No. 4104. RICHARD J. TOOKE, Montreal, Que., 26th November, 1874, for 5 years. "Improvements on Shirts." (Perfectionnements aux chemises.)

Claim - The combination of the two sides of the front A, and B, with band made into parts C, and D, and with split E, extending below said band made in two parts as described. 2nd. The combination of the front made in two parts A, and B, with band made in two parts C, and D, split E, and back openings F, as set forth.

No. 4105. ROBERT ROSS, Vergennes, Vt., U S., 26th November, 1874, for 15 years: "Machine for Finishing Horse Shoe Nails." (Machine à finir le clou à cheval.)

Claim.—1st. A longitudinally reciprocating feed-screw or equivalent device; 2nd. The combination of a moveable die and stationary punch; 3rd. The combination of a moveable die and stationary punch with a longitudinally reciprocating feed-screw or other intermittent feeding device, whereby the nails are held stationary during the action of the moveable die upon them; 4th. The combination of the feed screw A, the revolving die B, and the stationary punch C; 5th. The combination of the feed screw A, the reciprocating die *f*, and the stationary punch *e*; 6th. The combination of the reciprocating die *f*, the stationary punch *e*, and the clearing block *k*; 7th. The combination of the cam faced roller H, the friction roll I, the spring J, or their equivalents and the feed screw A. 8th. The milling cutter D, and the stationary nail-support G, in combination with the feed screw A; 9th. The small roller U, mounted in the periphery of the wheel E; 10th. The combination of the milling cutter D, the small roller U, and the feed screw A; 11th. The inclined table or frame Q; 12th. The combination of the inclined table Q, and the milling cutter D; 13th. The combination of the inclined table Q, and the small roller U; 14th. The combination of the small roller U, and the nail support F; 15th. The combination of the milling cutter D, the small roller U, and the inclined table Q.

No. 4106. JAMES LEITH, Ridgway, Pa, U. S., 26th November, 1874, for 5 years: "Automatic Car-Coupling." (Attelage de wagons automatique.)

Claim.—1st. The U-shaped draw-heads A, sliding hook-bars B, sliding bars C, spring D, guide bars E, all combined as described. 2nd The combination of the levers H, bars M, heads N, with the sliding pins C, spring D, sliding hooks B, and draw-heads A. 3rd. The combination of the sliding hook bars B, with the link O, as set forth.

No. 4107. BENJAMIN A. WHITAKER, Wellington Square, Ont., 27th November, 1874, for 5 years: "Curtain Roller." (Rouleau de rideau.)

Claim.—1st. The roller G, in connection with the spiral spring E, the holder H, and pawl or lever B, for the purposes set forth; 2nd. The rod F, on which the spring E, works in the holder G, in connection with the arms H, all operating as set forth.

No. 4108. WILLIAM T. ROOT and WILLIAM G. WOOD, Ingersoll, Ont., 27th November, 1874, for 5 years: "Boiler for Steam Power and Heating Buildings." (Chaudière à vapeur pour les machines et le chauffage.)

Claim.—1st. The funnel-shaped magazine C, when arranged in combination with the hot air pipes A, and hot air spaces B, and E; 2nd. The fuel regulator F, constructed as described in combination with the magazine C; 3rd. The regulator I, constructed as described when used in combination with the fire pot D; 4th. The fire pot D, constructed as described, 5th. The grate M, when constructed in combination with the inclined planes N, and N1. 6th The manner of fastening the jacket O, by the strips P, Q, and bolts R, as described.

No. 4109. WILLIAM H. FULTON, Foxcraft, Me., U. S., 27th November, 1874, for 5 years: "Machine for Raising or Extracting Stumps, Stones, &c." (Machine à lever ou extraire les souches, pierres, &c.)

Claim.—1st. The combination of the suspended rod *b*, and pawl C, jointed thereto with the yoke E, attached to said pawl lever F, and rack bar *g*, provided with teeth *i*, *j*. 2nd. The suspended pawl *c*, provided with an eye or like device for the reception of the fulcrum yoke E, so arranged that the action of the lever *f*, having its fulcrum in said yoke E, will operate to force the pawl into engagement with the teeth *j*, of the rack bar; 3rd. The rack bar *g*, provided with an eye K, in combination with the suspending rod *b*, whereby said rod serves as a guide rod to said rack bar; 4th. The combination of the suspended rod *b*, link *n*, and yoke L, jointed thereto with the lever *f*, and rack bar *g*, provided with teeth *i*, all operating as set forth.

No. 4110. FREDERICK A. LOCKWOOD, Fall River, Mass., U. S., 27th November, 1874, for 5 years: "Leather Working Machine." (Machine à apprêter les cuirs.)

Claim.—1st. The combination with the table or bed for supporting the skin, of a tool carrier or stock arranged and operated to move, to travel in any direction over and with respect to the table or bed, to cause the tool or tools carried by said stock to properly act upon the skin; 2nd. The combination with the work supporting table or bed and a tool carrier or stock capable of variable movements over said table and mechanism for imparting said movements to said stock, of a sliding head carrying said tool carrier and its operative mechanism and vertically adjustable with respect to the table; 3rd The combination with the tool carrier and its operative mechanism of a swinging crane supporting said parts; 4th. The combination of a rotary work supporting bed or table and a tool carrier or stock arranged and operating to move in any direction over or with respect to said table, 5th The epicycloidal wheels *q*, and *r*, for imparting reciprocating motions to the tool stock in a horizontal plane from the rotary motion of the shaft or rod; 6th. The brush *t*, mounted within or upon the tool stock or carrier, whereby it may be raised or lowered with respect to the tools; 7th. The combination of the knocking over or tripper arms *b2*, and cams *y1*, or the equivalents of the same, whereby, while the tool stock is in motion, the raising or lowering of the brush may be effected. 8th. A carriage susceptible of universal freedom of motion and supporting a tool stock, and a tool stock traversing such carriage in reciprocating rectilinear movements; 9th A tool stock reciprocating in an arbitrary horizontal path upon a suitable carriage, and one or more tools or tool-holders under the arrangement and for operation as described, so that during the reciprocation of the stock the slope of the tools with respect to the stock may be varied, in order not only that the tool may be lowered upon the skin when moving in one direction, and raised therefrom when moving in the opposite direction, but if desired, elevated entirely above the skin and out of action during both traverses; 10th. The combination of a brush capable of being lowered into working position or raised therefrom and one or more reciprocating tools which are susceptible of acting upon a skin or traversing a path above such skin and free from contact; 11th. The combination of an open or slotted crane swinging in the arc of a circle and carriage capable of traversing such crane and constituting the suspensory of the tool supporting carriage or frame; 12th The combination of the swinging crane K, carriage T, and shaft S in such manner that the carriage is in part supported by and slides upon the beam and is driven by the shaft; 13th Mounting the carriage T, upon the shaft S, by means of the rollers *k*, *l*, *m*, and creating in the shaft a groove or rebate in which one roller travels, or the equivalents of such parts whereby such rollers and carriage are compelled to rotate with such shaft and such rollers constitute anti-friction bearings to reduce friction between the shaft and carriage; 14th The combination of the crane K, shaft S, tubular carriage T, rollers *k*, *l*, *m*, gears V, and W, and vertical shaft X; 15th. The combination of the cross-head C, susceptible of vertical adjustment upon suitable supports and the crane K, pivoted to such cross-head, whereby the crane while capable of swinging over the skin in a place parallel to the table, may be raised or lowered with respect thereto 16th. The screw F, screwing within the beam D, and provided with the gear G, in combination with the rod or shaft I, and its gear H, whereby the vertical adjustment of the cross-head and crane is effected; 17th. In combination with the cross-head C, susceptible of vertical adjustment the crane K, the shaft L, acting as a pivot to the crane K, and in connection with its gear as a means of rotating the shaft S, the shaft S, gear V, and shaft X; 18th. The epicycloidal wheels *q*, and *r*, in combination with the rotary frame Y, and barrel or carriage *v*; 19th. The spring latch *y*, or its equivalent in combination with the bracket *x*, and frame Y; 20th. The stud *n*, upon the under side of the epicycle *q*, in combination with the tilting or oscillating beam *c*, or the same and its tubular sliders *o*, 21st. In combination with the barrel or carriage *v*, carrying the operative tool and an oscillating beam for effecting the vertical changes of such tools, the carriage traversing a horizontal rail or shaft upheld by a suitable frame and the oscillations of the beam being effected by the epicycle *q*, or its equivalent; 22nd. The employment of the bolts *r1*, *r1*, in connection with the studs *s1*, of the sleeves *o1*, as a means of elevating or depressing one or both the tool stocks, and tools; 23rd The combination of the tubular slider *o1*, and tool stock *a1*, *b1*, under such an arrangement and so provided that an outward movement of the slider elevates the adjacent tool and throws it out of action and removes itself from the path of rotation of the wiper stud upon the wheel *q*; 24th. In combination with the barrel carriage *v*, and tool stock *a1*, *b1*, the brush *t1*, susceptible of vertical adjustment. 25th. The latches *k1*, or their equivalents in combination with the carriage *v*, and tilting beam *c1*; 26th. The method of mounting and adjusting the brush *t1*, as consisting of the cheeks *u1*, sliding within or upon the carriage *v*, the wiper cams *y1*, and trippers *b2*, operating in connection with the bolts *c1*, or their equivalents; 27th. In combination with the vertically adjustable cross head C, the swinging crane K, the frame Y, and sliding carriage *v*, with its accessories travelling within or upon such frame and operated by the epicycloidal wheels *q*, and *r*, the whole being as stated; 28th. The employment and adaptation of the wheel *q*, whereby in connection with the ring gear *r*, it performs the functions of reciprocating the tool supporting carriage and of effecting the alternate elevation and depression of each end of oscillating beam *c1*. 29th. In rails *f1*, with thin stops *l1*, whereby the latches *k1*, are released from their hold upon the beam.