

*Claim*—1st. The rotary shaft provided with bars F, mortised through the same, and with cross bars G, halved into the bars F; 2nd. In combination with one of the shelves H, the circular iron pan J, provided with radial slot d; 3rd. The fall leaf shelf J, provided with prop G; 4th. The arrangement of the safe containing the standard D, troughs E, E, rack bars F, bars G, shelves H, pan J, and fall leaf shelf J.

No. 2495. JOHN R. BLAKESLEE, Youngstown, Ohio, U. S., 3rd July, 1873, for 5 years: "A Nut Machine." (Machine à faire les noix.)

*Claim*—1st. The stem d, and laterally projecting arm d, for holding and swaging the bar in combination with a die a, and a descending shear c, for cutting off the nuts; 2nd. The stem d, and laterally holding and swaging arm d, in combination with the shear c, and punch e, arranged in respect to each other as described; 3rd. The reciprocating die bed f, constructed and operated as described; 4th. The reciprocating die bed f, provided with a cutter g, in combination with a cutter m, punch h, for cutting off and piercing the nuts; 5th. The slide O, forming one side of the die box which acts to hold the bar laterally and at the same time swage it, and operated by the cam p, 6th. The stationary block Q, and slide O, in combination with the reciprocating die bed f, and stem n, provided with a lateral arm n, forming the top of the die box; 7th. The die box consisting of the stationary block O, slide O, bridge block i, reciprocating die bed f, lateral arm n, of the stem n, and shear m; 8th. A plunger p, which yields as the nut is cut from the bar and resumes its normal position when the shear m, is not in contact with the bar of iron; 9th. A reciprocating die bed f, provided with a slot in its bottom and a corresponding opening in the bed plate of the machine through which the nut or washer is discharged in the backward movement of the reciprocating die bed f.

No. 2496. CHRISTOPHER WARDEN & JOSIAH B. PLUMB, Niagara, Ont., 3rd July, 1873, for 5 years: "Process of Converting Cast or Malleable Iron into Steel." (Procédé pour convertir la fonte ou le fer en acier.)

*Claim*—1st. The conversion of malleable iron or cast iron after being annealed into steel, by the process of heating it to incandescence and allowing it to cool gradually as set forth.

No. 2497. GEORGE STACY & HENRY MUIHOLLAND, Montreal, Que., 3rd July, 1873, for 5 years: "Chisel Pointed Nail Machinery." (Machine à clou à pointe de ciseau.)

*Claim*—The novel combination of the punch E, and bed die F, with boreals E, inclined side E, and bevel E.

No. 2498. GEORGE P. CLAPP & GEORGE STACY, Montreal, Que., 3rd July, 1873, for 5 years: "A Fire-escape." (Un appareil de sauvetage.)

*Claim*—1st. The novel combination of the plates a, frictions b, c, d, e, and f, in number more or less, and the spring clays or hooks g, and h; 2nd. The combination of the plates a, frictions b, c, d, e, and f, and hooks g, and h, with rope i; 3rd. The combination of the plates a, frictions b, c, d, e, and f, hooks g, and h, and rope i, with sling n, belt o, and ring p.

No. 2499. WILLIAM ROBINSON, Brooklyn, N. Y., U. S., 8th July, 1873, for 15 years. "Electric Railway Signals." (Signaux de chemin de fer électriques.)

*Claim*—1st. The battery B, and a suitably arranged magnet in combination with each other and with the rails of a section of railway track whereby when said section is bridged by the wheels and axle of a car, the electric circuit is changed and the signal operated through the demagnetization of the said magnet. 2nd. Two or more signals actuating magnets or helices C, T, and a battery B, in combination with a rail section or sections A, whereby the current is divided between the said magnets; 3rd. The combination of the signal actuating electro-magnet C, the rail sections A, and the cut out or key B, whereby the action of the cut out is caused to operate the aforesaid signal actuating magnet; 4th. The combination of the relay of which the electro-magnet C, forms a part, with the two distinctive local circuit connections; 5th. The switch bar made wholly or in part of non conducting material whereby the switch rails are insulated from each other; 6th. The combination of the switch constructed and operating as described with the metallic contact plate A; 7th. The combination with the drawbridge and the circuit connecting of the battery B, of the fixtures A, and the projection A; 8th. The connections of a circuit wire to a rail forming part of the circuit, by means of the casting K, constructed and applied; 9th. The apparatus arranged for signaling at a crossing as shown in Fig. 9; 10th. The apparatus arranged for block signaling as shown in Fig. 10; 11th. The signal bell actuated by axial magnetism in the manner as shown in Fig. 13; 12th. The signal bell actuated by axial magnetism and rendered intermittent in its operation by means as shown in Fig. 14; 13th. The combination with an electro-magnet C, of the rock bar A, capable of movement in a horizontal plane carrying the armature B, and actuating the axially moving vertical rod of the signal disc; 14th. The relay constituted by the magnets A, B, the armature C, and

spring F, in combination with each other and with the wires of a galvanic battery or batteries; 15th. The construction of signal and battery houses for electric railway signals.

No. 2500. LYMAN R. BLAKE, Brooklyn, N. Y., U. S., 8th July, 1873, for 5 years: "A Hydraulic Hose." (Un tuyau élastique.)

*Claim*—In hydraulic hose manufactured from a strip of woven material the edges overlapping and united by stitches passing from the outside to the inside or vice-versa.

No. 2501. NATHAN A. BEACH, TIMOTHY B. RIDER & HAMILTON M. RIDER, Stanstead, Que., 8th July, 1873, for 5 years: "Machine for Measuring and Rolling Cloth." (Machine à mesurer et rouler les tissus.)

*Claim*—1st. The combination of the roller B, crank journals C, arms C, lever D, pawls F, F, and wheel G, with the frame A. 2nd. The friction roller J, arranged and operating as set forth in combination with the roller B, and frame A; 3rd. The standard N, adjustable as set forth with its clamp P, and plate O, arranged and operating as set forth; 4th. In providing the chucks M, M, with V grooves and pins U, for receiving and holding the cloth board and cheek plates R; 5th. In providing the cheek plates R, with a collar S, and thumb screw T, for securing it adjustably to its shaft.

No. 2502. EDWIN D SMITH, Sutton, Que., 8th July, 1873, for 5 years: "Self-acting Car-coupling." (Attelage de voitures de chemins de fer automate.)

*Claim*—1st. The combination with the draw head A, of the hinged flap D, extending across the same internally and journalled at its sides to receive the draw of the coupling bar M; 2nd. In combination with the draw head A, and flap D, the arrangement of the lever H, chain I, and pulley J, whereby uncoupling of the draw bar can be effected from the sides of the car; 3rd. In combination with such draw head and flap the arrangement and employment of the spiral spring G, and guide rod E, for preventing untoward uncoupling; 4th. In providing the draw head internally at its sides with springs L, for compressing the end of the coupling bar M, and allowing it to have a lateral movement as set forth.

No. 2503. JOHN J. WRIGHT, Toronto, Ont., 8th July, 1873, for 5 years: "Newspaper Addressing Machine." (Machine à adresser les journaux.)

The mechanism propels the galley, holding type addresses, in such manner that the type comes under the lever at the proper time for stamping the address.

*Claim*—1st. The combination of lever box, spring, ratchet lever and ratchet; 2nd. The combination of toothed galley and type in such a manner as to be acted upon by the upward motion of lever B.

No. 2504. FRANCIS KORWAN, Kirnhalden, Baden, Germany, 8th July, 1873, for 5 years: "Self-lighting Gas Apparatus." (Appareil automate pour allumer le gaz.)

*Claim*—1st. One or more cocks, valves or equivalent, actuated by a flexible or moveable diaphragm I, operated by the pressure of the illuminating gas supply, which can be regulated by weights J, or their equivalents for the purpose of igniting and regulating one or more gas jets. 2nd. The combination with the tube L, of the auxiliary burner of the screw K, for regulating the influx, and the screw K, for regulating the efflux of the gas; 3rd. In combination with the described gas lighting apparatus the screw cock c, for regulating the flame. 4th. In combination with the diaphragm I, actuating the stop cock of a gas lighting apparatus the pivot bearings o, p, for overcoming the friction on the plug.

No. 2505. JESSE W. HATCH, Rochester, N. Y., U. S., 8th July, 1873, for 5 years: "Heel Stiffening for Boots and Shoes." (Contrefort de chaussure.)

Consists in a heel stiffening produced by crimping in contradistinction to one produced by molding, stamping in dies or otherwise.

*Claim*—A new article of manufacture in a crimped heel stiffening in which the seat B, is formed with a smooth surface, and the wrinkles of the leather are carried down to the inner margin without notching the leather.

No. 2506. DANIEL WOODBURY, Rochester, N. Y., U. S., 8th July, 1873, for 5 years: "A Horse-power." (Manège pour un cheval.)

*Claim*—1st. The combination of a horse-power with a sled when connected by journals a, a, which allow a turning motion, and when said sled has a removeable front bar r, to allow the raising