yoke A, chains and hooks B, and C, and sheave D, in combination with rope E, hook F, or its equivalent, bag L, and sheave M, all contained for transport in case H, as described.

No. 2438. THOMAS C. MORTON, Waterbury, Ct., U.S., Assignee of Jeremiah Stever, Bristol, Ct., U.S., 11th June, 1873, for 15 years: "Picker Motion." (Mouvement de fouet de métier à tisser.)

Relates to an improvement for actuating the picker-staffs of looms the object being to impart to the staff a motion of the same power without regard to the velocity with which the loom is operated, in order to prevent the possibility of the shuttle stopping in its passage across the loom.

*Claim.*—1st. The levers L, L', attached to their respective picker staff, combined with the respective springs N, N', and levers P, P', and cams to actuate the said levers and springs, 2nd. In combination with the levers L, L', their respective springs and levers P, P', the bunters S, S', to receive the said levers at the completion of their throw

No. 2439. CHARLES A. GREGORY & WALTER M. RICE, Montreal, Que., 11th June, 1873, for 5 years: "Fire Life Preserver." (Appareil de sauvetage.)

Consists in providing a means whereby persons who are situated in the upper stories of a building on fire where all egress is cut off can avail themselves of assistance rendered from below and then escape.

*Claim.*—1st The box A, having compartments B, C, and D, windlass E, cord F, ball or hook K, and belaying pin L, 2nd. The box A, having compartment B, chamber F, windlass E, cord F, ball or hook K, with or without belt M, 3rd. The combination of a match box D, with a box provided with windlases E, cord F, and ball or hook K, as described.

No. 2440. WILLIAM ELLIS, London, Eng., 11th June, 1873, for 5 years: "Wood Cutting Machine." (Machine à découper le bois.)

*Claim.*—1st The peculiar construction, application and use of the hollow octagonal (or other suitably shaped) dove-tailed sectional top or longitudinal divider *m*<sub>1</sub>, together with the sections *n*<sub>1</sub>, of any required pattern applied thereto, 2nd. The application and use of the lower or transverse dividers *e*<sub>1</sub>; The oblique slides *c*, in which the veneer knife *u*, descends and the means for causing such descending motion, consisting of shaft *p*<sub>1</sub>, worm *r*, wheel *s*, worm *t*, and carrier *u*; 4th. The peculiar means for causing the sectional divider *m*<sub>1</sub>, with its embossing or other sections *v*<sub>1</sub>, to descend in the oblique standards *b*, consisting of worm *k*<sub>1</sub>, wheel *j*<sub>1</sub>, and worm *l*<sub>1</sub>, actuated from *p*<sub>1</sub>, through shafts *f*<sub>1</sub>, and *h*<sub>1</sub>; 5th. The peculiar means for causing the transverse dividers *e*<sub>1</sub>, to ascend at an equal rate to the descent of the sectional divider *m*<sub>1</sub>, and the veneer knife *u*, consisting of worm *b*<sub>2</sub>, driven by wheel *z*<sub>1</sub>, intermeshing with worm *p*<sub>1</sub>, and driven by shaft *p*<sub>1</sub>, through shafts *r*<sub>1</sub>, *u*<sub>1</sub>, and *s*<sub>1</sub>, properly geared; 6th. The oblique standards *b*, for causing the sectional divider *m*<sub>1</sub>, to approach the wood in a direct line with the veneer knife *u*; 7th. The peculiar means for lifting the block into position consisting of receptacles *p*<sub>2</sub>, secured to slides *c*<sub>2</sub>, worked by worm *b*<sub>2</sub>, rotated from shaft *h*<sub>2</sub>, through gears *i*<sub>2</sub>, and *j*<sub>2</sub>, and shafts *u*<sub>1</sub>, and *s*<sub>1</sub>; 8th. The peculiar means for centring the same when in position consisting of centres *e*, twin shaft *f*, worms *n*<sub>2</sub>, wheel *o*<sub>2</sub>, or *p*<sub>2</sub>, rotated in either direction from shaft *r*<sub>2</sub>; 9th. The peculiar means for regulating the angle of the veneer knife, consisting of worms *w*, *x*, and *y*, worm boxes *a*<sub>1</sub>, and carrier *u*<sub>1</sub>; 10th. The peculiar construction for sharpening the same consisting of hollow shaft *u*<sub>2</sub>, oil stone *v*<sub>2</sub>, boss *z*<sub>2</sub>, and worm *o*<sub>2</sub>; 11th. The peculiar means for receiving separating and removing the laths, consisting of receivers *A*<sub>3</sub>, secured to carrier *u*, and travelling belt *z*<sub>3</sub>, all as described and illustrated on the accompanying drawings.

No. 2441. THEOPHILUS NEWBOLT & WILLIAM MINSER, Salisbury, Mo., U.S., 11th June, 1873, for 5 years: "Waggon Tongue Holder." (Tuteur de limonier.)

*Claim.*—In the punctured plates *a*, *a'*, each having a semi-tubular portion B, at top hinged together, to receive the neck yoke, and interposed rubber or leather D, punctured to receive the tongue secured by compression of the plates flatwise by inserted screw bolts F, the whole arranged and combined for the purpose set forth.

No. 2442. CEVERA B. SHELDON, New York, U.S., 11th June, 1873, for 15 years: "A Furniture Castor." (Une roulette de meuble.)

*Claim.*—1st A socket for a castor ball formed of two concentric sheet metal cups, the inner one B, having the circumferential enlargement F, at the base and the cavity or bent portion H, at the top; 2nd. The combination of the elastic lining E, with the sheet metal cups of the castor; 3rd. A castor with a fastening screw combined with the cup-shaped nut J, and the leg; 4th. The fastening screw attached to the cup D, and having two threads of different pitch and fastened to the nut J, and the leg; 5th. The ball holding cup E<sub>1</sub>, secured in the cavity of the trunk frame by means of the clips on tongues H', struck from the metal plate lining of the cavity and bent over the rim of said cup as represented in figures 1<sup>a</sup>, 2<sup>a</sup>, and 3<sup>a</sup>; 6th. In combination with a castor a casing composed of two or more parts, one of which is attached to a stand or bracket and the other to the fastening or screw plate, with friction balls between the two as shown in figures 1<sup>b</sup>, 2<sup>b</sup>, and 3<sup>b</sup>; 7th. The friction balls K<sub>1</sub>, arranged in the annular groove L, formed between the inner side of the cup G<sub>2</sub>, and the turned out flange of the cup D<sub>1</sub>, as represented in figures 1<sup>b</sup>, 2<sup>b</sup>, and 3<sup>b</sup>; 8th. The socket plate E<sub>3</sub>, provided with the extension F<sub>3</sub>, for the spindle combined with the balls D<sub>3</sub>, spindle C<sub>3</sub>, brackets A<sub>3</sub>, and the socket lining G<sub>3</sub>, as represented in figures 1<sup>c</sup>, and 2<sup>c</sup>; 9th. The socket case or lining G<sub>3</sub>, constructed of a plate in the form represented in figures 3<sup>c</sup>; 10th. A castor wheel composed of two parts formed up of sheet metal and fastened together by rivets or by a tube K<sub>3</sub>, as represented in figures 2<sup>c</sup>, and 4<sup>c</sup>; 11th. The socket E<sub>4</sub>, F<sub>4</sub>, provided at the top with the screw G<sub>4</sub>, and at the bottom with the annular recess J<sub>4</sub>, in combination with standards A<sub>4</sub>, spindle C<sub>4</sub>, and balls D<sub>4</sub>, as represented in figure 1<sup>d</sup>, 12th. The combination of the washer H<sub>1</sub>, with the socket H<sub>1</sub>, F<sub>1</sub>, and screw G<sub>1</sub>, as represented in figure 1<sup>a</sup>

No. 2443. JAMES B. JOHNSON, Portland, Me., U.S., 11th June, 1873, for 10 years: "A Steam Pump." (Une pompe à vapeur.)

*Claim.*—1. In so constructing the outer pump casing that both ends of the pump barrel throughout its whole stroke are within said forcing chamber and subject to pressure on both ends and all around it alike. 2nd. In sinking the pump heads J, K, within the moving barrel thereby displacing nearly all air therefrom. 3rd. In making the space greater between ports M, M, in pump barrel H, than the distance between abutment L, L; 4th. In casting the lug N, for working pump barrel H, on its outer end, that said barrel can be removed on taking off outer head of pump; 5th. In making the abutment rings so that by slacking up set screws *d*, *d*, *d*, they can be taken out, and be refitted to pump barrel should they ever require it; 6th. The combination of the several parts as described.

No. 2444. JOSEPH PENNEY, Grand Rapids, Mich., U.S., 11th June, 1873, for 5 years: "Machine for Splitting Hoop Poles." (Machine à fendre le bois feuillard.)

Consists of two sets of self-adjusting friction rolls operating in planes at right angles to each other to feed the poles against an oscillating knife, thereby enabling the machine to handle either round poles or half round splints.

*Claim.*—1st In combination with the knife O, the friction rolls described for feeding the pole, and the centring rolls M, N, operating in the manner described; 2nd. In combination with the splitting knife O, the sockets *r*<sub>1</sub>, *r*<sub>2</sub>, and their set screws for adjusting the knife, as described.

No. 2445. DAVID BARKER, Northfleet, Kent, Eng., 11th June, 1873, for 5 years: "Manufacture of Artificial Fuel." (Fabrication de combustible artificiel.)

This invention has for its object the utilization of coal and other carbonaceous substances when in a state of powder or fine division, so as to produce a solid and smokeless fuel especially adapted for smelting iron and other metals.

*Claim.*—1st In the manufacture of fuel by treating carbonaceous substances and combining with them the solution of sulphate of alumina or chloride of alumina preferably with mucilage required to give the fuel cohesion; 2nd. The use of the solution of sulphate of alumina or of chloride of alumina in combination with carbonaceous matters prepared in the manner and for the purpose set forth.

No. 2446. GEORGE R. MENEELY, West Troy, N. Y., U. S., 11th June, 1873, for 5 years: "Bell-metal Journal Boxes." (Cousinets en métal de cloches.)

*Claim*—1st. The Journal boxes, or axle bearings for railroad cars, and other purposes, having a lining of hard brass, bronze or bell metal, to resist wear and a tough metal back to give it the required strength; 2nd. In welding brass, bronze or bell metal, to iron or steel, by first cleaning the iron or steel surface, and continuously pouring the brass, bronze or bell metal over or on said surface until the fibres of metals unite, and form a weld as described.

No. 2447. ALGERNON S. WHITING, Oshawa, Ont., 11th June, 1873, for 5 years: "A Monkey Wrench." (Un manche de teraud.)

*Claim*—The adaptation of the eccentric or cam C. placed between two chaws H, H', or adjusted to a single chap extending behind the movable lower jaw B, which eccentric C. presses against the back bar of the wrench, thereby forming a firm fixture at any desired opening within the compass of the length of the back-bar.

No. 2448. ANDREW HUNTER & EGBERT H. OSBORN, Quincy, Ill., U. S., 11th June, 1873, for 5 years: "Machine for Purifying Middlings and Flour." (Machine pour purifier les gruaux et la farine.)

*Claim*—1st. The vibrating levers E, in combination with chute or screen B, for operating the same; 2nd. The combination and arrangement of cams D, vibrating levers E, with screen B, to impart a lateral movement; 3rd. The combination of the levers E, and straws F; 4th. The combination of the levers E, and friction rollers F; 5th. The combination and arrangement of cam D, vibrating levers E, chute B, and hangers C, procuring a peculiar percussion movement whereby the middlings will move rapidly on a level surface or up an elevation; 6th. The combination of vibrating levers E, and set screws K; 7th. The combination of levers E, and springs O; 8th. The hanger C, placed in an angular position; 9th. The hanger C, in combination with chute B; 10th. The feed trough K, for distributing middlings or flour evenly on any machine; 11th. The feed trough K, in combination with screen B; 12th. The combination of wire and holting cloth for covering a chute or screen; 13th. The fan I, in combination with screen B, whereby a blast of wind is forced up through the screen or chute; 14th. The fan I, for producing a blast of wind up through a screen for purifying middlings; 15th. The combination of chute B, and dust chamber L; 16th. The fixed board T, with a sufficient number of spreaders R, distinct from a point, extending the width of the screen, sufficient to spread the middlings evenly on the screen; 17th. The brushes S, placed under the screen and operated by an attachment or handles extending to the outside of the machine; 18th. A chute or screen B, of any required length or width in combination with the other devices.

No. 2449. CHRISTOPHER WORDEN & JOSIAH B. PLUMB, Niagara, Ont., 11th June, 1873, for 5 years: "Process of Converting Cast or Wrought Iron into Steel." (Procédé pour convertir le fer ou la fonte en acier.)

*Claim*—The conversion of cast malleable or wrought iron into steel by the process of dipping or immersing it in a bath of molten cast iron as described.

No. 2450. NELSON JOHNSON & WILLIS E. CRAIG, Jasper, N. Y., U. S., 11th June, 1873, for 15 years: "Circular Saw Teeth." (Dents de scies circulaires.)

*Claim*—The plate *a*, provided with lip *c*, in combination with the tooth *b*, having lips *d*, and *f*, and the rivet *e*, when constructed as described, so that the strain of the rivet will be on the tooth both ways.

No. 2451. WILLIAM MARNE, Dillon, Que., 11th June, 1873, for 5 years: "Hook and Clevis." (Crochet et volée.)

Consists in constructing the hook and clevis in such a manner that the danger of their becoming accidentally separated is avoided and so forming them that the one may be removed from the other whenever it is considered advisable.

*Claim*—The hook E, with cam B, curve A,  $\lambda$ , and projections F, in combination with clevis B, having grooves D, as described.

No. 2452. GEORGE W. FRANK, Hamilton, Ont., 11th June, 1873, for 5 years: "Sewing Machine Thread Controller." (Régulateur du fil des machines à coudre.)

*Claim*—In applying a thread controlling device to a sewing machine whereby the thread is held perfectly tight for a certain length of time during the formation of each stitch and is released entirely for the remainder of the stitch as specified.

No. 2453. WILLIAM MCGINISS, Canandaigua, N. Y., U. S., 11th June, 1873, for 5 years: "Method of Building." (Art de construire.)

*Claim*—1st. In a building constructed with hollow walls and having a ventilation through iron collar to rock, the metallic binders built in between the courses connecting the thickness of the walls and lapping under the flooring timber, in the manner specified; 2nd. In combination with the hollow walls connecting with the cellar by ports or passages, e. e., the tubes *f*, *g*, extending to the ventilator *h*, in the manner specified; 3rd. The pipes *d*, *d*, connecting the hot air pipes of the furnace with the hollow walls and the register holes *f*, *f*, opening from the rooms into the hollow walls as set forth.

No. 2454. SAMUEL J. PAYNE, Charlton, Kent, Eng., 11th June, 1873, for 5 years: "A Fire Resisting Composition." (Une composition réfractaire.)

Relates to a preparation of a plastic compound suitable for lining reservoirary and other furnaces which are subjected to an intense heat and also to the manufacture of fire bricks, crucibles, retorts and other fire-ware goods.

*Claim*—1st. A plastic composition consisting of silicious and aluminous materials combined with calamine in the proportions set forth; 2nd. In the application of calamine to the external surfaces of moulded articles composed of a plastic compound of silicious and aluminous materials in the manner set forth.

No. 2455. FRANCIS N. DAVIS, Beloit, Wis., U. S., 14th June, 1873, for 5 years: "Paper Board for Buildings." (Carton pour les bâtisses.)

Which is intended to take the place of lath and plastering and to form a substitute for wall paper.

*Claim*—1st. A new article of manufacture in building paper or board in continuous lengths made either plain, or fire proof, or water proof, or both fire and water proof, and having a wall paper finish; 2nd. The process as described, for giving a wall paper finish to continuous lengths of building paper or board.

No. 2456. WILLIAM SILVERTHORN, Windham, Ont., 14th June, 1873, for 5 years: "A Cultivator." (Un cultivateur.)

*Claim*—1st. The plows J, constructed of the peculiar concavo-convex form as shown and described; 2nd. The adjustability of the wheels P, bottom perforated plates E, by the shifting axle as described; 3rd. In the adjustability of the rear standard C, C, laterally by the inserted transverse bar K, secured between the handles B, at the arms M, and screw device N, arranged and operating as set forth.

No. 2457. EDOUARD JULIEN, Kingston, Ont., 14th June, 1873, for 5 years: "Reed Organs." (Orgues à feux d'arches.)

*Claim*—The combination of the blast bellows with the suction bellows by means of the shaft *f*, regulated by the weights *g*, *h*; 2nd. The pipes or chambers *k*, *h*, *h*, *h*, *h*, *h*, into which the reed sets upon connecting with the suction bellows. And similar pipes or chambers by any reed set which may be used, whether governed by wells as in the said pipes or chambers, or governed by a pipe or pipes as in the case of the subass chamber Y, and its pipe, or connected as *x*, *x*, with attachments, similar to or of the character of the clarinet and piccolo attachments; 3rd. The clarinet and piccolo attachments consisting of the pipes *p*, *k*, *l*, *l*, adjusted in connexion with the suction or blast bellows or both and placed behind the action or as at T, within the action. The valve V, operated as described, the swell range C, for the piccolo and clarinet attachments operated from the key board; 4th. The upright shaft or rod moving from the pedal *o*, the swell *z*, the ground swell *z*, the strap S, the wire cam or lever D, for the celeste swell, and the pipe E, E, with the corresponding hinged arrangement of the key board as set forth.

No. 2458. HIRAM J. WATTLES, Rockford, Ill., U. S., 14th June, 1873, for 5 years: "Clothes Line Fastener." (Porte-ligne d'étendage.)

*Claim*—A frame A, A, pawl B, tooth roller C, guard E, the pawl and roller hung upon pins.

No. 2459. JOSEPH WARDELL, Toronto, Ont., 14th June, 1873, for 5 years: "Clothes Line Fastener." (Porte-ligne d'étendage.)

*Claim*—A clothes line fastener with an oval hole in centre D, and half round groove C, at the end, and lugs B, for receiving screws for the purpose of holding clothes line fastener.

No. 2460. LEONARD WILKINSON, Strathroy, Ont., 14th June, 1873, for 5 years: "A Monkey Wrench." (Une clé anglaise.)

Consists in the manner of constructing the stock of the wrench and in the means employed for shifting the moveable jaw and adjusting the wrench to the size of the nut.

*Claim.*—1st. The rack or ratchet B, formed on the stock A, in combination with the similar and corresponding rack or ratchet C, formed on the plate D, and engaging with and fitting into the rack or ratchet D, as a device for preventing the moveable jaw E, from sliding on the stock A; 2nd. The arrangement and combination with the two racks B, and C, of the eccentric G, and lever F, as a device for keeping the racks B, and C, interlocked or engaged with each other; 3rd. The stock A, when made with the width thereof at H extended, increased, or greater than at any other part thereof, so as to make the stock stronger at or near H, than elsewhere as described.

No. 2161. GEORGE RAWLE, Bristol, and WILLIAM N. EVANS, Bedminster, Eng., 14th June, 1873, for 5 years: "A Tanning Process." (Un procédé de tannage.)

*Claim.*—1st. In coating the grain side of skins or hides with a protecting coating of grease and oil or other coating capable of protecting such side, from the action of tannin liquor and subsequently submitting the skins so prepared to the action of tannin liquor in a tan pit as described; 2nd. In protecting the grain side of skins and hides from the action of the tannin liquor during the tanning process.

No. 2162. AUGUSTUS D. MARR, Boston, Mass., U. S., 14th June, 1873, for 5 years: "Improvements in Shirts." (Perfectionnements dans les chemises.)

*Claim.*—1st. A folding shirt or garment front or facing A, made or provided with one or more reversible flaps C, D, to fold at the middle and over and button from one side to the other of the front; 2nd. In two or more pieces A, B, C, of cloth arranged as shown in Fig. 2, and connected as described so as to form a shirt or garment front or facing with one or more reversible flaps C, D, to operate as set forth.

No. 2163. JAMES A. WHELPLEY, Dartmouth, N. S., 14th June, 1873, for 5 years: "Machine for Grinding and Polishing Metal Articles." (Machine à aiguiser et polir la coutellerie.)

*Claim.*—1st. The combination of the two grindstones or polishing wheels F, F, and sliding frames B, B; 2nd. The combination with the grindstones or polishing wheels F, F, and sliding frames B, B, the adjustable rest J, and friction rollers d, d, d, d.

No. 2164. AUSTIN D. CABLE & JOHN C. FORD, Montreal, Que., (Assignees of Nathaniel Marshall, 14th June, 1873, for 5 years: "A Double-acting Force Pump." (Une pompe foulante à double-effet.)

*Claim.*—1st. The combination of the hollow rod or tube C, and piston with the cylinder A, containing air chambers, and water chamber, discharge chamber B, and suction pipe A, with valve K; 2nd. In combination with the piston the hollow rod or tube C, with stop C, and provided with openings as described; 3rd. The piston composed of chambers I, and K, divided up respectively by diaphragms H, and K, and having openings G, H, K, and L, washers I, and M, and plate N, all as described.

No. 2165. JAMES ANDERSON, Quebec, Que., 17th June, 1873, for 5 years: "A Truss Bridge." (Un pont à travérs.)

*Claim.*—1st. The top chords A, constructed as shown in Fig. 4 with the improved clamp J, in combination with girder iron and truss rods K; 2nd. The bottom chord B, Fig. 10, constructed of a continuous cable wire or round iron and provided with ribs B, in combination with prisms C, Figs. 16, 17, and 18, and end bearing blocks H, main bolts K, and clamps J; 3rd. The bottom chords B, Fig. 11, constructed of round iron with raised bands B, and clevis joints and cut end, in combination with prisms C, Figs. 16, 17 and 18, and end bearing blocks H, main bolts K, and clamps J; 4th. The bottom chord B, Fig. 12, constructed of short iron bars and screw nuts B, in combination with prisms C, Figs. 13, 14 and 15, and bearing blocks H, and main bolts K; 5th. The combination washer F, Figs. 24, 25, and 26, composed of cylindrical outer casing of vulcanized rubber lining, and rim or cover washer to receive the bolts of chords, in the manner set forth; 6th. The end bearing blocks H, Figs. 27 and 28, provided with rollers in combination with bottom chords E, F, H, I, and main bolts K; 7th. In suspending the cross girders by means of main bolts K, or other equivalents and bearing piece L, under the prisms, in the manner specified; 8th. The application of shearing straps L, Fig. 31 to the bottom chords when composed of flat bars; 9th. The combination of top chords A, bottom chords B, B, clamps E, prisms C, combination washer F, and block H, and bearing pieces L, with the usual portions of a Howe truss bridge as set forth.

No. 2166. GEORGE H. HUME, Paola, Ka., U. S., 17th June, 1873, for 5 years: "Portable Fence and Stock Pen." (Clôture portative et parc à bétail.)

Consists in the manner of connecting the panels of a portable fence which are constructed with slats and wires with the supporting stables and in the method of connecting the corner panels.

*Claim.*—1st. An improved corner joint for fence panels consisting of the horizontal rail F, provided with battens A, A, A, and fastening pin C; 2nd. The stables B, applied between the adjoining ends of the panels and inserted fastening pin C, passing through the same for bracing the fence; 3rd. The combination of the rails F, stiles A, A, wires D, and pins d, arranged as set forth for constructing a portable fence panel as specified.

No. 2167. SAMUEL W. COZZENS, Milwaukee, Wis., U. S., 17th June, 1873, for 5 years: "Back Support of Chairs and other Seats." (Des chaises, bancs et autres sièges.)

*Claim.*—1st. A back support C, consisting of springs D, and E, and for use in connection with chairs, stools and other seats; 2nd. In combination with the above claim, the back support C, constructed to support a person's back each side of the spinal column as described.

No. 2168. JOHN R. BLAKESLEE, Youngstown, Ohio, U. S., 17th June, 1873, for 5 years: "Machine for Making Forged Nuts." (Machine à faire les noix forgées.)

Relates to the arrangement of two shears or cutters each having a V-shaped cutting-edge operated upon by any suitable driving mechanism in such manner as to advance towards each other in a straight line in such respect to the seat or die as to form two sides of the same whereby a nut cut or severed from a bar in said seat will be of hexagonal shape.

*Claim.*—The combination of the reciprocating pointed cutters D, D, and the seat or die E, the latter composed of two straight and two oblique sides, with a discharge opening beneath as described.

No. 2169. DANIEL M. LAMB, Strathroy, Ont., 17th June, 1873, for 5 years: "Art of Producing Water-proof Gum." (Art de faire de la gomme hydrofuge.)

*Claim.*—The art or process of producing water proof gum from flax-seed or other seeds possessing similar properties by maceration, straining and subsequent inspissation.

No. 2170. GEORGE W. BALLARD, Coldwater, Mich., U. S., 17th June, 1873, for 5 years: "A Spring Bed Bottom." (Un fond de lit à ressorts.)

*Claim.*—1st. The double helical spring B, when the bale thereof has formed in it the eye b; 2nd. The slat C supported across the end of the frame b; the springs D; 3rd. The construction and arrangement of the frame A, springs B, and slats C, C.

No. 2171. WILLIAM M. MARSHALL, Philadelphia, Penn., U. S., 17th June, 1873, for 5 years: "A Shade." (Un abat-jour.)

*Claim.*—1st. The body A, with its internal face constructed of plates or pieces of perforated mica; 2nd. The plates or pieces of silvered mica secured to the body A, by means of the top and bottom flanges a, b, a, and operating as set forth.

No. 2172. ALBERT H. MERSHON, Philadelphia, Penn., U. S., 17th June, 1873, for 5 years: "A Gas Heater." (Fourneau à gaz.)

*Claim.*—1st. The gas heater constructed of a metallic body having a face in connection with perforations and corrugations on said face, so as to form a heating surface on the front or toward the apartment; 2nd. In combination with a gas heater mechanism for obtaining hot water and steam as set forth.

No. 2173. JOHN CHARTON, Philadelphia, Penn., U. S., 17th June, 1873, for 5 years: "Shaft Coupling." (Ajustage des axes.)

*Claim.*—1st. A covered coupling consisting of the clamps formed in the body A, and the portions D, E, in connection with tightening screws, wedges or bolts; 2nd. The conical screws, wedges, or bolts, and the conical openings, in connection with the claims C, and body A; 3rd. A coupling adapted to receive and hold the ends of shafting of varying diameters; 4th. The clamps divided transversely so that one pair or set is independent of the other; 5th. The auxiliary clips or fastenings H; 6th. The body covered or separated to form the segment of a circle which is divided at a connection with the transverse division at G.

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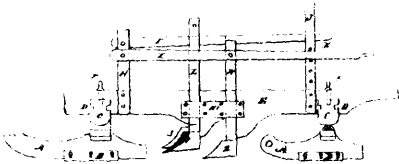
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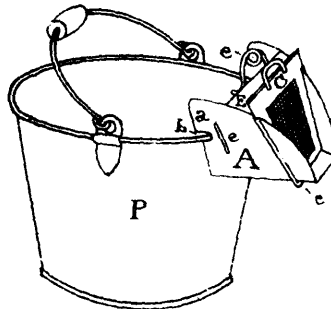
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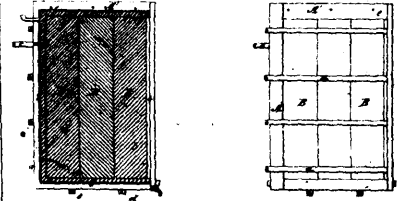
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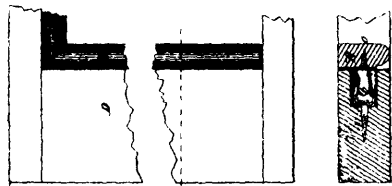
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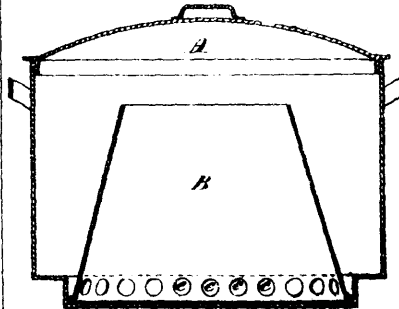
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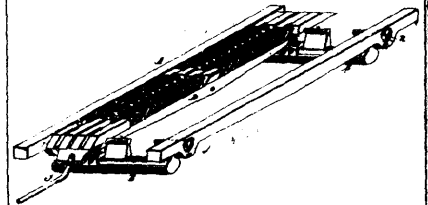
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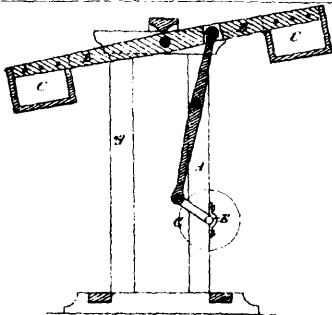
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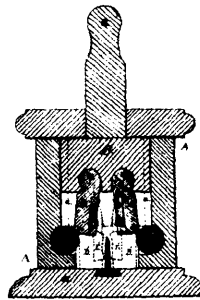
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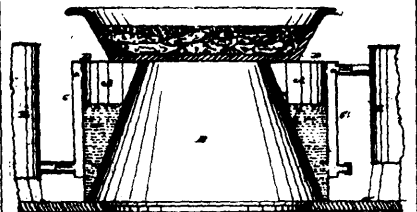
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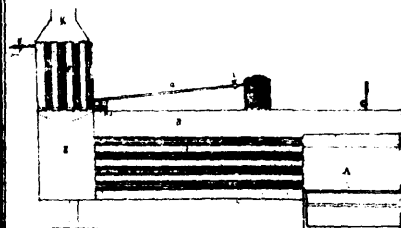
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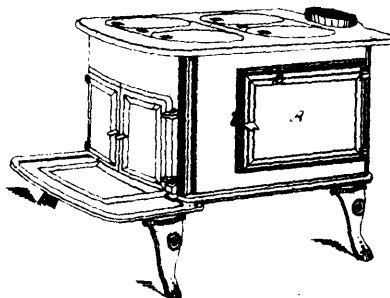
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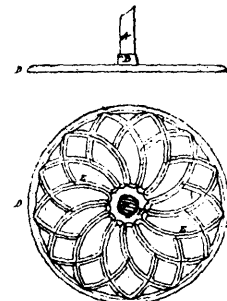
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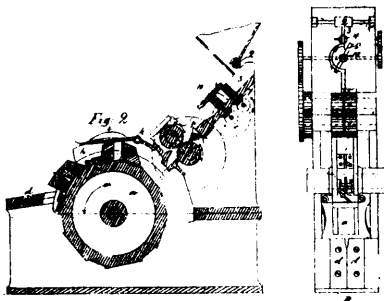


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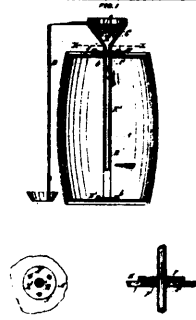


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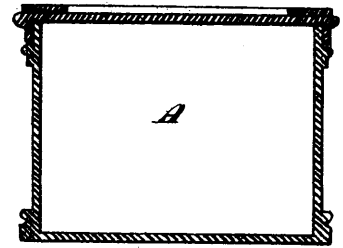




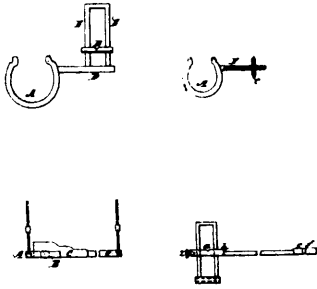
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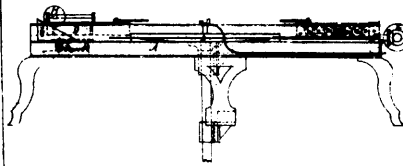
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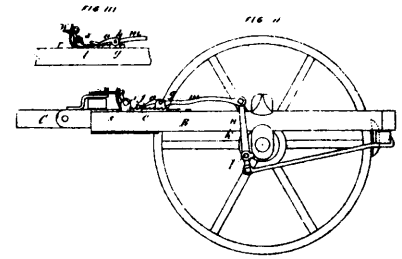
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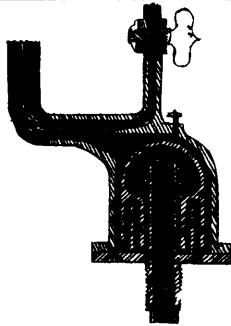
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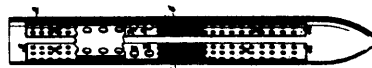
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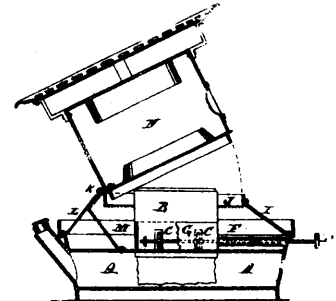
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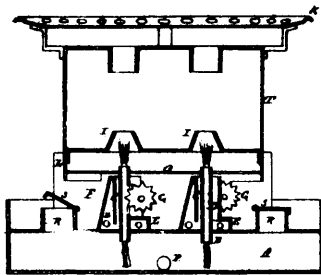
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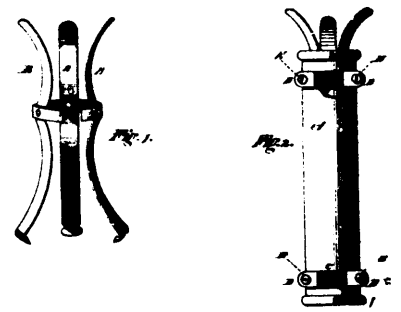
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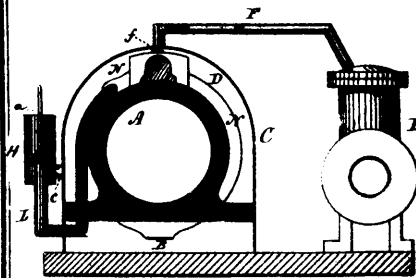
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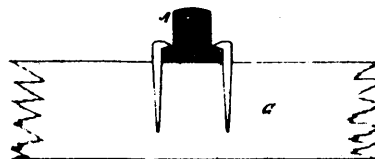
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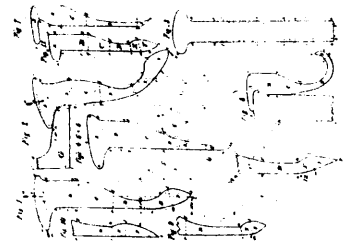
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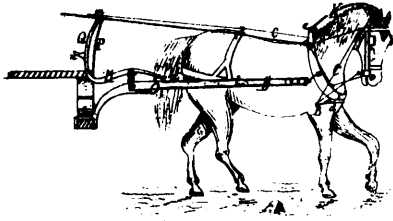
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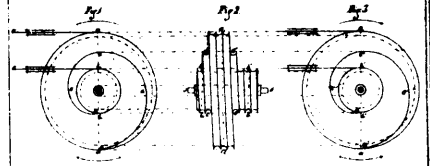
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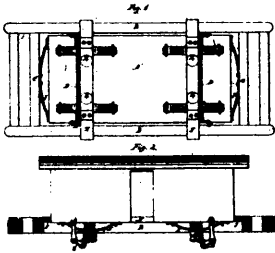
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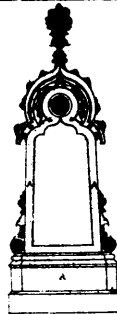
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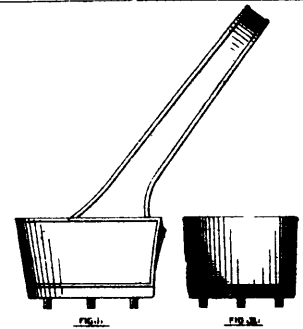
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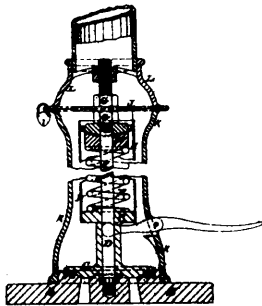
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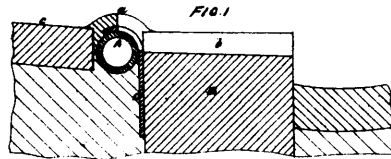
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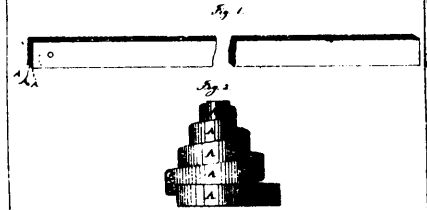
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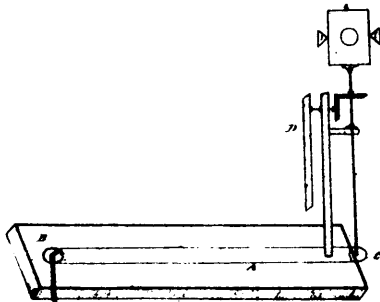
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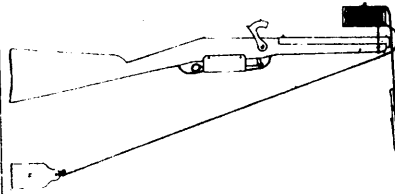
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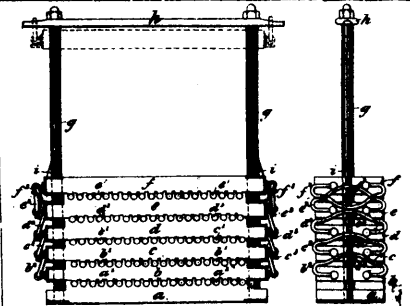
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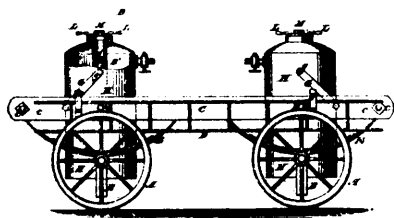
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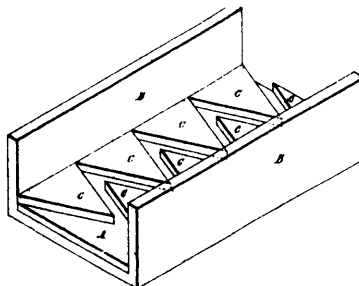
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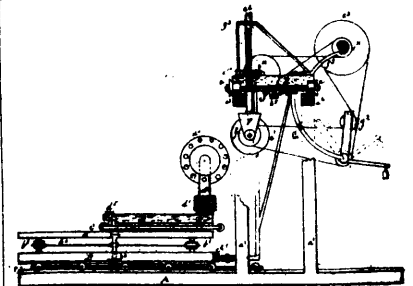
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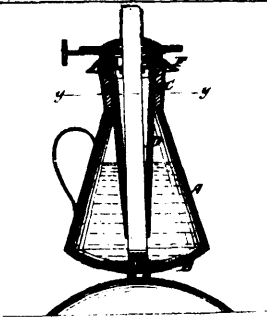
2385 VanDyne's Carbonic Acid Gas Fire Extinguishing Apparatus.



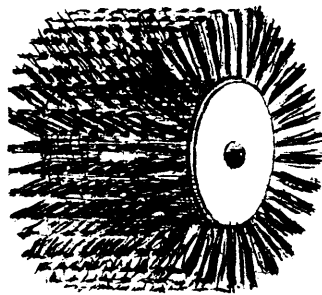
2386 Brewer's Chute and Fish Way.



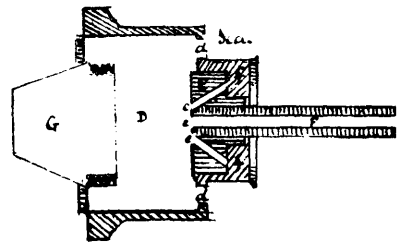
2387 Aubin, Gauthier & Mayrand's Stone Shaping and Polishing Machine.



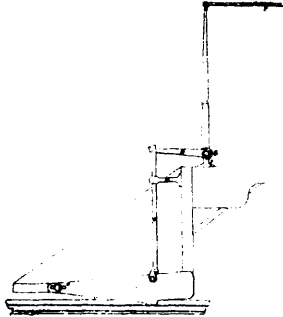
2388 Parker's Lamp.



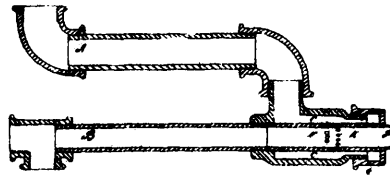
2389 Copland & McLaren's Wire Brush for Cleaning Castings.



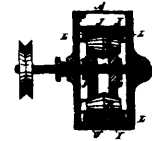
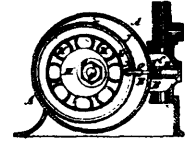
2390 Parson, Barret & Marwick's Petroleum Burner.



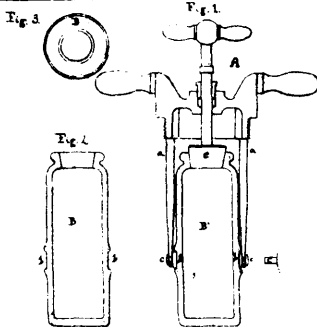
2391 Miller's Railway Track Cleaner.



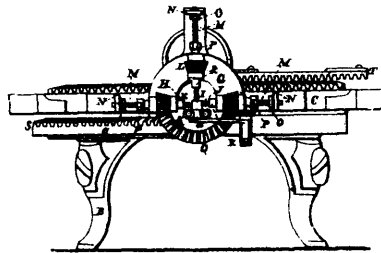
2392 Whyte's Tar Burner.



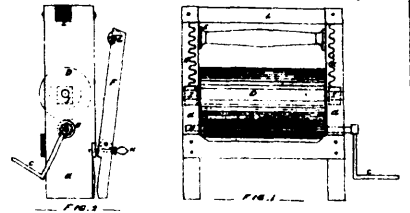
2393 Goodwin, Hill & West's Force Pump.



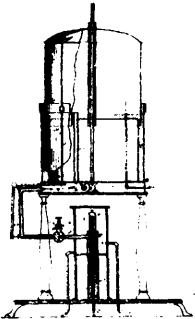
2394 Kley's Chemical Fire Extinguisher.



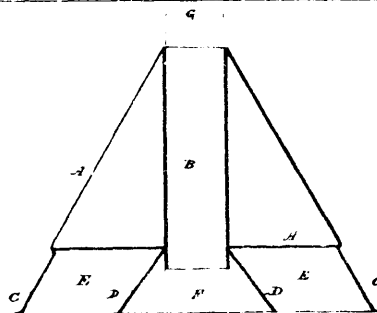
2395 Pope's Machine for Tapping Gas Fittings.



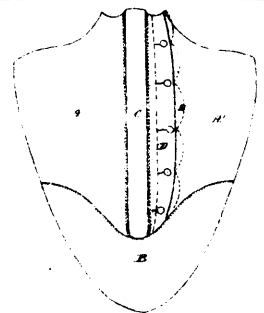
2396 Forfar's Clothes Wringer.



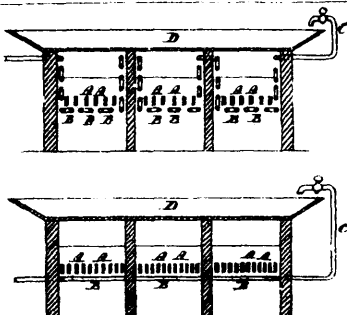
2397 Date's Steam Gas Apparatus.



2398 Botsford's Machine for Washing Clothes.



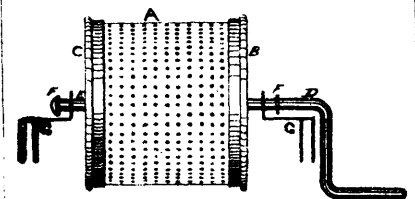
2399 Wilkie's Improvement on Boots and Shoes.



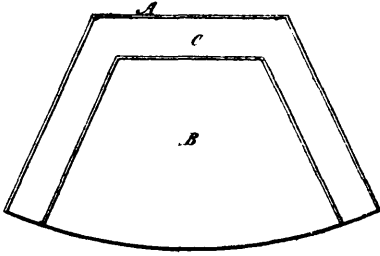
2401 Hayes's Tubular Brine Evaporator.



2402 Allen's Railway Car Wheel.



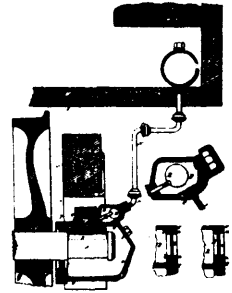
2403 Oakley's Machine for Washing Currants, &c.



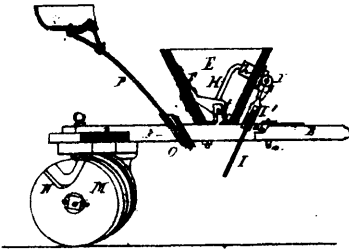
2404 Stone's Apparatus for Economizing Heat.



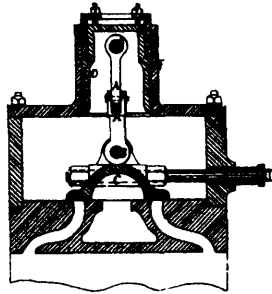
2405 Robinson's Petroleum Tar Burner.



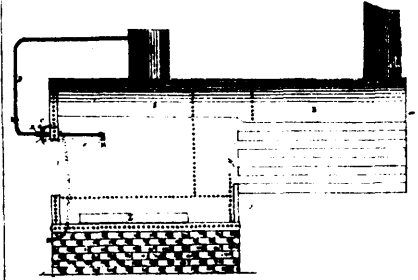
2406 Gates's Railroad Car Axle Box.



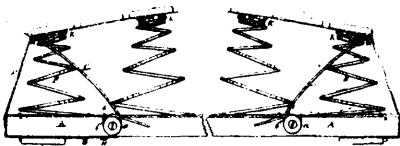
2407 Bramer's Combined Wheel Harrow and Seeder.



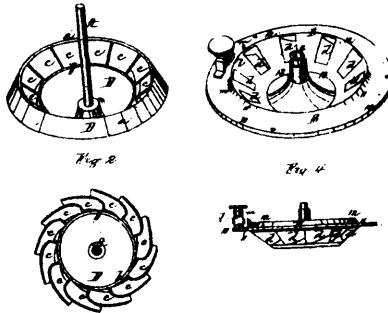
2408 Stirling's Balanced Slide Valves.



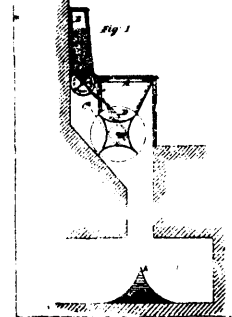
2410 Kettidge's Tar and Petroleum Burner.



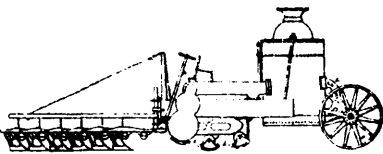
2411 Taylor & Dodge's Spring Bed.



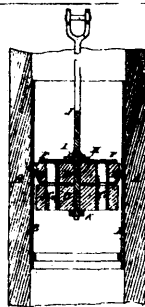
2412 Libby's Turbine Water Wheel.



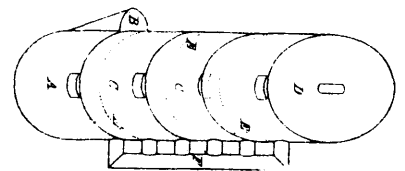
2413 Syng's Deodorizing Apparatus.



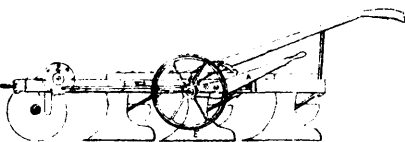
2414 Parvin's Improvements on Traction Engines.



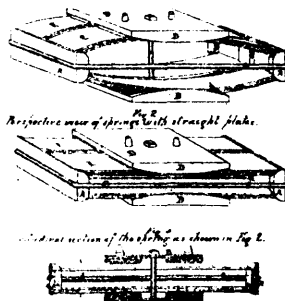
2415 Bolton & Rothwell's Pump.



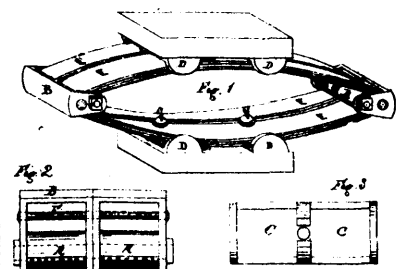
2416 Vanalstyne & Mitchell's Culinary Boiler.



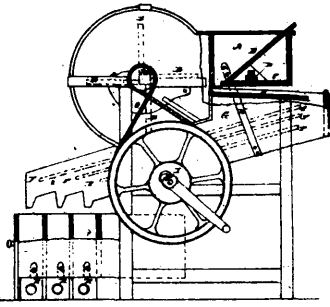
2417 Button & Lundy's Gang Plow Attachment.



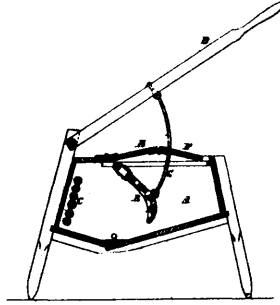
2418 Allyn's Railway Freight Car Spring.



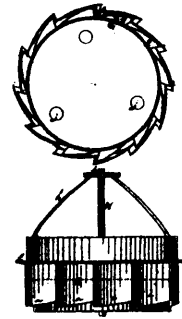
2419 Allyn's Railway Car Elliptic Spring.



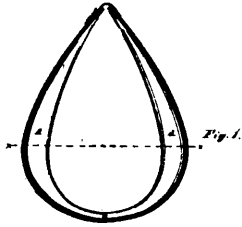
2420 Firth's Grain Separator.



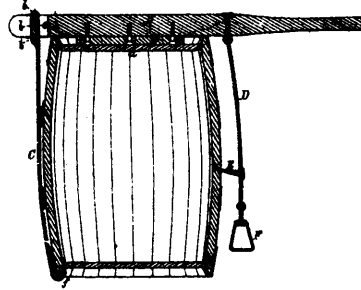
2421 Tower's Washing Machine.



2422 Tuttle's Water Wheel.



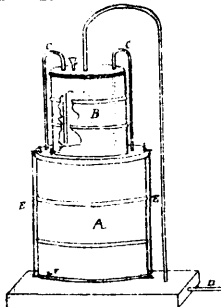
2423 Curtis's Harness Lining.



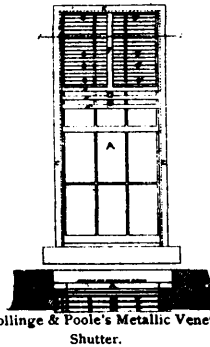
2424 Griffin & Smith's Machine for Heading Barrels.



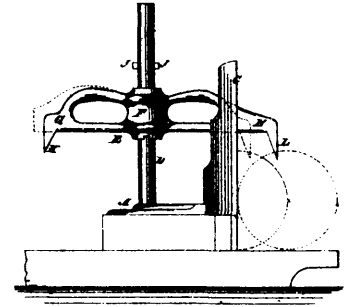
2425 Heaton's Combination Tools.



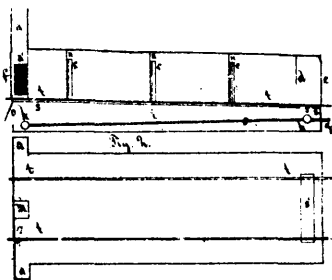
2426 Hicks & Parish's Process and Machine for the Manufacture of Gas.



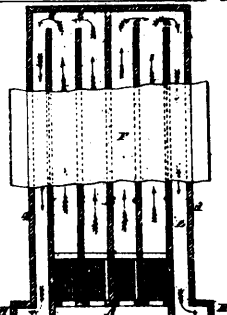
2427 Collinge & Poole's Metallic Venetian Shutter.



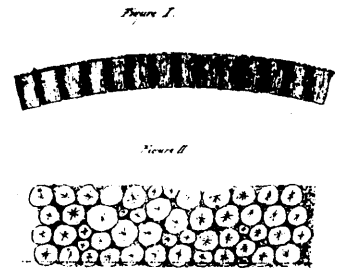
2428 Chase's Dog for Saw-mill.



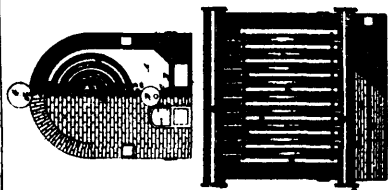
2429 Sumner's Dry Kiln for Lumber.



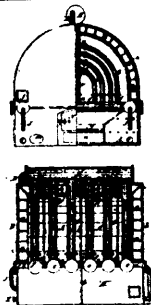
2431 Hayes & McEwan's Brine Evaporating Furnace.



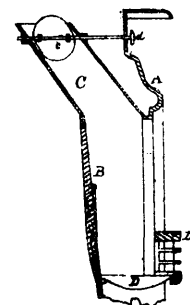
2432 Smith & Morton's Art of Road Making.



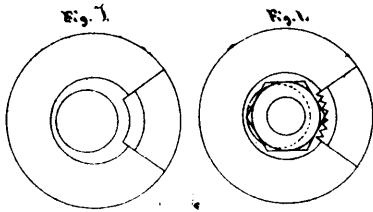
2433 Renshaw & Long's Steam Generator.



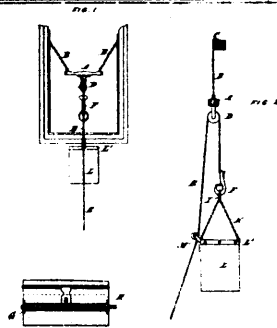
2434 Renshaw & Long's Sectional Steam Boiler.



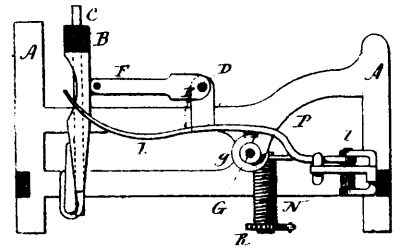
2435 McCallum & Moffat's Portable Parlor Grate.



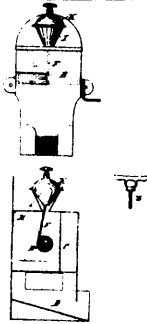
2436 Thompson's Safety Washer.



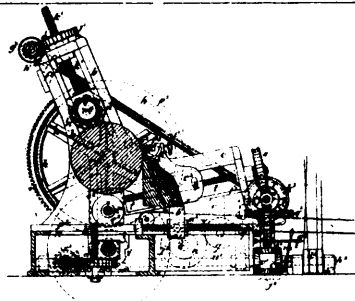
2437 Gregory & Rice's Fire Escape.



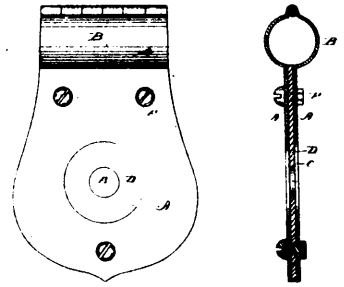
2438 Steyer's Picker Motion.



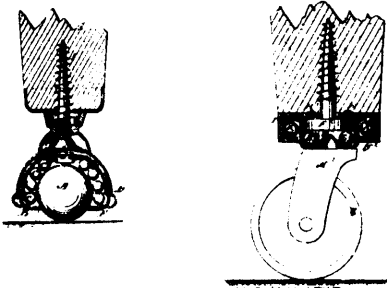
2439 Gregory & Rice's Fire Life Preserver.



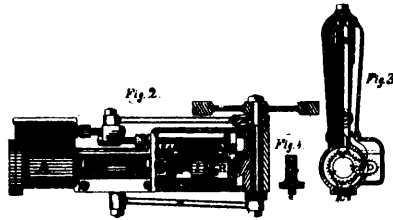
2440 Ellis's Wood Cutting Machine.



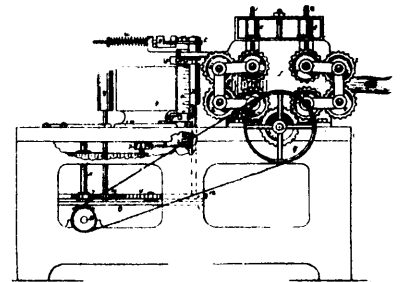
2441 Newbolt & Minser's Waggon Tongue Holder.



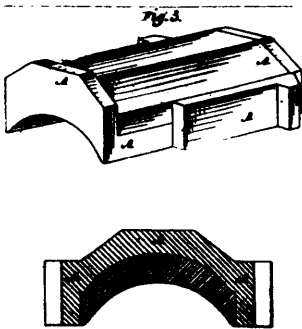
2442 Sheldon's Furniture Caster.



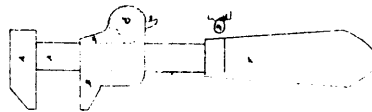
2443 Johnson's Steam Pump.



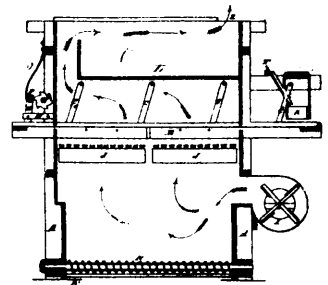
2444 Penney's Machine for Splitting Hoop Poles.



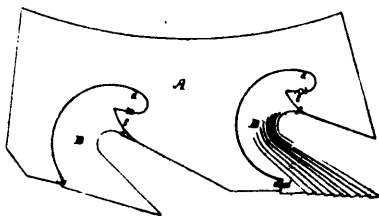
2446 Mencely's Bell-metal Journal Boxes.



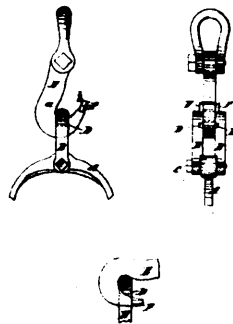
2447 Whiting's Monkey Wrench.



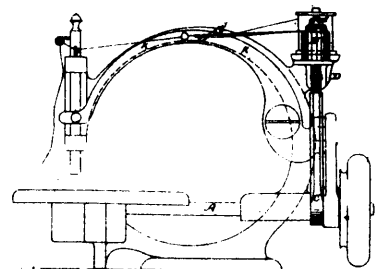
2448 Hunter & Osborne's Machine for Purifying Middlings and Flour.



2460 Johnson & Craig's Circular Saw Teeth.

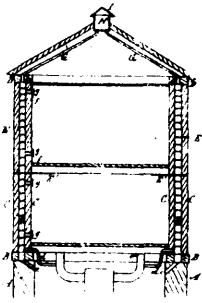


2451 Marne's Hook and Clevis.

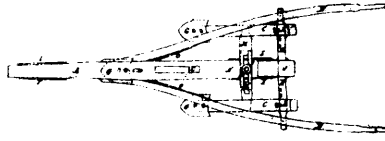


2452 Frank's Sewing Machine Thread Controller.

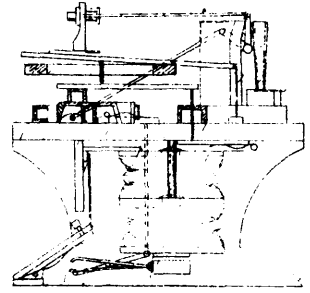




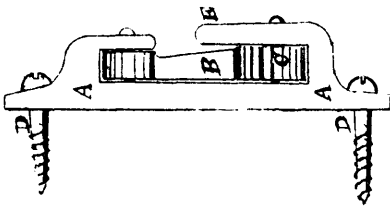
2453 McGinnis' Method of Building.



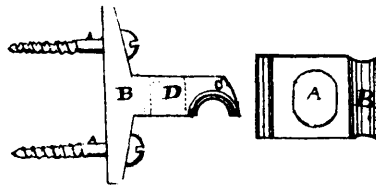
2456 Silverthorn's Cultivator.



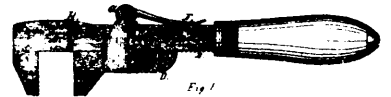
2457 Julien's Reed Organs.



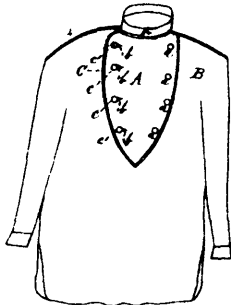
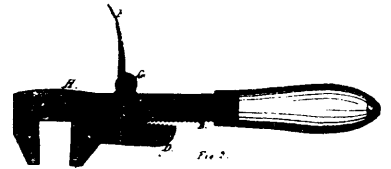
2458 Wattles' Clothes Line Fastener.



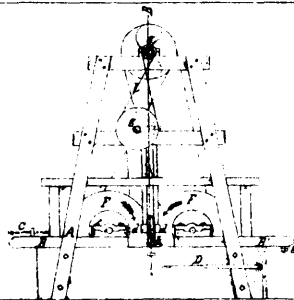
2459 Wardell's Clothes Line Fastener.



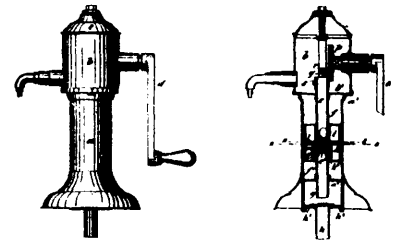
2460 Wilkinson's Monkey Wrench.



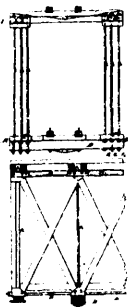
2462 Marr's Improvement in Shirts.



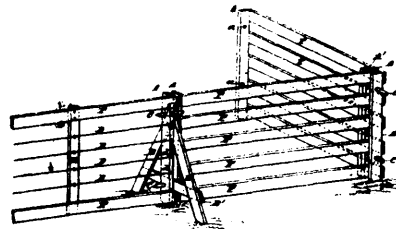
2463 Whelpley's Machine for Grinding and Polishing Metal Articles.



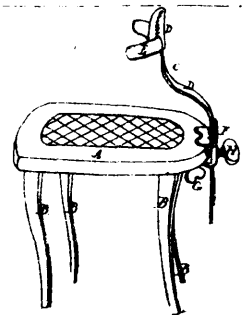
2464 Marshall's Double-acting Force Pump.



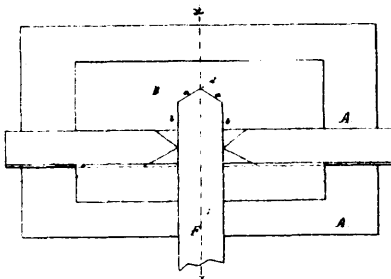
2465 Anderson's Truss Bridge.



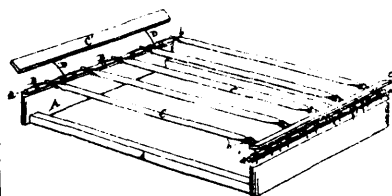
2466 Hume's Portable Fence and Stock Pen.



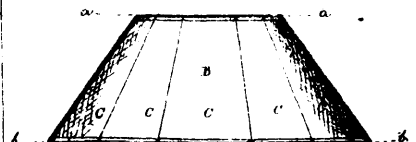
2467 Cozzens' Back Support of Chairs and other Seats.



2468 Blakeslee's Machine for Making Forged Nuts.



2470 Ballard's Spring Bed Bottom.



2471 Marshall's Shade.