to the sides thereof, substantially as described. 2nd. A toboggan or sled formed of two or more layers of wood, two of which are arrangd with the grain running toward the front and rear, or substantially so, but with the grain on one piece at an angle to the other, as set forth. 3rd. A toboggan or sled formed of three layers of wood, the inner one of which is arranged diagonally to the sides of the same, substantially as described. 4th. A toboggan or sled provided with diagonal cross-bars, substantially as described.

No. 25,946. Oil Can. (*Bidon à Huile.*)

Orris H. Warren, Syracuse, N.Y., U.S., 8th February, 1887; 5 years.

Claim.—1st. In a machine-oiler, the combination of a force pump, with an oil-retainer, the foot valve of the pump controlling the passage connecting the pump barrel or chamber and the oil-retainer, substantially as set forth. 2nd. In an oil can, the combination with the force pump, its piston and the discharge nozzle, of an adjustable finger-piece attached to the piston, substantially as set forth. 3rd. chamber C and surrounding tube constituting an oil-retainer substantially as and for the purpose specified. 4th. In combination with the oil-retainer and force pump, the opening *u* through the bottom of the chamber C opposite the base of the force pump for giving access to the working parts of the pump, as specified. 5th. In an oil can, the combination with piston H, of the nozzle *j* detachably connected to the piston substantially as set forth.

No. 25,947. Drying Kiln for Kindling Wood. (*Etuve pour le Bois d'Allumage.*)

Darwin A. Greene, New York, N. Y., U. S., 8th February, 1887: 5 years.

Claim.—1st. In a kiln for drying kinding-wood, a bin having exhauster K for taking away air and vapours from the top, and maintaining a partial vacuum in the interior, in combination with one or more gratings, as B, an inlet for admitting fresh dry air thereto from the external atmosphere, and heaters, as D, D_1, D_2, for heating such air before its admission through the grates, all combined and arranged for joint operation substantially as and for the purposes herein specified. 2nd. The two valves, arranged one above and one below each bin-exit, in combination with the drying-bin M having inlets for introducing drying air, and draft-exits at the top of flues, as G, connecting with such exits, exhaust flues, as J, and means, as K, for mechanically creating a vacuum therein, and having connections with said exit-apertures, whereby the natural draft or exhaust mechanism may be applied at will, as set forth. 3rd. In kiln for drying kindling wood, the pin M in which the wood is slowly descending during the drying operation, in combination with exhauster K for taking away the air and vapour from the top and maintaining a partial vacuum in the interior, and with a bottom having apertures *e* performing the double functions of discharging the wood, and admitting air to extract and utilize the heat from the wood, all substantially as and for the purposes herein specified.

No. 25,948. Process for the Electro-Deposition of Aluminium. (*Procédé d'Electro-Déposition de l'Aluminium.*)

William H. Gaw, assignee of William Frishmuth, Philadelphia, Penn., U.S., 9th February, 1887; 5 years.

Claim.—1st. The improvement in the art of electrolytically depositing metallic aluminium, substantially as hereinbefore set forth, which consists in subjecting a neutral solution of double chloride of aluminium and sodium to electrolysis, in the presence of an anode consisting of a conducting body (such as carbon) and a compound of chloride of sodium, ane double chloride of sodium and aluminium in fragmentary form and in electrical contact with said conducting body. 2nd. The improvement, in the art of continuously depositing metallic aluminium electrolytically, substantially as hereinbefore set forth, which consists in subjecting a neutral solution of double chloride of aluminium and sodium to electrolysis, in the presence of an anode consisting of a conducting body (such as carbon) surrounded by a compound in fragmentary form composed of chloride of sodium and double chloride of sodium and aluminium, and renewing said compound as the same becomes dissolved in said electrolytic liquid to maintain the normal strength of said liquid, substantially as described. 3rd. The improvement in the art of depositing metallic aluminium electrolytically, substantially as hereinbefore set forth, which consists, first, in dissolving alumina in hydrochloric acid to produce chloride of aluminium, second, reducing said chloride to the form of a dry powder and dissolving the same in water, third, subjecting said chloride solution to electrolysis in tho presence of an anode of aluminium surrounded by chloride of sodium, until said solution becomes substantially clear and colourless, and, fourth, subjecting said colourless liquid to electrolysis in the presence of an anode of conducting material (such as carbon) in electrical contact with a compound in fragmentary form composed of chloride of sodium and double chloride of sodium and aluminium. 4th. In an apparatus for electrolytically depositing aluminium, an electrolytic bath containing two compartments separated by a porous partition, one of said compartments containing an electrolytic liquid consisting of a neutral aqueous solution of double chloride of aluminium and sodium, and an esthode, and the other of said compartments containing the anode and an electrical contact therewith a compound of double chloride of sodium and aluminium and chloride of sodium fused together and reduced to fragmentary form, substantially as described. 5th. In an apparatus for electrolytically depositing aluminium, an electrolytic bath A_2 having two compartments C_2 and D_2 separated by a porous partition B_2 one of said compartments containing an electrolytic liquid consisting of a neutral aqueous solution of double chloride of aluminium and sodium, and the other of said compartments containing a carbon anode G and in electrical contact therewith, a compound of double chloride of sodium and aluminium, and chloride of sodium fused together and reduced to fragmentary form, substantially as described. 6th. In an apparatus for the electro-deposition of metallic aluminium, a cathode of aluminium.

No. 25,949. Art of Electroplating with Aluminum. (*Placage Galvanique à l'Aluminium.*)

William H. Gaw, (assignee of William Frishmuth), Philadelphia, Penn., U.S., 9th February, 1887; 5 years.

Claim.—1st. Electrolytically depositing aluminium in the pure metallic state, from a neutral aqueous solution of double chloride of, aluminium and sodium, substantially as described. 2nd. In an apparatus for electroplating with aluminium, an anode of aluminium and an electrolytic liquid consisting of a neutral solution of double chloride of aluminium and sodium. 3rd. The improvement in the art of depositing aluminium electrolytically, substantially as hereinbefore set forth, which consists, first, in dissolving alumina in hydrochloric acid to produce chloride of aluminium, second, reducing said chloride to the form of dry powder and dissolving the same in water, third, subjecting said chloride solution to electrolysis in the presence of an anode of aluminium surrounded by chloride of sodium until said solution becomes substantially clear and colourless, fourth, evaporating said liquid and thereby obtaining a substantially dry powder, fifth, dissolving said powder in water, sixth, subjecting said last mentioned solution to electrolysis in the presence of an anode of aluminium.

No. 25,950. Galvanic Cell. (*Cellule Galvanique.*)

William H. Gaw, (assignee of William Frishmuth), Philadelphia, Penn., U.S., 9th February, 1887; 5 years.

Claim.—1st. The combination of the aluminium element E, having threaded rod F, the grooved bar C, nut G, zinc element B, and bolts L, substantially as described. 2nd. The combination of the aluminium element E having threaded rod F, the grooved bar C, nut G, zinc elements B, B, bolts L, and circuit connection I, substantially as described. 3rd. The combination of the aluminium element E, having threaded rod F, grooved bar C, nut G, zinc elements B, B, bolts L, circuit connection I and binding posts K, M, the said rod F, nut G, bolts L, circuit connection I, and binding posts K, M being of aluminium, substantially as described.

No. 25,951. Anode for Aluminium Electro-deposition. (*Anode pour l'Electro-déposition de l'Aluminium.*)

William H. Gaw, (assignee of William Frismuth), Philadelphia, Penn., U.S., 9th February, 1887; 5 years.

Claim.—1st. An anode for aluminium electro-deposition containing double chloride of sodium, and aluminium chloride of sodium carbon and an agglutinating material, substantially as described. 2nd. An anode of aluminium deposition, containing amorphous gray aluminium, and sodium chloride, as hereinbefore specified, chloride of sodium, carbon and an agglutinating material, substantially as described. 3rd. An anode for aluminium electro-deposition containing double chloride of aluminium, and sodium chloride of sodium, carbon and coal tar, substantially as described. 4th. In an apparatus for electro-deposition of aluminium, an anode containing double chloride of aluminium and sodium chloride of sodium carbon, and an agglutinating material in compact form, a solution of chloride of sodium surrounding said anode, a cathode of conducting material, as electrolytic liquid consisting of a neutral solution of double chloride of aluminium and sodium surrounding said cathode, a porous partition between said soluions and a containing vessel, substantially as described.

No. 25,952. Brush Bridle or Shield for Paint Brushes, etc. (*Bride de Pinceau ou Guide-Pinceau.*)

William L. Barnes, Yonkers, Thomas Gerhart, Allen S. Gookin and Edward F. G. Gayner, New York, N. Y., U. S., 9th February, 1887; 5 years.

Claim.—1st. The combination, in a brush-bridle, of a shield section *a*, adapted as described to be secured to the stock of a brush, with a binder-section *b* telescoping within said shield section, substantially as described. 2nd. The combination, in a brush-bridle, of a shield section *a*, adapted as described to be secured to the stock of a brush and formed with the inner flange *e*, with a binder section *b* having the outer flange *g* telescoping within said shield section, and means as described to retain said binder-section in a retracted position, substantially as described. 3rd. The brush-bridle consisting of a section *a*, adapted as described, to be secured to the stock of a brush, and having the inner flange *e* and luge *d*, and a section *b* having the outer flange *g* with notches *h*, substantially as described.

No. 25,953. Screw Propeller. (*Hélice de Propulsion.*)

The Vogelsang Screw Propeller Company, Brooklyn, (assignees of Alexander Vogelsang, New York), N. Y., U. S., 9th February, 1887; 5 years.

Claim.—1st. A single propeller having blades disposed around a hub in pairs, one pair of the blades arranged diametrically opposite to each other on the hub-like fractions of a turn of a screw, and the other pair also diametrically opposite to each other being like fractions of another part of the same turn of a screw, substantially as described. 2nd. A single propeller provided with a series of blades, the working faces of all of which are substantially alike, and whose cutting and trailing edges are reversed one to the other, substantially as described. 3rd. A single propeller provided with a series of blades whose cutting and trailing edges are reversed one to the other, and one blade constructed to displace water toward the hub, and the adjacent blades constructed to displace water away from the hub, substantially as shown and described. 4th. A single propeller provided with a series of blades, having approximately the same twist disposed around a hub and arranged in pairs, the cutting and trailing