

No. 652,575.

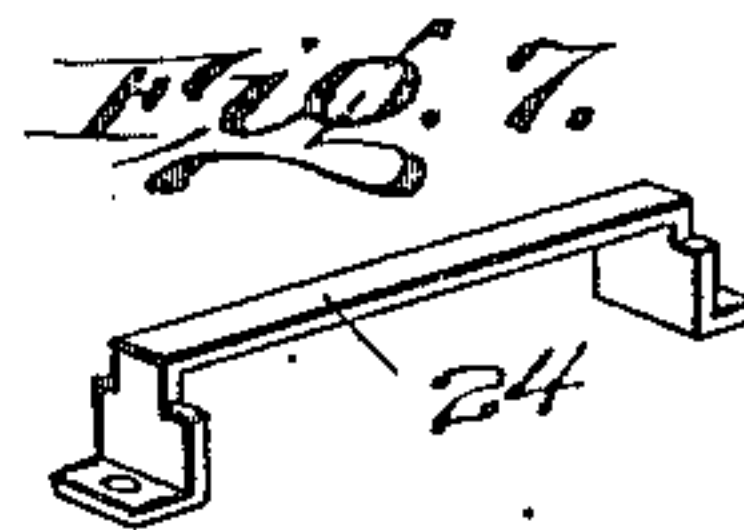
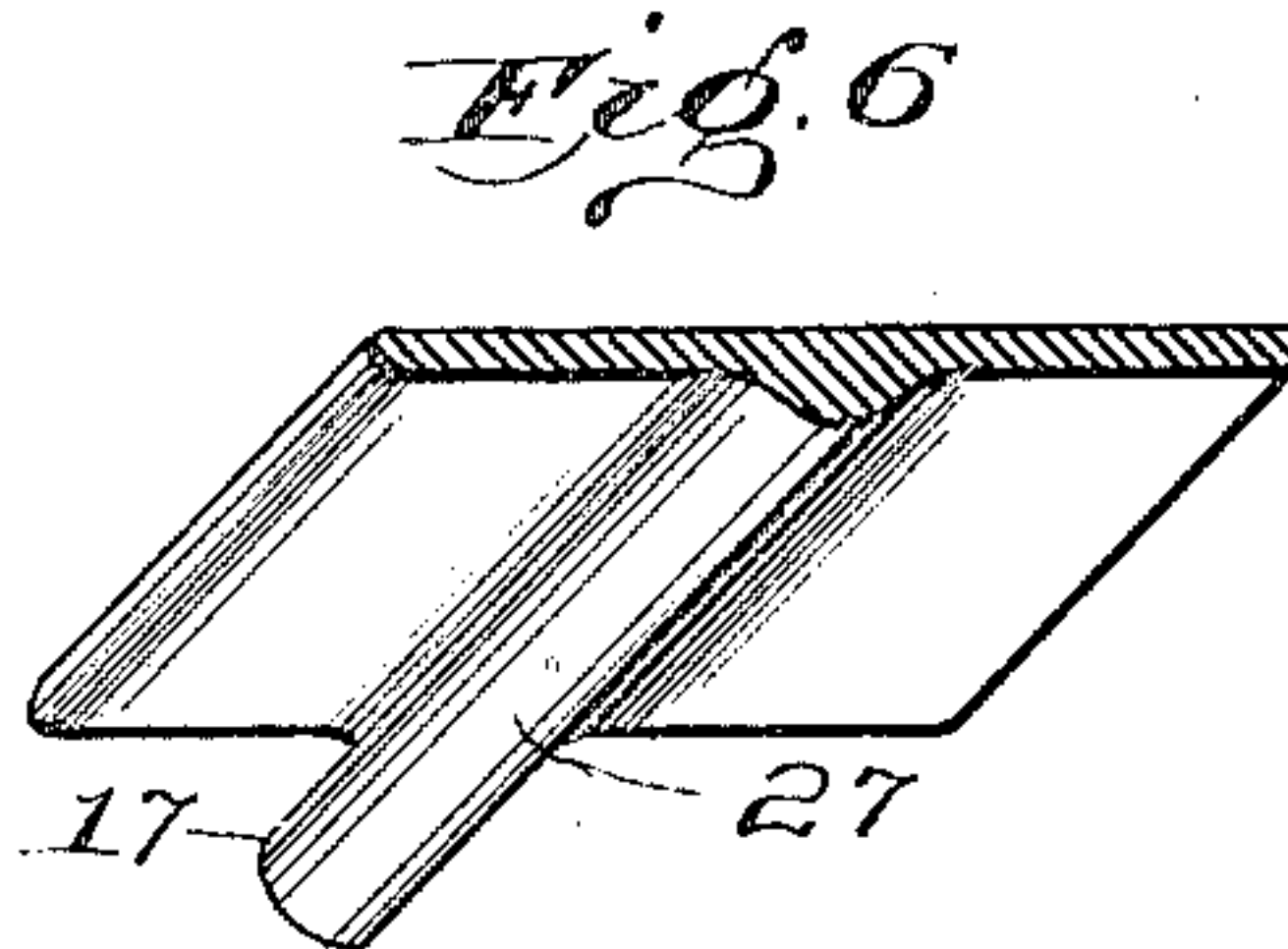
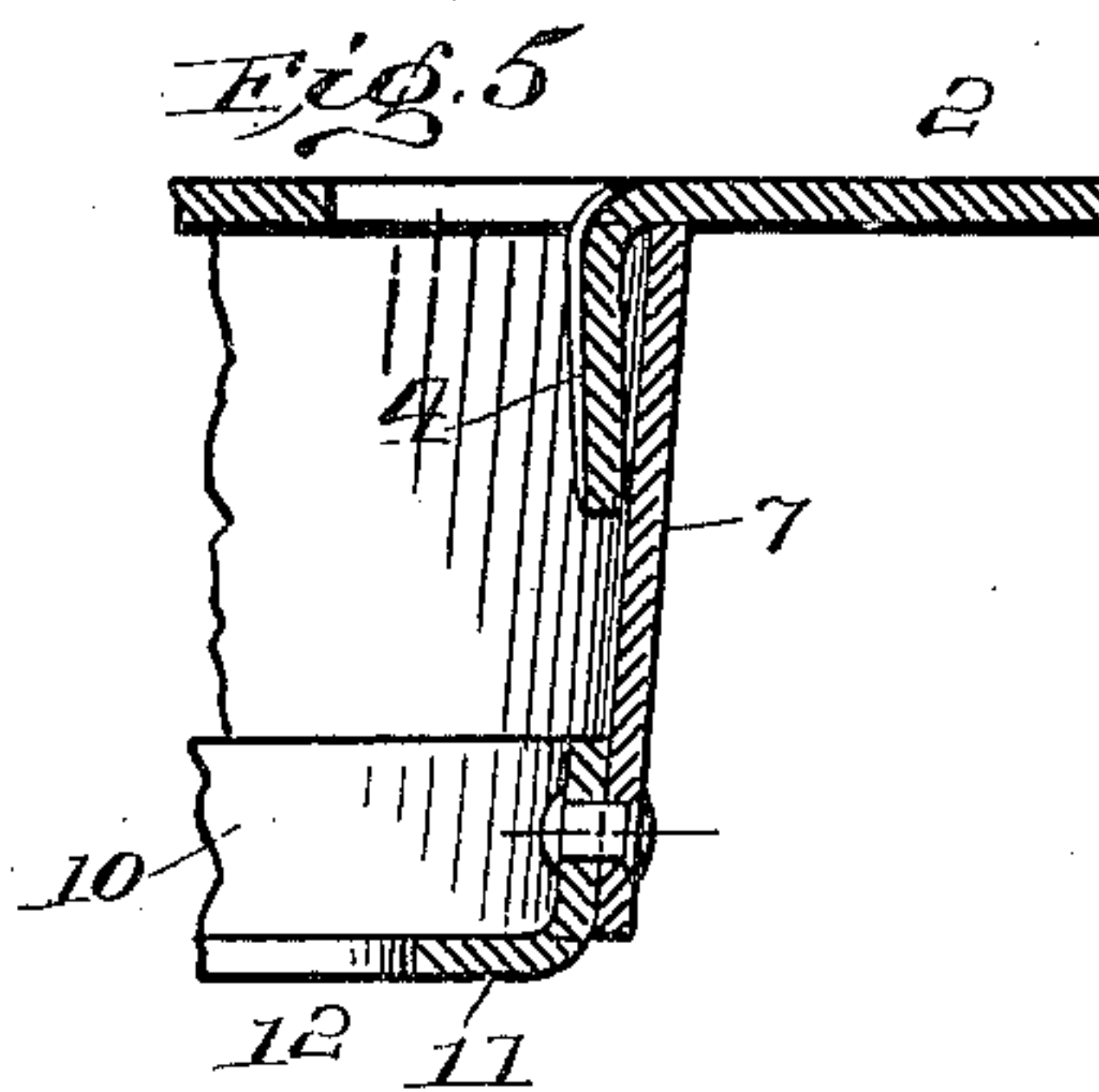
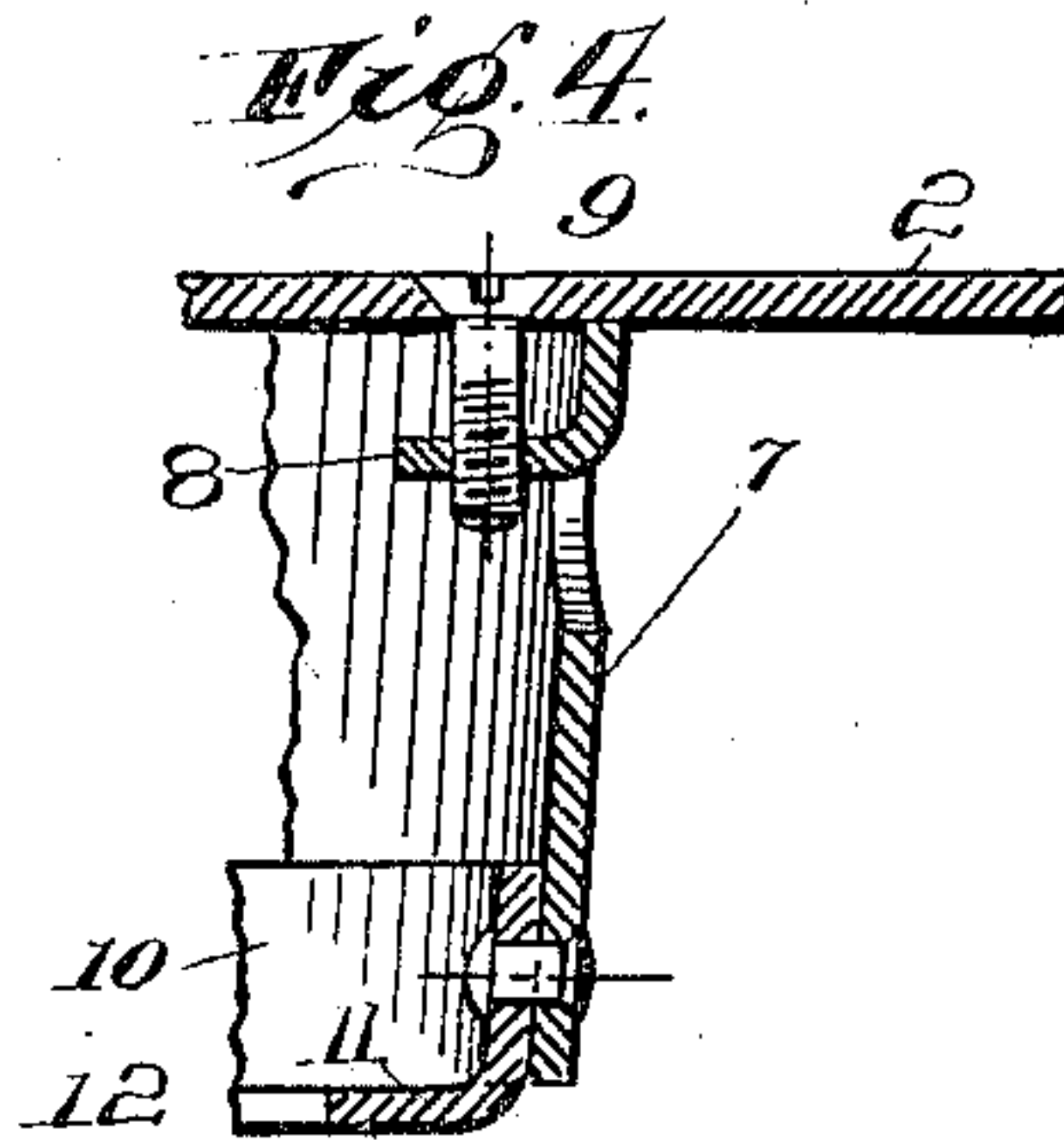
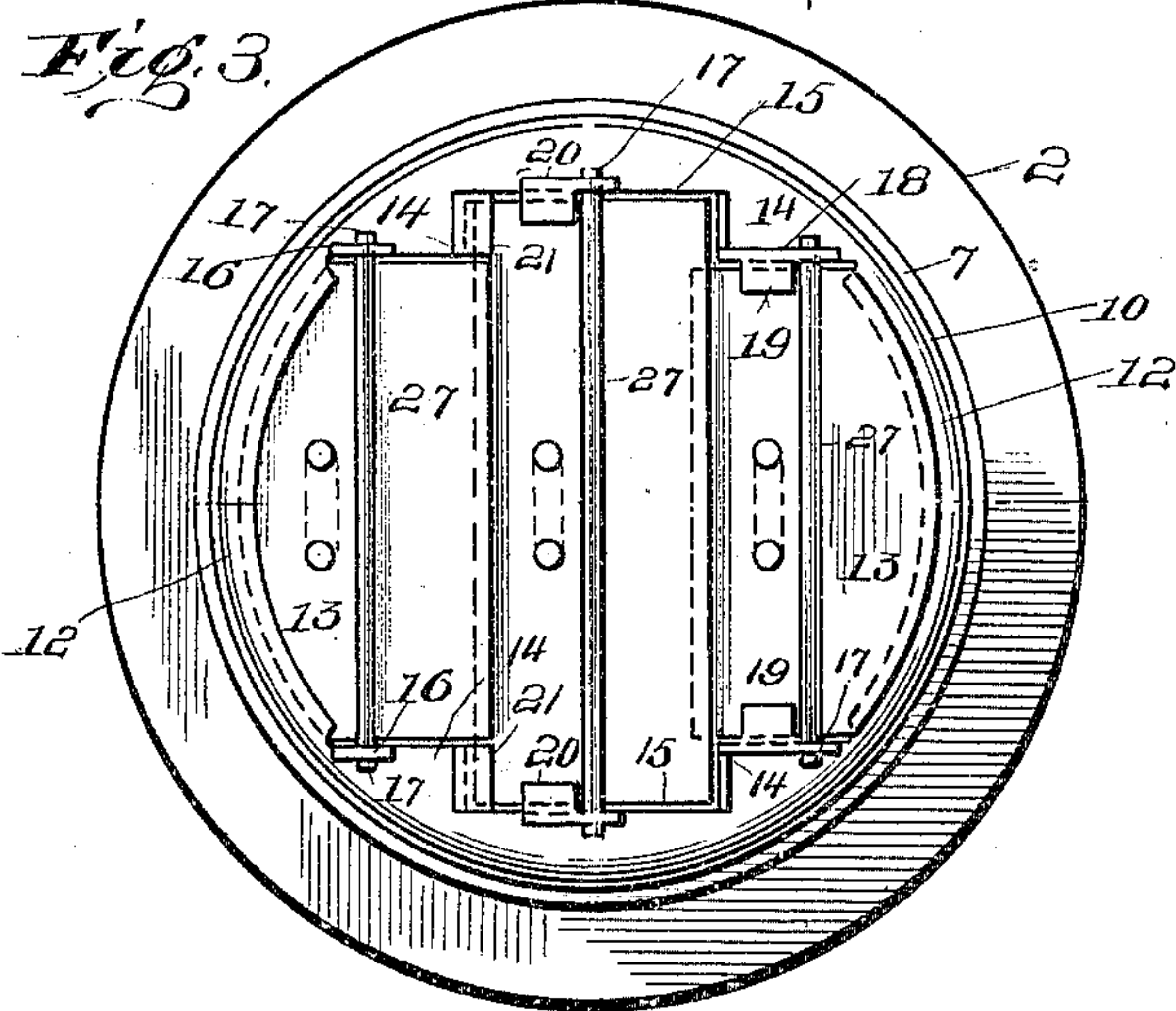
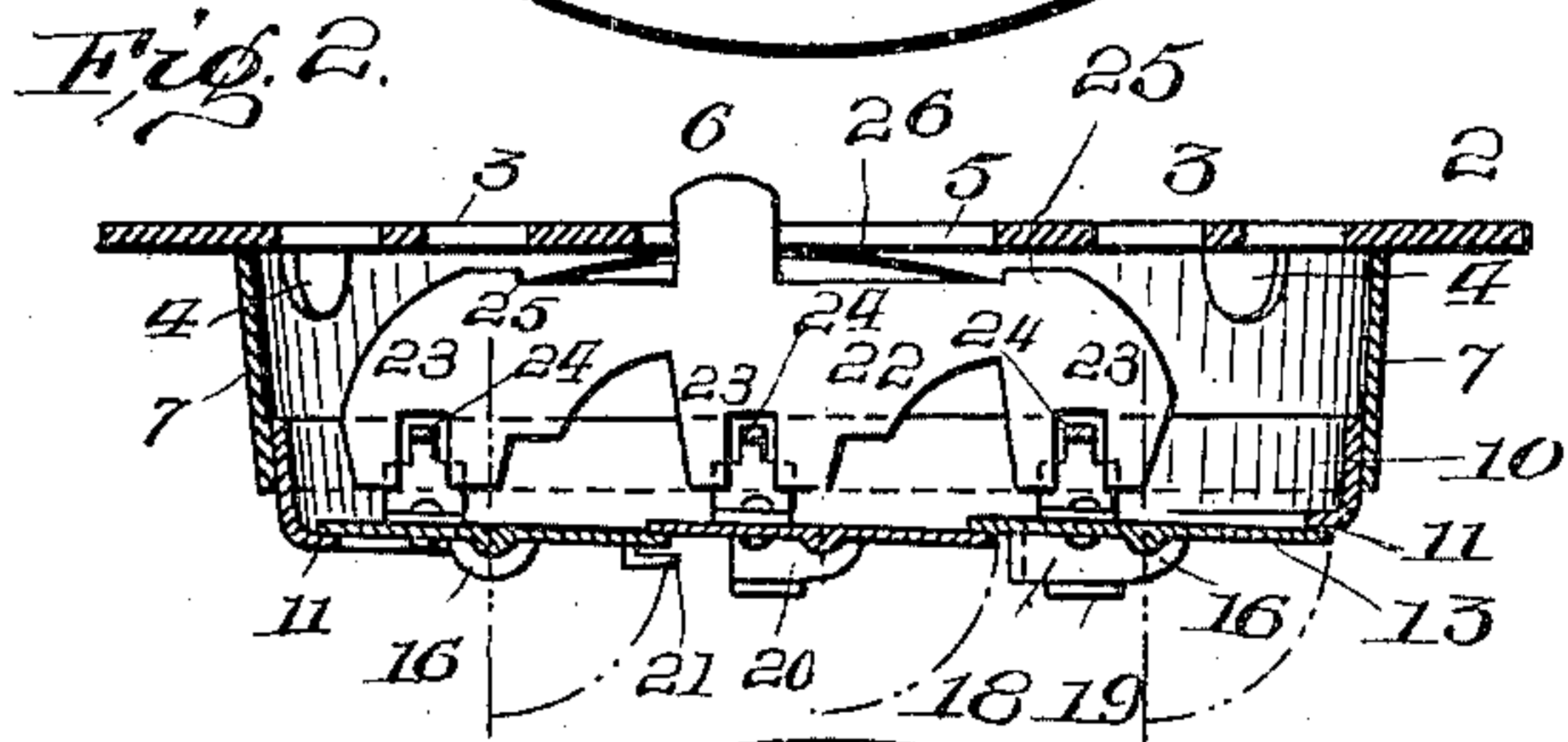
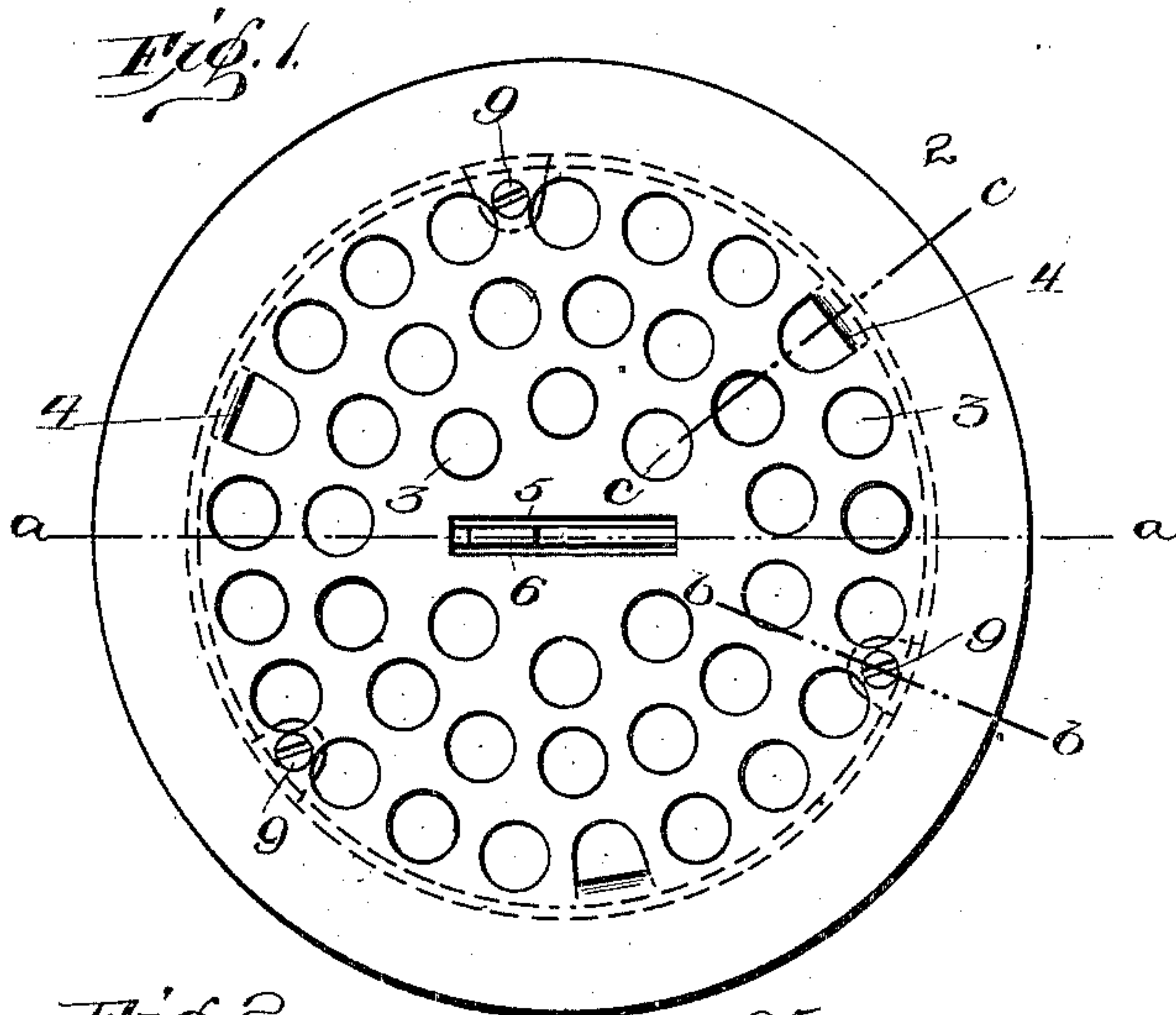
Patented June 26, 1900.

C. E. & A. R. WOLF.

HOT AIR REGISTER.

(Application filed Mar. 13, 1900.)

(No Model.)



WITNESSES:

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UNITED STATES PATENT OFFICE.

CHARLES E. WOLF AND ADAM R. WOLF, OF ALTOONA, PENNSYLVANIA.

HOT-AIR REGISTER.

SPECIFICATION forming part of Letters Patent No. 652,575, dated June 26, 1900.

Application filed March 13, 1900. Serial No. 8,521. (No model.)

To all whom it may concern:

Be it known that we, CHARLES E. WOLF and ADAM R. WOLF, citizens of the United States, residing at Altoona, in the county of Blair and State of Pennsylvania, have invented certain new and useful Improvements in Hot-Air Registers; and we do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates generally to hot-air registers, and particularly to round or circular shaped registers; and it has for its object to provide a simple, durable, and comparatively-inexpensive register of few parts, easily and quickly congregated and secured together; and it consists of the parts and combinations of parts hereinafter described and claimed.

In the accompanying drawings, forming a part of this specification, Figure 1 is a front elevation of our improved register; Fig. 2, a vertical section on the line *a a*, Fig. 1; Fig. 3, a rear elevation of the register; Fig. 4, a detail section on the line *b b*, Fig. 1; Fig. 5, a detail section on the line *c c*, Fig. 1; Fig. 6, a perspective view of a section of one of the shutters, and Fig. 7 a detail perspective view of one of the bridge-shaped cross-bars. 24.

Similar numerals refer to similar parts throughout all the views.

Referring to the drawings, the numeral 2 represents the face-plate, which is formed from a circular plate of metal having perforations 3 formed therethrough for the passage of the heated air. These perforations may be circular, as shown, or of any preferred form and arranged in any desired manner. At regular intervals apart around the plate and near its periphery are formed, by stamping or otherwise, the backwardly-extending clips 4, which serve to engage the inner face of the frame to which the plate is attached and act as guides in adjusting the plate and frame and to prevent lateral motion of said face-plate. An elongated slot 5 is formed in the center of the plate, through which the knob 6 for actuating the shutters projects.

The frame of the device consists of the circular wall 7, having the inturned lugs 8 formed therein at regular distances apart to

receive the screws or bolts 9, which secure the face-plate to the frame. To the inner face of the wall 7 is secured the bottom of the frame, which consists of the metal ring 10, riveted to said wall 7 and bent or otherwise formed with a flange 11, which projects inwardly at right angles to the vertical wall of the ring. Upon reference more particularly to Fig. 3 of the drawings it will be seen that the edge of the flange 11 is of peculiar formation, it being at diametrically-opposite points formed on the arc of a circle, as at 12, and that the edges of the flange of the remaining two sides are cut or stamped out adjacent to the ends of the circular parts 12 to form steps 14, and a rectangular recess 15 is formed between said steps. On the edges of the steps 14, at one side, are formed the lugs 16, projecting at right angles and having perforations therein to receive the trunnions 17 of one of the outer shutters 13, and on the opposite side the steps are formed with elongated lugs 18 at right angles to the flange, which are perforated to receive the trunnions of the other outer shutter 13. The lugs 18 are also bent to form stops 19, which project at right angles and extend toward each other under the said outer shutter 13 in order to limit the downward swing of said shutter, and similar lugs 20 are formed on the edge of the recess 15 for the trunnions of and to limit the swing or throw of the middle shutter. Also lugs 21 are formed at one end of the recess 15 to receive the corners of the shutters at one side thereof when the said shutter is in its closed position.

It will be noticed that one of the outer shutters rests on the inner face of the circular flange 12 and that the shutter at the other side is in contact with the outer side of said flange when said shutters are in their closed position, as shown in Figs. 2 and 3, thereby forming a close joint to prevent the passage of the heated air.

The knob 6 is preferably formed integral with the actuating-bar 22 for the shutters, said bar being formed with the bifurcated lugs 23, which engage the bridge-shaped cross-bars 24, which are secured, by riveting or otherwise, to the shutters at one side of their longitudinal axes, as shown.

On the top of the bar 22 two shoulders 25

are formed, and a flat spring 26 has its ends sprung against said shoulders and bears against the under side of the face-plate, as shown in Fig. 2, thereby holding the bar in
5 contact with said cross-bars.

The shutters are each formed with a longitudinal bead 27 at its under side in order to strengthen the same, said bead being practically a continuation of the trunnions. The
10 middle shutter is rectangular in shape and is overlapped at one side by one of the end shutters and underlapped at the other side by the other end shutter, and the outer edges of the outer shutters are formed on the arc of a circle
15 corresponding to the arc of the flange 12.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. The combination, in a hot-air register, of
20 a face-plate having clips struck thereout of at right angles thereto, a frame comprising a circular wall having perforated lugs struck thereout of and extending inwardly therefrom, a ring secured to the said wall and having
25 a flange at right angles thereto, shutters journaled to said flange, and screw-bolts for securing said face-plate to said perforated lugs.

2. The combination, in a hot-air register, of

a face-plate, a frame comprising a circular
30 wall having right-angled perforated lugs struck from its body portion to receive screw-bolts from said face-plate, a ring having an inwardly-turned flange secured to one edge
35 of said circular wall, shutters journaled to said flange, and means for actuating said shutters simultaneously.

3. The combination, in a hot-air register, of a face-plate having a central slot, a frame
40 comprising a circular wall having perforated lugs struck therefrom at right angles to receive the fastening-screws from said face-plate, a ring having an inwardly-projecting flange secured to said wall, perforated lugs
45 formed on said flange, shutters journaled in said lugs, bridge-shaped bars secured centrally of said shutters, an actuating-bar engaging said cross-bars, and a knob extending
50 through said slot for operating said actuating-bar.

In testimony whereof we affix our signatures in presence of two witnesses.

CHARLES E. WOLF.
ADAM R. WOLF.

Witnesses:

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CHAS. M. GRUNINGER.