J. H. BAILEY.

REGISTER.

APPLICATION FILED JULY 25, 1911.

1,054,266.

Patented Feb. 25, 1913.

2 SHEETS—SHEET 1.

Fig. 1.

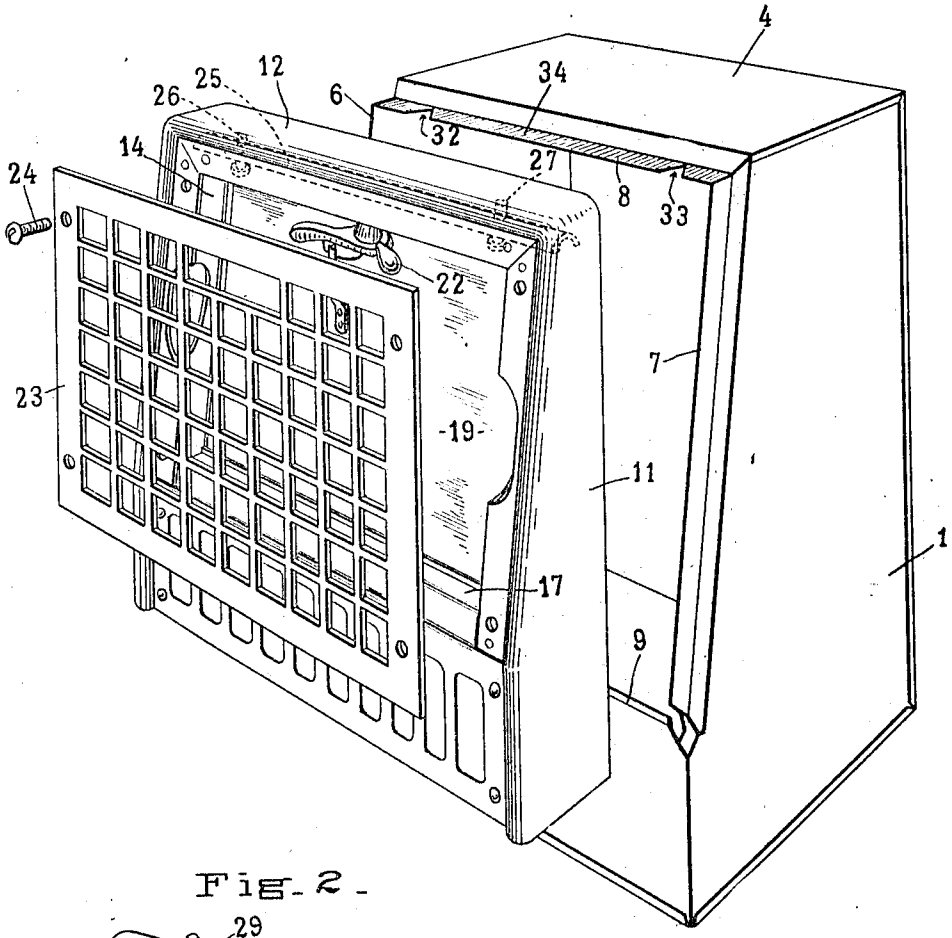
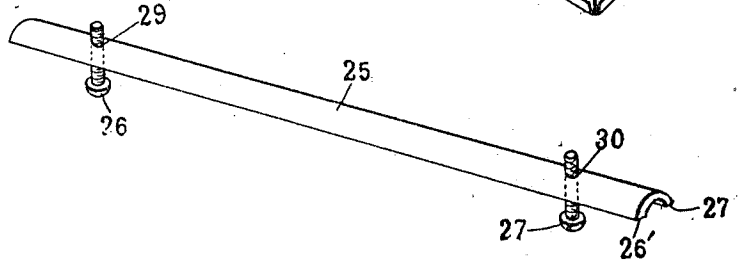


Fig. 2.



WITNESSES

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2 SHEETS—SHEET 2.

Fig. 3.

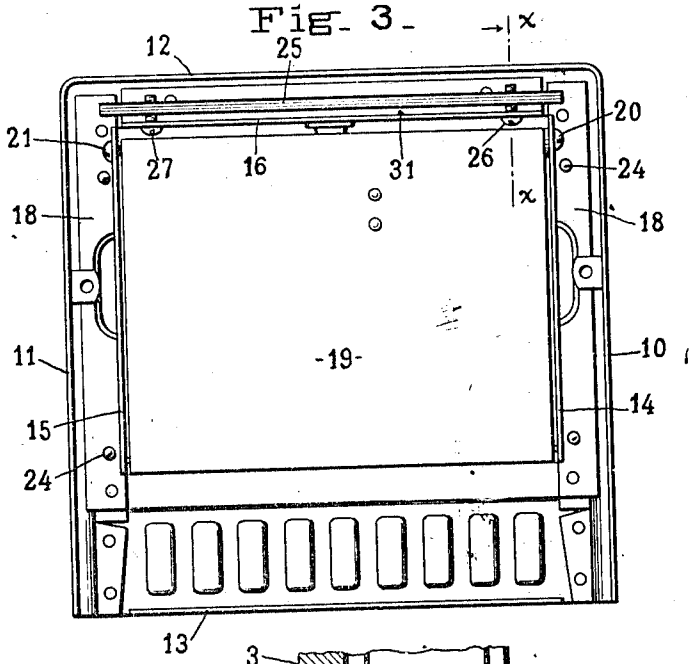


Fig. 4.

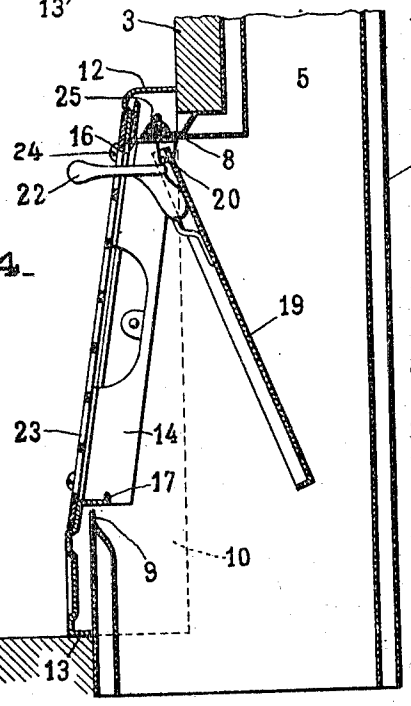
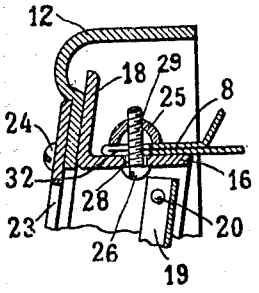


Fig. 5.



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UNITED STATES PATENT OFFICE.

JAMES HOWARD BAILEY, OF NEW YORK, N. Y.

REGISTER.

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Application filed July 25, 1911. Serial No. 640,381.

To all whom it may concern:

Be it known that I, JAMES H. BAILEY, a citizen of the United States, and resident of New York, in the county of Kings and State of New York, have invented certain new and useful Improvements in Registers, of which the following is a specification.

My invention relates to heating and ventilating appliances and particularly to what are commonly termed baseboard registers. These constructions are compact and enable larger flues to be employed in a given thickness of wall than with the common type of side-wall register. The flanges of a baseboard register however, by reason of their method of construction, are usually rather narrow and difficulties have been encountered due to the leakage of hot air particularly at the top of the register. No matter what care is taken in the filtration and purification of the air supply a certain amount of finely divided dust is sometimes present and rising with the heated air is likely to leak out around the top of the register particularly when the register is "closed" and as a result discolors the wall immediately adjacent thereto.

It is the main object of my invention to wholly prevent this discoloration.

Another object is to provide means independent of the face plate, which will also secure the register in place.

Another object is to provide means of the character mentioned which is readily accessible from the front of the register for adjustment.

Another object is to provide means of the character described which is adapted to cooperate with a flue box and is of such a nature as to adapt itself to variations in the height of the upper edge of the flue box, variations in its extent of projection and which is generally applicable to any of the usual forms of flue boxes and irrespective of the thickness of the metal.

In its preferred form the invention briefly may be said to consist of the provision of an adjustable bar by means of which the upper edge of the flue box may be readily clamped to a flange of the register. This bar is preferably clamped by means of one or more screws and the edge of the flue box is notched to accommodate the screws. It will be obvious to those skilled in the art that modifications in the construction shown may be made without departing from the spirit or scope of my invention as set forth in the claims.

In the drawings Figure 1, is a perspective view showing a flue box and a register separate, the face plate of the register being separated from the register frame. Fig. 2, is a perspective detail view of the movable member of the clamping device. Fig. 3, is a rear view of the register showing the parts of the clamp separated ready for application to a flue box. Fig. 4, is a vertical sectional view showing the register and box installed in place at the junction of a side-wall and floor. Fig. 5, is an enlarged sectional view showing the clamp on the plane of the line X X of Fig. 3.

The flue box or frame 1 containing the air outlet, in the form of the invention shown, is located at the junction of the floor 2 and the side wall 3, the baseboard being usually cut out to accommodate it. This flue box may be the upper end of the flue in which case the top 4 will be closed as shown in Fig. 1 or the flue 5 may extend up beyond the box as shown in Fig. 4. The outlet is bounded by the side flanges 6 and 7, the upper flange 8 and the lower flange 9. In the form shown the box has a double wall with an air insulating space as is common in this art but it should be understood that the invention is applicable to any form of box or wall frame. The term "flue box" will be employed as a generic term to cover any form of construction having an outlet for the purpose specified.

The register frame has side flanges 10 and 11, a top flange 12 and a bottom flange 13 all of which project rearwardly. The top and side flanges usually fit against the wall and the bottom flange rests on the floor against the front of the flue box. The opening in the register is surrounded at the back by side flanges 14 and 15, a top flange 16 and a bottom flange 17 all projecting rearwardly and substantially parallel with the outer flanges of the register. In the form shown herein the side and top flanges 14, 15 and 16 have bases such as 18 riveted or otherwise suitably secured to the back of the register frame. The register flanges 14, 15, 16 and 17 all fit inside of the flanges 6, 7, 8 and 9 of the flue box and the register flanges 10, 11, 12 and 13 surround the flanges of the flue box.

The main valve or fan or vane 19 is hung on the pivots 20 and 21 in the side flanges 14, and 15 is opened and closed by means of a suitable operating member 22. When closed the lower edge of the valve engages the flange 17 of the register frame between the side flanges 14 and 15. The face plate 23 is preferably removably secured to the register frame in a suitable manner for instance, by means of one or more screws such as 24.

The movable part of the clamping device is preferably in the form of a bar 25 (see Fig. 2) inverted U-shaped in cross section so as to afford gripping edges 26′ and 27′ running the entire length. This bar is located above the inner top flange 16 of the register frame and its ends extend laterally beyond the side inner flanges 14 and 15 as shown in Fig. 3. Screws 26 and 27 pass freely through openings such as 28 (see Fig. 5) in the register flange 16 and are screwed into tapped holes 29 and 30 respectively in the clamping bar. When the screws 26 and 27 are partially retracted from the bar 25, the bar may be lifted away from the flange 16 so as to leave a space 31 to receive the upper flange 8 of the flue box. The bar 25 may be lifted by upward pressure under the screw heads 26 and 27. The height of the opening 31 may be varied by adjustment of the screws 26 and 27. The screws 26 and 27 are readily accessible from the front of the register frame and more readily when the face plate 23 is detached.

When the movable bar 25 of the clamping device has been raised sufficiently, the register may be applied to the flue box flanges, the upper flange 8 of the flue box fitting beneath the clamping bar 25, the side flanges 14 and 15 fitting outside of the flanges 6 and 7 of the flue box and a flange 13 fitting against the flange 9. The screws 26 and 27 may then be tightened so as to securely clamp the upper flange or edge 8 of the flue box against the flange 16 of the register frame. It is thus impossible for any dirt or dust to leak out the top of the box and escape beneath the outer flange 12 of the register frame and discolor the wall 13 adjacent thereto.

The upper edge 8 of the flue box may be notched as at 32 and 33 to admit the clamp screws 26 and 27. The edge 8 may also be roughened as at 34 to afford a better gripping surface. It will be seen that the exact amount of projection of the flange 8 of the flue box is unimportant as long as it projects sufficiently to be engaged by one or both edges of the clamping bar. So also it will be obvious that the thickness of the edge of the flue box is unimportant on account of the fact that the construction permits of the vertical adjustment of the clamping bar. So also the exact height of the flange 8 from the floor is unimportant as it may be bent upward or downward either before or after the application of the clamping device so as to bring it to the right height from the floor. It will also be noted that the attachment of the register frame to the flue box is independent of the presence or absence of the face plate of the register. The face plate may therefore be removed or replaced without disturbing the register.

What I claim is:

1. In a register, a rearwardly projecting flange, a clamping member movable relative thereto and having two clamping edges spaced apart from each other and means for moving said clamping member.

2. In a register, a rearwardly projecting flange, a clamping member movable relative thereto and having two clamping edges spaced apart from each other and a screw for passing through said flange and into said clamping member between the clamping edges.

3. In a register, a rearwardly projecting flange with perforations, a clamping bar to coöperate therewith and having tapped holes, and screws passing freely through the perforations in said flanges and engaging in the tapped holes in said bar, whereby said bar may be moved away from said flange by pressure on said screws or drawn toward said flange by rotating said screws.

4. In a register, a frame having a clamping flange, a removable face plate, a clamping member independent of the face plate and screws concealed by said frame and face plate for moving said clamping member toward said clamping flange.

5. In a register, a rearwardly projecting flange with a perforation, a clamping member normally supported by said flange having a tapped hole and a screw passing through the perforation in said flange and screwed into the tapped hole in said clamping member.

6. In a register, inner and outer rearwardly projecting top and side flanges providing horizontal and vertical channels respectively and movable clamping means for securing the upper edge of a flue box in said horizontal channel and preventing the leakage of dust back of the outer top flange of the register.

7. Apparatus of the character described comprising the combination of a flue box having a projecting edge, a register having a projecting flange and adjustable clamping means for clamping said projecting edge of said flue box against said projecting flange of said register frame and preventing leakage of dust.

8. Apparatus of the character described comprising the combination of a flue box having a projecting edge, a register having a flange, a movable clamping member and

a screw for moving said clamping member for clamping said edge against said flange, said edge being notched to allow for said screw.

9. Apparatus of the character described comprising the combination of a flue box having a projecting edge, a register, and a movable clamping bar extending across said edge for clamping the entire edge against said register and forming a tight joint to prevent leakage of dust and a screw for moving said bar.

10. Apparatus of the character described comprising the combination of a flue box having a projecting edge, a register having a frictional clamp consisting of a stationary member and a movable member, said clamp securing the register to the box and sealing the joint between the two.

11. In a register, a frictional device consisting of two members one of which is movable relative to the other to respectively bear directly against both the upper and lower surfaces of an integral portion of a flue box for holding the register in place and preventing the leakage of air.

12. In a register, a frictional clamp consisting of two members for directly engaging and clamping the upper and lower surfaces of an integral part of a flue box, one of said members being movable.

13. In a register, a projecting flange and a movable clamping bar carried by the register and channel-shape in cross section whereby two clamping edges are provided and means for clamping said bar toward said flange.

14. In a register, a projecting flange and a movable clamping bar carried by the register and channel-shape in cross section whereby two clamping edges are provided and a screw passing through said bar between its clamping edges for moving said bar.

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Witnesses:

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