

No. 4670. JOHN B. BAUGH, Detroit, Mich., U. S., 23rd April, 1875, for 5 years: "Improvements on Dies for Welding Links." (Perfectionnements aux étampes à souder les mailles.)

Claim.—The combination of the wedge-shaped-dies B, C, having grooves E, with the bed A, and lever H.

No. 4671. THOMAS WEISS, Bethlehem, Pa., U. S., (Assignee of P. B. Cunningham), 23rd April, 1875, for 5 years: "Improvements on Shovels." (Perfectionnements aux pelles.)

Claim.—A shovel in which are combined a metal tongue A, secured to the handle with a socket c, formed for its reception in the blade.

No. 4672. HUGH L. WALKER, Guelph, Ont., 23rd April, 1875, for 5 years: "Sewing Machine Shuttle." (Navette de machine à coudre.)

Claim.—1st. A spring plate D, having any required number of notches a, in combination with a spring plate C; 2nd. The plates C and D, rivetted together as shown and rivoted at b, to the shuttle A, in combination with the bobbin B; 3rd. The notch F, and bridge G, in combination with eye hole E; 4th. The pin g, in combination with the slot h, in the plate C.

No. 4673. MELVIN WILSON, Strathroy, Ont., 23rd April, 1875, for 5 years: "Improvements in Harrows." (Perfectionnements aux herses.)

Claim.—1st. The chains D, arms E, cross-bar F, rack G, and lever H, when combined with the frame A, and axle-tree B, of a sulky-harrow; 2nd. The rods of attaching the harrow to the tongue N, by means of chains I, J, front-bar K, and chains L, M.

No. 4674. PETER B. CUNNINGHAM, Freehold, Pa., U. S., 23rd April, 1875, for 5 years: "Improvements on Running Gear for Vehicles." (Perfectionnements aux trains de voitures.)

Claim.—1st. The circle B, provided with cams B₁, B₂, on opposite sides th. extreme point of each cam being provided with a recess x; 2nd. The combination with the axle C, and wheels C₁, of the frame C₂, C₃, C₄, and rollers D₁, to act against the cam circle B; 3rd. The friction-roller e, upon the extended journal of the roller D₁, in combination with the L-shaped-arm b, 4th. The flanged tube a, attached to the axle C, in combination with the frame B₁, and the king-bolt a₁, both of the latter attached to the bottom of the wagon body; 5th. The tongue E, pivoted in a slot on the bar C, in combination with the bar C₁ and plate d; 6th. The combination of the two springs e, G, surrounding the axle G, and the stiff rods e, plates e₁, and cross-bar G; 7th. The jointed rod e₂, in combination with a vehicle axle and a single spring

No. 4675. WILLIAM CHARLES CHARTIERS, and MATTHEW MCKAIN, Pittsburgh, Pa., U. S., 27th April, 1875, for 15 years: "Nut Machine." (Machine à noix.)

Claim.—1st. The combination of the swage arms G, swages I, cutter F, and blunt punches f, for swaging, nicking, and partially punching two or more blanks, at one operation; 2nd. The combination of the hollow press-screw L, supported in a suitable cross-head, the press-plate K, the dies E₁, and the eye-punches m, n; 3rd. The nut-box H, having a dividing or centro-piece h and the stop b₁, in combination with the dies E; 4th. In combination with the cylindrical axially pointed eye-punch, press lies, and the boxes, the cutters and punches, for the purpose of previously nicking and partially punching the blank.

No. 4676. JAMES P. LOCKEY, Northwick, Eng., 27th April, 1875, for 5 years: "Apparatus for Evaporating Liquids and Heating Gas Retorts or Calcining Minerals." (Appareil à vaporiser les liquides et chauffer les cornues à gaz ou calciner les minerais.)

Claim.—1st. The arrangement of two furnaces A, A, heating the reverberatory furnace or kiln B, (so that by alternate firing the smoke can be consumed) in combination with the evaporating pan F; 2nd. The arrangement of furnaces A, and kiln B, with the flue E, and steam-jet for forcing the current of heated gases under the evaporating pan or drying floor F; 3rd. The combination of the pan F, with the furnaces A, (and kiln B) arched over so as to prevent the direct radiant heat of the furnace from burning the pan F; 4th. The combination of flue or flues D, D, and concentric steam-jet with the baffle walls or partitions R, R, beneath the pan F.

No. 4677. CHARLES JEWELL, Monmouth, Ill., U. S., 27th April, 1875, for 5 years: "Grain Binder." (Lieuse à grain.)

Claim.—1st. The hollow-shaft J, sleeve K, catch L, hook-rod M, and rod N, arranged to operate with the frame P, and needle c; 2nd. The slide Q, constructed and arranged to operate with the frame P, needle c, and its operating devices; 3rd. The shafts B, and c₁, and needle arm C, arranged to operate with the connecting rod j₁, segmental gear j, and pinion j₂, when combined and arranged to operate with the tying device and cutting device.

No. 4678. BENJAMIN F. BRITTON, New York, U. S., 1875, for 10 years: "Duplex Comb." (Peigne pliant.)

Claim.—A duplex comb composed of a main comb with one or more swinging hair-retaining auxiliary combs

No. 4679. CHRISTOPHER GULLMANN, Forestville, N. Y., U. S., 27th April, 1875, for 5 years: "Improvements on Sewing Machines." (Perfectionnements aux machines à coudre.)

Claim.—1st. The combination of a slotted lever strap g, with a rod F, connected to the needle-lever E; 2nd. The combination with the shuttle and its race of a shuttle driving lever H, so that the shuttle passes through the loop close up to the under side of the cloth plate and returns in a plane below that occupied by the point of the needle, thus holding the needle thread taut; 3rd. The shuttle carrier hinged to a shuttle lever H, which moves on a universal joint, in combination with a latch S, and spring t; 4th. The combination with the feed-bar K, of a lever strap r, eccentric u, and adjustable fulcrum pin d; 5th. The combination of the eye s₁, adjusting k₁, rod j₁, and hook i₁, with the adjustable plate r₁, and with the needle slide D; 6th. The combination of the bell crank lever m₁, and sliding pin n₁, with the needle lever E, and with the presser slide of a sewing machine; 7th. The combination of the throat plate P, jaws r₁, s₁, and pin u₁.

No. 4680. THOMAS B. DOOLITTLE, Bridgeport, Ct., U. S., 27th April, 1875, for 5 years: "Improvements on Conductors' Hand Alarms and Registers." (Perfectionnements aux signaux et registres à mains des conducteurs.)

Claim.—1st. The combination with the barrel A, of the register gears and push rods B; 2d. In combination with the barrel A, register gears and push rods B, the striker F, and bell E; 3d. The barrel A, with the sliding plates L, M, for exposing to view the interior; 4th. The push rod B, provided with suitable spring C; 5th. The combination with the barrel A, and suitable hooks or rings, the hand strap or straps R, R, for securing the instrument to the hand; 6th. The case for an alarm register consisting of a round, oval or equivalent formed barrel A, adapted to be held on or in the hand, and containing the registering mechanism and the perforated case D, for the bell; 7th. The combination with the registering devices and with the alarm mechanism of the straight push rod B, provided with spring arms J, K, operating the register and the alarm; 8th. An arm register embodying in its construction an oval, round or equivalent formed barrel carrying the registering mechanism, and adapted to be carried on or in the hand, a gong containing case, attached to said barrel, a series of registering wheels, an alarm apparatus and a straight push rod, provided with spring arms and actuating the register and alarm; 9th. A holder adapted to pass over the back of the hand and around the wrist for the purpose of supporting a check or alarm indicator or fare register in the palm of the hand of the user

No. 4681. WILLIAM L. WALKER, and BENJAMIN G. DEVOE, Kenton, Ohio, U. S., 27th April, 1875, for 5 years: "Improvements on Metallic Fences." (Perfectionnements aux clôtures métalliques.)

Claim.—1st. The base A, provided with a base plate a, and the standards or uprights a₁, a₂, in combination with the post rail or two rails a₃; 2nd. The base A, in combination with the post B, a, d base b₂; 3rd. The ornamental fastening clamp F; 4th. The clamp G, formed in two parts g, h, the part g, having a shank g₁, provided with a longitudinal slot g₂, and the projecting studs g₃, in combination with the part h, having a slot h₁, flange h₂, recesses h₃; 5th. The ornamental parts E, of the sides e, of which form circles or segments of circles in combination with the pickets D, ornamental clamps F, and horizontal rails C; 6th. The ornamental parts E, clamps F, rails C, in combination with the base A, post B, and clamp G.

No. 4682. ARCHIBALD SPENCE, Montreal, Que., 27th April, 1875, for 5 years: "Improvements on Boilers for Heating Water or Raising Steam." (Perfectionnements aux chaudières pour chauffer l'eau ou produire de la vapeur.)