

combination of the curved bed plate T, containing the longitudinally curved slot with the lever M connected with the upper and lower set rolls n, n_1 by means of the weighted pawls r, r_1 , said lever provided with a roller at its lower end passing through the curved slot in the bed plate T and operating the set-rolls, substantially as described. 6th. In a shingle sawing machine, the saw guards h, h_1 bolted to the frame and conforming to the periphery of the saw, substantially as described. 7th. In a shingle sawing machine, the hinged shingle guard t provided with a spring at one end to hold it against the saw, allowing it to spring back to prevent breaking the saw in case a shingle should happen to pass through, in combination with the saw, substantially as described. 8th. In a shingle machine, the break or lever P with its spring catch Q acting upon the main feed shaft S, for the purpose of starting or stopping the vibrating bolt carrier r , respectively of the saw, substantially as described. 9th. In a shingle sawing machine, the combination of the saw, the jointer J on the same arbor with the saw, the swinging bolt carrier A pivoted to the frame C below the saw and running in suitable guides D, the compensation weight H adjustable on said bolt carrier, the lever M connecting and operating the set-rolls n, n_1 by the weighted pawls b, b_1 the lower end of said lever provided with a roller running in the longitudinal curved slot in the bed plate T, the weighted sliding-head G containing the upper spurred set roll connected to the bolt carrier by bolts having rollers running in grooved slots in said sliding head and operated by the lever f , the slotted crank I, connecting rod and wrist-pin E & operating the bolt carrier A, the lever P acting on the main feed shaft S, the saw guards h, h_1 each side of the saw and the shingle guard t containing the spring in one end, all substantially as described.

No. 27,123. Substitute for Whiffletree.

(*Système d'attelage sans palonnier.*)

Alexander F. Gibson, Galt, Ont., 9th July, 1887; 5 years.

Claim.—The chain or cord E connected to the harness, as described, in combination with the friction rollers D, journaled in suitable brackets attached to the doubletree A, substantially as and for the purpose specified.

No. 27,124. (Malt) Kiln Dumping Floor.

(*Atre à bascule de touraille.*)

Frank Kohler and William A. Chambers, St. Louis, Mo., U. S., 9th July, 1887; 5 years.

Claim.—1st. In a malt kiln dumping floor, the combination of the sections A hinged at either corner of their respective ends, and having bearing strips K with upright arms J, bars G and rollers H, substantially as shown and for the purpose described. 2nd. In a malt kiln dumping floor the combination of the sections A hinged at either corner of their respective ends, and having bearing strips K with upright arms J, bars G having toothed racks L, rollers H, toothed pinions M, Q, shaft N and spur wheel P, substantially as shown and for the purpose described.

No. 27,125. Manufacture of Boots and Shoes. (*Fabrication des chaussures.*)

Michel L. Lion, London, and Frederick Cutlan, Castle Hill, Eng., 9th July, 1887; 5 years.

Claim.—1st. In the improved manufacture of boots and shoes, driving the fasteners whether of the improved form or otherwise through the inner sole before the inner sole is fixed upon the last, substantially in the manner and for the purpose hereinbefore set forth. 2nd. The method of lasting the upper to the insole by tightly drawing the edges thereof over the invented points of the fasteners and forcing such points through the upper, substantially in the manner and for the purpose hereinbefore set forth. 3rd. In the manufacture of boots and shoes, the improved method of attaching the outer sole and heel to the upper and inner sole in one operation, substantially in the manner hereinbefore set forth. 4th. The improved manufacture of boots and shoes, substantially in the manner and for the purpose hereinbefore described and set forth, and represented in the drawings.

No. 27,126. Metallic Shingle or Roofing Plate. (*Bardeau ou feuille métalliques à toiture.*)

Lewis D. Cartright, Hyde Park, Ill., U. S., 9th July, 1887; 5 years.

Claim.—1st. In a metallic shingle or roofing plate, one or more edges bent to form an upwardly-extending flange and continued to form a nailing-flange, said flanges being extended downward so as to overlie the surface of the plate below, in combination with corresponding edges adapted to extend over the upwardly-extending flanges and form a seam on the inside thereof, but not come in contact with or approach the nailing-flange at all, substantially as and for the purpose specified. 2nd. In a metallic shingle or roofing-plate having four equilateral sides, the combination of an upwardly-extending flange formed on two adjacent upper edges of the shingle, and continued to form nailing-flanges, said flanges being extended downward so as to overlie the surface of the shingle or plate below with the two adjacent lower edges of the shingle adapted to extend over the upper edge flanges of adjoining shingles and form seams on the inside thereof, substantially as and for the purpose specified. 3rd. In a metallic shingle or roofing-plate, one or more edges bent into a flange F extending up and backward over the plate and continued to form a nailing-flange f , in combination with corresponding downwardly and inwardly-bent edges E adapted to engage with the flanges F of similar sheets, substantially as and for the purpose specified. 4th. In a metallic shingle or roofing-plate, one or more edges bent into a flange F extending up and backward over the plate, and continued to form a nailing-flange f , said flange being continued downward so as to overlie the surfaces of the shingle or plate below, in combination with downward and inwardly-bent edges E adapted to engage with the flanges F of similar sheets, substantially as and for

the purpose specified. 6th. In a metallic shingle or roofing-plate having four equilateral sides, the combination of flanges F extending up and backward over the plate, and continued to form the nailing flanges f on the two upper adjacent sides, with the flanges E extending inward and downward in the two lower adjacent sides, all substantially as and for the purpose specified. 6th. A metallic shingle or roofing-plate having four equilateral sides, the combination of flanges F extending up and backward over the plate and continued to form the nailing-flanges f on the two upper adjacent sides said flanges being continued downward so as to overlie the surface of the shingle or plate below with the flanges E extending inward and downward in the two lower adjacent sides, all substantially as and for the purpose specified. 7th. A metallic shingle or roofing-plate having the hooked flanges F, and nailing-flanges f in its two adjacent upper edges, the corresponding hooked flanges E in its adjacent lower edges, and having its point a formed by bending the flange E to or nearly to a right angle with the plate, substantially as and for the purpose specified.

No. 27,127. Metallic Roofing Plate or Shingle. (*Feuille à toiture ou bardeau Métalliques.*)

Lewis D. Cartwright, Hyde Park, Ill., and Stephen P. Darlington, West Chester, Penn., U. S., 9th July, 1887; 5 years.

Claim.—1st. In metal shingles adapted to interlock with each other, the combination of an edge F having a fold f with downwardly-bent edge F₁ and nailing-flange F₂, with an edge E having a depressed gutter E₁ with a sloping inward edge. 2nd. In metal shingles adapted to interlock with each other, the combination of an edge F having a fold f with downwardly-bent edge F₁, and nailing-flange F₂ with an edge E having a depressed gutter E₁ with a sloping inward edge and an obliquely-inclined flange E₂. 3rd. In metal shingles adapted to interlock with each other, the combination of the adjoining edges F having folds f with downwardly-bent edges F₁, and nailing-flanges F₂ with the opposite adjoining edges E having depressed gutters E₁ and inclined flanges E₂. 4th. In metal shingles adapted to interlock with each other, the combination of the adjoining edges F having folds f with downwardly-bent edges F₁, and nailing-flanges F₂ with the opposite adjoining edges E, having depressed gutters E₁ with inclined inner sides and inclined flanges E₂. 5th. In metal shingles adapted to interlock with each other, substantially as shown and described, the combination, with the main shingle, of the plate C, as and for the purpose specified. 6th. In metal shingles adapted to interlock with each other, substantially as shown and described, the corner a , cut and bent, substantially as shown, so that the shingles may be staggered or set in broken lines upon the roof. 7th. In metal shingles adapted to interlock with each other, substantially as shown and described, the corner c cut horizontally so that the shingles may be staggered or set in broken lines upon the roof. 8th. In metal shingles adapted to interlock with each other, substantially as shown and described, the corners f_1, f_2 , cut so that the folds f shall terminate just before the points where the gutters E₁ cross the lateral corners of the shingles. 9th. In a metallic shingle, the device of a gutter depressed below the level of the sheet formed in the edge or edges of the same, and adapted to be covered in use by a flange or projection of another shingle. 10th. In a metallic shingle adapted to interlock with each other, substantially as specified, the combination of depressed gutters formed in the upper edges thereof, with overlapping flanges formed in the lower edges thereof and continued to form nailing-flanges. 11th. In a metallic shingle the device of an S-shaped flange f , continued to form a nailing-flange having a downwardly-projecting edge F₂ adapted to rest upon the surface of a shingle, inserted in said flange.

No. 27,128. Metallic Roofing Plate or Shingle. (*Feuille à toiture ou bardeau Métalliques.*)

Lewis D. Cartwright, Hyde Park, Ill., U. S., 9th July, 1887; 5 years.

Claim.—1st. As a new article of manufacture, metallic roofing shingles having an edge C provided with a hook D, having a downwardly-projecting point d , and a projection F and flange G beyond said point, and an opposite edge B having a projection J and a hook T adapted to interlock with the point d and projection F of a familiar shingle. 2nd. In metallic shingles, substantially as shown and described, the combination, with the hook D d , formed in one edge of the shingles, of the open space E adapted to extend back of the interlocked edges of the adjoining shingle and form an unobstructed gutter, substantially as shown and described.

No. 27,129. Snow Plough for Railroads.

(*Charrue à neige de chemin de fer.*)

David Kirk, Bracebridge, Ont., 9th July, 1887; 5 years.

Claim.—The upwardly-slanting flat bottom A, divided by a knife-edged outwardly-flaring partition B, the outwardly-flaring sides C, in combination with the hinged wings D operated by the rods E, substantially as and for the purpose specified.

No. 27,130. Cockle Machine. (*Machine à Nielle.*)

Faustin Prinz, Milwaukee, Wis., U. S., 9th July, 1887; 5 years.

Claim.—1st. A cockle machine cylinder, formed of iron or analogous hard metal, and having portions thereof cut and depressed, such cut and depressed portions forming cavities in the cylinder, substantially as described. 2nd. The combination of the cylinder, the shaft supporting the same, the brackets secured to the shaft and extending upward therefrom, the elastic straps connected to the upper parts of the brackets and the trough suspended by said straps, substantially as described. 3rd. The combination of the cylinder, the shaft passing through the same, the nuts secured to said shaft and provided with the arms connected to the cylinder, the brackets secured to said shaft, the elastic straps depending from said brackets, the trough suspended by said straps and the ratchet-teeth secured to