

for engaging suitable recesses or projections in an escutcheon or plate, substantially as described.

No. 22,244. Suspenders. (*Bretelles.*)

Thomas O. Potter, Boston, Mass., U.S., 13th August, 1885; 5 years.

Claim.—1st. The suspenders, or other similar article, having the waistband bars, rods or supports secured to the waistband, as described, and to the ends of the suspenders in a manner to be removable therefrom, all substantially as specified. 2nd. As a means for supporting pantaloons or other articles of wearing apparel, the bars or rods A, A, connected with, attached to, or held within the waist-pantaloons or other article, and having means of attachment to suspending straps of suspenders, braces, or shoulder straps, all substantially as and for the purposes described. 3rd. The combination, in suspenders, braces or shoulder straps, of the rods, bars or supports, waistband suspending devices the rings or eyes E, and the suspending straps G, of the suspenders, braces or shoulder straps, all substantially as and for the purposes described. 4th. The combination of the waistband rod, bar or support, the arms C, C, having the screw holes 63, 64, and the screw D, all substantially as and for the purposes described. 5th. The combination of the waistband rod, bar or support, the arms C, C, having the screw holes 63, 64, the spring screw head holding flanged arm C3 and the screw D, all substantially as and for the purposes described. 6th. The combination in an attaching device for suspenders, of the arm supporting the screw D, with the arm having the inward projection 64, and the screw-hole 64 formed therein, all substantially as and for the purposes described. 7th. The combination of the arm C, the screw D, the arm C2, having the screw hole 64 and the cap 61, all substantially as and for the purposes described. 8th. The combination of the arm C, C, having screw-holes 65, 64, with the screw D, having the thread 62 and groove 63, all substantially as and for the purposes described. 9th. In an attaching device for suspenders, the combination of the waistband rod, bar, or support, and an arm or arms supporting a cross stud, pin or bar adapted to be passed through the material of the waistband, and to be supported at one or both ends, all substantially as and for the purposes described. 10th. The waistband bar, rod or support of suspenders or braces constructed to have a horizontal adjustment or movement to vary the degree of its curve, all substantially as described. 11th. Suspenders or braces, comprising waistband rods, bars or supports, sustaining waistband attaching devices, and shoulder straps for suspending the same.

No. 22,245. Bail for Shingle Bunches.

(*Chassis pour Paquets de Bardeau.*)

Hiram E. Brackett and Fred. L. Sawyer, Hampden, Me., U.S., 13th August, 1885; 5 years.

Claim.—The combination of the endless metallic loops or links d, d1, with the wooden shingle binders D, D1, all as shown and described and substantially as and for the purpose specified.

No. 22,246. Thermoscope. (*Thermoscope.*)

Henry J. Haight, New York, N.Y., U.S., 13th August, 1885; 5 years.

Claim.—1st. In a thermoscope, the combination of the stand C, provided with oppositely-placed set screws 6, 6, radial arm B, pivoted to the stand at the rear side thereof, on a pivot a, coil A, mounted on a rearward lug or projection e, of the said arm B, scale H secured to the front side of the stand, and the hands D, F, G, mounted on the front side of the stand, substantially as herein specified. 2nd. The combination of the stand C, provided with the grooved sleeve projection k, the hands F, G, the spring m, provided with the spline n and the nut l, substantially as and for the purpose herein specified. 3rd. The combination of the main hand D, provided with the backwardly extended pin t, and the hands F, G, respectively provided with the notches u, r, substantially as described, whereby the hands F, G are adapted to be moved by the pin t of the hand D, and also to be brought directly back of the said hand D without interference by the said pin, as set forth. 4th. The clamp plate l, constructed substantially as described, in combination with the scale H, for the purpose specified.

No. 22,247. Machine for the Reduction of Ores, etc., by Attrition. (*Machine pour la Réduction des Minerais, etc., par Attrition.*)

James K. Griffin, Brooklyn, N.Y., U.S., 13th August, 1885; 5 years.

Claim.—1st. In the reduction of ores and other substances by attrition, the herein-described method of carrying off the reduced substances, which consists in passing a current of air directly upon the line of attrition between opposing revolving surfaces of the material, being reduced, substantially as described. 2nd. The herein-described method of reducing ores or other substances, which consists in forming and maintaining a line of attrition between opposing surfaces of the substance to be reduced by passing said substance through a rotating conveyer, and against an annular wall of the same substance firmly compacted in a rotating shell, and then carrying the pulverized substance off by a current of air communicating directly with the line of attrition, substantially as described. 3rd. In an ore pulverizer, a horizontally arranged conveyer, having two or more distinct openings for the passage of the material to be reduced, and for the air to carry off the same when pulverized, substantially as described. 4th. In an ore pulverizer, the combination of the conveyer having openings for the passage of the material to be reduced and for the air to carry off the same when pulverized, an outer rotating shell or case, and means for rotating the latter, substantially as described. 5th. In an ore pulverizer, the combination of a revolving conveyer having openings for the passage of the material to be reduced and for the air to carry off the same when pulverized, an outer rotating shell or case, and means for rotating both the conveyer and the shell, substantially as described. 6th. In an ore pulverizer, the combination of a conveyer having ore and air passages, and an outer rotating shell or case,

said conveyer and shell being so adapted that the ore delivered through the conveyer will form with the ore adhering to the shell a line of attrition on their opposite surfaces, and means for rotating the shell, substantially as described. 7th. In an ore pulverizer, the combination of the rotating conveyer having ore and air passages, and an outer rotating shell or case, said conveyer and shell being so adapted that the ore delivered through the conveyer will form with the ore adhering to the shell, a line of attrition on their opposing surfaces, and means for rotating the conveyer and shell, substantially as described. 8th. In an ore pulverizer, the combination of an inner rotating conveyer, an outer rotating shell, independent means for rotating the conveyer and the shell, and a hopper, constructed and arranged substantially as described. 9th. An ore pulveriser, comprising the conveyer e, having ore passages g, g, air-passages p, p, cap 6, adjustable plates 61, 61, division plates m, m, shell a, shafts d and f, gearing C, and adjustable gearing C1, all constructed and arranged substantially as described.

No. 22,248. Hoisting and Conveying Machine. (*Machine à Hisser et Transporter.*)

Alexander E. Brown, Cleveland, Ohio, U.S., 13th August, 1885; 5 years.

Claim.—1st. A bridge, a rigid tramway supported at three or more points, and adapted to be moved bodily side-wise on a series of cross-beams or truck-like supports, substantially as and for the purposes set forth. 2nd. In combination with any suitable covered storage building, a tramway for a hoisting and conveying machine arranged beneath the roof of said building, and having its hinged apron projecting outwardly beyond, and working wholly exteriorly of said building, all substantially in the manner and for the purposes set forth. 3rd. In combination with a shed or storage building, a laterally adjustable tramway arranged inside thereof, and a hinged apron projecting beyond the building, an upwardly projecting frame work near the outer end of the tramway and exterior of the building, and a suitable supporting cross beam at the end of the building, the whole arranged and operating together, so that the said cross-beam affords proper support for the upper end of the projecting framework of the tramway, substantially as herein set forth. 4th. A rigid tramway, suspended by a series of truck-like carriers, and means for causing said carriers to move simultaneously upon suitable supporting cross-beams, substantially as and for the purposes set forth. 5th. The combination of a series of truck-like tramway-supporting carriers with a single machine, or mechanism for moving said carriers simultaneously, substantially as hereinbefore set forth.

No. 22,249. Steam Heating Radiator.

(*Calorifère à Vapeur.*)

William W. Carman, Exeter, N.H., U.S., 13th August, 1885; 5 years.

Claim.—1st. The combination of the chambered base A, provided with the conical seats in its bottom, with the pipes B screwed into the top of such base, and having conical seats in their tops, and with the pipes C conical at their opposite ends to fit to the two sets of seats and placed within the pipes B, all being substantially as set forth. 2nd. The combination of the chambered base A, provided with the inclined bottom and with conical seats therein, as set forth, with the pipes B screwed into the tops of such base and having conical seats at their upper ends, and with the pipes C conical at their opposite ends to fit both sets of such seats and placed within the pipes B, all being substantially as represented.

No. 22,250. Fire-Place Grate. (*Grille de Foyer.*)

William R. Belding, Eureka Springs, Ark., U.S., 13th August, 1885; 5 years.

Claim.—1st. A fire-place grate, consisting of the bar A, bent to form a rail a2 to support the grate bars B, having its ends bent to form feet a, and the legs b, all in one piece, and the grate bars B having hooks e to attach them to the rail a2, and being bent to form legs f, as shown, all adapted to be put together to form a grate, substantially as and for the purpose hereinbefore set forth. 2nd. The combination, with the frame A, constructed as described, of the movable grate bars B having hooks e by which to attach them to the said frame A, and being formed, as described, adapted to be put together to form a portable and detachable and separable fire-place grate, substantially as and for the purpose hereinbefore set forth.

No. 22,251. Composition for Filling and Waterproofing Leather. (*Composition pour Gonfler et Imperméabiliser les Peaux.*)

Vincent Brosseau, Sherbrooke, Que., 13th August, 1885; 5 years.

Claim.—A composition of matter formed of raw linseed oil, tallow, rosin and beeswax, in the proportions and for the purposes set forth.

No. 22,252. Steam Boiler. (*Chaudière à Vapeur.*)

Benjamin F. Wright and Noah Hardy, Oneida, Ks., U.S., 13th August, 1885; 15 years.

Claim.—1st. The combination, with a boiler and a hermetically-sealed fire-box, of the walking-beam 34, the pumps 8 and 9, valves 18 and 25, and the pipes 11 and 12 leading to the ash pit of the fire-box, and valve 1 leading into the boiler, as and for the purpose described. 2nd. The combination, with a boiler and a fire-box, of the hot-air, pumps 20 and 21, having valves 16 and 27 opening inwardly from the fire-box to the pumps, and valves 14 and 15 opening outwardly from the pumps into the boiler, and the walking beam 24 attached to the pistons of said pumps, as and for the purpose described. 3rd. The combination of a steam boiler, a hermetically closed fire-box having valves opening inwardly to the same, and other valves opening outwardly from the fire-box and into the boiler, and a pressure gauge having communication with the fire-box for indicating the pressure in the fire-box for comparison with the boiler or when charging fuel