

with its pitman Q, and the wheel J; 8th. The combination of wheel J, chain K, and ratchet wheel A; 9th. The combination of cam K, yoke M, with its pitman C₁, and lever A₁; 10th. The wire-clamping mechanism consisting of the fixed and movable jaws and their actuating devices, in combination with the binding arm; 11th. Combination with the wire clamping jaws and binding arm the sliding-plate F₂, with its finger E₂; 12th. The slotted cam sector A₁, operated as described for the purpose of imparting to the twister head an intermittently rotating movement; 13th. The gaveler arms H, extending laterally on each side of their shaft of sufficient width to form an unobstructed space for the passage of the binding arm; 14th. The finger R, or its equivalent in combination with the head of the binding arm; 15th. The slotted entrance A₁, for the binding arm having one or more of its sides made angular for the purpose of bringing the wire in position to ensure its being clamped by the jaws and to render the twisting operation certain; 16th. The double lipped wire clamping jaws K₂, provided with an opening O₁, between them arranged to operate conjointly with a sliding jaw S; 17th. A wire-twister head in combination with a clearer C₁, or its equivalent arranged to operate conjointly; 18th. A cutter-blade Z₁, encircling the twister-head shaft A₁, in combination with the twister-head; 19th. Combination with the right and left hand threaded shaft A₁, the wire-twister and retaining nut; 20th. The chute board C, and hinged bar D, with slats C, in combination with the elevating bolts F; 21st. The automatic stop arranged to operate conjointly with the gaveler; 22nd. An automatic binding device in combination with a harvester so arranged as to be capable of adjustment for the purpose of binding the gavels centrally.

No. 2105. JAMES O. STACKHOUSE, St. John, N. B., 28th February, 1873, for 5 years: "A Snow Plough." (Une charrue à neige.)

Claim.—A snow plough, the sides of which are parallel horizontally, and splay outward, vertically, having a raised central ridge A, and edge-ridges B, to form an intermediate concave or hollow rising floor inclined and meeting the curvature of the mould-board D, to constitute a continuous sweep curving outward, and of increasing breadth or capacity ascendingly to the outlet for casting off the snow.

No. 2106. ALGERNON S. WHITING, Cedar Dale, Assignee of Francis S. Gilbert, Oshawa, Ont., 28th February, 1873, for 5 years: "Mode of Attaching a Mowing Seythe to the Snaith." (Manière d'emmancher les faux.)

Claim.—1st. The double toothed or plain joint A, B, B₁, Figs. 1, 2 and 5, (toothed for the horizontal and plain for the vertical motion by preference), giving a vertical and horizontal motion to the seythe and enabling it to be closed up to the snaith I for transport; 2nd. The bending of the heel F, Figs. 3 and 4, so as to form a vertical joint with the hanging B₂, also the prolongation of the back of the seythe G₂, Fig. 5, so as to form the joint in lieu of bending the heel F, Figs. 3 and 4, and securing it thereto.

No. 2107. GEORGE W. HUNTER, Montreal, Que., & ARCHIBALD MCD. FORSTER, Hamilton, Ont., 28th February, 1873, for 5 years: "Tobacco Box and Cutter." (Boite hache-tabac.)

Claim.—The box A, with concave top C, knife D, and slot or slots E, arranged as and for the purposes set forth.

No. 2108. JOHN W. STANTON, Barnsville, Ohio, U. S., 28th February, 1873, for 5 years: "A Grate Bar." (Une barre de grille.)

Claim.—1st. A grate-bar having the lateral projections a, a, set alternately upon the two sides of the wedge shaped top; 2nd. The combination of the grate-bars C, C, having the lateral projections a, a, and the pivoted-bar D, with projections b, b, and d, d, and lever E.

No. 2109. GEORGE W. VERRALL, Chatham, Ont., 28th February, 1873, for 5 years: "Machine for Adjusting Cards, etc., on the Planers of Printing-Presses." (Machine pour ajuster les cartes, etc., sur les platines des presses d'imprimerie.)

Claim.—1st. The guide A, with the slot B, the lip and pin holes C, C; 2nd. The slide D, and the combination of said slide and guide.

No. 2110. WILLIAM HARPER & WILLIAM SMITH, Montreal, Que., 28th February, 1873, for 5 years: "Spinning Bait for Fishing." (Appât-hélice pour la pêche.)

Claim.—1st. The combination of the wire c, spinners d, and f, and beads e and g; 2nd. The combination of the spinner d, with the spinner f.

No. 2111. MICHAEL COOKERLY, Baxter Springs, Ka., U. S., 28th February, 1873, for 15 years: "Improvement on Hoes." (Perfectionnements aux houes.)

Consists in the peculiar shape of the hoe blade and in the manner of its attachment to the handle.

Claim.—The hoe as described as a new article of manufacture, consisting of the rhomboidal blade a, and shank c, applied and secured thereto as set forth to receive a suitable handle.

No. 2112. FREDERICK G. BELL, New York, U. S., 28th February, 1873, for 5 years: "Dressing for Leather." (Corroyage des peaux.)

Claim.—The process of preparing dressing for leather with the following ingredients, viz. castile soap, soda, bowery tallow, carbonate of ammonia, borax, gum tragacanth, lamp-black, neat's-foot oil and water mixed in the proportions described.

No. 2113. WOODARD THOMPSON, Gardiner, Me., U. S., 28th February, 1873, for 5 years: "A Road Scraper." (Appareil à nettoyer les chemins.)

Claim.—1st. The inclined beam and scraper A, a rounded face-shoe T, runner C, cross bars B, B, and tongue E, the several parts being constructed and arranged for operation as set forth; 2nd. The combination of the slotted bar J, lever K, wheel L, forked standard P, and shouldered standard R all constructed and arranged with a road-scraper; 3rd. The rudder c, and scraper f, combined with the beam A, and arranged to operate as set forth.

No. 2114. MALCOLM F. MCINTYRE, Girard, Pa., U. S., 28th February, 1873, for 5 years: "Rail-road Rail and Fastening." (Rail et ajustage de rails de chemin de fer.)

Claim.—1st. A railway rail composed of the portions A, and B, constructed and fitted together in the manner set forth; 2nd. A railway rail having an inserted cable C; 3rd. The twin bolts D, constructed and applied as set forth for fastening the fish-plate to the rail; 4th. The washer F, having the recesses e, e, in combination with the bolt G, nut G, and bent wire I.

No. 2115. JOHN GOLDIE & DANIEL CAMERON, Galt, Ont., 28th February, 1873, for 5 years: "A Shingle Machine." (Une machine à barder.)

Consists in the application to the carriage of a friction-bar and interposed elastic cushions which are operated by a friction-wheel on a continuous rotary shaft.

Claim.—The adaptation and application to the carriage B, and saw table C, of the friction-bar F, interposed elastic cushions G, and friction-wheel H, to carry forward the carriage to the saw.

No. 2116. JOHN GRANTHAM, London, England, 1st March, 1873, for 5 years: "Steam Carriages for Tramways." (Voitures à vapeur pour les chemins à rails de bois.)

Claim.—1st. The combination with a tramway carriage of a chamber or chambers A, so arranged as to leave a clear passage through the carriage, such chamber or chambers containing a boiler B, and steam engine J; 2nd. The combination with the platforms of a tramway carriage of the starting and reversing handles S, and R, and the rods E, and K; 3rd. Combination with a tramway-carriage of the rising and falling wheels A, and B.

No. 2117. PERRY G. GARDINER, New York, U. S., 1st March, 1873, for 15 years: "A Railroad Car Spring." (Un ressort de voiture de chemin de fer.)

Claim.—1st. The separate bars 2, 1, 2, 3, 2, 5, 2, forming the elliptical portion of a spring suitable for rail-road cars and other purposes, hinged or set alternately one upper-bar 2, next to a lower bar 1, and vice versa; 2nd. The arrangement of the bars 2, 1, 2, 3, 2, 5, 2, which constitute the two sides or upper and lower parts in such a ratio, to each other that the one part shall be composed of an even number of bars, and an uneven number on the other part preserving at the same time an equal strength and elastic action in the upper and lower parts; 3rd. The clamps A, A, for holding the bars 2, 2, 2, 2, and 1, 3, 5, and affording them a suitable central bearing, constructed, arranged and operating in the manner described; 4th. The combination of the clamps A, A, having the sectional guides b, b, and bolt b₁, with the spiral spring B, the whole arranged and operating as set forth.

No. 2118. HORATIO P. ALLEN, New York, U. S., 1st March, 1873, for 15 years: "Hydrogen Gas Generator." (Générateur à gaz hydrogène.)

Relates to improvements in arranging and setting retorts vertically around a furnace or fire-place, concentrically, in combination with suitable flues or passages, built within the thickness of the outer-wall, through which the steam pipes pass on their way to the distributors, in such a manner that the steam is superheated before it enters the retort whereby its effect on the incandescent coal in the retorts is increased.

Claim.—1st. The use of several vertical retorts A, arranged around one fire-chamber C, for the decomposition of steam into permanent gases; 2nd. The arrangement of lateral delivery-pipes N, converging to a central-vertical main pipe P, from a circle of vertical retorts A, in which steam is decomposed; 3rd. The combination with the bottom mouth-piece E, of a vertical retort used