

April 30, 1929.

H. S. HART

1,711,458

REGISTER AND VENTILATOR

Original Filed Jan. 10, 1922

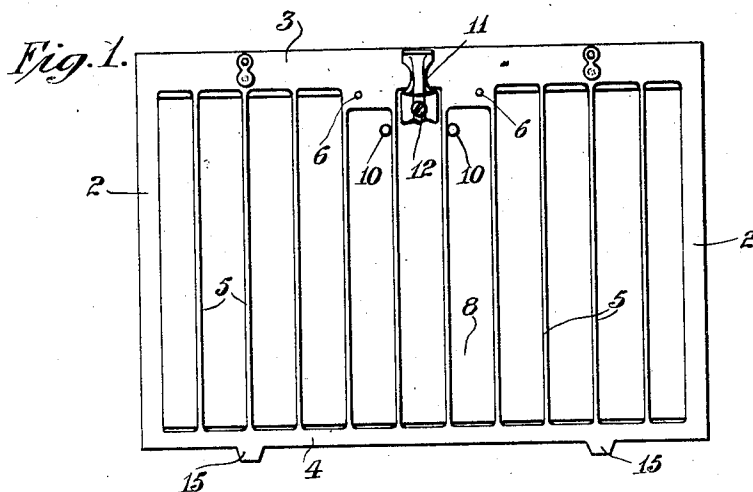
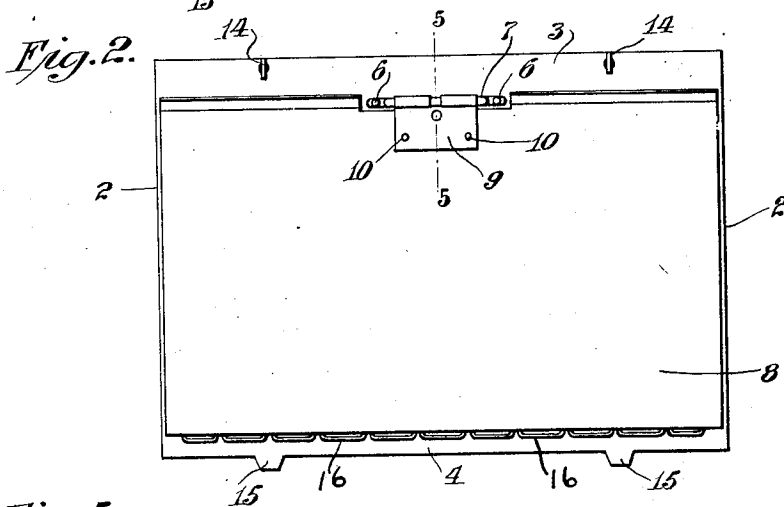


Fig. 5.

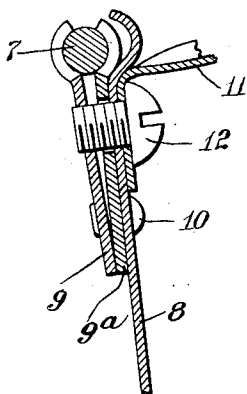


Fig. 3.

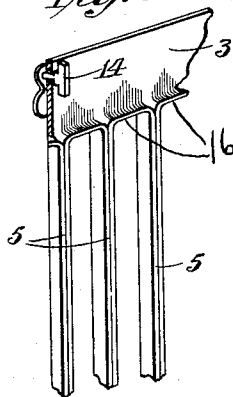
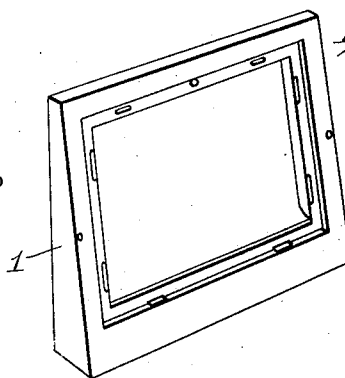


Fig. 4.



INVENTOR
H. S. Hart
BY *Mitchell & Allen*
ATTORNEY.

Patented Apr. 30, 1929.

1,711,458

UNITED STATES PATENT OFFICE.

HOWARD S. HART, OF NEW BRITAIN, CONNECTICUT, ASSIGNOR TO THE HART & COOLEY COMPANY, INCORPORATED, OF NEW BRITAIN, CONNECTICUT, A CORPORATION OF CONNECTICUT.

REGISTER AND VENTILATOR.

Application filed January 10, 1922, Serial No. 523,347. Renewed September 18, 1923.

My invention relates to certain new and useful improvements in ventilators for the distribution of hot or cold air, and the same is particularly useful when employed in connection with a side wall of a room or compartment. One object of the invention is to provide a construction which will offer a minimum of resistance to the full capacity of the pipe or conduit through which the air is flowing and with which the ventilator is associated. Another object is to make the perforated or ventilator portion of a single piece of metal so constructed as to possess a maximum of rigidity and strength. Other objects will appear to the mechanic skilled in the art from a reading of the accompanying specification and as will be seen from the accompanying drawings, in which,

Fig. 1 is a front elevation.

Fig. 2 is a rear elevation of the parts shown in Fig. 1.

Fig. 3 is a perspective view relatively enlarged of certain parts broken away.

Fig. 4 is a perspective view of another feature of construction on a very much reduced scale.

Fig. 5 is a section enlarged of certain parts on line 5—5 of Fig. 2.

1 represents conventionally a casing arranged to be located against the wall close to the floor. The central part of this casing is cut away or open, and the ventilator plate and valve are preferably detachably connected thereto. The ventilator plate is made from a strip of sheet or wrought metal and comprises the side borders 2—2 and the upper and lower borders 3—4 respectively, the intermediate portion between the borders being wide open, save for the presence of vertical cross-bars 5—5 which are formed without waste of material by slitting and striking back the metal of the sheet and folding the struck back portions together as best seen in Fig. 3, whereby said portions will mutually support one another and also so that each bar will be as thin as possible, whereby practically no resistance will be offered to the free passage of air through the open central portion. By this arrangement unusually thin sheet metal may be employed in the formation of the ventilator face plate, and yet, the cross-bars will possess adequate strength to retain their shape. It will be observed that the depth of the cross-bars 5—5 is much greater than the thickness there-

of, hence, with the said bars arranged reasonably close as shown in Fig. 1 the opening or passage will be largely hid from vision, excepting when viewed from directly in front. It will be observed that the space between the ends of adjacent cross bars is provided with a bridging flange integral with the cross bars and the border and at an abrupt angle to the latter, these bridging pieces being shown at 16—16. These bridges, together with the cross bars, serve to stiffen the border and the bridges also prevent twisting of the cross bars. In my preferred construction, certain of the cross-bars, for example, the four middle ones, are shorter than the others to provide a solid portion to receive rivets 6—6 or other suitable fastenings, whereby a shaft bearing 7 may be secured to the back of the face plate. This bearing is horizontally arranged and suspended from it is a valve or louvre 8. The connection between the valve and shaft bearing comprises two gripping plates 9—9^a which embrace said shaft bearing 7. These plates are suitably secured near their lower edges as by rivets 10—10 to the valve 8. 11 is an operating handle which is located at the front of the valve and projects through the front plate for manual engagement. This handle 11 is held to the valve by means of a screw 12 which performs the second function of providing a means for tensioning the grip of the plates 9—9^a on the bearing 7. As will be seen from Fig. 5 the plate 9^a is provided with a clearance passage for the screw 12, while the plate 9 has a threaded hole. Hence, when the screw is tightened up the bearing 7 will be gripped with the desired friction to hold the valve 8 in any position of adjustment. 14 are turn-buttons at the upper rear edge of the face plate by which the same may be detachably connected to the upper part of the casing 1. The lower edge of the face plate may be provided with lugs 15—15 which pass through slots in the casing 1 adjacent to the lower edge of said face plate, said lugs cooperating with the aforesaid buttons in detachably holding the face plate to the casing. It will be observed that by this construction the necessity for flanging the border strips or any of them for the purpose of providing a connection for the cross-bars or for providing a support for the valve is eliminated, and substantial saving is thereby attained. It will also be observed that very thin

metal may be employed without sacrifice of strength, because by forming each cross-bar of double thickness, the sides being folded against each other, said cross-bars will operate to provide the necessary strength and stiffness to the article as a whole. It will be understood that it is preferred that the openings between the cross-bars be uninterrupted throughout the length thereof, since manifestly, any interruption would tend to defeat one of the objects of the invention, which is to avoid resistance to the free flow of air through the face plate.

The valve is preferably a one-piece plate pivoted at its edge to swing, and the hinge pin or shaft is transverse to the direction of the cross bars so that the valve will perform the double function of a valve and a deflector.

What I claim is:

In a face plate for ventilators and the like, a rectangular frame of sheet metal, comprising a rectangular integral border, a plurality of elongated cross bars integrally connected at their ends to two opposite border strips, each of said cross bars being formed of two thicknesses of metal folded back along the entire length into flat contact for mutual reinforcement, said bars being arranged edgewise with relation to the direction of air passing through said plate, and bridging pieces integrally connecting the ends of adjacent cross bars, said bridging pieces being integrally connected with the adjacent border and arranged at an abrupt angle to the latter.

HOWARD S. HART.