

June 23, 1931.

G. F. GEHRI

1,811,231

WARM AIR REGISTER SEAL

Filed April 23, 1929

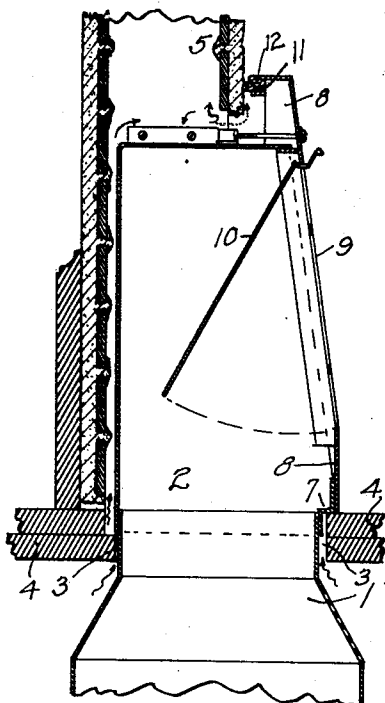


Fig. 1.

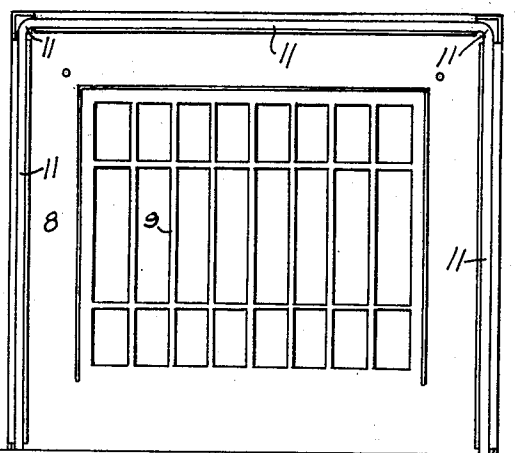


Fig. 2.

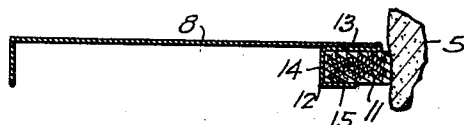


Fig. 3.

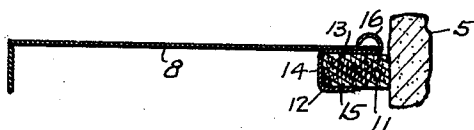


Fig. 4.

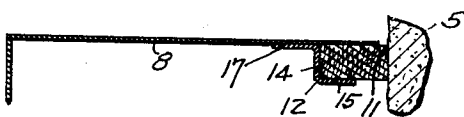
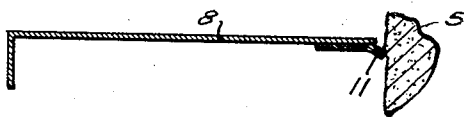


Fig. 5.

Fig. 6.



Inventor

George F. Gehri

334

P. J. Elliott

Attorney

UNITED STATES PATENT OFFICE

GEORGE F. GEHRI, OF TACOMA, WASHINGTON

WARM AIR REGISTER SEAL

Application filed April 23, 1929. Serial No. 357,578.

This invention relates to warm-air-registers and has special reference to those types of registers known as baseboard registers and wall registers. The objects of my invention are, first, to provide a means of preventing the escape of smoke and dust adjacent to the room wall, thereby preventing the soiling of the wall from this cause; second, to guard against the escape of such smoke and dust which come from the warm-air pipe, as well as that which has entered the wall through the floor opening around the boot of the register; third, to provide a holder for such sealing means; and fourth, to provide a seal which is cheap to make, easy to apply, and effective in use.

I attain these and other objects by the devices and arrangements illustrated in the accompanying drawings, in which—

Fig. 1 is a vertical section of a warm-air-register in use, showing my seal applied thereto; Fig. 2 is a rear elevation of the register frame, the shutter thereof having been removed; Figs. 3, 4, 5 and 6 are sections of four forms of my invention in which Fig. 3 shows a seal holder formed integral with the register frame, as in Figs. 1 and 2, Fig. 4 shows the seal holder as a separate unattached piece, Fig. 5 shows the seal holder as a separate attached piece, and Fig. 6 shows the seal cemented to the register frame.

Similar numerals of reference refer to similar parts throughout the several views.

The boot 1, connecting the warm-air-pipe from the furnace with the register box 2, passes through a hole 3, in the floor 4, which is necessarily made larger than the top of said boot. Since all the parts are kept at a warm temperature, when the furnace is in use, it is evident that there is a constant tendency for an upward draft to pass through the hole 3 in the floor 4 and that, therefore, any smoke or dust which approaches the said hole 3 is drawn up thereby into the wall 5 around the register box 6, as indicated by the wavy arrows in Fig. 1.

The base of the register box 2 fits down around the neck of the boot 1 and is usually provided with a front shoulder or flange 7 which rests on the floor 4. The box 2 is se-

cured into the wall 5 by any suitable means, such as screws entering the studding or other parts of the wall 5. The box 2 has, of course, an opening in its face through which the warm air passes into the room.

This opening in the face of the box 2 is covered by the register frame 8, which may be in one piece or in two parts, and which is provided with a front grille 9 and with a shutter 10 pivoted to the frame 8. The plaster of the wall 5 is cut away around the box 2, and the frame 8 extends out on each side of and above said box 2 a sufficient distance to cover all irregularities in the edge of the plaster thus cut or broken away. The above-mentioned smoke and dust which enters the wall 5 around the outside of the box 2 escapes therefrom around the edge, especially the upper edge, of the frame 8, where it is supposed to contact with the surface of the wall, because the irregularities of the plaster surface of the wall prevents a tight continuous connection between the edge of the said frame 8 and the wall, thereby causing the discoloration, staining and disfiguring of the wall around and especially above the register frame. Also dust which enters the warm-air pipes of the furnace through the cold-air pipes thereof, or otherwise, will often escape through the joint between the register frame 8 and the grille 9, and thus into the space around the box 2, to increase the disfiguration of the wall, as above described.

In order to overcome this defect, I provide a seal 11 of any suitable material, preferably felt, in a continuous strip around the top and two side edges of the frame 8, to cause a tight contact with the wall in spite of the irregularities in the surface of the plaster. This seal 11 is held in place in the frame 8 by means of holders 12 which may be of any suitable form, such as are illustrated in Figs. 3, 4 and 5.

In Fig. 3 this holder 12 is formed integral with the frame 8, the edges thereof being folded inward on itself as at 13, then bent at right-angles to form the base 14, and then outward at right-angles to form the inner flange 15. The seal 11 is held in the pocket, thus formed, between the parts 13 and 15 and

extends out beyond the edge of the frame 8 to contact with the surface of the wall 5.

In Fig. 4, the holder is a separate piece of metal having the parts 13, 14 and 15 corresponding with the similar parts above-described, and having a bead 16 adapted to fold over the edge of the frame 8.

In Fig. 5, the holder is also a separate piece which may preferably be Z-shaped, thus having the parts 14 and 15 corresponding with the similar parts above-described, and a flange 17 adapted to be spot-welded, or otherwise secured to the inner face of the frame 8.

In Fig. 6, the seal 11 is formed of a suitable flexible material, such as rubber, canvas, felt, or other suitable material, which is secured to the inner surface of the frame 8 by means of a cement, or by other suitable means.

The frame 8 is drawn towards the wall 5 by means of screws, thereby compressing the seal 11 and forcing it to contact with the wall 5 in spite of irregularities therein, thereby preventing the escape of smoke and dust from the inside thereof. The screws are shown connecting the frame 8 to the box 2, which is secured to the studding but, it is evident that the said screws may enter the studding itself or any part attached thereto.

Having described my invention, what I claim is:—

A register seal comprising a register frame; a holding strip bent in cross-section to form a holding groove adapted to lie inside of and in contact with the edge of the register frame and a bead adapted to lie outside of the edge of the register frame, said strip fitting over the edge of the register frame; and a continuous flexible sealing body held in said groove in the holding strip and extending therefrom into tight contact with the wall.

GEORGE F. GEHRI.