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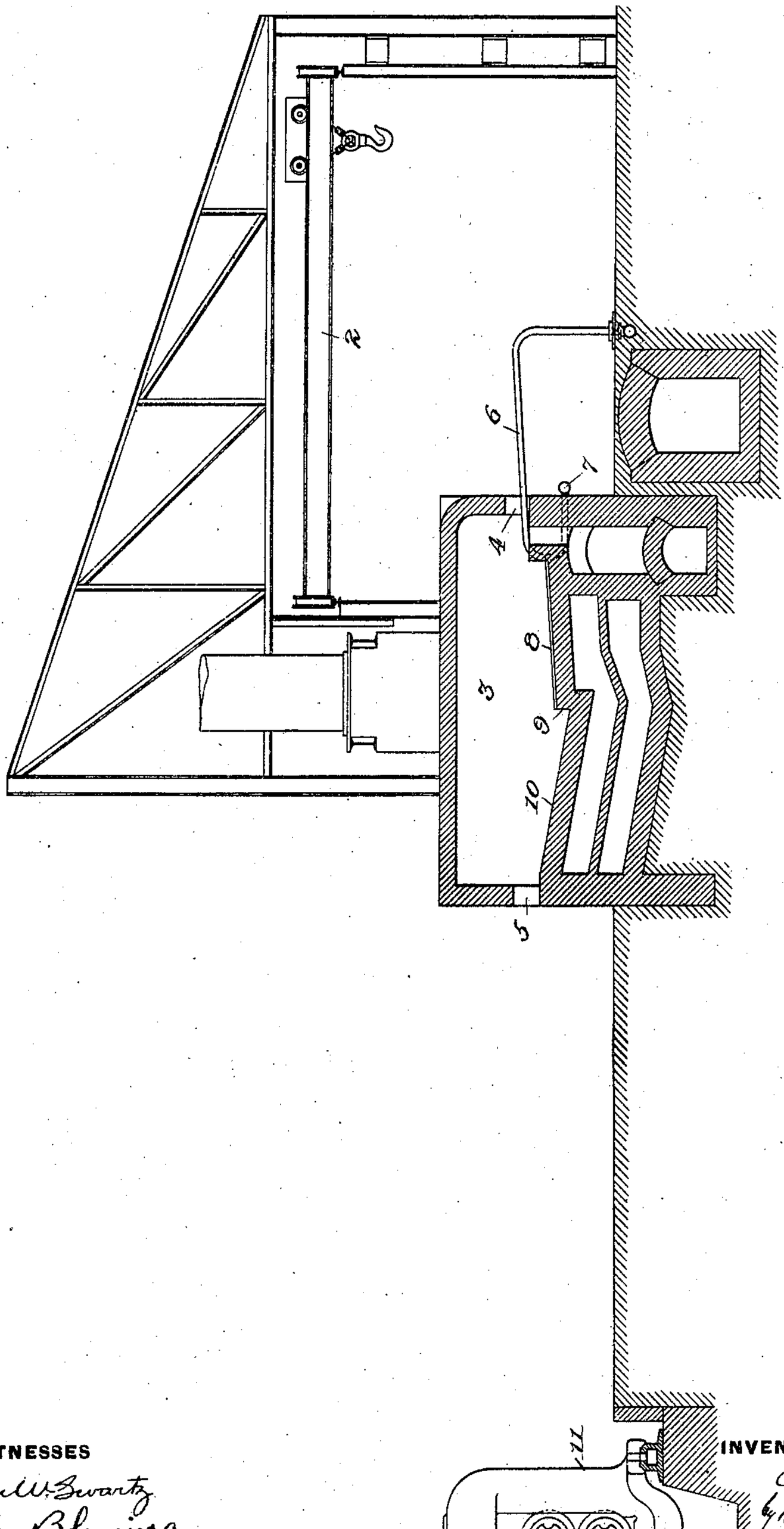
C. W. BRAY.

METHOD OF FINISHING METAL PACKS.

APPLICATION FILED FEB. 9, 1905.



WITNESSES

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METHOD OF FINISHING METAL PACKS.

No. 844,323. Specification of Letters Patent. Patented Feb. 19, 1907.

Application filed February 9, 1905. Serial No. 244,868.

To all whom it may concern:

Be it known that I, CHARLES W. BRAY, of Pittsburg, Allegheny county, Pennsylvania, have invented a new and useful Method of Finishing Metal Packs, of which the following is a full, clear, and exact description, reference being had to the accompanying drawing, forming part of this specification, in which the figure is a partial cross-section of a plant, showing the heating-furnace in longitudinal section.

My invention relates to the finishing of metal packs, and more particularly to the heating of said packs before the finishing operation. Heretofore these packs have ordinarily been fed into the reheating-furnace through the same opening as that through which they are withdrawn. This necessitates the use of skilled labor, both in feeding in and taking out the packs, and the packs inserted are liable to chill the packs already heated. Moreover, the piling up of packs at the opening interferes with the operation and causes a high temperature for the workmen.

My invention is designed to overcome these difficulties and to allow the packs to lie stationary in the furnace and provide for proper manipulation thereof, while at the same time the packs are inserted through a different opening from that through which they are drawn out. The packs may be inserted in piles by unskilled labor, while the packs may be rearranged, reheated, and drawn out by the skilled heater.

In the drawing, 2 represents an overhead crane, which extends along the rear of a series of pack-heating furnaces 3. Each of these reheating-furnaces is provided with a rear feed-in opening 4 and with a front feed-out opening 5, and I preferably provide water-cooled supports 6, which extend from an outside point in through feed-in opening and thence are bent down and back to the outlet-pipe 7. A continuous water circulation is maintained through these pipes.

The bottom of the furnace is preferably inclined slightly from the rear toward the front, and this rear portion 8 preferably terminates in a step or shoulder 9, which joins the rearwardly and downwardly inclined portion 10, leading to the feed-out opening 5. These furnaces may be either of the single or double type—that is, there may be one or more reheating-chambers in the same furnace structure, and in front of them are the single-finishing mills 11, of which one is shown in the figure.

In the reheating operation the piles of packs may be carried by the overhead crane and deposited upon the water-cooled supports at the rear of any of the furnaces. The piles of packs may then be fed in through the opening 4, either as piles or as separated packs. On the front portion of the bottom the piles will be separated, so that each pack will lie by itself, and in some cases the sheets of the pack may be separated from each other. The rear portion of the bottom is preferably occupied by piles, while in the front portion the packs are separated and manipulated by the heater through the feed-out opening. If the heater separates the sheets of a pack during heating, he will again assemble these before he draws out the pack. The packs are drawn out through the feed-out opening 5 in the ordinary manner as they are brought to the proper temperature and are then taken to the single-finishing mills and finished in the usual manner.

The advantages of my invention result from the increase in the speed of operation with the corresponding increase in output and decrease in cost. The skilled heater does not perform the work of feeding in the packs or piles of packs, and the feed-out opening is separate and distinct from the feed-in opening. The packs fed in are not liable to chill the packs being brought up to the proper temperature, and the operation is rapid and continuous.

The apparatus employed for carrying out my invention may be widely varied within the scope of my claims.

I claim—

1. The method of finishing metal packs, consisting in feeding the packs into the rear end of a heating-furnace, allowing them to lie stationary in said furnace, removing the packs from the opposite end of the furnace, and finish-rolling said packs; substantially as described.

2. The method of finishing metal packs, consisting in feeding a pack into the rear end of a heating-furnace, allowing it to rest in the

rear portion thereof, then moving it forward into the front portion of the furnace, feeding another pack into the rear portion of the furnace, allowing the packs to rest stationary in said furnace, and removing them from the opposite end of the furnace and finish-rolling them; substantially as described.

In testimony whereof I have hereunto set my hand.

CHARLES W. BRAY.

Witnesses:
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