

of the back by machinery; 3rd. In cutting the leg for a moccasin boot as in fig. 9, having one half of the back B, extending on each side of and integral with the front A, in such a manner that it can be closed up behind, lapping far enough to allow a machine to be used in closing the seam; 4th. In cutting the leg of a moccasin boot with the front A and back B integral and shaped as in fig. 10, so that the edges may be brought together and form the seam on one side of the leg; 5th. In cutting the parts A, B, C, D, E of a moccasin boot as shown in figs. 1 and 2, so that machinery can be applied to all the seams and the entire boot, sewed together by machinery; 6th. In cutting the tip D, and front A, with such reference to each other as to allow the tip to be crimped on to the front during the process of stitching; 7th. In turning the tip D on the front A of the boot or the top F of the shoe while sewing the parts together, thereby crimping them, for the purpose of improving the shape of the moccasin; 8th. In cutting the parts F, G, H, I, K, to form a moccasin shoe, in which all the seams may be sewed by machinery as shown in figs. 11 and 12; 9th. In cutting the tops D, E, of figs. 13, 14 and 16 of such shape as to enable the seams of the top to be sewed up by machinery, and used in connection with the bottom L to form shoes, as shown in the said figures; 10th. In joining the top or quarter F to the bottom L, as described before the ends G, H, I, are sewed together, being cut and applied in such a manner as to allow of being sewed to the bottom by machinery.

No. 2312. ALEXANDER W. NICOLSON, Dartmouth, N. S., 5th May, 1873, for 5 years: "A Steam Washing Machine." (Machine à laver à la vapeur.)

*Claim.*—1st. The connection with a common cooking stove boiler A, of the inner perforated vessel or washer B, constructed with sloping sides and ends; 2nd. The connection of the loop or handle E, with the inner boiler or washer B for detaching the same from the outer boiler A; 3rd. The combination as seen at D, of the mouth or upper rim of the inner vessel or washer B with the inside of the outer boiler A.

No. 2313. HENRY H. BEACH, Rome, N. Y., U. S., 5th May, 1873, for 5 years: "Process and Apparatus for Curing Corn and other Grain." (Procédé et appareil pour conserver le blé et autres grains.)

*Claim.*—1st. The mode described of curing grain and destroying the germ therein by first subjecting the grain to the action of steam by direct contact therewith and then drying the same as set forth; 2nd. An apparatus for curing grain and destroying the germ therein, composed of a steam-heating chamber B, in combination with a drying chamber C, organized and operating as described; 3rd. The arrangement of the perforated steam-pipes C, C, within the steam-chamber, so as to equally diffuse the heat throughout the mass of grain; 4th. Combination with the drying column C, the perforated grain receiving funnel D, with sides inclined to an angle of eighty degrees or thereabout to the horizontal.

No. 2314. FRANCIS N. DAVIS, Beloit, Wis., U. S., 5th May, 1873, for 5 years: "Improvement in Oil Cloths." (Perfectionnement des prélaris.)

*Claim.*—1st. A new article of manufacture and trade in a floor covering composed of straw board in continuous lengths having a hard firm surface, painted or printed in suitable ornamental designs and coated with varnish; 2nd. In floor coverings composed of continuous lengths of straw board ornamented in suitable designs with water colors as described.

No. 2315. GEORGE W. AINSWORTH, Montpelier, Vt., U. S., 5th May, 1873, for 5 years: "A Clothes Drier." (Un séchoir à linge.)

*Claim.*—The combination of standards A, rounds B, bars C, and lock bars D, all constructed and arranged together as described.

No. 2316. JOHN OLIVER, Toronto, Ont., 5th May, 1873, for 5 years: "Art of Preserving and Drying Lumber." (Art de sécher et conserver le bois.)

*Claim.*—1st. The subjecting of the lumber in a tank, or vessel, to the action of steam impregnated with sulphate of zinc and alum under a moderate pressure in the manner specified; 2nd. The combination and arrangement with each other of the longitudinal steam heating pipes S, S, and draught pipes E, by which the lumber in the tank B, is more expeditiously and thoroughly dried than by using a coil of steam-heating pipes and the blast of a prior system; 3rd. In the combination and arrangement with each other of the steam chambers V, V, and the draught pipe E, also the steam chambers V, V, in combination with the pipes S, S, and draught pipe E.

No. 2317. JAMES A. WOODBURY, Boston, Mass., U. S., 5th May, 1873, for 15 years: "Elastic Car Wheel." (Roue de voiture de chemin de fer élastique.)

*Claim.*—1st. A car wheel made in two parts a and b, completely isolated from each other by a double flanged continuous ring of

rubber h, compressed to a density at which it is always retained part of said continuous flanged ring being forced by a projection f, on the tire into a recess d, in the hub and the whole constituting an improved article of manufacture in which all the strains to which the wheel is subjected, namely, direct radial strains, lateral strains and torsion are resisted by a part of said rubber ring; 2nd. A car-wheel with rubber or other elastic packing fitted to and inserted between the bearing surfaces of the tire, and hub portion of the wheel in such a manner that the lateral pressure occasioned by securing the parts together, shall increase the radial tension of the packing; 3rd. One or more projections i, and j, on the tire or the hub portion of the wheel, fitting into corresponding recesses d, and E, formed in the other part, with elastic packing interposed between the parts to prevent injurious movement of the tire, on the portion of the wheel; 4th. A car-wheel made in three parts with elastic packing, between them the bolts l, passing through all three of said parts; 5th. In combination with the elements of the last claim, the enlarged holes k, in the tire to prevent the bolts from coming in contact therewith substantially as described; 6th. A car-wheel made, in two or more parts with elastic packing interposed between the inner periphery of the web portion of the tire, and the hub portion, and between the sides of the web portion of the tire and flanges or binding rings formed on or secured to the hub portion, with bolts passing through said flanges or binding rings and through enlarged holes in the web portion of the tire substantially as described.

No. 2318. WEBSTER ROBERTS, Cleveland, Ohio: U. S., 5th May, 1873, for 5 years: "Machine for making Horse Shoes" (Machine à faire les fers à chevaux.)

*Claim.*—1st. The vibratory beams C, D, and dies G, E, as arranged to operate in relation to and in combination with the lower or female die I, consisting of the sections O, P; 2nd. In the segmental gears F, H, as arranged to operate in relation to each other, and in combination with the beams C, D; 3rd. In the segmental gears T, U, as arranged in combination with the beams C, D, rack S, bed I, and rack L; 4th. In the combination of the rectilinearly reciprocating, opening, and closing female die I, consisting of the sections O, P, and two male dies G, E, to cooperate successively therewith, the one to mold the shoe and the other to crease and punch the same thereby forming or making the said article in the manner described; 5th. The slides R, Q, having therein slots b, in combination with the female die I, consisting of the sections O, P, for opening and closing the same; 6th. The female opening and closing die I, consisting of the sections O, P, pivoted to the bed I, in combination with the mechanism to impart to said die reciprocating motion, and slides R, Q, for opening and closing said die; 7th. The combination with the opening and closing reciprocating female die I, the head H, and mechanism to impart to said head the specified movement thereof; 8th. The lever L, screw b, spring c, sleeve E, stem G, and head A, constructed and arranged to operate in combination with the reciprocating bed I, and die I; 9th. In the lever A, and shear V, as arranged to operate in combination with the bed I; 10th. In the adjustable rack z, spring, and table D, as arranged in relation to and operating conjointly with the lower die I, and upper dies E, G; 11th. The slide a, provided with a depending yoke H, to receive the clutch, the rollers a, a, in combination with the inclines g, h, in the rack L; 12th. In the lever V, rollers a, a, in combination with the inclines g, h, for the purpose of operating the clutch shifter in connection with the intermediate links and levers described; 13th. The movable shifter P, in combination with the yoke H, of the clutch; 14th. The vibrating barrel P, having a spring n, therein in combination with the head N, and stem O; 15th. The lever r, as arranged in relation to and in combination with the female die I, consisting of the sections O, P, and head H; 16th. The spring I, in combination with the stay F.

No. 2319. THOMAS W. F. SMALLWOOD, Toronto, Ont., 5th May, 1873, for 5 years: "A Suction Washing Machine." (Une machine à laver à suction.)

Consists of a vessel made of metal and worked with a wooden handle inside of which seven tin tubes or suction-pipes are fastened.

*Claim.*—The tubes or suction-pipes marked 1, 2, 3, 4, 5, 6, and 7, combined with and fastened to bottom of basin or vessel marked "A," as set forth.

No. 2320. JACOB DAVIS, Florida, Mass., U. S., 5th May, 1873, for 5 years: "A Washing Machine." (Machine à laver.)

*Claim.*—1st. The novel combination and arrangement of the inclined bottom E, with the plate K, and plate L; 2nd. The construction and arrangement of the flues h, for the purpose of forcing the hot water through the openings j, j, upon the clothes; 3rd. The arrangement of the plates e, f, and A; 4th. The arrangement of the hinged rim d, and plate k; 5th. The guard-plate n, when combined with the bottom e; 6th. The arrangement of the valve m, with the plate l, and bottom e; 7th. The openings j, j, as combined with the plates f, and flue h; 8th. The arrangement of the washing machine described with the pipes b and c, and vent c, for the purpose of using steam or hot-water either as heaters or for motive power.