

No. 2068. JOHN W. GARDNER, Cleveland, Ohio, U. S., 14th February, 1873, for 15 years: "Steam and Air Car-brakes." (Freins de wagons mis en opération par la vapeur ou l'air.)

*Claim.*—1st. The method of applying either steam or compressed air to "force off" brakes under every car in a railway train; 2nd. The combination of the four way cock C, the pipes E, F, T, and L, and the brake cylinders D, so that brakes are instantly "set" and "forced off" from the wheels of every car in a railway train by the use either of compressed air or steam; 3rd. The four-way cock C, for changing the air or steam current into either end of the brake cylinder D, under every car for the purpose of "setting" and "forcing off" brakes.

No. 2069. FREDERICK PROUDFOOT, Toronto, Ont., 14th February, 1873, for 5 years: "Adjustable Fire Grate and Heat Intensifier." (Grille de foyer mobile donnant une chaleur plus intense.)

Adapted to consume coal, wood, petroleum or other liquid fuel on a raised central fire-basket or lamp

*Claim.*—1st. An open fire-place of clay, terra cotta, iron or other metal for insertion in partition walls having two fronts and one fire-basket constructed to serve two apartments from either of which the fire may be viewed, fed and formed as set forth; 2nd. Providing the double fire-place with a close fitting removable back, to convert such fire-place to suit for one room only, and having a movable fire-back Y; 3rd. A double-faced open fire-place having a tubular shank D, centrally located upon which to elevate the fire-basket E, or lamp F; 4th. A double-faced open fire-place having a water tank B, for the generation of steam and pipes C, G, suitably arranged to convey the steam to the fire-basket or lamp and to the chimney; 5th. The heating drum H, damper M, and ventilator K, arranged as set forth.

No. 2070. EDMUND A. DAY, Oberlin, Ohio, U. S., 14th February, 1873, for 5 years: "Clasps for Elastic Tubes." (Clapet de lance de boyau.)

So constructed that by hand pressure they come into contact with the hose and regulate or cut off the supply of water.

*Claim.*—In combination with the metallic nozzle A, the ears E, and E, lever-handles C, and D, cross-bearings J, and J, and intermediate elastic tube L, constructed and operating as set forth.

No. 2071. JULIUS BAUR, Hamilton, Ont., 14th February, 1873, for 15 years: "Manufacture of Steel." (Fabrication de l'acier.)

*Claim.*—1st. The process of making steel by combining or alloying metallic chromium and manganese with metallic iron so that the metallic chromium and manganese shall be present in the finished product; 2nd. The process of making steel, or what may be termed a substitute for steel, by combining or alloying metallic chromium and manganese with metallic iron in such a manner that the metallic chromium and manganese shall be present in the finished product and shall be the only agents which impart to such product the qualities of steel.

No. 2072. JUDSON W. WARNER, Oneida, N. Y., U. S., 14th February, 1873, for 5 years: "Fire-proof Vaults." (Vouées à l'épreuve du feu.)

Consists in lining the inside of the vault with independent metallic water compartments communicating with each other and exterior supply and exit pipes.

*Claim.*—An inner vault V, consisting of a number of water-tight compartments connected by pipes a, with the door J, hollow hinges K, and L, with grooves b, and holes c, inlet-pipe M, with check-valve d, and exit-pipe N, in combination with the outer vault A.

No. 2073. VINCENT BROUSSEAU, St. Sébastien, Que., 14th February, 1873, for 5 years: "Dyspepsia Compound." (Composition médicinale pour la dyspepsie.)

Consists of the juice of the elder berry, water, sugar and ginger mixed together in certain proportions.

*Claim.*—Une composition formée de jus de baies du sureau blanc, d'eau, de sucre et de gingembre dans les proportions sus décrites.

No. 2074. FRANKLIN KERSTING, CARL RUDOW, & BENJAMIN F. BROADWELL, Grand Rapids, Mich., U. S., 14th February, 1873, for 15 years: "Art of Clarifying and Settling Varnishes and Oils." (Art de clarifier les vernis et les huiles.)

*Claim.*—1st. The method of clarifying and improving the lustre of varnishes and clarifying all manufactured liquids; 2nd. The method of employing burnt, ground or powdered oyster shells; 3rd. The method of combining pulverized marble and ground burnt oyster shell; 4th. A new article of manufacture and trade, in the varnish rendered clear and of improved gloss and elasticity.

No. 2075. JOSEPH GRAY, Toronto, Ont., 14th February, 1873, for 5 years: "A Heating Stove." (Un calorifère.)

*Claim.*—1st. The combination of the fire chamber A, having internal pipes B, intermediate air-chamber D, and smoke-chamber I; 2nd. The arrangement of the smoke-pipes E, and plates F, in combination with the air-chamber D; 3rd. The arrangement of the smoke-chamber I, and plates J, in combination with the air-chamber D, and pipes E, H; 4th. The jacket M, provided with outlet apertures H, in combination with a stove having a perforated base P.

No. 2076. JAMES H. CURRAN, Rochester, N. Y., U. S., 14th February, 1873, for 5 years: "A Harvesting Machine Sickle Grinder." (Rémouleur des couteaux des moissonneuses.)

For sharpening the harvester sickle without removing the latter from the cutting apparatus or guard fingers. The grinder can be moved longitudinally over the surface of the sickle as it rotates.

*Claim.*—1st. The swivelled arm C, and curved arm B, with extension B, when combined with the crank-wheel E, pulley I, and grinder H, in such a manner that the machine may be used as a stationary or movable grinder; 2nd. The combination with the grinder H, of the cross-head G, provided with the stem I, and of the socket A, the whole so arranged as to produce longitudinal and axial adjustment; 3rd. The combination of a sickle-grinder with a bed-plate and its hinged connections B, B', C, arranged in such a manner as to be made either stationary or movable for grinding, and having a straight forward and backward movement on its joints, as described.

No. 2077. WILLIAM H. DUNNING, Detroit, Mich., U. S., 14th February, 1873, for 5 years: "Process of Removing Incrustations of Lime from Steam Boilers." (Procédé pour enlever les incrustations de chaux des chaudières à vapeur.)

*Claim.*—The process of removing incrustations of lime from steam-boilers, and preventing the latter from foaming in subsequent use by the employment of water, sal-soda, muriatic acid, simple-syrup, kerosene oil, linseed oil, gum arabic and powdered chalk in the proportions and in the manner described.

No. 2078. THOS. STEERS, Jr., Ottawa, Ont., 18th February, 1873, for 5 years: "Apparatus for Manufacturing Dye and Saccharine Salts." (Appareil pour la fabrication de la teinture et de l'acide oxalique.)

*Claim.*—The pumps B, pipes A, A', and shield X, S, constructed and arranged as described.

No. 2079. JACOB HEBERLEIN, Munich, Bavaria, 20th February, 1873, for 5 years: "A Railway Car-Brake." (Un frein de char de chemin de fer.)

*Claim.*—1st. The wooden periphery for the friction drum B, or D, with the fibres of the wood arranged radially or nearly so and secured between metal checks or in mortises; 2nd. The lever E, with adjustable weight operating in combination with the friction drum D, pulleys D', chains F, and lever G; 3rd. The arrangement of the chains F, in connection with the brake-drum and brake-lever so that their tension in applying the brakes increases the frictional pressure of the drums; 4th. The lever E, operating in combination with the suspending rod K, and tumbler K'; 5th. The cords, chains or rods i, j, and k, and pulley z, or their equivalents operating in combination with the rods K, and tumblers K', for bringing the brake apparatus into action from any part of the train; 6th. The cord or chain m, lever m', and rod m', or their equivalents operating in combination with the levers E, the rods K, and tumblers K', for putting the brake apparatus out of action from any part of the train; 7th. The combination of the rod l, and levers l', l', and l', with the lever E, and weight E', for adjusting the brake-power with reference to fig. 10, sheet V; 8th. The lever h, operating in combination with the coupling of the brake-rods with reference to fig. 2, sheet I, and figs. 3 and 3rd sheet II; 9th. Combining the friction brake apparatus with the ordinary screw-brake gear, the holes in the connections of the screw-brake apparatus being slotted so that the brakes can be worked by the friction apparatus or by hand or by both; 10th. The use of an adjustable weight on the lever E, for adjusting the frictional pressure of the drums; 11th. The friction drum brake apparatus combining the chains F, with a lever G, and rods G', G', or H, H, whereby their tension is distributed among the several brakes; 12th. The combination of two sets of friction drums on one lever with one axle drum and chains conveying the brake-power forwards and backwards with reference to figs. 6 and 7, sheet IV; 13th. The connection of the brake-chains F, to the pulleys D', in such a manner that the pulleys wind up the chains so as to put on the brakes in whichever direction the friction drums may rotate; 14th. The apparatus as described with reference to fig. 12, sheet VI, whereby the friction drum apparatus can be brought into action and taken out of action by alternate pulls of the line of communication; 15th. The arrangement of the line of communication i, in such a manner that the brake apparatus is brought into action automatically when a train becomes divided or when a carriage runs off the line or when an axle breaks; 16th. The arrangement of the friction brake apparatus on a tramway car and its combination with the hand screw brake gear with reference to figs. 8 and 9, sheet IV.