

No. 746,258.

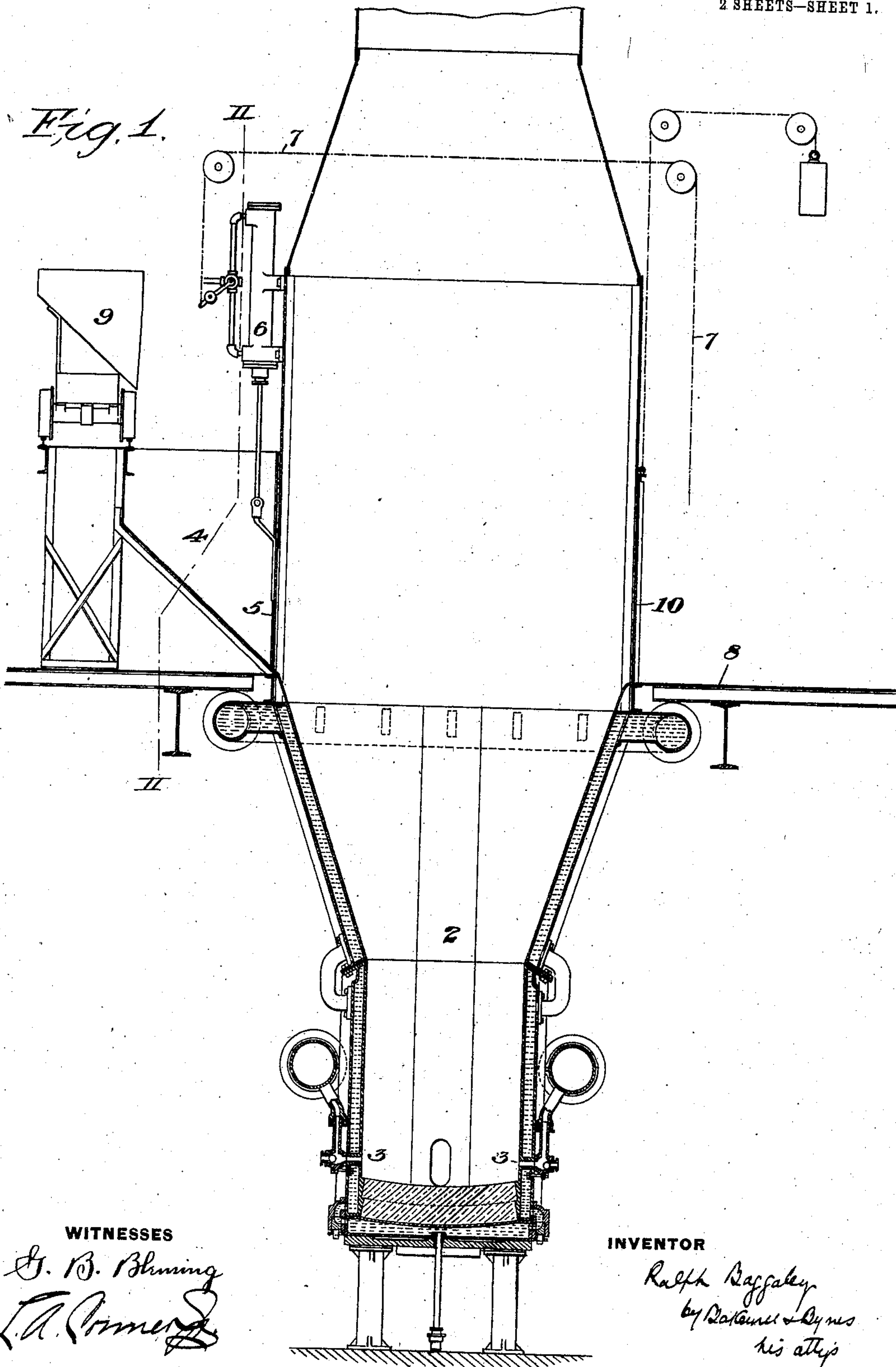
PATENTED DEC. 8, 1903.

R. BAGGALEY.  
COPPER SMELTING FURNACE.

APPLICATION FILED AUG. 26, 1903.

NO MODEL.

2 SHEETS—SHEET 1.



WITNESSES

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INVENTOR

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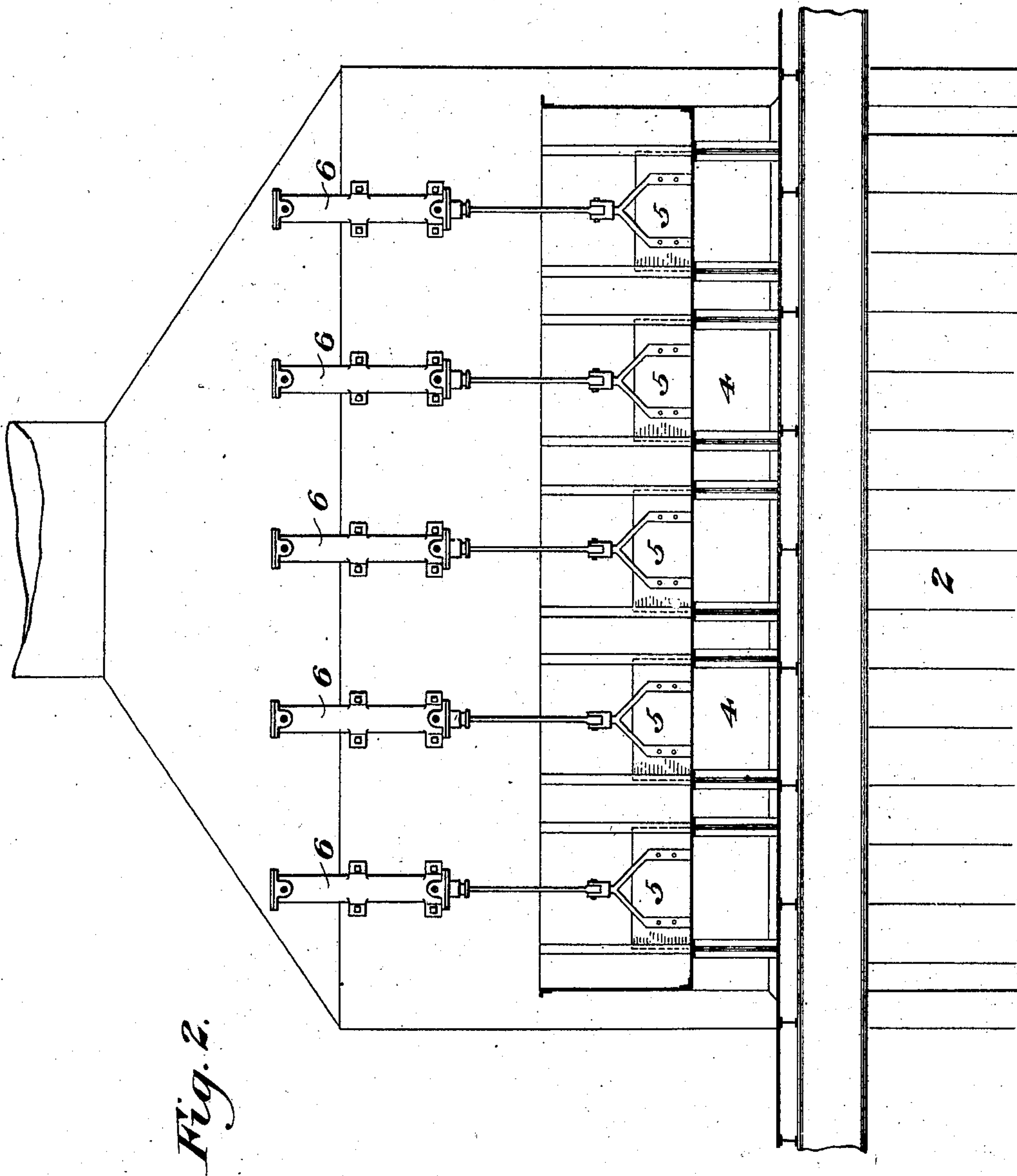
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WITNESSES

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## UNITED STATES PATENT OFFICE.

RALPH BAGGALEY, OF PITTSBURG, PENNSYLVANIA.

## COPPER-SMELTING FURNACE.

SPECIFICATION forming part of Letters Patent No. 746,258, dated December 8, 1903.

Application filed August 26, 1903. Serial No. 170,812. (No model.)

*To all whom it may concern:*

Be it known that I, RALPH BAGGALEY, of Pittsburgh, Allegheny county, Pennsylvania, have invented a new and useful Copper-Smelting Furnace, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, which show a copper-smelting plant constructed in accordance with my invention.

Figure 1 is a vertical section of the furnace, and Fig. 2 being a sectional elevation of the furnace, the section being on the line II II of Fig. 1.

In the operation of smelting copper sulfid ores a considerable part of the expense is due to manual labor required in attending and charging the furnace. It is important that this work be done regularly and with sufficient frequency and it is the purpose of my invention to provide mechanical devices for this purpose which can be operated efficiently and without manual labor.

In the accompanying drawings, 2 represents the smelting-furnace, having twyers 3 3 for the admission of a blast of air.

To charge the furnace with ore, fuel, and flux, I provide above the smelting zone a lateral charging-hopper 4, having vertically-sliding doors 5, which open into the interior of the furnace and may be operated by air-cylinders 6. The valves of these cylinders have connections 7 extending to the position of the operator on the platform 8 on the opposite side of the furnace and enable the doors to be operated individually or together, as desired. By opening the doors separately in

the proper order the charge can be delivered to any portion of the length of the furnace, and even charging and regular operation of the furnace can thus be secured. The hopper 4 is kept charged from cars 9 with the appropriate mixture of ore and flux, and the extent and frequency of the supply of ore to the interior of the furnace are governed by manipulation of the doors 5, as above described. The charging operation being thus rendered mechanical, I am enabled to dispense with much of the labor which would otherwise be required. The smelter standing on the platform on the opposite side of the furnace from the hopper is unhampered in his movements and can readily determine the condition of the furnace charge by looking through a working door 10.

Within the scope of my invention as defined in the claim the apparatus may be modified in various ways without departing from my invention, since

What I claim is—

A smelting-furnace having a hopper adapted to contain a body of charge material, an opening extending therefrom into the side of the furnace, and a plurality of doors controlling the opening, said doors being arranged side by side in the same vertical plane; substantially as described.

In testimony whereof I have hereunto set my hand.

RALPH BAGGALEY.

Witnesses:

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