

No. 654,969.

Patented July 31, 1900.

J. H. GILL.  
HEATING FURNACE.

(Application filed Jan. 6, 1900.)

(No Model.)

Fig. 2.

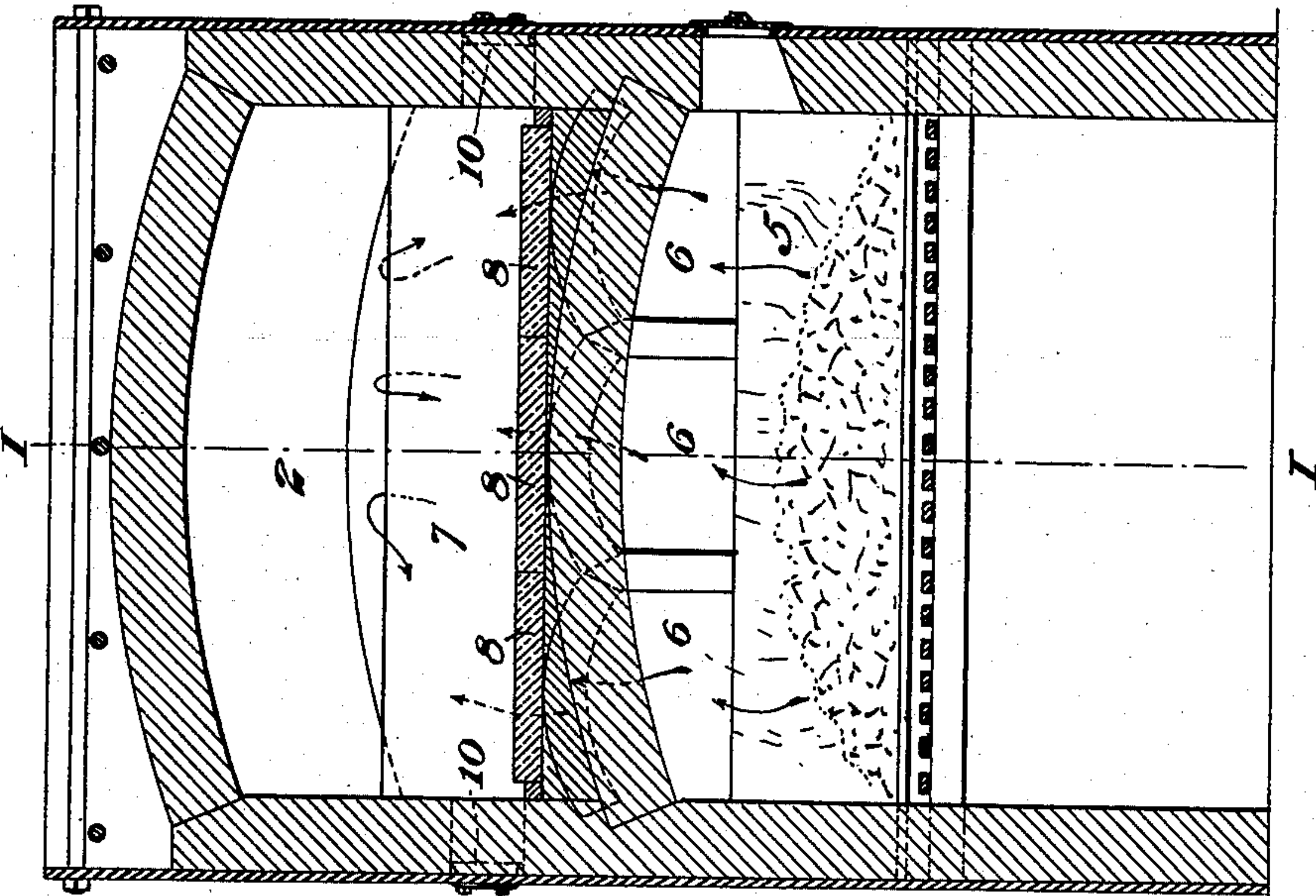
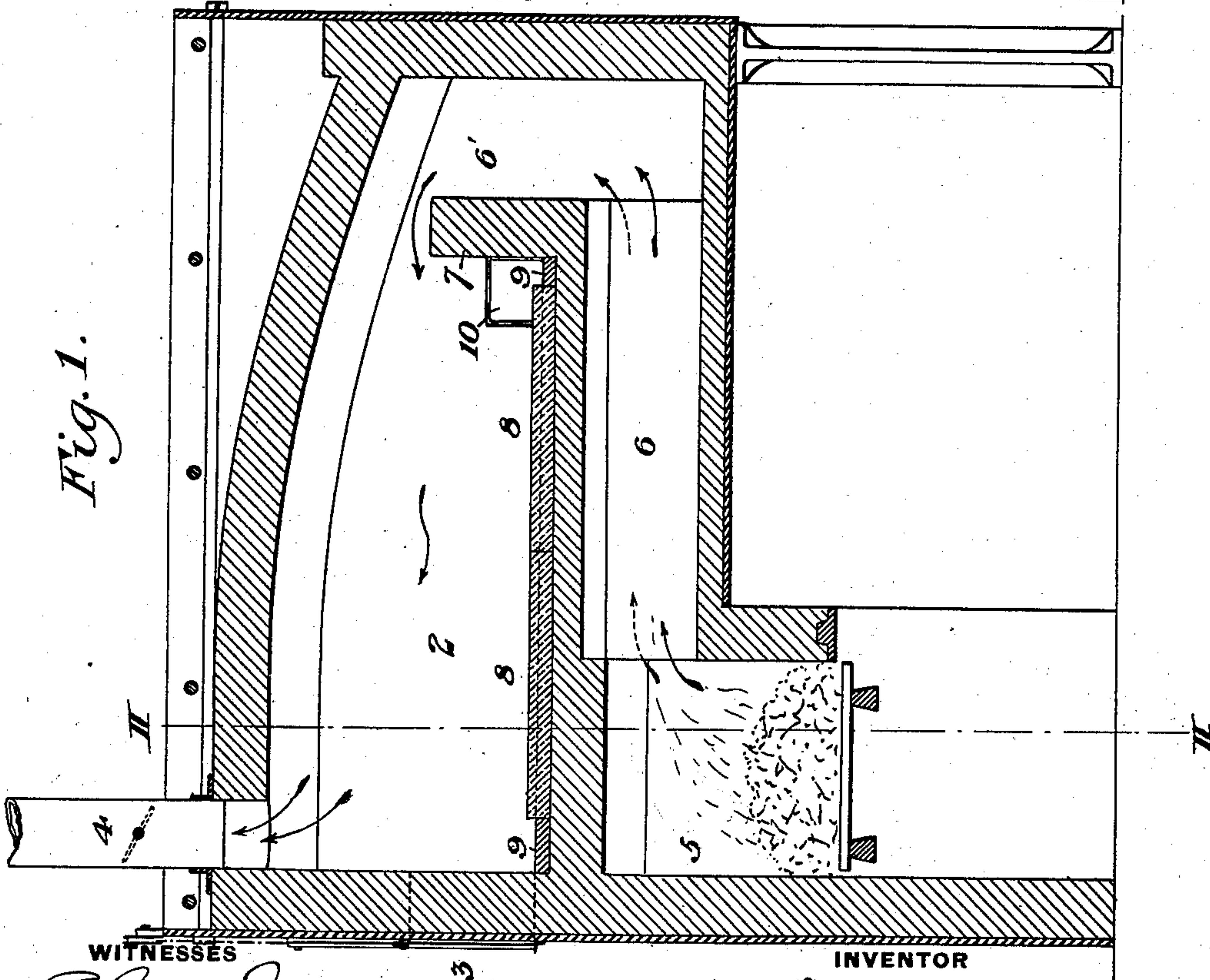


Fig. 1.



WITNESSES

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# UNITED STATES PATENT OFFICE.

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## HEATING-FURNACE.

SPECIFICATION forming part of Letters Patent No. 654,969, dated July 31, 1900.

Application filed January 6, 1900. Serial No. 575. (No model.)

*To all whom it may concern:*

Be it known that I, JOSEPH H. GILL, of No. 10 Frankstreet, New Castle, Lawrence county, Pennsylvania, have invented a new and useful Improvement in Heating-Furnaces for Black Plate and Sheet Iron and Steel, of which the following is a full, clear, and exact description.

The object of my invention is to provide a furnace of improved construction for heating sheet metal, &c., which will avoid the difficulties incident to the apparatus and methods of heating heretofore commonly employed.

The invention is illustrated in the accompanying drawings, in which—

Figure 1 is a vertical longitudinal section of one of my improved furnaces, the section being on the line I I of Fig. 2. Fig. 2 is a vertical cross-section on the line II II of Fig. 1.

In the drawings, 2 represents the heating-chamber of the furnace, having a charging-door 3 and an outlet-flue 4 at the front end.

5 is the combustion-chamber, which is situated under the front end of the furnace-bottom and has horizontal flues 6 6 extending under the furnace-bottom to the rear of the furnace, where they enter the working chamber through a flue 6', leading over a bridge-wall 7. The floor of the working chamber, which also constitutes the roof of the combustion-chamber 5 and flue 6, is faced with flat tiles 8 8, each of which is adapted to receive the sheet or pack of sheets to be heated, and these tiles are surrounded by a gutter 9. Coal, coke, or gas may be burned in the combustion-chamber.

In using the furnace the packs to be heated are placed on the tiles 8 in the usual way. The flame from the combustion-chamber imparts heat to the floor of the furnace above the combustion-chamber and above the flues 6, and the flame entering the combustion-

chamber from the flue 6' heats the surface of the sheets. The part of the chamber 2 which is most heated by the flame from above is the part next to the bridge-wall, and the part which is least heated from above is the front end of the furnace; but the rear end of the chamber 2 is least heated from below, and the front end being directly over the combustion-chamber is most heated from below. Therefore as the part of the chamber which is least heated from above is most heated from below, and vice versa, the heating action of all parts of the chamber is as much as possible equalized, all the packs or sheets are heated to about the same degree, and the serious difficulties which result from unequal heating are obviated. Furthermore, as the floor of the chamber 2 on which the sheets rest is composed of flat tiles, the sheets are not marred or marked as they are when resting on a brick bottom or upon a bed of coal. The dirt and scale which accumulate during the heating operation is gathered in the gutters 9 and may be removed from time to time through openings 10, formed at the ends of these gutters and communicating therewith.

The skilled mechanic may modify my invention within the scope of the following claims, since

What I claim is—

A heating-furnace having a horizontal floor faced with tiles and affording a flat surface for the support of the articles to be heated, gutters at the margin of the floor and cleaning-openings 10 communicating therewith; substantially as described.

In testimony whereof I have hereunto set my hand.

JOSEPH H. GILL.

Witnesses:

FRANK L. FLYNN,  
WILLIAM TUCKER.