

of springs adjusting screw J, and a support for the screws forming a spring; pressure pad for a splint; 8th. The combination of detachable bars *u*, supporting cross bars *v*, and screws *m*, *r* for supporting the spring pressure pads; 9th. The combination of the detachable bottom and sides with the leg rest and pressure pads; 10th. The combination of the rest and pressure pads for the leg and the rest and pressure pads for the thigh; 11th. The combination of the leg rest and pressure pads, thigh rest and pressure pads and jointed supports R, and I; 12th. The combination of supports R, U, I, rods N, and adjusting screw T, with the leg rest and thigh rest, and their pads; 13th. The extensible thigh box composed of bottom plates C, G, E, F, side plates D, D', adjustable rests L, I, bar K, and screws L, combined and arranged as specified; 14th. The combination of adjustable bed-plate F, with extensible plates C, G, 15th. The supporting bars *p*, having notches I, in combination with the jointed supports R, U, and the adjusting screw F; 16th. The combination of a shoulder extension device U, S, T, and R, with the stand P, and the leg and thigh splint; 17th. The combination of the thigh rest A, with the leg rest and its pressure pads; 18th. The improved strap fastening consisting of the staple P, holes G, and the loop H; 19th. The combination of clamping bars A, screws B, and attaching bars D, with the six pressure pads *h*; 20th. The combination of the foot bandage E, and straps D, and G, with the foot rest *i*, *p*, 21st. The combination of hooks *o*, with the pressure pads, as specified.

No. 4195. GEORGE C. SURLS, Rochester, Pa., U. S., 22nd December, 1874, for 5 years: "Burning Kiln." (Four de poterie.)

*Claim.*—The combination of the double arch of the furnace and its air conducting front and rear flues, with the kiln connecting flues for producing the intermingling and complete combustion of the heated air, and the fire gases at the mouths or arches of the kiln, for the purpose set forth.

No. 4196. JOHN J. FITZPATRICK, Philadelphia, Pa., U. S., 22nd December, 1874, for 5 years: "Improvements in Drawers." (Perfectionnements dans les caissons.)

*Claim.*—A pair of drawers, one of the front sides of which from the crutch upwards is cut in a curved line, while the other front side is cut in a diagonal or straight line, the latter overlapping the former in the crutch, as set forth.

No. 4197. JAMES NELSON, Sunderland, Eng., 22nd December, 1874, for 5 years: "Machine for Cutting and Finishing the Ends of Studs and Bolts." (Machine à couper les Rivets et les boulons et en finir les bouts.)

*Claim.*—1st. The spindle G, and cutter or knife H, made to rotate in a body D, so as to act against a stud or bolt end as described; 2nd. The rotating spindle G, cutter or knife H, and fixed body D, in combination with the suitable self-acting feed gear as described; 3rd. The self-acting feed gear consisting of the teeth L, on the gland K, the flange M, on the body D, the recess N, on the flange M, and the spring pawl R, carried by the handle I, when combined with a rotating spindle and cutter, and a fixed body as described; 4th. The internal screw or nut E, or its equivalent, by which the machine is secured to the stud or bolt to be operated upon as described.

No. 4198. JOHN H. WEARE and NATHAN WEARE, Cincinnati, Ohio, U. S., 22nd December, 1874, for 5 years: "Cooking Utensil." (Ustensile de Cuisine.)

*Claim.*—1st. The combination of vessel A, B, and detachable slide F, connected and operating to form a vapour vent D; 2nd. In combination with the vessel A, B, and slide F, the perforation *aa*, in the slide as specified. 3rd. In combination with the vessel A, B, D, the aperture or apertures *a*, in the side of the vessel opposite or nearly so to the passage D; 4th. In combination with vessel A, F, the lugs *a*, and grooves *c*, and projection *e*, and pin G; 5th. In connection with the detachable slide F, the semicircular open bail ears *a*, as specified.

No. 4199. SAMUEL S. WHITE, (Assignee of J. W. Gilbert), Philadelphia, Pa., U. S., 22nd December, 1874, for 15 years: "Improvements on Dental Engines." (Perfectionnements aux engins dentaires.)

*Claim.*—1st. The combination of a hand piece A, a chuck or tool holder C, mounted thereon, and a spring locking bolt D, moveable end wise in the tool holder. 2nd. The combination of a tubular tool holder C, a locking pin A, intersecting the bore thereof, tangenti-

ally a wedge shaped locking bolt D, moveable endwise in the tool holder and a tool G, having a wedge shaped transversely grooved end interlocking with the pin and locking bolt.

No. 4200. JOSEPH W. DUNN and GEORGE B. BOYLE, Niagara, Ont., 22nd December, 1874, for 15 years: "Improvements in the Method of Heating and Protecting Steam Boilers." (Perfectionnements dans la manière de chauffer et protéger les chaudières à vapeur.)

*Claim.*—The method of heating and protecting steam boilers by the Royal Arch Flue and hot air attachment to Furnace doors to be used conjointly in furnaces as set forth.

No. 4201. FRANCIS D. BRODHEAD, Boston, Mass, U. S., 22nd December, 1874, for 5 years: "Improvements on Cans." (Perfectionnements aux boites métalliques.)

*Claim.*—A can or vessel having a contracted mouth, constructing such can or vessel in sections and providing the sections with a suitable connection to confine them together and with or without a suitable packing to prevent escape of liquids from the interior, the whole being as stated.

No. 4202. WILLIAM JONES, Philadelphia, Pa., U. S., 22nd December, 1874, for 5 years: "Bed Spring." (Ressort de lit.)

*Claim.*—A compound bed-spring consisting of two coupled spirals A, and B, composed of a single piece of wire, and each surmounted by an independent loop *b*, for the reception of a slat as specified.

No. 4203. GEDEON HUNTINGTON, Brantford, Ont., 20th December, 1874, (Extension of Patent No. 192), for 5 years: "Clothes Washer." (Laveuse à linge.)

*Claim.*—1st. The novel arrangement of a cylinder or agitator placed inside a floor or shell when used for the purpose herein set forth, and 2nd. The conducting pipe to carry off the steam and unpleasant odour while the machine is in operation as specified.

No. 4204. ALBERT N. CHRYSTIE, St. Louis, Mo., U. S., and Sir A. T. Galt, Montreal, Que., 23rd December, 1874, for 5 years: "Spark Arrester." (Arrête-flammèches.)

*Claim.*—The combination of the cone C, coarse wire netting D, and fine wire netting E, constructed, arranged and operating as described.

No. 4205. HENRY SMITH, New-Hamburg, Ont., 23rd December, 1874, for 5 years: "Wind Wheel." (Moulin à vent.)

*Claim.*—The wheel or wheel stop plate E, having the bevelled sectional faces E', and shoulders *e*, in combination with the stay pieces G, and sails F, arranged and operating as described.

No. 4206. JOHN TESSEYMAN and PRESERVED SMITH, Dayton, Ohio, U. S., 28th December, 1874, for 5 years: "Improvements on Valve Gear." (Perfectionnements aux appareils de soupapes.)

*Claim.*—1st. The combination of the valve and rod H, L, of a steam engine or steam pump, vibrating disc D, connected to the piston rod of the engine, and automatically shifting slide F, the parts being combined and operated in the manner specified; 2nd. In the combination of valve and rod H, and L, disc or crank plate D, slide F and spring M, operating as specified; 3rd. In the combination of the valve and rod H, L, disc D, slide F, spring M, and cushion N, n, operating in the manner specified; 4th. In the curved guide P, in combination with the disc D, and slide F, f, operating as specified; 5th. In the curved guide P having relief spaces *n*, in combination with the disc D, and shifting slide F, f, as specified.