E. P. SELDEN.

FURNACE CASING.

APPLICATION FILED JAN. 3, 1910.

998,125.

Patented July 18, 1911.

2 SHEETS—SHEET 1.

Fig. 1.

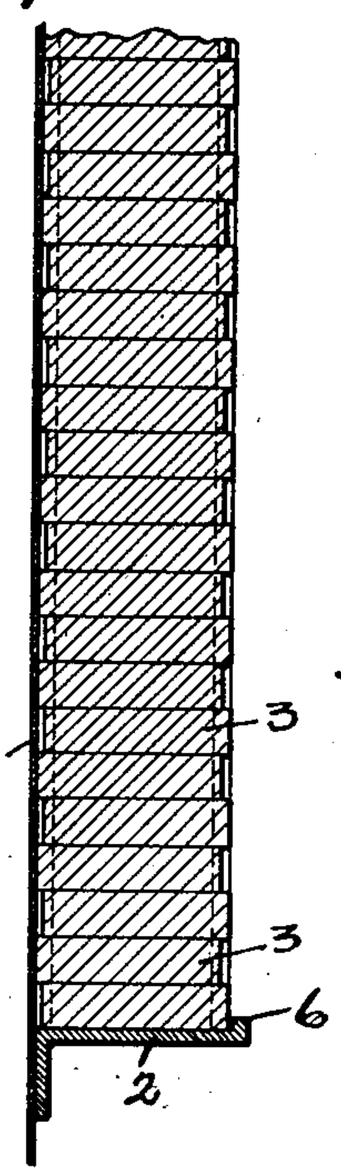


Fig. 2.

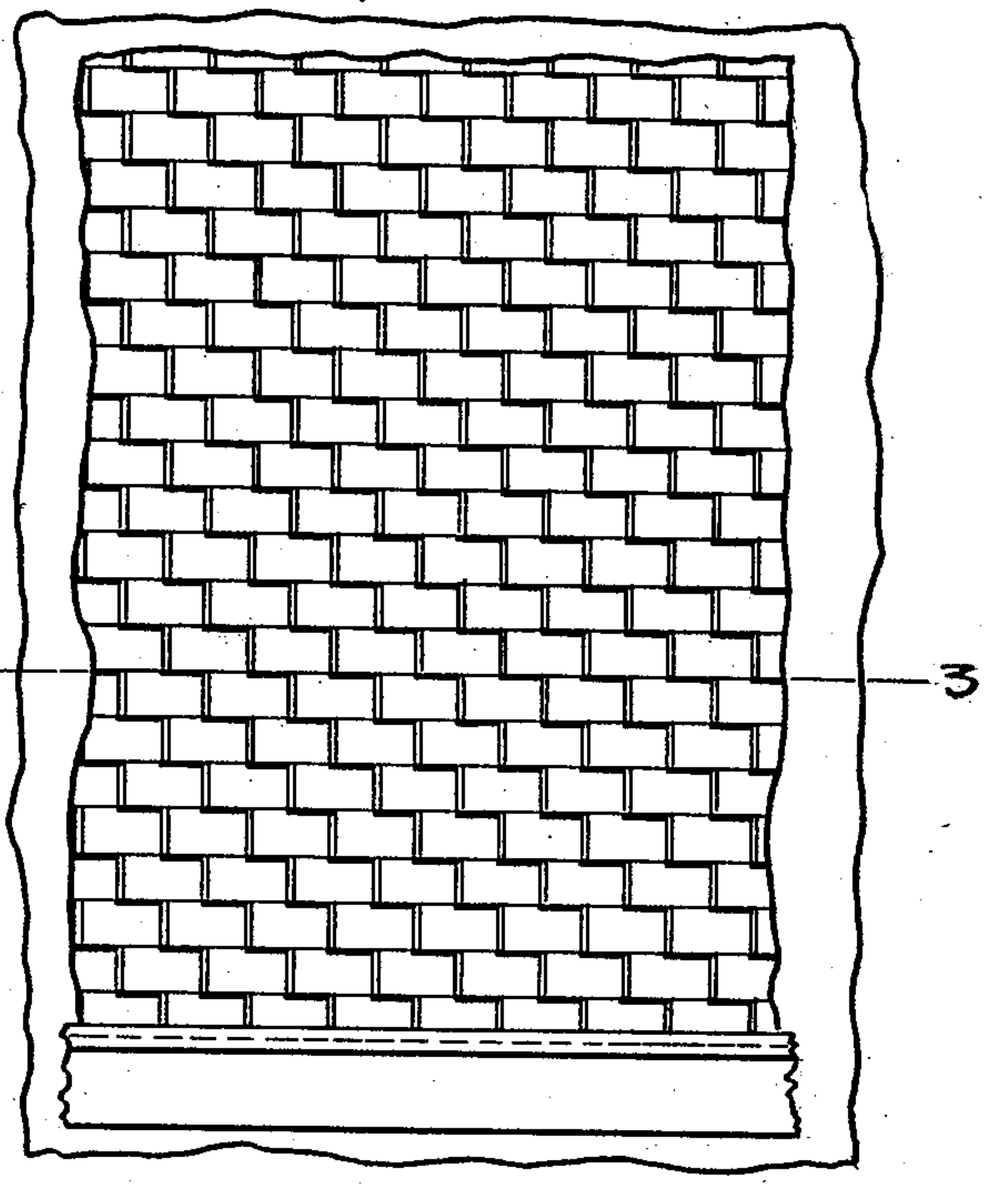
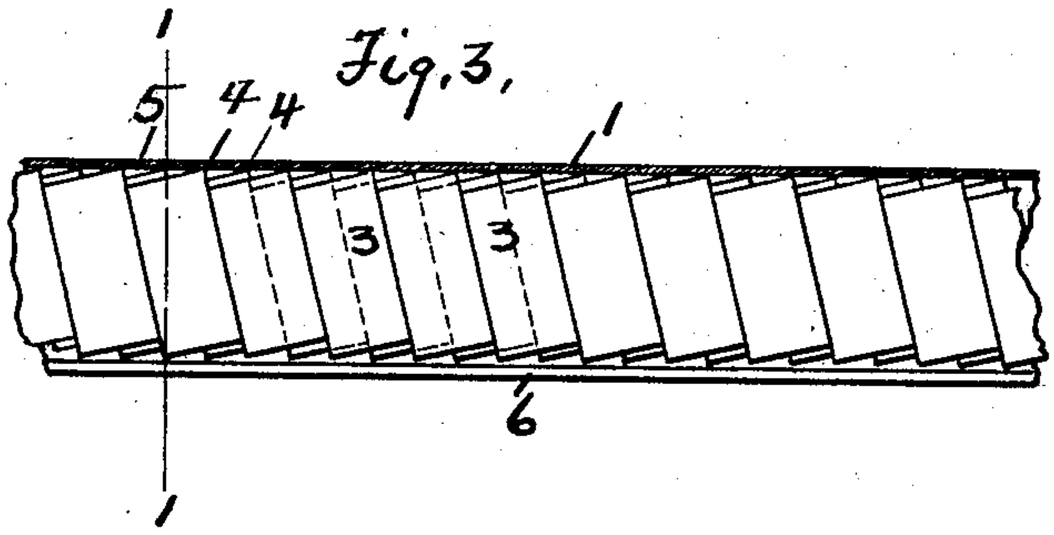


Fig. 3.



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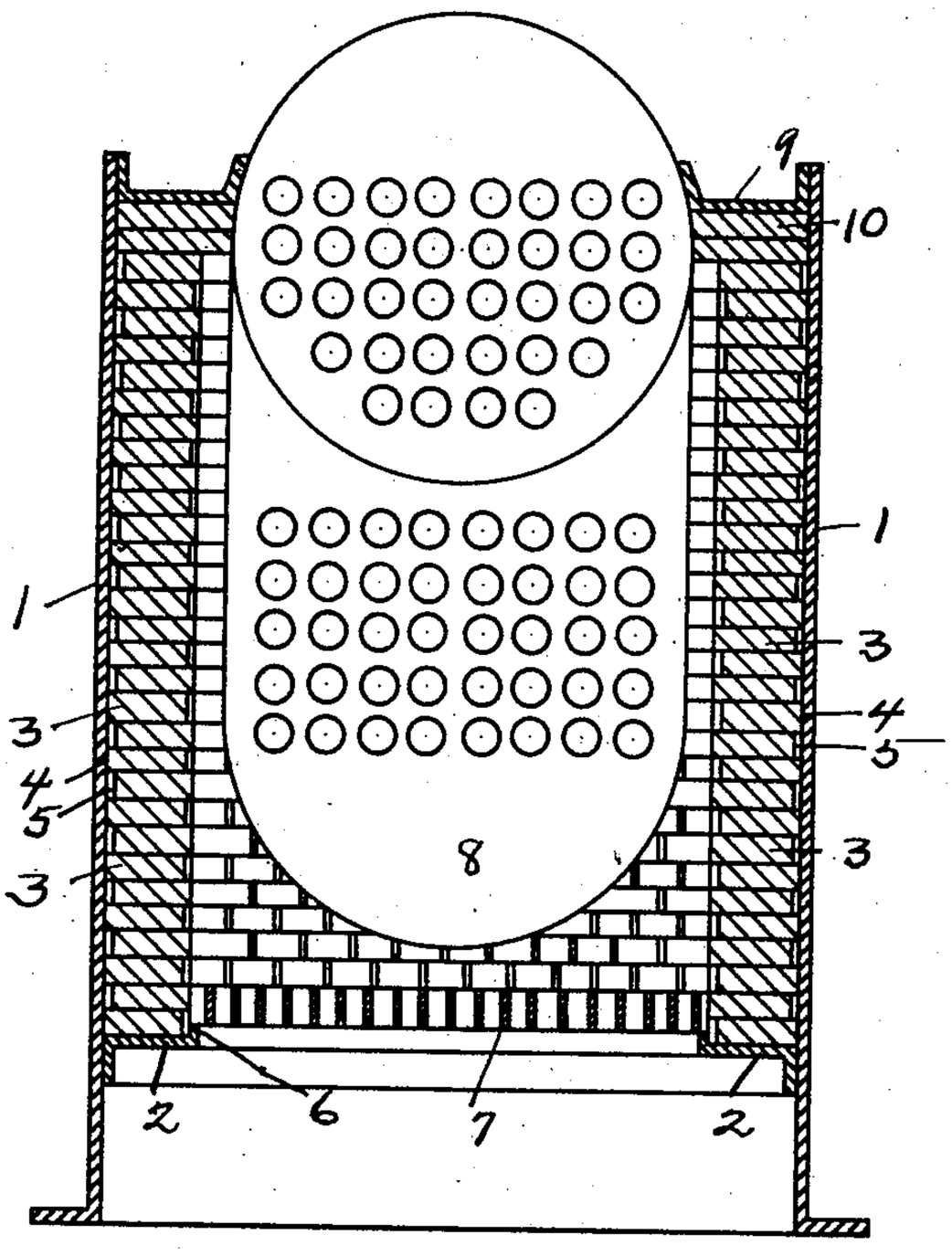
2 SHEETS—SHEET 2.

Fig. 4.



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UNITED STATES PATENT OFFICE.

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FURNACE-CASING.

998,125. Specification of Letters Patent. Patented July 18, 1911.

Application filed January 3, 1910. Serial No. 536,227.

To all whom it may concern:

Be it known that I, EDWARD P. SELDEN, a citizen of the United States, residing at Erie, in the county of Erie and State of Pennsylvania, have invented new and useful Improvements in Furnace-Casings, of which the following is a specification.

This invention relates to furnace casings, and consists in certain improvements in the construction thereof as will be hereinafter fully described and pointed out in the claims.

In many types of furnaces, especially boiler furnaces, it is desirable to form the furnace casing with a metal jacket which may be completed at the shop, and line this metal jacket with fire brick or other material so as to insulate the jacket. This is more fully accomplished if air spaces can be formed between the inner surfaces of the brick and the jacket.

The invention is illustrated in the accompanying drawings as follows:

Figure 1 is a section on the line 1—1 in Fig. 3 showing a fragment of the furnace wall; Fig. 2, an elevation of such wall from the inside of the furnace; Fig. 3, a section on the line 3—3 in Fig. 2. Fig. 4 is a vertical section through a furnace showing the application of the invention.

1 marks the jacket; 2 the bracket or support; 3 the fire brick.

The plane of the support 2 is preferably horizontal, so that the brick placed upon it are horizontal. The brick are placed with their sides at a slant to the plane of the jacket, thus bringing one corner edge 4 of the brick only into contact with the jacket 1, thus forming triangularly shaped air spaces 5 between the ends of the brick and the jacket. The support 2 preferably has the shoulder 6 for holding the lower course of brick in place.

I prefer to break the joints with the brick as is clearly shown, thus breaking the continuity of the air spaces 5, that is, the corner edges 4 are out of alinement. By breaking up these air spaces there is less liability of a rapid movement of air in the spaces,—in other words the air spaces are more nearly dead air spaces. The breaking of the joints, of course, in addition to this has its usual function of solidifying the wall.

There is shown in Fig. 4 a vertical section through a furnace showing the application of the invention. In this figure 7 indicates a grade, 8 the outlines of the boiler, and 9 and 10 the cap plate and lining at the top of the furnace. This figure simply indicates the application of the furnace wall to the furnace. It is understood that it may be applied to different furnaces.

What I claim as new is:

1. In a furnace casing, the combination of a metal jacket; and a brick lining with the bricks contacting the jacket at one corner, and having their sides slanting sidewise relative to the jacket the sides adjacent to the jacket at an angle thereto forming air spaces next to the jacket.

2. In a furnace casing, the combination of a metal jacket; and a brick lining with the bricks contacting the jacket at one corner, and slanting sidewise relatively to the jacket their sides adjacent to the jacket at an angle thereto, forming air spaces next to the jacket, the bricks being laid with the joints broken and breaking the alinement with the contacting corners of the bricks, and breaking the continuity of the air spaces formed between the bricks and the jacket.

3. In a furnace casing, the combination of a metal jacket; and a brick lining, the bricks being horizontally arranged and contacting with the jacket along one corner, and slanting sidewise relatively to the jacket, forming air spaces next to the jacket.

4. In a furnace casing the combination of a metal jacket; a bracket with a horizontal supporting face secured to the jacket; and a brick lining resting on said bracket the bricks contacting the jacket at their corners, and slanting sidewise relatively to the jacket, forming air spaces next to the jacket.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

EDWARD P. SELDEN.

Witnesses:

EDWARD HAYES,

MARGARET BEIGLE.