

No. 658,165.

Patented Sept. 18, 1900.

H. SYMONDS.
HOT AIR REGISTER.
(Application filed Dec. 5, 1899.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 1.

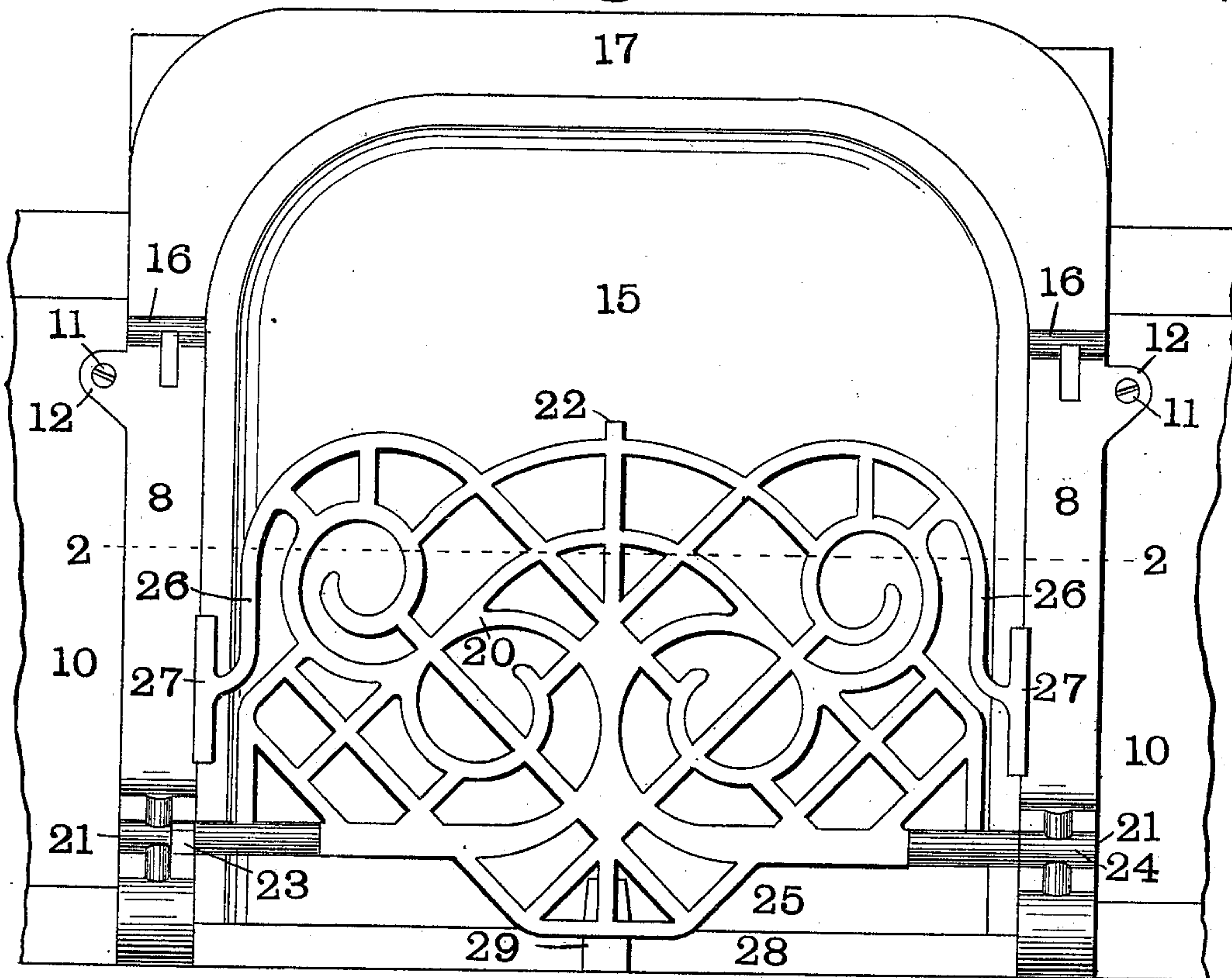
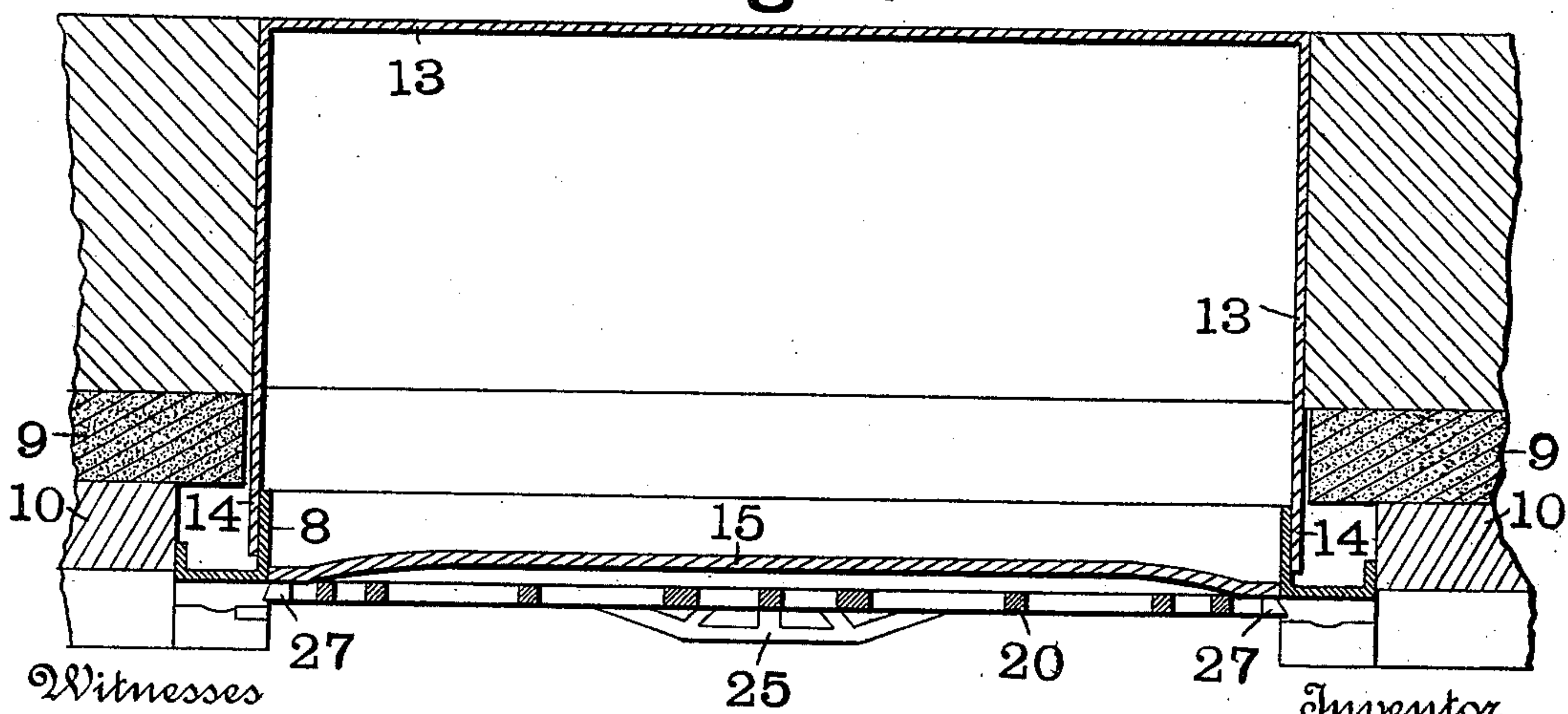


Fig. 2.



Witnesses

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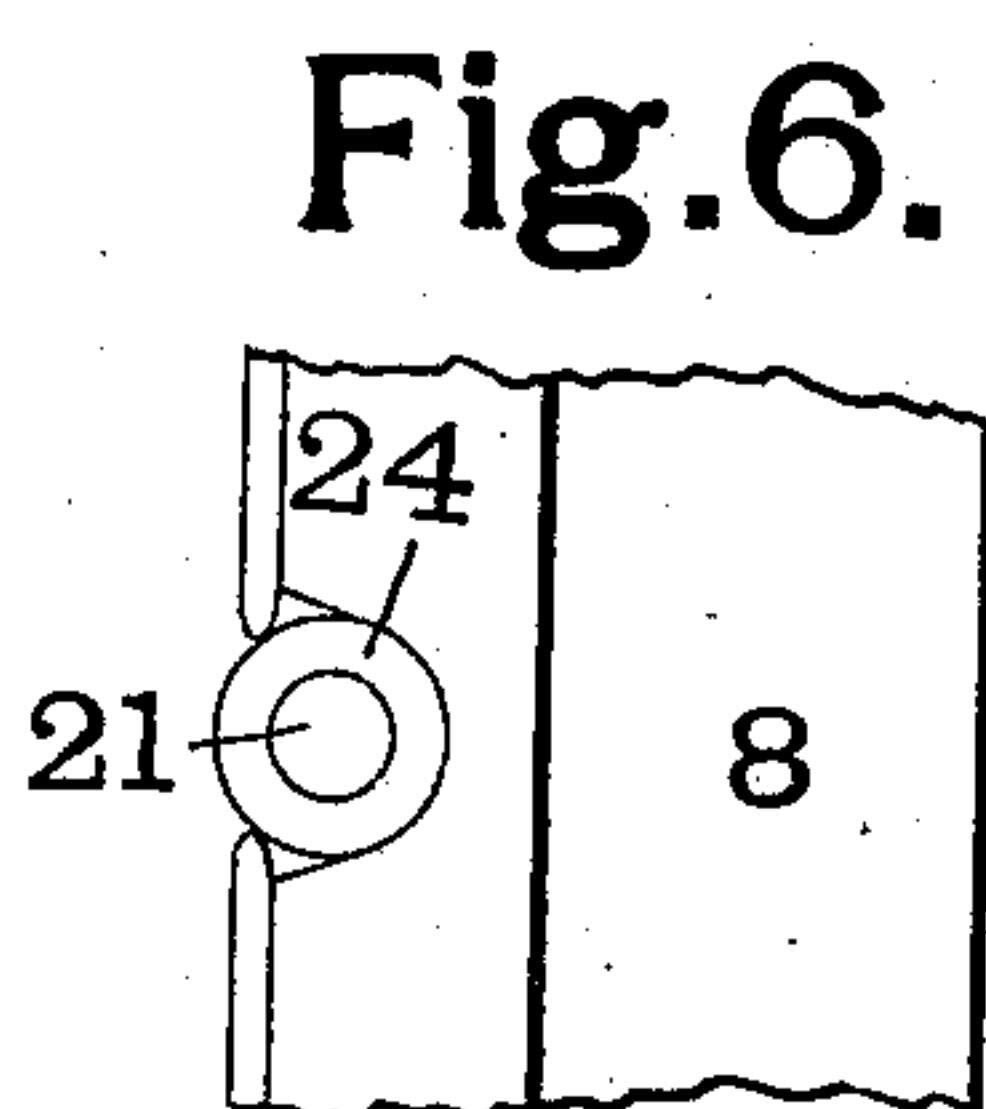
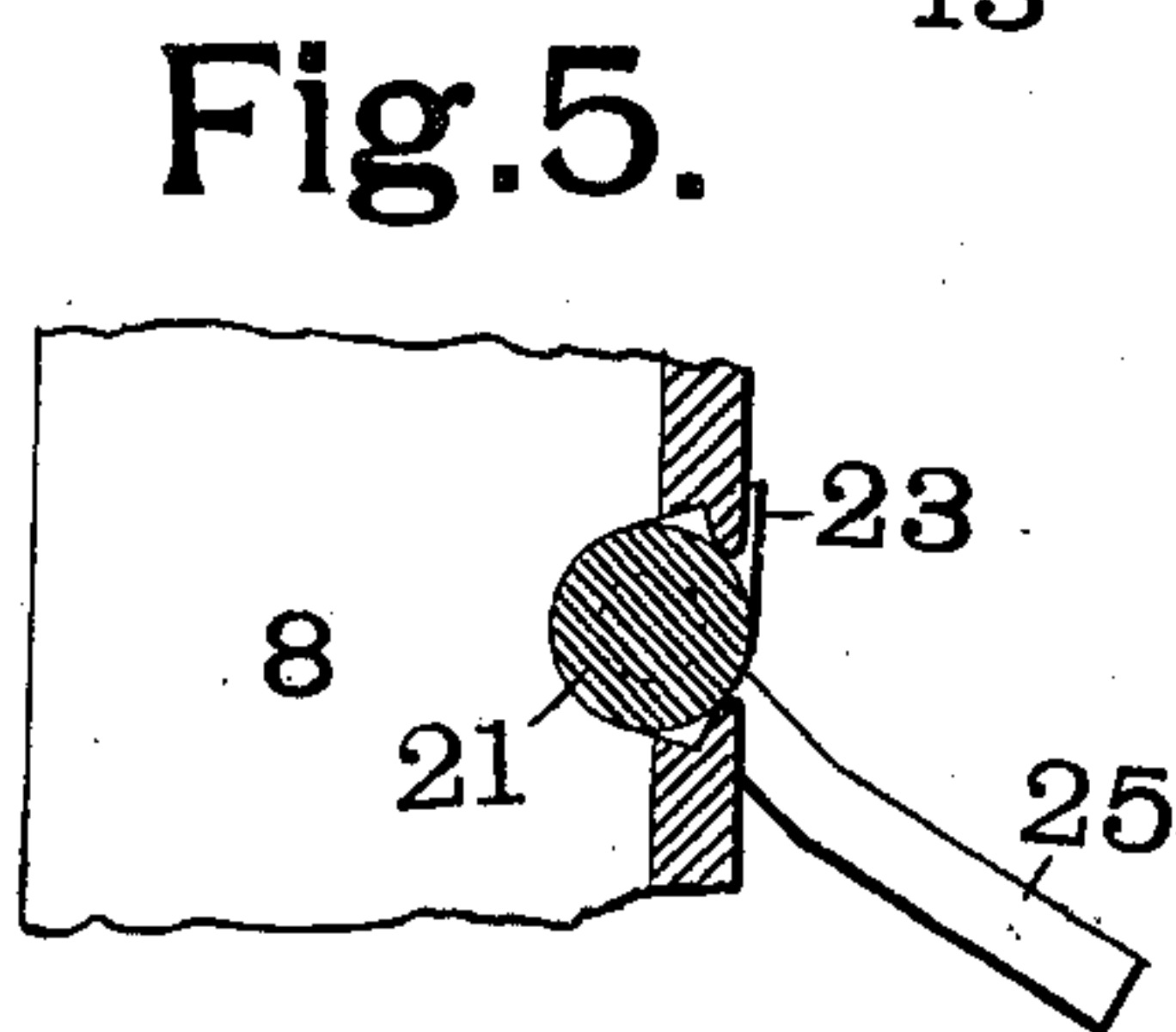
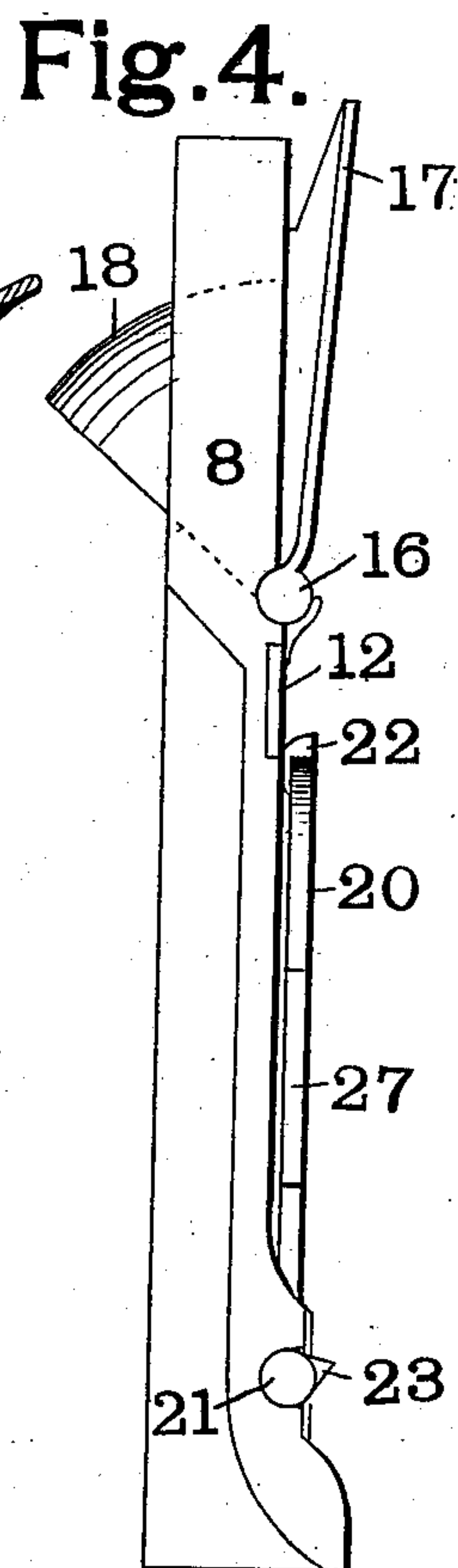
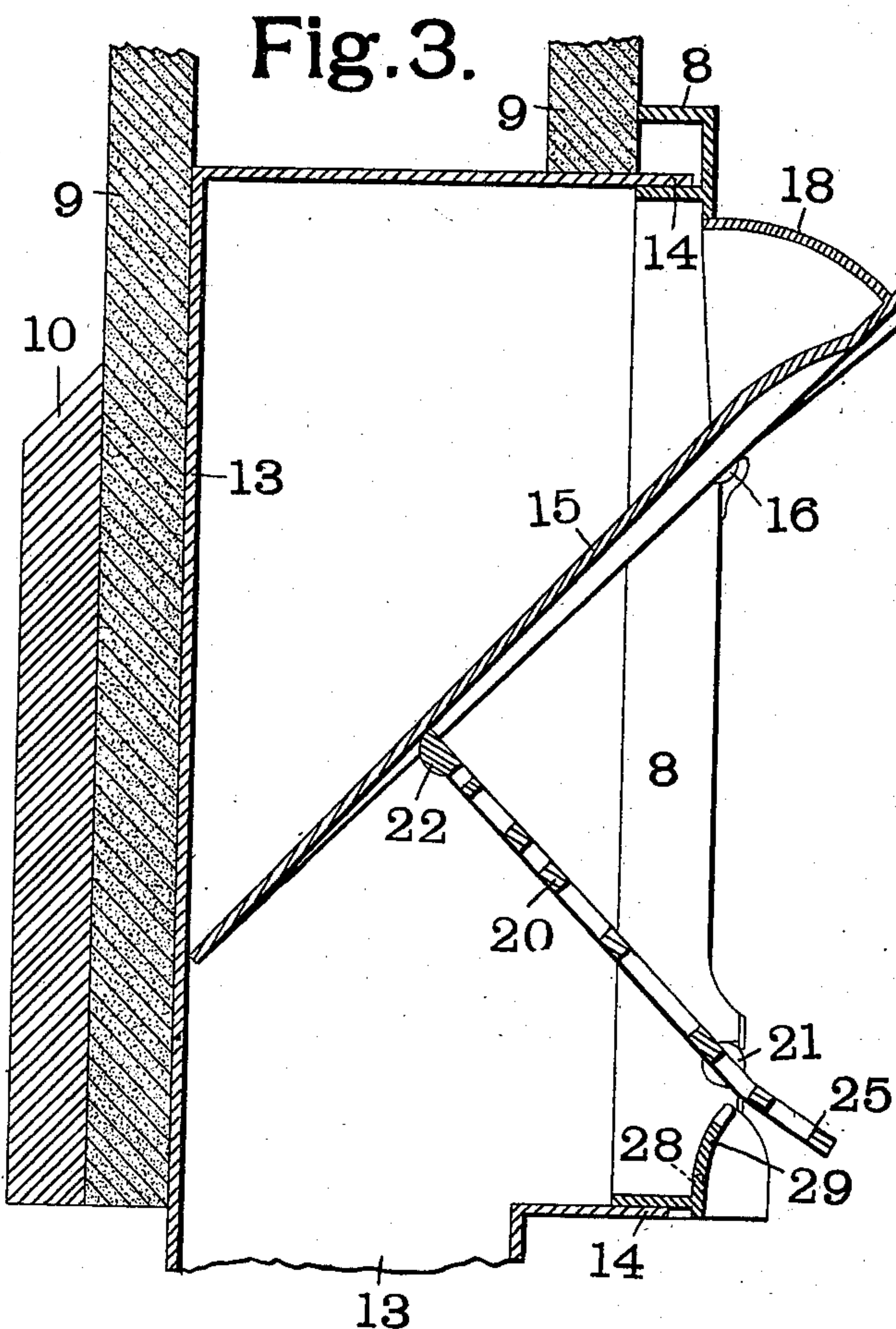
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UNITED STATES PATENT OFFICE.

HERBERT SYMONDS, OF EAST ST. LOUIS, ILLINOIS, ASSIGNOR OF ONE-FOURTH TO ARTHUR FREDERICK SYMONDS, OF SAME PLACE.

HOT-AIR REGISTER.

SPECIFICATION forming part of Letters Patent No. 658,165, dated September 18, 1900.

Application filed December 5, 1899. Serial No. 739,251. (No model.)

To all whom it may concern:

Be it known that I, HERBERT SYMONDS, a citizen of the United States, residing at the city of East St. Louis, St. Clair county, Illinois, have invented a certain new and useful Hot-Air Register, of which the following is such a full, clear, and exact description as will enable any one skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, forming a part of this specification.

My invention relates more particularly to a hot-air register adapted to be placed against the wall of a room, and it is preferably set into the base-board, so as to bring the bottom of the register substantially on a level with the floor of the room.

My invention consists in part in a hot-air register having a single valve adapted to deflect the entire discharge of air into the room.

My invention also consists in part in a hot-air register having a valve carried by a frame and a shield for preventing the escape of air between the top of said frame and said valve.

My invention also consists in part in the combination, with a pivotally-mounted valve, of a pivotally-mounted grating adapted to operate said valve.

My invention also consists in various other novel features and details of construction, all of which are described in the following specification and pointed out in the claims affixed hereto.

In the accompanying drawings, which illustrate one form of register made in accordance with my invention, Figure 1 is a front elevation showing the register closed and placed in position against the wall. Fig. 2 is a section on the line 2 2 of Fig. 1. Fig. 3 is a vertical section showing the register completely open, said section being central except as to the grating. Fig. 4 is a side elevation showing the register removed from its position against the wall. Fig. 5 is an enlarged sectional view showing a detail of construction, and Fig. 6 is an enlarged side elevation showing a detail of construction.

Like marks of reference refer to similar parts in the several views of the drawings.

8 is the frame of the register, which is preferably placed so as to come against the plastering 9 and to have the base-board 10 abut against its ends, as best shown in Figs. 1 and

2. The frame 8 is preferably held in position by means of screws 11, passing through lugs 12 on said frame and into the base-board 10.

13 is the hot-air conduit, which is provided with forwardly-projecting flanges 14, which project between two rearwardly-projecting flanges of the frame 8, as best shown in Figs. 2 and 3.

15 is a valve which is pivoted at 16 in the frame 8. The valve 15 is provided at its top with a forwardly and upwardly projecting hood 17 and with a shield 18, which is curved in the arc of a circle having its center at the pivot 16. This shield 18 closes the space between the upper part of the frame 8 and the valve 15 in the various positions which the valve can assume.

20 is a grating which is pivoted in the frame 8 at 21. The grating 20 has a curved portion 22 at its upper part which bears against the valve 15 and enables the said grating 20 to operate the said valve. The pivot 21 of the grating 20 is provided with a stop 23, which limits the further movement of said grating when it has reached the position shown in Fig. 3 of the drawings. The pivot 21, at the side opposite the stop 23, is made small at the end, so as to readily slip into or out of the bearing in the frame 8. In order to prevent the withdrawal of the pivot 21, a sleeve 24 is provided, which fits over the end of the pivot 21 and prevents its removal. The sleeve 24 is shown in detail in Fig. 6. It will be seen that this furnishes a simple and easy manner of inserting and withdrawing the grating 20, as by removing the sleeve 24 the pivot 21 at that end of the grating can be drawn out to the front and the other pivot 21 can then be removed by moving the grating longitudinally. At the lower part of the grating 20 is an outwardly-projecting portion 25, which enables the grating 20 to be closed after it has been opened.

26 are arms carried by the grating 20 and provided with contact-pieces 27, which bear against the inner sides of the frame 10 and hold the said grating 20 in any desired position. As the arms 26, like the rest of the grating 20, are formed of metal they have a slight spring which enables them to hold the contact-pieces 27 firmly against the inner sides of the frame 8. At the lower part of

the frame 8 is a cross-piece 28, against which the lower end of the valve 15 strikes when said valve is in its closed position.

29 is an arm which projects upwardly from the cross-bar 28. The arm 29 is notched at its upper end, as best shown in Fig. 3, so as to engage the lower part of the grating 20 and prevent lateral movement of said grating when it is in its closed position.

In operating my register the upper part of the grating 20 is forced inwardly to open the register. This throws the lower end of the valve 15 inwardly and the upper end of said valve outwardly, forming an inclined plane which deflects the air outwardly into the room. The contact-pieces 27 are held firmly against the inner sides of the frame 8 by means of the spring-arms 26, and consequently frictionally hold the grating 20 in any desired position between that shown in Fig. 3 and its completely-closed position. The shield 18 closes the space between the top of the frame 8 and the valve 15 in all positions of the said valve, and thus prevents the air from escaping at the top of the frame and discoloring the wall adjacent thereto. When the valve 15 is entirely open, as shown in Fig. 3, it deflects the entire discharge of air into the room, allowing none of it to escape between it and the rear wall of the hot-air conduit 13. When the grating 20 is in the position shown in Fig. 3, it is firmly held by means of the stop 23 and can be used as a foot-rest. As it is directly over the discharge of hot air, it makes a very effective foot-warmer.

It will be seen that while my register is simple of construction it is very effective and will prevent the wall and adjoining wood-work from being discolored, as is the case with ordinary registers.

I am aware that registers have been heretofore made in which a pivoted valve was so used as to allow part of the air to pass up behind, so as to escape at the top of the frame, and that said valve was pivoted with a grating which extended between it and the top of the frame, and therefore disclaim such construction.

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. In a hot-air register or the like, a substantially-vertical frame, an air-conduit leading to said frame, a valve horizontally pivoted in said frame at a point intermediate of its height to deflect the air from said conduit, whereby when said valve is open its upper part will project in front of said frame and its lower part to the rear thereof, and means for closing the space between the upper part of said valve and said frame.

2. In a hot-air register or the like, a substantially-vertical frame, an air-conduit leading to said frame, a valve horizontally pivoted in said frame at a point intermediate of its height to deflect the air from said conduit, whereby when the said valve is open its upper part will

project in front of said frame and its lower part to the rear thereof, and a shield carried by said valve for closing the space between the upper part thereof and said frame.

3. In a hot-air register or the like, a frame, a valve horizontally pivoted in said frame at a point intermediate of its height, whereby when said valve is open its upper part will project in front of said frame and its lower part to the rear of said frame, a shield for closing the space between said valve and the upper part of said frame, and a forwardly-projecting hood carried by said valve above said shield.

4. In a hot-air register or the like, a frame, a single valve horizontally pivoted in said frame, and a grating horizontally pivoted in said frame below said valve to swing in the path of the air deflected by said valve.

5. In a hot-air register or the like, a frame, a valve horizontally pivoted in said frame, a grating horizontally pivoted in said frame below said valve to swing into the path of the air deflected by said valve, and a stop for positively limiting the movement of said grating.

6. In a hot-air register or the like, a frame, a valve horizontally pivoted in said frame, and a grating horizontally pivoted in said frame to actuate said valve.

7. In a hot-air register or the like, a frame, a valve horizontally pivoted in said frame, a grating also horizontally pivoted in said frame to operate said valve, and means for retaining said grating in the desired position.

8. In a hot-air register or the like, a frame, a valve horizontally pivoted in said frame, a grating also horizontally pivoted in said frame to actuate said valve, and frictional means for retaining said grating in the desired position.

9. In a hot-air register or the like, a frame, a valve horizontally pivoted in said frame at a point intermediate of its height, whereby when said valve is open its upper part will project in front of said frame and its lower part in the rear thereof, means for closing the space between the upper part of said valve and said frame, and a grating horizontally pivoted in said frame to operate said valve.

10. In a hot-air register or the like, a frame, a valve horizontally pivoted in said frame, and a grating horizontally pivoted in said frame so that its upper part will bear against said valve and actuate the same.

11. In a hot-air register or the like, a frame, a valve horizontally pivoted in said frame, a grating horizontally pivoted in said frame to actuate said valve, and spring-contact pieces carried by said grating and adapted to bear against said frame and hold said grating in the desired position.

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

HERBERT SYMONDS. [L. S.]

Witnesses:

ARTHUR FREDERICK SYMONDS,
W. A. ALEXANDER.