

rear, and stops near the front end to limit the forward movement of the roll, whereby an open space or chamber is formed at the front of the machine, all combined, substantially as and for the purposes set forth. 2nd. A washing machine in which are combined the following elements, the frame forming the support for the operative parts, a bottom centrally located and having an opening at the front and rear, a rubbing-roll movable over said bottom, and connected with and operating a pumping mechanism to throw a jet of water as described, and an open top chamber or recess at the front of the machine, having the detached inclined bottom G, all substantially as set forth. 3rd. In a washing machine, as described, the combination of the following elements, a corrugated bottom C, placed so as to leave a narrow transverse opening between it and the front rail, a rubber limited in its forward movement by suitable stops at the side of the casing so that it comes no farther than the front edge of said bottom, and a second bottom G, extending slightly under the forward edge of said bottom, substantially as and for the purpose set forth. 4th. In a washing machine casing or frame work A, the standard H, and bars M, swinging therein, the bottom C, centrally placed, and having at the front and rear an open space, between the rails, a stop to limit the forward movement of the bars, and a second bottom under the bottom C, whereby an escape passage is afforded, all substantially as set forth. 5th. In a washing machine, as set forth, a corrugated bottom not extending to the front rail, a rubbing roller limited in its forward movement over the forward edge of said bottom, a second bottom below the said bottom, so placed as to leave a water passage between the two, whereby an open space is left over the second bottom at the front of the machine, substantially as and for the purpose set forth.

No. 35,146. Cinder Shaker. (*Crible à cendres.*)

James Newton, Ottawa, Ontario, Canada, 6th October, 1890: 5 years.

Claim.—1st. A cinder sifter or shaker, made up of a box suspended on an axis, such as described, a cover, a grate, and two end slides, the former to remove the coal after being sifted, the latter to remove the cinders from the box when sifted away from the coal, substantially as set forth. 2nd. The combination in a cinder sifter, of the grate A, lying under and at right angles to the axis B, enclosed in a suitable receptacle, with slides E, and F, attached to such receptacle in the relative position to it, such as hereinbefore described, and substantially as and for the purposes set forth.

No. 35,147. Secondary Battery Plate.

(*Plaque de pile secondaire.*)

Thomas Palmer Whittier, Saginaw, Michigan, U.S.A., 6th October, 1890: 5 years.

Claim.—1st. A secondary battery element, or plate, composed of wires or strips intermeshed or interwoven in the form of a series of connected boxes or tubes, which constitute receptacles for the active material, substantially as and for the purpose hereinbefore set forth. 2nd. A secondary battery element, or plate, composed of wires or strips intermeshed or interwoven in the form of a series of connected boxes or tubes, for receiving the active material, and lining and stiffening strips for said tubes, substantially as and for the purposes hereinbefore set forth. 3rd. A secondary battery plate, or element, the body or framework, of which is composed of separately formed coils intermeshed or interwoven to form a series of connected tubes or boxes, substantially as and for the purposes hereinbefore set forth.

No. 35,148. Expanding Mandrel.

(*Mandrin d'expansion.*)

Joseph Daniel Ovide Dubrulle, Montreal, Quebec, Canada, 6th October, 1890: 5 years.

Résumé.—Dans un mandrin d'expansion, la combinaison de l'essieu A, le cône stationnaire F, le cône ajustable F', le segment ou coin B, les rondelles E et l'écrou C, convenablement arrangé tel que décrit ci-dessus et pour les fins indiquées.

No. 35,149. Fuse Cap Fastener.

(*Attache pour bonnets de fusée.*)

Nathan W. Moodey, Fresno City, California, U.S.A., 6th October, 1890: 5 years.

Claim.—As an improvement in means for fastening caps on giant powder fuses, the implement made, essentially, in the form of pliers, the same having jaws F, and G, which are semi-circular, and bevel-ranged in the transverse middle of their free ends and adapted to engage, as shown and described.

No. 35,150. Tree Pruner Head. (*Sécateur.*)

Augustus Richard Woodyatt, Guelph, Ontario, Canada, 6th October, 1890: 5 years.

Claim.—The improvement in tree pruner heads, consisting of a socket of malleable or annealed iron or other suitable metal, provided with slots which allow of its being expanded or contracted, so as to clasp tightly the rod to which it is attached, as hereinbefore described and illustrated in the drawings.

No. 35,151. Portable Forge. (*Forge portative.*)

Albert Edwin Dain, Pittsburg, Pennsylvania, U.S.A., 6th October, 1890: 5 years.

Claim.—1st. A forge-bellows, formed of two separate compartments, either of which is adapted to be expanded, when the other is

contracted, whereby a constant draught is had, substantially as and for the purpose herein set forth. 2nd. In a portable forge, provided with a suitable fire-hearth, the combination of the bellows, substantially as described, and means for contracting and expanding either section alternately, whereby a constant draught is had, the valves attached to the nozzle of either section respectively, and the air-chamber connected by a pipe or tube with the tuyere, substantially as and for the purpose set forth.

No. 35,152. Manufacture of Copper.

(*Traitement du cuivre.*)

Sir Henry Hussey Vivian, Baronet, Swansea, Wales, 6th October, 1890: 5 years.

Claim.—1st. The employment of tartaric acid in the manufacture of copper, substantially as herein described. 2nd. The purification of copper by the preparation from an impure metallic copper, or from matter or from a copper solution or precipitate of a finely divided oxide of copper, treating the said oxide with tartaric acid or other like organic acid or salt of an organic acid, in such manner as to dissolve out, and separate therefrom metallic impurities such as arsenic, antimony, gold and silver, and finally reducing the oxide of copper to the metallic state. 3rd. The process or combination of processes, consisting in calcining oxide of copper with common salt, and then treating the said oxide with tartaric acid or other like organic acid or salt, in such manner as to dissolve out and separate metallic impurities therefrom.

No. 35,153. Fluid Meter. (*Compteur à fluide.*)

Henry Herbert Sporton and Ernest White, both of London, England, 6th October, 1890: 5 years.

Claim.—1st. In a fluid meter, operated by the impingement of streams or jets of fluid upon the vanes of a fan, the employment of two series of openings *f*, and *g*, through the openings of one of which series the fluid is free to pass at all times, while the other series of openings is controlled by a valve *j*, which will open automatically by the pressure of the fluid itself when large quantities of fluid are passing, substantially as described. 2nd. In a fluid meter of the kind hereinbefore described, provided with two series of openings *f*, *g*, the employment of an automatic valve *j*, for controlling the passage of fluid through one set of the said openings, substantially as described. 3rd. In a fluid meter, provided with inlet *b*, and outlet *c*, the combination with a fan *d*, and removable plate *e*, having small openings *f*, and large openings *g*, of a valve *j*, having a spring *i*, for the purpose set forth.

No. 35,154. Manufacture of Portland Cement. (*Fabrication du ciment de Portland.*)

William Henry Eugene Bravender, Napanee Mills, Ontario, Canada, 6th October, 1890: 5 years.

Claim.—1st. A Portland cement, consisting of marl and clay of the description, and in the proportions set forth. 2nd. A Portland cement, composed of a natural marl, containing 90 to 98, per cent. of carbonate of lime, and a pure clay containing 50 to 65 per cent. of silica, and 20 to 30, per cent. of alumina mixed in the proportions of 20 to 30, per cent. of clay to 70 to 80, per cent. of marl, substantially as set forth.

No. 35,155. Process of Softening and Subduing Refractory Ores. (*Procédé pour ramollir et réduire les minerais réfractaires.*)

John L. Hopper, Sarcoux, Missouri, U.S.A., 7th October, 1890: 5 years.

Claim.—1st. The herein described composition of matter to be used for disintegrating or subduing refractory ore, consisting of water, salt, and saltpeter, in the proportions specified. 2nd. The process of softening and subduing refractory ores, consisting in fusing or bringing said ore to a red heat, and then subjecting it to a bath, composed of a solution of salt, saltpeter, and water, substantially as specified.

No. 35,156. Liniment. (*Liniment.*)

José Esquinaldo, Key West, Florida, U.S.A., 7th October, 1890: 5 years.

Claim.—The herein described medical compound, consisting of olive-oil, calomel, lime-water, and aguardiente, (or Spanish rum,) combined in the proportions, substantially as described.

No. 35,157. Ointment. (*Onguent.*)

Remi Destrampé, Parish of St. Cuthbert, Quebec, Canada, 7th October, 1890: 5 years.

Claim.—An ointment, composed of the gum of white pine bark, olive oil, turpentine, yolks of eggs, and starch, mixed together, substantially in the manner and proportions, and for the purposes set forth.

No. 35,158. Compound for Preventing Incrustation in Boilers. (*Préventif contre l'incrustation dans les chaudières à vapeur.*)

David Richardson Boogher, St. Louis, Missouri, U.S.A., 7th October, 1890: 5 years.

Claim.—A boiler compound, consisting of extract of hemlock, gambia, sumac, wormwood, eucalyptus, and salts of tartar, mixed together in about the proportions named.