J. M. SANDERS.

Manufacture of Oxide of Tin.

No. 196,831. Patented Nov. 6, 1877.

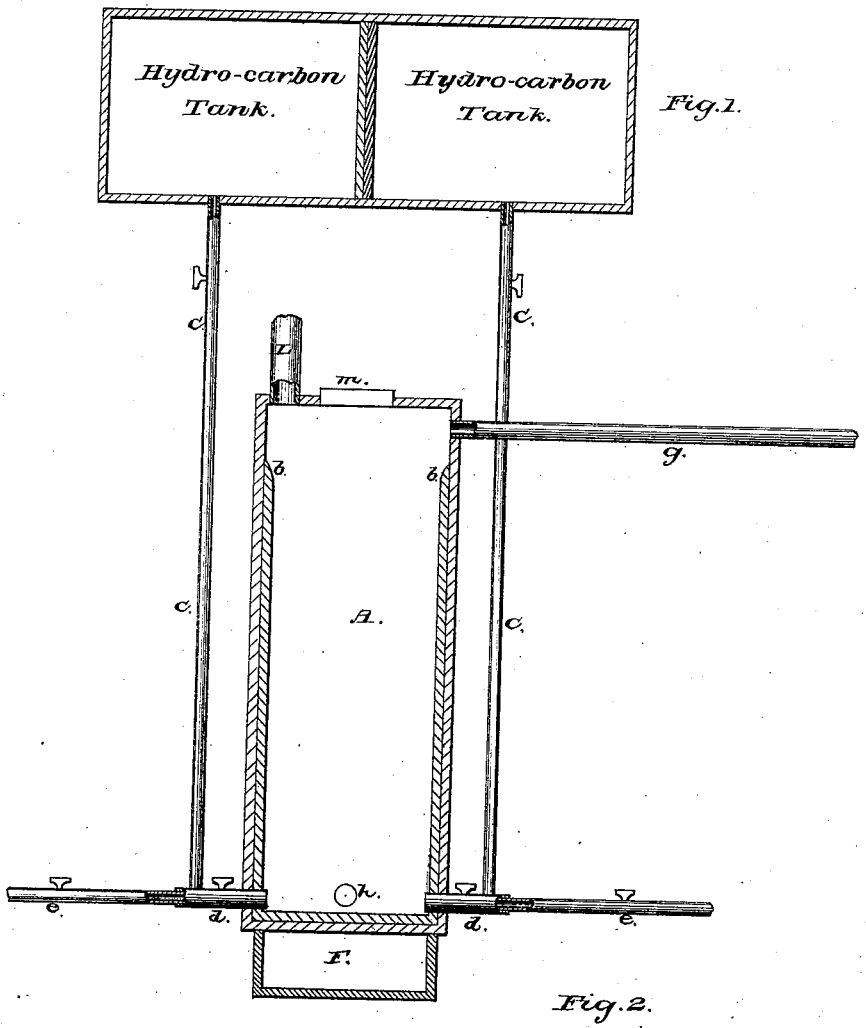
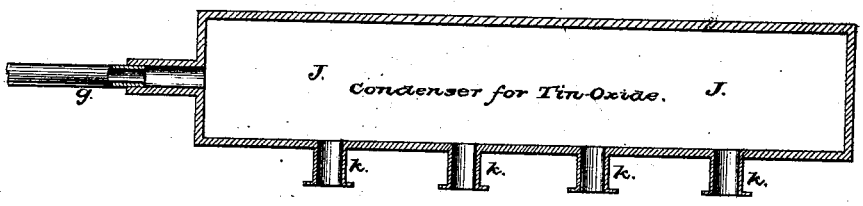


Fig. 1.

Fig. 2.



Attest:

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UNITED STATES PATENT OFFICE.

J. MILTON SANDERS, OF NEW YORK, N. Y., ASSIGNOR TO JAMES H. COVEL, OF SAME PLACE; SAID COVEL ASSIGNOR OF ONE-THIRD HIS RIGHT TO GIBBONS L. KELTY, OF SAME PLACE.

IMPROVEMENT IN MANUFACTURE OF OXIDE OF TIN.

Specification forming part of Letters Patent No. **196,831**, dated November 6, 1877; application filed January 3, 1877.

To all whom it may concern:

Be it known that I, J. MILTON SANDERS, of the city and State of New York, have invented an Improvement in the Manufacture of Oxide of Tin, of which the following is a specification:

The object of the present invention is to obtain oxide of tin from tin-scrap, which is comparatively valueless, and save the great expense heretofore arising in the manufacture of oxide of tin from block-tin.

I make use of any suitable furnace for the fusion and volatilization of the tin.

In the drawing I have shown a furnace at A, with a hearth, F, for the reception of the melted metal, and to this furnace the ordinary air-blast is to be introduced, as at *d*. The scrap tinned sheet-iron is introduced through a suitable opening, as at *m*, after the furnace has been sufficiently heated. The escape-flue or chimney L is then closed, and the vapors of the tin and the products of combustion pass into a condenser, J, by the pipe *g*. It is preferable to introduce crude petroleum or other carbonaceous material into the furnace by the pipes *c c* and cocks, so as to intensify the heat; and I remark that sufficient air is to be admitted or forced into the furnace to supply the oxygen that combines with the tin in the formation of the oxide of tin. The condenser J is to be of a size sufficient to allow the oxide of tin to fall in the chamber J before the gases from the coal escape. The oxide, as it accumulates, is to be drawn off through the tubes *k*, and the gases, in passing through the chamber J, will be sufficiently reduced in temperature to effect the necessary deposit of the oxide.

By this improvement I am enabled to obtain the oxide of tin at a comparatively cheap rate, because the scrap tinned iron is almost valueless, and in evaporating the tin the iron is left free to melt by the addition of a suitable flux, such as carbon, cast-iron, &c., without containing an undue proportion of tin.

It is to be understood that the heat employed is sufficient to volatilize the tin, and that the oxygen of the atmosphere passing into the fire combines with the tin while in the form of a vapor, and that the escape products of combustion carry the oxide of tin away to the chamber, in which it is deposited.

I claim as my invention—

The method herein specified of manufacturing oxide of tin, consisting in subjecting the scrap tinned iron to a heat sufficiently strong to volatilize the tin, and oxidize the same by the atmosphere passing into the furnace, and then receiving the tin oxide in a chamber, in which it is separated from the products of combustion, substantially as set forth.

New York, December 20, 1876.

J. MILTON SANDERS.

Witnesses:

FRED. W. COVEL,

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