

(No Model.)

W. H. BARR.  
BREAST WALL FOR GLASS FURNACES.

No. 521,147.

Patented June 12, 1894.

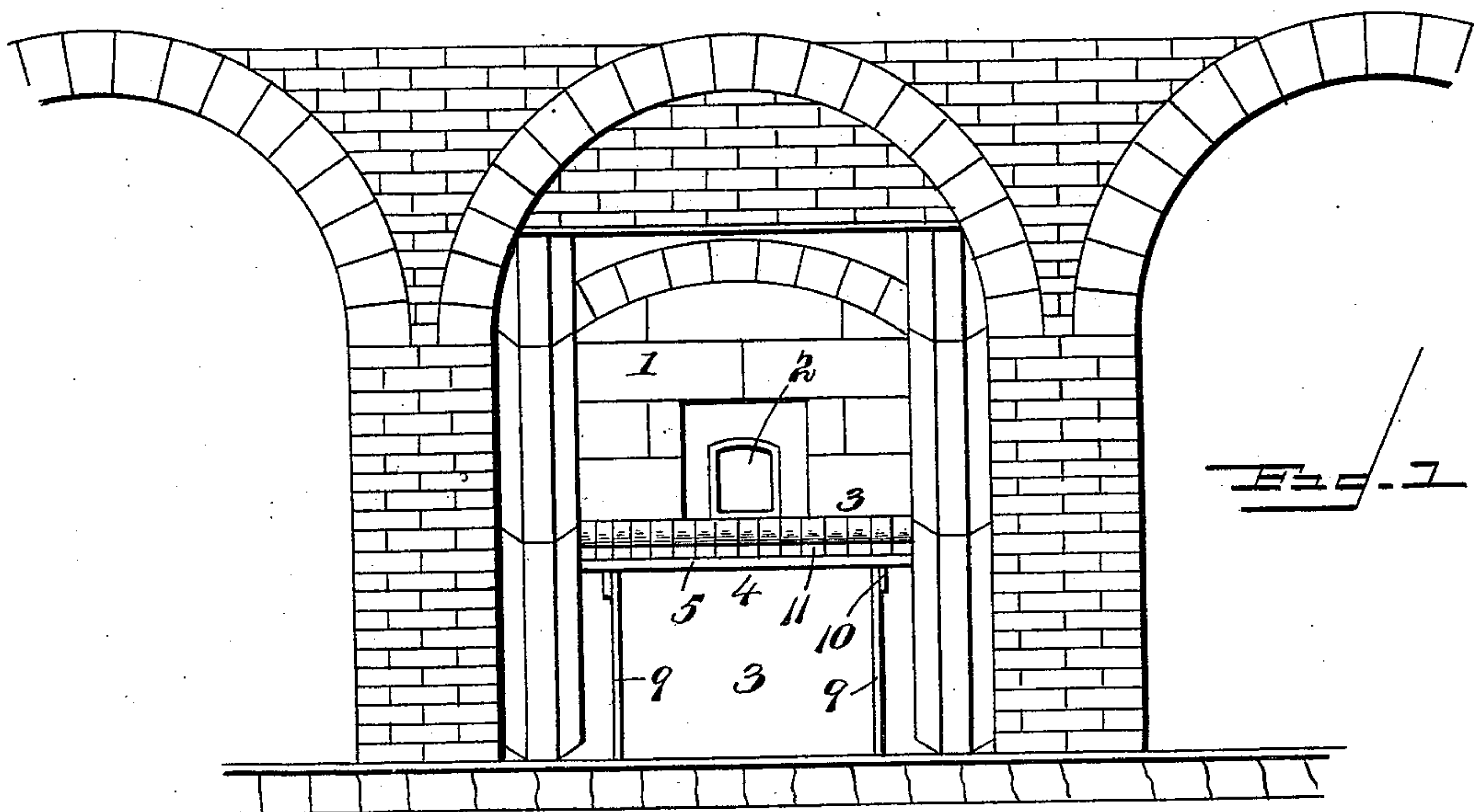


Fig. 1.

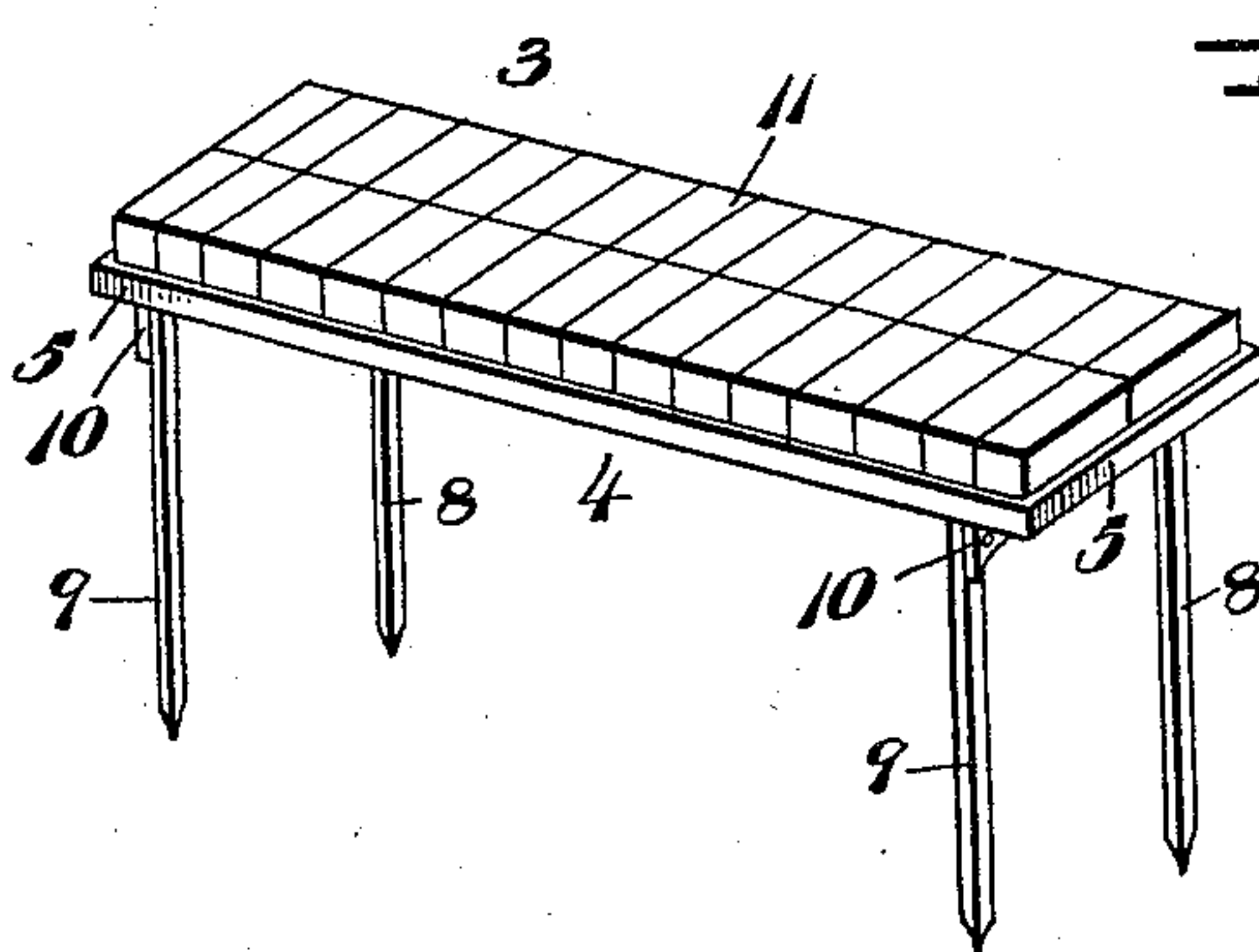


Fig. 2.

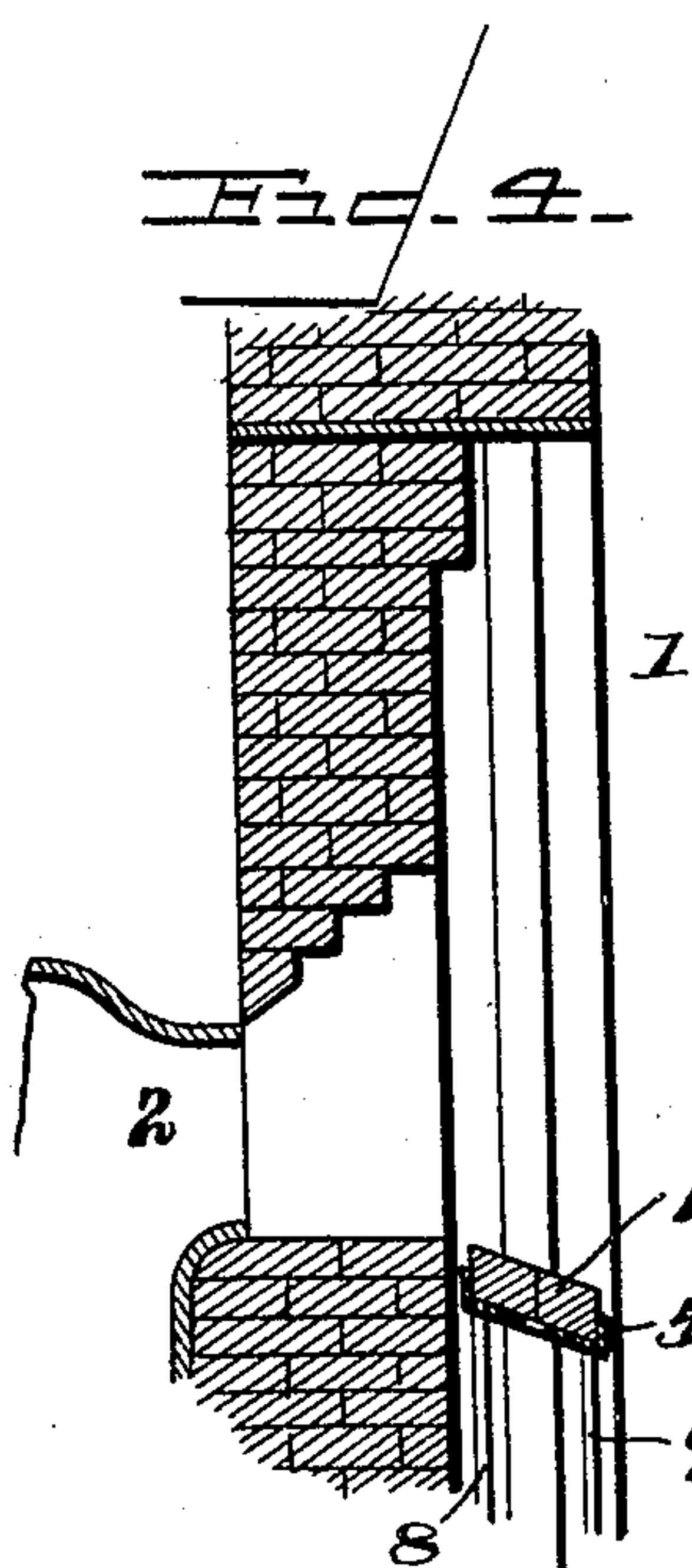


Fig. 3.

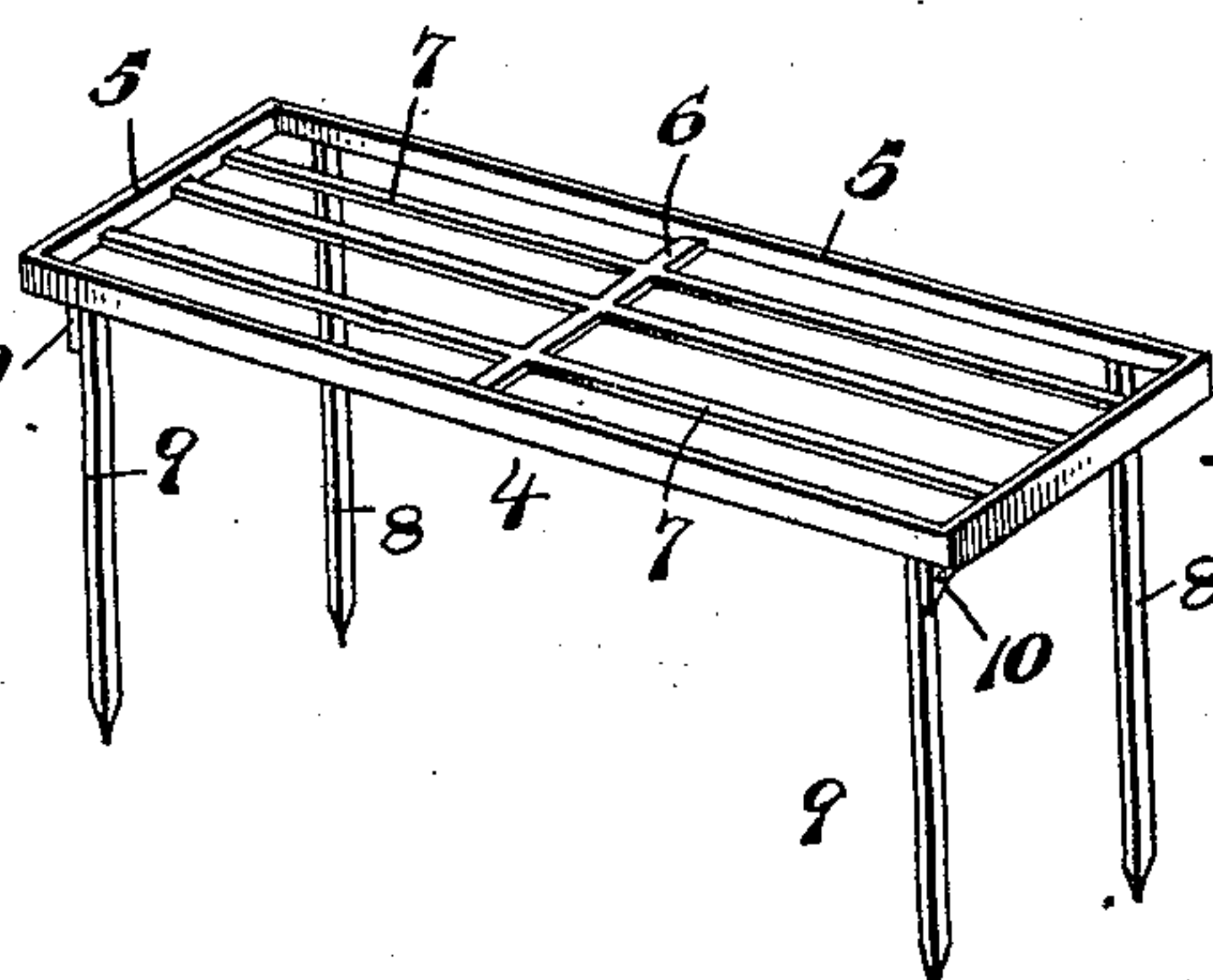


Fig. 4.

Inventor

William H. Barr

Witnesses

E. H. Stewart

By his Attorneys.

*[Signature]*

*[Signature]*

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# UNITED STATES PATENT OFFICE.

WILLIAM H. BARR, OF TIFFIN, OHIO.

## BREAST-WALL FOR GLASS-FURNACES.

SPECIFICATION forming part of Letters Patent No. 521,147, dated June 12, 1894.

Application filed October 11, 1892. Serial No. 448,595. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM H. BARR, a citizen of the United States, residing at Tiffin, in the county of Seneca and State of Ohio, have  
5 invented certain new and useful Improvements in Breast-Walls for Use in Glass-Furnaces, of which the following is a specification.

My invention relates to breast-walls for furnaces; and it has for its object to provide an  
10 adjustable, removable and replaceable breast-wall adapted to be arranged below the opening in a glass furnace to prevent the extreme heating of the walls of the furnace around said opening, and to avoid the necessity of rebuilding  
15 the breast-wall when burned or injured by continued use.

Other objects and advantages of the invention will appear in the following description, and the novel features thereof will be particularly pointed out in the claims.  
20

In the drawings:—Figure 1 is a view of a breast-wall embodying my invention applied in the operative position to a glass furnace. Fig. 2 is a perspective detail view of the breast  
25 wall detached. Fig. 3 is a similar view of the support or frame-work of the breast wall. Fig. 4 is a vertical section of a portion of a glass-furnace, showing the improved breast wall arranged in the operative position with relation  
30 thereto.

Similar numerals of reference indicate like parts in all the figures of the drawings.

1 designates a glass furnace of the ordinary construction having an opening 2, through  
35 which the glass is withdrawn, and 3 represents a breast-wall embodying my invention, which is arranged below said opening 2 to support the stick or blow-pipe as it is withdrawn from the furnace and which is preferably  
40 arranged sufficiently removed from the face of the wall of the furnace to prevent communication of heat to the latter by conduction.

In the operation of glass-blowing, the stick or blow-pipe is inserted through the opening  
45 in the front of the furnace and twisted as it is withdrawn from the molten glass in order to cause a small ball or bulb of the latter to adhere to its extremity; and after the stick or blow-pipe has been withdrawn from the  
50 furnace, the boy or helper, who usually at-

tends to this portion of the work, rests the stick or blow-pipe upon the breast wall momentarily until the blower is ready to receive it; and in addition thereto, small particles or drops of the molten glass frequently fall from  
55 the ball or bulb as it is removed from the furnace and thus char the surface of the breast wall or rest. It is desirable to arrange the rear edge of the improved breast wall out of contact with the face of the furnace wall, as  
60 shown clearly in Fig. 4, to prevent the heat of the former from being communicated by conduction to the latter. The wall of the furnace remains comparatively cool during the  
65 operation, for the reason that the glass is contained in pots arranged in the furnace.

The improved breast-wall preferably consists of a metallic frame 4, which may be rectangular in shape, as shown in the drawings, and embodies an outer rim 5, which is con-  
70 nected by intersecting longitudinal and transverse bars 6 and 7. This frame is provided with depending legs or supports, of which the rear supports 8 are preferably secured permanently at their upper ends to the under side  
75 of the frame, while the front legs or supports 9 are hinged or pivoted at their upper ends to the depending ears 10, whereby the inclination of the front legs or supports may be  
80 altered, as required, to vary the inclination of the frame to suit the operator, the style of furnace, &c.

The above described frame is adapted to support the fire-bricks 11, which are arranged  
85 close together and form the refractory surface of the breast wall.

It will be understood that when the exposed or outer surfaces of the bricks become burned or injured, said bricks may be reversed or may  
90 be replaced without modifying the construction of the furnace wall and without necessitating a delay, as when the breast wall forms a part of the wall of the furnace and must be rebuilt, as in the present practice.

The improved breast-wall may be entirely  
95 removed and replaced, may be adjusted, as above described, and in addition thereto it is so constructed as to absorb less heat from contact with the molten glass, and thus prove of  
100 less annoyance to the operator.



It will be understood that various changes in the form, proportion and the minor details of construction may be resorted to without departing from the spirit of the invention or  
5 sacrificing any of the advantages thereof.

Having described my invention, what I claim is—

10 1. A removable, refractory breast wall for glass-melting furnaces, substantially as specified.

2. A refractory breast wall for glass melting furnaces, and means for adjusting the same to alter the inclination of its surface, substantially as specified.

15 3. A breast wall for glass melting furnaces having a supporting frame, and removable refractory blocks arranged thereon and form-

ing the surface thereof, substantially as specified.

4. A breast wall for glass melting furnaces 20 having a supporting frame, refractory blocks carried thereby, and rests or supports of which those at the front of the frame are adjustable, whereby the inclination of the frame may be varied, substantially as specified. 25

5. A breast wall for glass melting furnaces having a frame consisting of a rim connected by intersecting longitudinal and transverse bars adapted to support blocks having refractory surfaces, substantially as specified.

W. H. BARR. [L. S.]

In presence of—

R. W. BROWN,

NIDA M. BROWN.