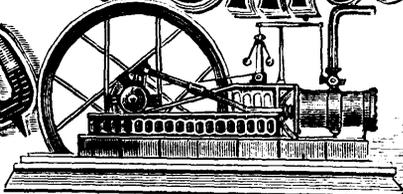


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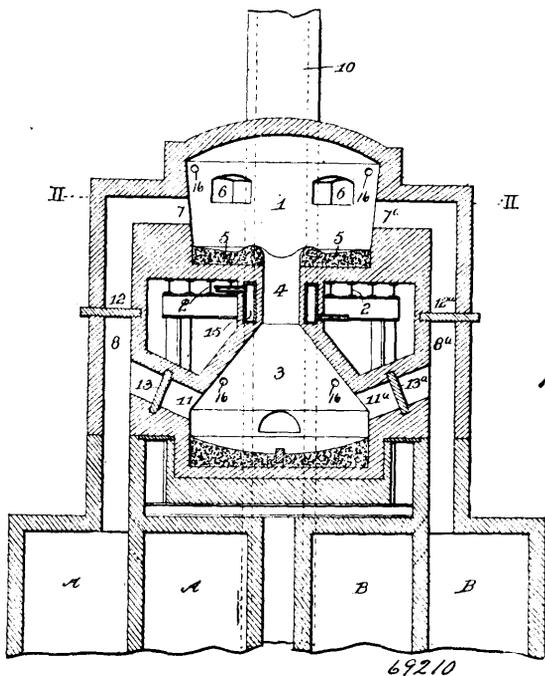
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INVENTIONS PATENTED.

NOTE.—Patents are granted for 18 years. The term of years for which the fee has been paid, is given after the date of the patent.

No. 69,210. Metallurgical Furnace.
(*Fournaise Métallurgique.*)

FIG. 1.



69210

Edward Kerr, Pittsburg, Pennsylvania, U.S.A., 2nd November, 1900; 18 years. (Filed 21st May, 1900.)

Claim.—1st. A metallurgical furnace having in combination a melting chamber, a crucible arranged below the melting chamber, an opening or passage between the melting chamber and crucible,

for the passage of products of combustion and the molten metal into the crucible, the melting chamber having a port or opening for the admission of heating gases, flues or passages leading to the stack and connected by ports or openings to opposite sides of the crucibles and valves located in said passages for controlling the flow of products of combustion from the crucible, substantially as set forth. 2nd. A metallurgical furnace having in combination a melting chamber, a crucible arranged below the melting chamber, an opening or passage connecting the melting chamber, and crucible for the passage of products of combustion and the molten metal into the crucible regenerating chambers, flues connecting said chambers with the melting chamber and crucible, and valves arranged in said flues controlling the flow of gases through said flues, substantially as set forth. 3rd. A metallurgical furnace having in combination a melting chamber, a crucible arranged below the melting chamber, an opening or passage connecting the crucible and melting chamber, for the passage of products of combustion, and the molten metal into the crucible, ports or openings on opposite sides of the melting chamber for the admission of heating gases, valves controlling said ports or openings, ports or openings on opposite sides of the crucible and valves controlling the flow of gases from the crucible, substantially as set forth. 4th. In a metallurgical furnace, the combination of a melting chamber, a crucible arranged below the melting chamber, an opening or passage connecting the crucible and melting chamber, for the passage of products of combustion and the molten metal into the crucible, the passage or opening being arranged to one side of the center of the melting chamber, a port or opening for the admission of heating gases to the melting chamber, and a connection from the crucible to the stack, substantially as set forth.

No. 69 211. Process of Reducing Aluminum.
(*Procédé pour réduire l'aluminium.*)

Frank Austin Gooch, New Haven, Connecticut, U.S.A., 2nd November, 1900; 6 years. (Filed 2nd August, 1900.)

Claim.—1st. As an improvement in the art of manufacturing aluminium, the herein-described process which consists in forming a bath by fusing together a suitable compound of aluminium and a suitable halogen compound of a metal more electro-positive with reference to sulphur than is aluminium, adding to the bath a suitable compound of sulphur together with alumina, and then passing an electric current of suitably low voltage through the fused mass, thereby electrolyzing the same, substantially as and for the purposes set forth. 2nd. As an improvement in the art of manufacturing aluminium, the herein-described process which consists in forming a bath by fusing together a halogen compound of aluminium and a suitable halogen compound of a metal more electro-positive than aluminium with reference to sulphur, adding to the bath a suitable compound of sulphur, together with alumina, and then passing an electric current of suitably low voltage through the fused mass, thereby electrolyzing the same, substantially as and for the purposes set forth. 3rd. As an improvement in the art of manufacturing aluminium, the herein-described process which consists in forming a bath by fusing together a halogen compound of aluminium and suitable halogen compounds of metals which are more electro-positive than aluminium with reference to sulphur, adding to the bath in suitable quantity carbon disulphid, together with alumina, and then passing an electric current of suitably low voltage through the fused mass, thereby electrolyzing the same, substantially as and for the purposes set forth. 4th. As an improvement in the art of manufacturing aluminium, the herein-described process, which consists in forming a bath by fusing together the fluorids of aluminium, and of metals more electro-positive than aluminium with reference to sulphur, adding to the bath in suitable quantity carbon disulphid, together with alumina, and then passing an