

tube O, pipes P, and ring Q, in combination with pipe R, vertical column A, cistern I, and pipe J, chamber L, outlet pipes M, and N, and partition O. 9th. The combination of the tank R, belt I, hung with chains V, and weights X, with pipes G, and H, in combination with generating vessel J, inlet pipe S, chamber T, second chamber U, or their equivalents and ring Q, and other parts of the apparatus, 10th. The combination of the bell of any gasometer with inlet pipe H, outlet pipe V, water pipe K, and rain H, and any suitable water forcing apparatus with one or more generating vessels J; 11th. The combination of the holder M, reservoir O, placed as described between tide levels and pipes P, G, I, R, S, T, U, and W, in combination with generating vessels J,

No. 2180. HIRAM J. WATTLES, Rockford, Ill., U. S., & AUSTIN D. CABLE, Montreal, Que., 22nd March, 1873, for 5 years: "A Churn." (Une baratte.)

Claim.—1st. The cylinder M, with paddle N, and frame L, with paddles N, revolving in opposite directions; 2nd. The tubes I, and K, in combination with pinion G, and frame L.

No. 2181. WILLIAM P. SCOTT, Chatham, Ont., 22nd March, 1873, (Re-issue of Patent No. 1964), for 5 years: "A Car-Coupler and Buffer." (Un attache-char avec tampon.)

Claim.—1st. A link E, pivoted at its rear extremity, whether said link be a whole link pivoted and permanently fastened in any draw-head or draw-bar by any piece or bolt I, whether said piece or bolt I be placed in a vertical or horizontal position in the jaw or draw-head for the purpose of pivoting the link E, or whether said link be a part of a link having two eyes or slots through which any bolt I, may be run for the purpose of pivoting and permanently fastening said link E, for the purposes specified; 2nd. A leaf-spring E, or flat spring for the purpose of keeping said pivoted link in a horizontal position or wadded, whether said spring be straight or curved or whether it is used for the purpose of said link or detached whenever a flat spring is used for the purpose specified; 3rd. A buffer B, when said buffer is sleeved on any draw-head or draw-bar, and is actuated directly by the draw-spring on the shank of the draw-head and has lips or flanges G, H, and slots in its sides as and for the purposes specified; 4th. A combination of a draw-head A, draw-spring J, link E, pivoted by a bolt or piece I, and kept in a horizontal plane by any leaf-spring E, guide-tube F, coupling-pin D, dog H, and dog-spring G, and slide C, all arranged and operating as and for the purposes described; 5th. A draw-head A, draw-spring J, pivoted link E, kept in position by a leaf-spring E, bolt I, guide-tube F, pin D, dog H, dog-spring G, slide C, and sleeved buffer B, all arranged and operating as and for the purposes described.

No. 2182. PETER M. BAWTINHIMER, Woodstock, Ont., 22nd March, 1873, for 5 years: "A Potato-Digger." (Un extracteur de patates.)

Claim.—1st. The combination of the four radiating arms A, A, A, the teeth B, and the cylindrical grato D, with the spur-wheels F, F, pinion-wheels H, H, and pinion-wheels K, K; 2nd. The combination of the arms A, A, A, the teeth B, and the cylindrical grato D, with the shaker E, and the crank M.

No. 2183. GEORGE V. SHEFFIELD, Providence, & GODFREY K. MELLOR, Woonsocket, R. I., U. S., 22nd March, 1873, for 15 years: "Machine for Sewing Leather." (Machine à coudre le cuir.)

Claim.—1st. The double tapering thread made as described and employed in the sewing of leather or other fabrics; 2nd. The method described of sewing leather and other fabrics by means of a double tapering thread—wedging into the leather; 3rd. The perforating of the leather with a prismatic groovedawl for the reception of the thread; 4th. Theawl I, made of prismatic form pointed and grooved at the sides; 5th. The needle H, shaped like theawl I, and provided with barbs Z; 6th. The rotary tube d, having the concentric aperture n, and the eccentric aperture o, at the upper end; 7th. The oscillating tube e, having the overlapping notched—ring at the upper end to constitute an automatic feed for the thread; 8th. The combination of the tubes d and e, with each other; 9th. Theawl I, connected with the reciprocating vibrating and sliding-shaft J, for the purpose of piercing and feeding the leather; 10th. The rock-shaft J, fitted through the blocks V, V, and combined with the bell-crank Z, pin A, and disk L; 11th. The disk L, provided with the cam-profile G, and with the pins v and c, whereby it serves to impart the three different kinds of motion to theawl; 12th. The combination in one machine of the tubes d, e, reciprocating needle H, and reciprocating vibratingawl I, all arranged to operate as described; 13th. The angular supporter S, provided with the sectional tubes d, e, and the connecting gearing; 14th. The construction generally of a machine for sewing leather and other fabrics upon the principles and in the manner described.

No. 2184. WILLIAM D. RUCK, Greenwich, Eng., 22nd March, 1873, for 10 years: "Manufacture of Gas." (Fabrication du gaz.)

Claim.—1st. The manufacture of gases, to be employed for heating purposes by heating coke or other carbonaceous matters,

in combination with iron, steel or other metals and superheated steam in heated retorts constructed and arranged as described; 2nd. The manufacture of illuminating gas by the improved process described which consists in passing through the hydrocarbon spirit currents of hydrogen gas prepared in the manner set forth; 3rd. In the use for the purposes described or for analogous purposes of apparatus constructed and arranged as set forth.

No. 2185. JOHN COLLICOTT, West Roxbury, Mass., U. S., 22nd March, 1873, for 5 years: "Machine for Cleaning Boiler Tubes." (Machine à nettoyer les bouilleurs des chaudières à vapeur.)

Consists of a scraper or flue-cleaner on which the arms having the scraping edges are spread apart by means of spiral springs set over and upon spurs and the said arms which are of a peculiar shape are prevented from spreading too much by means of a stop and ledge upon each.

Claim.—1st. The novel combination of the arms a, a, spurs c, c, spiral-springs b, b, and stop or ledge d, all working together in the manner and for the purpose described; 2nd. The hinged arms a, a, made in the peculiar manner described and operating as and for the purposes set forth; 3rd. The stop or ledge d, constructed as described in combination with a hinged-arm a, operating and arranged as and for the purpose specified.

No. 2186. EDWARD GRASER, Union City, Pa., U. S., 22nd March, 1873, for 10 years: "Improvements in Pumps." (Perfectionnements dans les pompes.)

The object of this invention is to provide a pump from which the lower valve may be removed without taking up the pump.

Claim.—The cylinder C, constructed as described and provided with the screw E, and tip D, or their equivalents in combination with the piston J, and plunger rod L.

No. 2187. PARKER WELLS, Lynn, Mass., U. S., 22nd March, 1873, for 15 years: "Spring Bottoms for Bedsteads and Seats." (Fonds à ressort pour les lits et les sièges.)

Claim.—1st. A spring-bed bottom having the upper slats D, arranged transversely and bearing on the broad-end of conoidal springs C, interposed, and resting on longitudinal slats B; 2nd. The conoidal spiral-springs C, constructed with an enlarged base bent rectangularly at the tapering end, to form a seat to be secured to the slat B.

No. 2188. FERDINAND GROSS, Assignee of W. Hurlstone, Montreal, Que., 26th March, 1873, for 5 years: "Composition of Matter for Covering Trusses and Surgical Instruments." (Composition pour couvrir les bandages et les instruments de chirurgie.)

Claim.—A compound composed of 1. litharge, or of white lead, 2. of sulphate of zinc, or of alum, or of sugar of lead, 3. of red nitric acid, or of nitric acid in which mercury has been dissolved, and 4. of linseed oil, or of olive oil, the whole mixed in the proportions and for the purposes set forth.

No. 2189. WILLIAM T. BUNNELL, Topeka, Ka., U. S., Assignee of W. Jackson Freeman, of Liberty, Me., U. S., 26th March, 1873, for 5 years: "A Washing Machine." (Une machine à laver.)

Claim.—The construction and arrangement of the diagonal bars G and H, shaft F, with the upright journal boxes E, connecting bars D, in combination with the frame and box and lever X, cross-bar C, all as shown and described.

No. 2190. JOHN BURGE, Circleville, Ohio, U. S., 26th March, 1873, for 5 years: "A Time Lock." (Une serrure à échappement d'horlogerie.)

Claim.—1st. The crank-wheel H, the connecting-bar G, the tumbler B, the bolt E, when the same are constructed and arranged to operate as described; 2nd. The slot D, in the tumbler B, in combination with the bolt E.

No. 2191. JOHN H. JOHNSTON, Dresden, Ont., 26th March, 1873, for 5 years: "A Ship Plank and Roller Gauge." (Une jauge pour le sciage de bordages de vaisseaux.)

The object of the invention is to prevent the tendency to spring or bend outwards which the log has after the first flat has been taken off.