

H. S. WELKER.
VENTILATOR.
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932,659.

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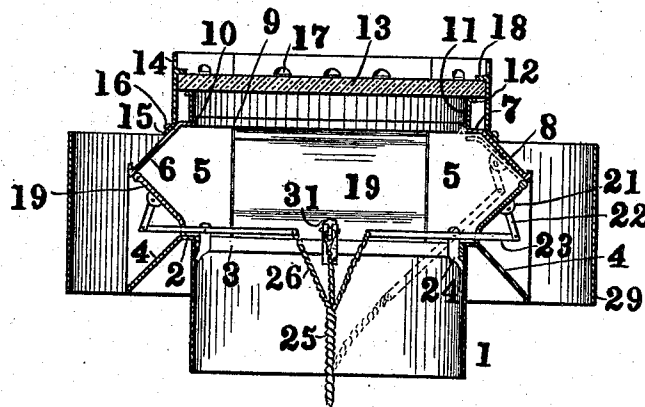


FIG. 1

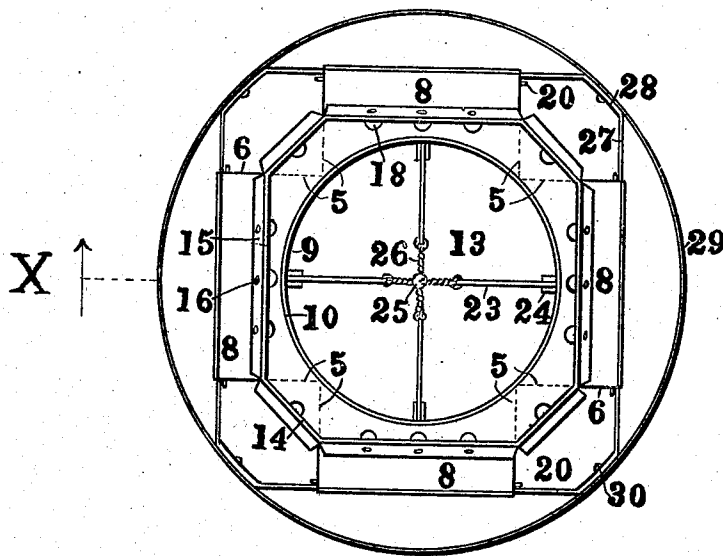


FIG. 2

WITNESSES

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VENTILATOR.

932,659.

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To all whom it may concern:

Be it known that I, HORACE SAMUEL WELKER, a citizen of the United States, residing at Akron, in the county of Summit and State of Ohio, have invented new and useful Improvements in Ventilators, of which the following is a specification.

This invention relates to improvements in combined skylights and ventilators for buildings and the like and the objects thereof are to provide a new and improved device of the kind specified provided with openings to permit the escape of air from the building or apartment arranged to be closed by dampers so constructed and arranged that they may be closed individually or simultaneously at the will of the operator of the device, thereby to a certain extent controlling the ventilation of the building.

Another object of the invention is to provide a roof for the ventilator comprising a sheet of translucent material, thereby permitting light to enter the building or apartment and yet prevent the entrance thereto of foreign matters such as rain, sleet, snow, dust and other deleterious substances.

With the foregoing and other objects in view, the invention consists in the novel construction, combination and arrangement of parts constituting the invention to be hereinafter specifically described and illustrated in the accompanying drawings which form a part hereof wherein is shown the preferred embodiment of the invention, but it is to be understood that changes, variations and modifications can be resorted to which come within the scope of the claims hereunto appended.

In the drawings, in which similar reference numerals indicate like parts in the different figures: Figure 1 is a vertical sectional view of a device embodying this invention approximately on line X of Fig. 2; and Fig. 2 is a plan of the device.

Referring to the drawings in detail, the reference numeral 1 denotes an upwardly-extending flue, preferably constructed of sheet metal arranged to be positioned in the roof or other suitable portion of an apartment or building to be ventilated. Mounted on the flue 1 is a plate 2 approximately in the general conformation of a Greek cross provided centrally with an opening adapted to register with the upper end of the flue 1 with a marginal downwardly-extending

flange 3 arranged to be inserted in and lap the upper end of the flue 1 and be held there by solder or other equivalent means. The plate 2 is preferably provided with a plurality of laterally-extending arms or louvers 4 which are downwardly-bent or inclined for the purpose of forming the floors of outlets for the air carried upwardly through the flue 1.

Secured to the side edges of the arms 4 of the plate 2 are upwardly-extending members 5 of an approximately right-angular configuration in cross-section, the laterally-projecting portions of which serve to form the sides of openings of which the louvers 4 form the bottom. The upper outer portions of the members 5 are preferably beveled at 6. Mounted on the members 5 is a second plate 7 conforming in contour to the plate 2 with the arm-portions or louvers 8 thereof preferably downwardly-bent approximately parallel with the downwardly-inclined louvers 4. The arms 8 of the plate 7 are adapted to be secured to the beveled upper edges 6 of the upwardly-extending members 5 by solder or other equivalent means. The central portion of the plate 7 is provided with an opening 9 surrounded by an upwardly-extending marginal flange 10.

Mounted on the plate 7 and lapping the marginal flange 10 is a sleeve 11, preferably cylindrical in outline, provided with a lateral flange 12 constituting a seat for a sheet 13 of translucent material. The sheet 13 of translucent material is preferably octagonal as shown in Fig. 2. Mounted on the arms or louvers 8 of the plate 7 is an octagonally-formed member 14 the lower portions of which are provided with outwardly-bent portions 15 secured by suitable holdfast devices 16 to the upper face of the arms 8 of the member 7. The side portions of the member 14 are provided with a plurality of semi-circularly-shaped openings 17 formed by semi-circular cuts, the material 18 inclosed by said cuts being bent inwardly upon the upper surface of the translucent material 13, thereby holding the latter securely in position. Extending between the oppositely-disposed portions of the members 5 are dampers 19 provided with pins 20 projecting through suitable apertures in the members 5 to provide pivots to permit the dampers 19 to be freely swung thereon. These dampers are adapted to be inclined in-

wardly and downwardly with their lower portions resting on the plate 2 at the line where the inclined louvers 4 thereof commence. The lower portions of these dampers 19 are preferably downwardly-turned so as to encounter the upper surface of the plate 2 accurately and form therewith a perfect joint. On the outer face of each of the dampers 19 is an ear 21 pivotally-united to which is a link 22 having pivotally-mounted on its outer end a lever 23 pivoted on a bracket 24 secured to the inner face of the flue 1. The levers 23 project inwardly toward the axial line of the flue 1 with their inner ends separated a short distance. A cord 25 provided with branches 26 connected with the inner ends of each of the levers 23 is employed for operating them. It will be obvious that in place of uniting the four branches 26 into a common cord 25, whereby all the levers will be tilted at once, each individual lever may be provided with a separate cord so that each may be operated individually.

The lower end of each of the dampers 19 is provided with a slotted opening 31 to permit the passage therethrough of one of the levers 23 without interfering with the operation of the damper 19. Extending between the contiguous outer faces of the plates 5 are braces 27 each provided with a beveled portion 28 adapted to support a wind-shield 29 secured on the braces through the medium of holdfast devices 30.

In operation, when it is desired to open the ventilator to permit the air in the building or apartment to escape, the cord 25 is drawn downwardly which tilts all the levers simultaneously into the position shown by one of them in dotted lines in Fig. 1. As the inner end of each lever is pulled downwardly by the rope 25 the upper end of the lever 23 raises the link 22 and swings the damper 19 on its pivot pin 20 into the position shown by the dotted lines and substantially into abutting relation with the inclined louver 8 of the member 7 immediately above it, leaving the space between the louvers 8 and 4 open to constitute an outlet for the passage therethrough of the air from the building or apartment. A reversal of this operation will close either one or all of the dampers, as desired.

It will be noted that foreign matter such as rain, snow and sleet will be deflected away from the outlet opening by means of the inclined arms 8 of the member 7 and any foreign matter which lodges on the inclined arms 4 will be deflected thereby to the roof of the apartment or building in connection with which the device is used.

It will be seen that the sheet of translucent material 13 constitutes a roof for the ventilator and at the same time permits the entrance of light to the interior of the flue

and from thence to the apartment or building in which the latter is used, and any considerable deposit of water on this sheet of translucent material is permitted to escape through the openings 17 in the member 14 from whence it passes to the roof outside of the ventilator.

What I claim and desire to secure by Letters Patent, is:—

1. A ventilator comprising a flue embodying a tube communicating with the inclosed space to be ventilated, a plate provided with an opening registering with the upper end of said tube and mounted thereon having a laterally - extending downwardly - inclined louver constituting the floor of an outlet opening, a second plate positioned above and spaced from said first plate having a similarly-shaped louver constituting a roof for said opening, upwardly - extending lateral members connected with said louvers forming sides for said opening arranged to support said upper plate, a roof for said flue supported by said second plate and a pivoted damper positioned between said louvers for controlling the passage of air through said opening.

2. A ventilator comprising a flue embodying a tube communicating with the inclosed space to be ventilated, a plate provided with an opening registering with the upper end of said tube and mounted thereon having a laterally-extending downwardly-inclined louver constituting the floor of an outlet opening, a second plate positioned above and spaced from said first plate having a similarly-shaped louver constituting a roof for said opening, upwardly - extending lateral members connected with said louvers forming sides for said opening arranged to support said upper plate, a roof for said flue supported by said second plate, a pivoted damper positioned between said louvers for controlling the passage of air through said opening and means for controlling said damper.

3. A ventilator comprising a flue embodying a tube communicating with the inclosed space to be ventilated, a plate provided with an opening registering with the upper end of said tube and mounted thereon having a laterally-extending downwardly-inclined louver constituting the floor of an outlet opening, a second plate positioned above and spaced from said first plate having a similarly-shaped louver constituting a roof for said opening, upwardly - extending lateral members connected with said louvers forming sides for said opening arranged to support said upper plate, a roof for said flue supported by said second plate, a pivoted damper positioned between said louvers for controlling the passage of air through said opening, a bearing supported by said flue, a lever mounted in said bearing, and means

connecting said lever with said damper whereby the rocking of said lever will cause a corresponding movement of said damper.

4. A ventilator comprising a flue embody-
 5 ing a tube communicating with the inclosed
 space to be ventilated, a plate provided with
 an opening registering with the upper end of
 said tube and mounted thereon having a plu-
 10 rality of laterally-extending downwardly-
 inclined louvers constituting floors for a plu-
 rality of outlet openings, a second plate po-
 sitioned above and spaced from said first
 plate having a plurality of similarly-shaped
 louvers constituting roofs for said openings,
 15 upwardly-extending lateral members con-
 nected with said louvers forming sides for
 said openings arranged to support said up-
 per plate, a roof for said flue supported by
 said second plate, a pivoted damper posi-
 20 tioned in each of said openings for control-
 ling the passage of air therethrough and
 means for operating said dampers both inde-
 pendently and simultaneously.

5. A ventilator comprising a flue embody-
 25 ing a tube communicating with the inclosed
 space to be ventilated, a plate provided with
 an opening registering with the upper end
 of said tube and mounted thereon having a
 laterally-extending downwardly-inclined
 30 louver constituting the floor of an outlet
 opening, a second plate provided with an
 opening registering with the opening in said
 first plate positioned above and spaced there-
 from having a similarly-shaped louver con-
 35 stituting a roof for said outlet opening, up-
 wardly-extending lateral members connected
 with said louvers forming sides for said out-
 let opening arranged to support said upper
 plate, a roof of translucent material for said
 40 flue supported by said second plate and a
 pivoted damper positioned between said lou-
 vers for controlling the passage of air
 through said outlet opening.

6. A ventilator comprising a flue embody-
 45 ing a tube communicating with the inclosed
 space to be ventilated, a plate provided with
 an opening registering with the upper end
 of said tube and mounted thereon, said plate

provided with a downwardly-turned flange
 surrounding said opening adapted to lap the
 50 upper end of said tube, said plate further
 provided with a laterally-extending down-
 wardly-inclined louver constituting the floor
 of an outlet opening, a second plate posi-
 55 tioned above and spaced from said first plate
 having a similarly-shaped louver constitut-
 ing the roof of said outlet opening, up-
 wardly-extending lateral members connected
 with said louvers forming sides for said
 opening arranged to support said upper
 60 plate, a roof for said flue supported by said
 second plate and a pivoted damper posi-
 tioned between said louvers for controlling
 the passage of air through said outlet open-
 65 ing.

7. A ventilator comprising a flue embody-
 ing a tube communicating with the inclosed
 space to be ventilated, a plate provided with
 an opening registering with the upper end of
 said tube and mounted thereon having a la-
 70 terally-extending downwardly-inclined louver
 constituting the floor of an outlet opening,
 a second plate positioned above and spaced
 from said first plate having an opening reg-
 istering with the opening in said first plate,
 75 an upwardly-extending flange surrounding
 said opening, said second plate provided
 with a laterally-extending louver similar to
 the louver on said first plate, upwardly-ex-
 80 tending members connected with said louvers
 forming sides for said outlet opening ar-
 ranged to support said second plate, a roof
 comprising a sheet of translucent material
 supported by the flange on said second plate,
 a holding member for said roof mounted on
 85 said second plate and a damper positioned
 between said louvers for controlling the pas-
 sage of air through said outlet opening.

In testimony whereof I have hereunto set
 my hand in presence of two subscribing wit- 90
 nesses.

HORACE SAMUEL WELKER.

Witnesses:

C. E. HUMPHREY,
 GLENARA FOX.