

combination with the cutter bar by means of a round post and slide connection, and a device upon the main frame for lifting the cutter bar. 5th. As a means for connecting the finger bar to the main frame, in an inclined post E set up in the inner end of the finger bar, and passing through bearings in the main frame. 6th. The lever M placed upon the main frame, at a point in front of and outside of the drive wheel, in combination with the tongue by means of the link O and crank axle N. 7th. As a substitute for a hinge in a swivel or other analogous device, as a means of connecting a finger bar to the main frame and controlling the position of the finger bar relative to the main frame, a post or slide connection between said finger bar and main frame. 8th. The post E stayed at its upper extremity by a bracing device D M set upon and springing from the cutter-bar or platform. 9th. In combination with the minor axle L which carries the driving sprocket wheel J, bevel gear X, the composite ratchet pinion Y. 10th. The combination of the chain drum R, ratchet rod Q, ratchet plate F and hand lever U, the whole forming a device for lifting the finger bar vertically. 11th. In combination with the ratchet plate F, the hand lever U and spring V. 12th. In combination with the lifting drum R, the pawl S. 13th. The combination of the pinion F, interior ratchet plate G keyed to the minor axle L, spring controlled duplex B and key D, the whole forming a device for throwing in or out of gear the actuating mechanism. 14th. In combination with a bushing P serving as an axle of the main drive wheel, the ratchet rod Q journalled between the same as a space saving device. 15th. In combination, a finger bar connected with the main frame by a post E and slide P P' with a device upon the main frame for lifting the cutter bar.

No. 11,470. Feeding Device of Machines for Forging Nails and Spikes. (*Appareil d'alimentation des machines à forger les clous.*)

Lucius A. Dodge, Keeseville, N. Y., U. S., 10th July, 1880; (Extension of Patent No. 5,083.)

No. 11,471. Improvements on the Preservation of Butter. (*Perfectionnements dans la conservation du beurre.*)

John Harger, Toronto, Ont., 10th July, 1880; for 5 years.

Claim.—The preservation of butter by incorporating with the cream before churning, and the butter after churning, boric acid dissolved in boiling glycerine, and sulphate of potassium dissolved in boiling water, the mixtures to be used when cold.

No. 11,472. Improvements in Gates. (*Perfectionnements dans les barrières.*)

William G. Alexander, Oskaloosa, Iowa, U. S., 10th July, 1880; for 5 years.

Claim.—The gate hinge C consisting of the case e provided with brackets g g', roller f and pivots d d' combined.

No. 11,473. Machine for Edging Shingles. (*Machines à dresser le bardeau.*)

Francis J. Drake, Belleville, Ont., 10th July, 1880; for 5 years.

Claim.—1st. The combination of the friction pulley I, shaft G, nuts R, clutches S, grooved collars B, friction pulleys I', U, frame V, foot treadle W and pulley Y. 2nd. The combination of three pairs of rollers K K', L L', M M'.

No. 11,474. Improvements in Boots and Shoes. (*Perfectionnements dans les chaussures.*)

Siméon Fortin, Alfred Contant and Joseph Métivier (Assignees of Laurent E. de Warn, New York, U. S.), Quebec, Que., 10th July, 1880; for 5 years.

Claim.—In a boot or shoe, the quarters A A' secured in position by an intermediate back stay piece having its free edges left upon the inside of the shoe, and secured in place by stitching.

No. 11,475. Improvements on Drawbars for Railways. (*Perfectionnements aux ressorts de traction pour les chars de chemin de fer.*)

David Holt, West Albany, N. Y., and Allen Middleton, Philadelphia, Pa., U. S., 10th July, 1880; for 5 years.

Claim.—1st. The combination of two disconnected draw-bars H H, one secured to a draw-head, at one end of the car, and the other to a draw-head, at the opposite end of the car, with the two central transverse beams B B, forming part of the car frame, and the two springs I I, one for a draw-bar and the other for the other draw-bar. 2nd. The combination of the transverse beams B B forming part of the frame of the car and connected by the bolts e e with the disconnected draw-bars H H and the springs I I. 3rd. The combination of the draw-heads and their rods, the bumper springs J J and the car frame having longitudinal beams D D, bumper blocks E E and bars a a M M secured to said beams D. 4th. The combination of the disconnected draw-bars H H, the tension springs I I and the bumper springs J J with the car frame having the longitudinal beams D D, transverse beams B B, bumper blocks E E and interposed bars a a M M.

No. 11,476. Machine for Cutting Screw Threads on Pipes and Couplings. (*Machine à fileter les tuyaux et les manchons d'accouplement.*)

Isaac S. Schuyler, Brooklyn, N. Y., U. S., 10th July, 1880; for 5 years.

Claim.—1st. The combination, with a head having a revolving and forward movement, of revolving arbors carrying circular cutters and fitted for radial movement, a slide rod, at the centre, fitted with a device for expanding the arbors, and a cam roller fitted for moving the slide rod

and cone lengthwise. 2nd. The revolving head D, provided with caps d d' and carrying cutter arbors e, in boxes fitted for radial movement, combined with the revolving head D, revolving arbors e and toggle bars e' for operation. 3rd. The revolving cutter arbors e' combined with revolving head having caps sustaining the arbors, one of which is capable of partial revolution for varying the angle of the arbors. 4th. The revolving head D, the arbors e carrying the cutters or connected to the cutter arbors, the pinions e' and revolving internal gear e' combined for operation. 5th. The head D fitted with gear b, arbors e carrying pinions e', revolving sleeve e' carrying internal gear e', loose collar e' carrying gears g g' that are respectively connected to the driving shaft and to a secondary shaft that is geared to head D. 6th. The head D carrying cutter arbors e and provided with gear e' combined with the revolving head D, toggles e' and secondary shaft giving motion to head D, whereby the head D, with its arbors, is operated synchronously with head D and its arbors. 7th. The revolving rollers m formed with a spiral cam and peripheral cam groove, in combination with the slide rod d, revolving heads D D', arbors e e', sliding carriage A fitted with roller n and spring n', and fixed bed B. 8th. The revolving shaft l and cam roller m combined with the fixed bed B and sliding carriage A. 9th. The shaft l sustained in the bearings l l' and fitted with bevel gear m', and the cross shaft p' gearing with wheel m' and driven from the secondary shaft k by a worm and pinion. 10th. The serrated circular cutters k attached upon revolving arbors in a head that is fitted for movement forward spirally. 11th. The sliding rod d acting by its movement to cause the expansion or contraction of the cutters and fitted with the adjustable extension o' that connects with the operating cam m. 12th. The slide C fitted for movement endwise of bed B and provided with the slide block a that sustains the revolving cage a' a'. 13th. The block a, rod u, cage a' a', hub o, lever v' and adjustable weight v' combined together and with slide block C.

No. 11,477. Improvements on Carriage Jacks.

(*Perfectionnements aux chèbres des voitures.*)

Alexander Porteous and Charles McKenzie, Port Perry, Ont., 10th July, 1880; for 5 years.

Claim.—A carriage jack constructed of flat posts B B held dividedly apart by base A and slide pieces K, and block F having steps G supported upon and operated by cam lever C fulcrumed between the posts B B.

No. 11,478. Improvements on Gang Ploughs.

(*Perfectionnements aux charrues à plusieurs socs.*)

Thomas Gowdy (Co-inventor with Malcolm McLean), Guelph, Ont., 10th July, 1880; for 5 years.

Claim.—The combination of a coulter, or its equivalent, with the individual ploughs of the gang, said coulter acting as a preliminary cutting device to the plough.

No. 11,479. Improvements on Tool-Holders.

(*Perfectionnements aux porte-outils.*)

Leonard Young, Sing Sing, and Nelson Leyon, Albany, N. Y., U. S., 10th July, 1880; for 5 years.

Claim.—1st. The tool holder j formed by the combination, with the stationary clamping bars m n, end portions n' provided with recess ways s s and yoke o, of the clamping piece p carrying clamping jaws and draw bolt. 2nd. The combination, with the arms H H pivoted to the swivel arm F, of the tool holder j held by trunnions k in the end of said pivoted arms. 3rd. The combination, with the tool holder j provided with trunnions k and arms H H pivoted with the swivel arm F, of the clamping bolts f and nut g. 4th. The combination, with the standard D capable of being raised or lowered and provided with sleeve b and set screw, and the swivel arm F working in said sleeve, of a tool holder j arranged to oscillate between arms H H pivoted to said several arms.

No. 11,480. Improvements on Finger guides for Type-Writers. (*Perfectionnements aux guide-doigts pour les machines à imprimer.*)

Albert M. Da Costa, Brooklyn, N. Y., U. S., 10th July, 1880; for 5 years.

Claim.—1st.—As a finger guide in a type writing machine, the combination with the keys thereof, of a rod or rods, or bar or bars arranged above or between straight or curved rows of the keys or key arms. 2nd. As a new article of manufacture, the finger guide for the key board of a type writer consisting of the longitudinal bars B C, and the series of transverse bars suitably curved or shaped to indicate the location of certain keys. 3rd. In a type-writer, the combination, with the keys and a bar or rod arranged between longitudinal rows thereof, of the transverse rods which are curved or hooked at the lower end contiguous to the lower keys. 4th. The combination with the keys of a type-writer and a bar or rod which separates rows of said keys, of another contiguous bar or rod having a different surface which renders it readily distinguishable from the other by the sense of touch. 5th. The combination, with the casing and with the keys of a type writing machine, of a piece or pieces of various material, each conveying a different sensation when touched.

No. 11,481. Improvements on Tinture Presses. (*Perfectionnements aux presses à teinture.*)

John G. Baker, Philadelphia, Pa., U. S., 10th July, 1880; for 5 years.

Claim.—1st.—The combination of the tapering casing A, its hopper f, outlet m and perforations, with the metal screw D having a thread, the edge of which fits snugly, but so as to move freely in the said casing. 2nd. The screw D having a pitch gradually decreasing from the large end, in combination with the casing A, its hopper, perforations and outlet m. 3rd. The combination of the screw and casing with the detachable perforated plate, the surface of which is a continuation of the inner surface of the said casing. 4th. The combination of the screw, detachable perforated plate, and casing having a hollow rib in which is a chamber k. 5th. The combination of the casing, screw and detachable perforated plate, with the cover c by which the said plate is retained