

No. 8504. Improvements in Stoves.*(Perfectionnements dans les poêles.)*

John W. Elliott, Toronto, Ont., 8th March, 1878, for 5 years.

Claim.—1st. The internally projecting air pockets B overlapping the fire pot J, and so formed that the air of the room is admitted through an aperture in the lower end of each pocket, and after becoming heated escapes through a hole in the top of the said pocket B, re-entering the room; 2nd. A three way valve I provided with a projection i and placed at the junction of the downwardly inclined pipes M m, in combination with the valve L having a hole O through it; 3rd. The ash pan E provided with a column D having a hole through it, in combination with the poker F; 4th. The lever G connected to the fire pot J and grate K, in combination with the plate H.

No. 8505. Potato Bug Gatherer. *(Appareil à cueillir la chrysolème à patates.)*

Alexander Gibson, Burford, Ont., 8th March, 1878, for 5 years.

Claim.—1st. The combination of the adjustable tray in two parts A B and the arrangement of the upper or top edge thereof C D; 2nd. The arrangement and combination of the wire frame E H; 3rd. The combination of the wire or rod H, with the pin F and screw I, also the arrangement and combination of the holes G; 4th. The combination of the adjustable cross piece K, with the handle of the paddle; 5th. The peculiar construction and combination of the various parts.

No. 8506. Improvements on Sewing Machines. *(Perfectionnements aux machines à coudre.)*

Louis Côté, St. Hyacinthe, Que., 8th March, 1878, for 5 years.

Claim.—1st. The foot, in combination with the guides or their equivalent; 2nd. The method of placing the guide or guides on the top of the ether, so that the leather shall pass under them, whilst the strap lies between the guides or the equivalent.

No. 8507. Improvements on Anchors.*(Perfectionnements aux ancres.)*

Charles E. Marshall, Boston, Mass., U.S., 8th March, 1878, for 5 years.

Claim.—The combination of the forked or mortised shank A A² and the swinging fluke B.

No. 8508. Improvement on Sled Poles.*(Perfectionnement des timons de traîneaux.)*

John P. Lawson, Chandler's Valley, Pa., U.S., 8th March, 1878, for 5 years.

Claim.—The combination of the strap E and the screw bolt and nut e, with the pole A and roller B.

No. 8509. Improvements on Steam and other Motors. *(Perfectionnements aux machines à vapeur et autres.)*

Edward Baines, Toronto, Ont., 8th March, 1878, for 5 years.

Claim.—1st. The valve E or its equivalent operated by suitable mechanism, and arranged to admit steam or other operating medium to the cylinder of an engine, say, during that portion of the stroke indicated on the crank diagram, from 1 to 2 and from 3 to 4; 2nd. The valve E or its equivalent arranged to permit the steam or other operating medium of an engine or motor to pass from one side of the piston to the other, producing an equilibrium of pressure on each side of the piston, during that portion of the revolution of the crank indicated say from 2 to 3 and 4 to 1; 3rd. The process of utilizing the exhaust steam or other operating medium of an engine or motor, the said process consisting in exhausting the steam from one side of the piston to the other, at or before the termination of the piston's stroke for the purpose of reducing the amount of live steam necessary to be supplied to the cylinder on the next stroke; 4th. The valve J placed on the exhaust side of an engine or motor, for the purpose of preventing the admission of air or other matter into the cylinder or connections, and for the purpose of retaining heat in the cylinder, condenser and connections, and also for the purpose of obtaining hot feed water, or for the purpose, if desirable, for exhausting a portion of the steam into the boiler or elsewhere; 5th. A chamber B into which steam or other expansive matter is expanded from the generator through a variable pressure valve, before it is admitted to the engine or motor; 6th. A condenser having pipes or chambers through which the feed water drawn from said condenser is passed for the purpose of re-heating the feed water before passing it into the boiler; 7th. The combination of generator with variable expansion valve, expansion chamber, engine or motor with valve E or its equivalent, condensing and heating chamber, waste pipe and exhaust pipe, provided with a valve J or its equivalent; 8th. The waste pipe K, condensing chamber C² and hot well E, arranged in connection with the exhaust pipe of an engine provided with the valve J, for the purpose of obtaining a supply of hot water from the condensation of the exhaust steam.

No. 8510. Process for Manufacturing Felted Surgeon's Splints. *(Procédé de fabrication des éclisses de chirurgie feutrées.)*

David Ahl, Newville, Pa., U.S., 8th March, 1878, for 5 years.

Claim.—Treating the felted blank in a solution of shellac and alcohol, then drying and puncturing it, then treating it in an acid bath, then washing it in cold or warm water, then softening it in boiling water, and moulding it in the desired form.

No. 8511. Improvements in Horse Shoes.*(Perfectionnements dans les fers à cheval.)*

Isaac N. Lilly, Chicago, Ill., U.S., 8th March, 1878, for 5 years.

Claim.—1st. A horse shoe provided with dovetailed seats for the calks, in combination with calks provided with dovetailed shanks corresponding to said seats; 2nd. The shoe A provided with seats B and E having dovetailed

grooves therein, in combination with the calks C and F provided with dovetailed shanks and a fastening device by means of which the calks are secured to prevent slipping laterally; 3rd. The shoe A provided with dovetailed seats for the calks in combination with the dovetailed calks C and F provided with recesses or depressions on one side, and the fastening ribs D and G struck up into the said depression.

No. 8512. Antifriction Bearing for Shafts and Axles. *(Coussinet à antifriction pour les arbres et les essieux.)*

Thomas H. King, San Francisco, Cal., U.S., 8th March, 1878, for 5 years.

Claim.—1st. The rollers E mounted in series alternating with each other so as to form an annular alternate bearing for the shaft, axle or pin; 2nd. The ring F having the pins G projecting from opposite sides, each set alternating with those upon the opposite side of the ring for the purpose of retaining the rollers in their relative positions; 3rd. The case, box or bushing B with the flanges C and the central flange or flanges D to serve as a thrust bearing and form an independent groove for each set of rollers; 4th. The case or box B with its permanent flange C in combination with the removable flange C and its threaded rim acting as a bushing to the outer one, and receiving the wearing contact of the rollers, being removable as described; 5th. The method of forming a steadying centre consisting in the flanges CC made convex, or having the plane of their faces projected slightly beyond that of the pulley.

No. 8513. Improvements in Gas Burners.*(Perfectionnements dans les becs à gaz.)*

George P. Sheffield, Ontario, and George W. McKee, Brooklyn, N.Y., U.S., 8th March, 1878, for 5 years.

Claim.—1st. In combination with a gas burner of the construction of the base or stem A consisting of the opening d, flanges F G, valve seat c corrugated valve E, auxiliary tube B having level top to fit the roof of the regulating cap C; 2nd. In combination with a gas burner of the construction of the regulating cap C consisting of the annular recesses f f¹, the A-shaped inner roof, openings g, &c., for regulating the flow of gas from the outside; 3rd. In combination with the bulb or reservoir D of the annular projecting ring i on its lower end, and which is made to be inserted in the recess f of the cap C and secured thereto by the edge of the same being bent or spun over it; 4th. In combination with a gas burner, of the arrangement of attaching a reflector J by means of its being secured to the wires I, the lower ends of said wires being inserted in the holes a b c, in the flanges F G; 5th. In combination with a gas burner, of the arrangement of attaching a shade K by means of bent wires h h¹, their lower ends being inserted in the holes a b c when the reflector is not in use, and the shade resting on their bent tops; 6th. A gas burner consisting of the combination of the stem or base A with the flanges F G, and provided with the openings a b c for shade and reflector supports, valve E, auxiliary tube B, regulating cap C, and provided with recesses f f¹, openings g, &c., A-shaped inner roof, the annular ring i on the lower end of bulb D; 7th. The combination of the cap C and bulb D with annular ring i, constructed so that the bulb can be turned within the recess of the cap, without disturbing the position of the cap after it is regulated, for the purpose of adjusting the flat side of the flame to a wall when the burner is placed near it, by simply turning the said bulb.

No. 8514. Adjustment of Carriage Poles and Shafts. *(Mode d'ajustage des limons et limonnières de voitures.)*

William T. Cleveland, Richmond, Que., 8th March, 1878, for 5 years.

Claim.—The combination frame, together with the telescopic pole f and socket z, pin p, braces K K K K, main rod I, adjustment attachment bars g g, set screws j j and revolving eyes h h.

No. 8515. Improvements on Horse Collar Pins. *(Perfectionnements aux chevilles des colliers de cheval.)*

Louis Dion et Arthur Dion, St. Thomas, Que., 8th March, 1878, for 5 years.

Résumé.—L'arrangement et la combinaison du tenon E et K et la rainure H et M.

No. 8516. Improvements in Wooden Pumps.*(Perfectionnements dans les pompes en bois.)*

William R. May, McClemons, Mich., U.S., 8th March, 1878, for 5 years.

Claim.—A tapered plug D having the foot valve E hinged thereon, and the bail F attached to it, in combination with a metallic cylinder C inserted into the tubing B of a wooden pump.

No. 8517. Improvement on Hydrant Valves.*(Perfectionnement des valves de bornes-fontaines.)*

Franklin B. Stevens, Joseph L. Bond, Port Huron, Mich., U.S., and Charles McKenzie, Sarnia, Ont., 8th March, 1878, for 5 years.

Claim.—The improved hydrant valve consisting of the casing A, valve plate B constructed with or without the arch b and bearing b¹ b², cut off valve C, waste valve D, having extension d and projecting nipple F.

No. 8518. Heel Nailing and Trimming Machines. *(Machine à cheville et parachever les talons.)*

Charles W. Glidden, Lynn, Mass., U.S., 8th March, 1878, for 5 years.

Claim.—1st. A heeling machine provided with mechanism to nail a heel to a shoe, the last spindle, and last spindle adjusting mechanism, to automatically change the position of the last spindle to permit the application of the main body of the heel and then of the blind top lift; 2nd. The nailing spindle, last spindle, adjusting mechanism and connecting lever to operate then in unison; 3rd. The combination of the following instrumentalities, viz. the trimming shaft, its arms, the trimming lever connected with the carriage, the loose gear-wheel provided with internal teeth 19, clutching mechanism