April 18, 1961 G. M. BREIDERT 2,980,007

ROOF VENTILATOR

Filed Jan. 27, 1959

FIG. 1.

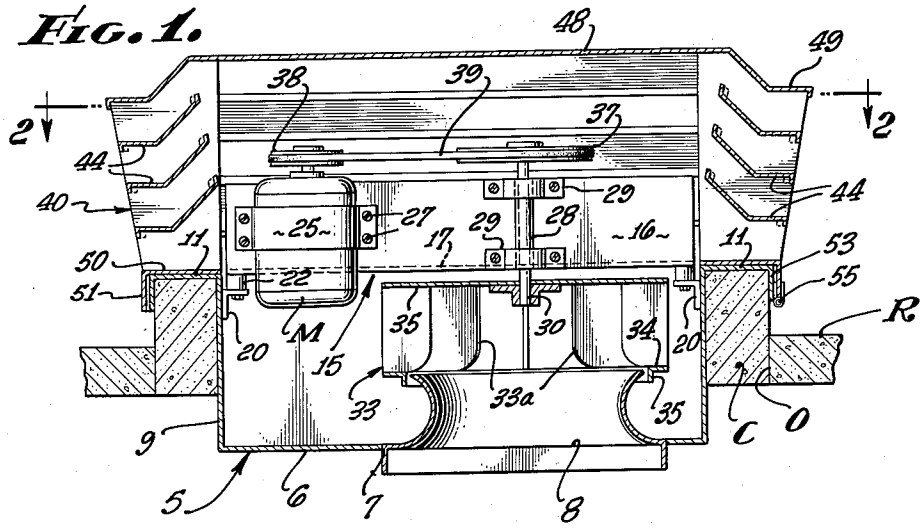
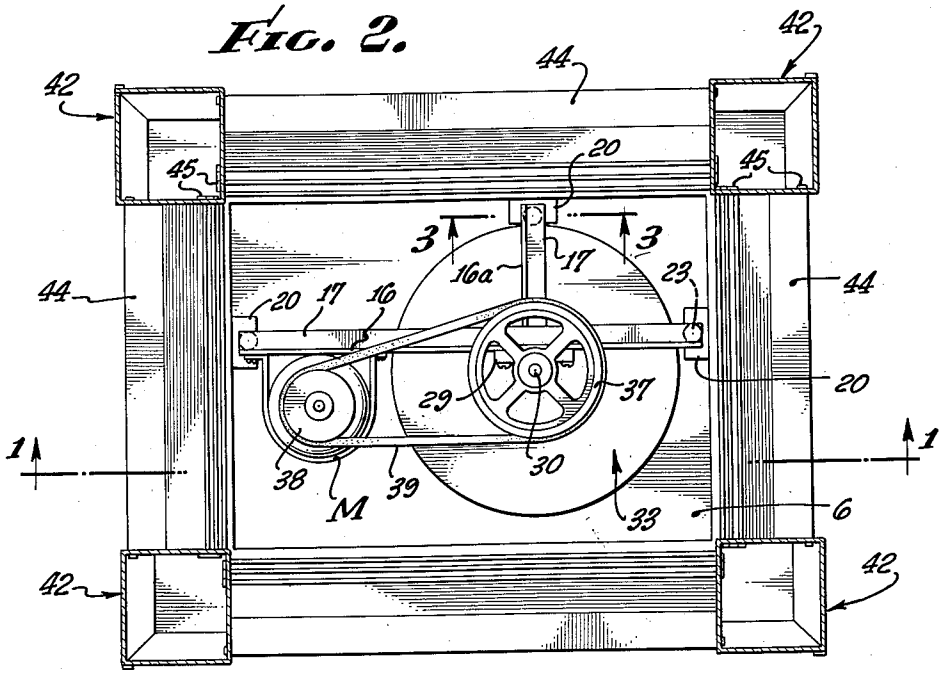


FIG. 2.



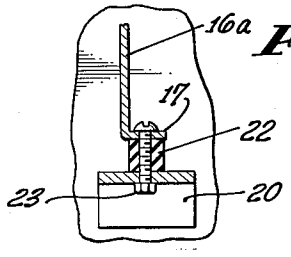


FIG. 3.

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ROOF VENTILATOR

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1 Claim. (Cl. 98—43)

This invention has to do with roof ventilators for exhausting air from a building through an opening in the roof and has more particularly to do with a ventilator which employs a booster fan or blower.

Ventilator devices which are mounted on building roofs are of course frequently exposed to very high winds with resultant damage. Therefore, it is important to utilize a ventilator and a mounting therefor which expose only a minimum of the ventilator head to the elements. Also, in consonance with modern-day architecture, it is desirable to provide ventilators which have as low a silhouette as is possible.

It is an object of my invention to provide a ventilator of this character which has an extremely low silhouette and in which only a minimum portion of the device is exposed above the roof.

It is a further object to provide a novel and highly efficient mounting means in such a device for supporting the driving motor and booster fan or blower which means is also conducive to providing a low silhouette.

Other objects and advantages will appear hereinafter.

While I shall point out in the appended claim the features which I believe to be new, I shall now, for the purpose of enabling those skilled in the art to make and use my invention, describe a presently preferred embodiment thereof, for which purpose I shall refer to the accompanying drawing wherein:

Fig. 1 is a medial vertical sectional view taken on line 1—1 of Fig. 2;

Fig. 2 is a view partly in section and partly in plane taken on line 2—2 of Fig. 1, and

Fig. 3 is an enlarged section taken on line 3—3 of Fig. 2.

Referring now to the drawing, I show at R, a building roof having an opening O therein within which is mounted a curb C which conforms to the opening and extends thereabove.

My ventilator device, which is generally of rectangular cross section, comprises a rectangular base 5 having a bottom wall 6 providing an opening 7 within which is secured, as by welding, an orifice ring 8 providing an air inlet. The base has side walls 9 which terminate at their top ends in lateral flange portions 11 which are supported on the top end of the curb C.

A motor mounting plate 15 has an upright portion 16 and a right angularly disposed upright portion 16*a*, each of which said portions has a right angular bottom flange portion 17. Brackets 20 are secured, as by welding, to the inner surface of the side walls 9 and the flange portions 17 are supported upon said brackets by interposed resilient rubber pads 22 which are secured to the brackets and flanges by bolts 23.

A conventional electrical motor M is secured to the plate 16 by a strap 25, which strap is secured at its ends to the plate 16 as by screws 27. A bearing sleeve 28 is secured to plate 16 by straps 29, and a shaft 30 is rotatably journalled in the sleeve, being secured at its bottom end to a blower wheel 33. The bottom plate 34

of the blower wheel, which is secured to the bottom edges of the blades 33*a*, has a depending annular flange 35 which circumscribes the top end portion of the orifice ring 8. The blower wheel has a top plate 35. A V-pulley 37 is secured on the top end of the shaft 30 and a V-pulley 38 is secured on the motor shaft. A V-belt 39 extends about the pulleys.

From the foregoing it will be apparent that the base is suspended within the curb C and that the motor, blower and drive elements are carried in the base.

The upper or head portion of the devices, generally denoted 40, comprises hollow corner posts 42 to which are secured the respective ends of horizontally disposed, vertically spaced louvers 44. The ends of the louvers have projections 45 which extend through corresponding holes in the corner posts and are bent against the inner surface portions of the corner posts to retain the louvers and posts in assembly.

The head portion has a flat top wall 48 presenting a marginal portion 49 substantially conforming in cross section to the louvers; and also has a frame-like bottom wall 50 secured to the bottom ends of the corner posts, as by welding; and the wall 50 has a depending flange 51 around its perimeter which surrounds the curb C. The flange 51 is hinged to a depending portion 53 of flange 11, by means of a hinge 55, so that the head portion may be swung about said head to expose and permit access to the motor and blower elements.

In operation, because of the illustrated shape of the louvers, extraneous air currents blowing about the ventilator head tend to create reduced pressure inside the head to exhaust air therefrom. However, when the extraneous air currents are insufficient for that purpose, the blower 33 may be operated. The novel manner of mounting the motor, blower and driving mechanism is such that vibrations resulting from operation are effectively damped.

I claim:

In a building roof having a rectangular curb defining an air outlet through said roof, a ventilator having a base portion comprising four upright side walls and a bottom wall defining a lower chamber of rectangular cross section, a flange extending laterally outwardly from the top edge portion of each of said side walls and being engageable with the top end of said curb to suspend said base portion within said curb, said bottom wall having an air inlet opening therethrough laterally offset from the longitudinal axis of said base portion, an upright plate having a flanged bottom edge portion resiliently supported from side walls of said base portion and having its top edge disposed above the plane of said flanges, an air impeller rotatably suspended from said plate coaxial with said opening, a motor carried by said plate at a point laterally offset from said impeller, means operatively connecting said motor to said impeller, an upper portion having four louvered side walls and a flat top wall, said walls defining an upper air outlet chamber of rectangular cross section, said last-mentioned side walls having at their bottom edges laterally outwardly disposed flange portions resting upon said first-mentioned flanges, and hinge means hingedly connecting one of said flange portions of one of said louvered side walls to one of said first-mentioned flanges, whereby said upper portion may be swung about said hinge means into position providing access to said motor and impeller.

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