May 17, 1949. E. G. DAVIS 2,470,433

SASH VENTILATOR

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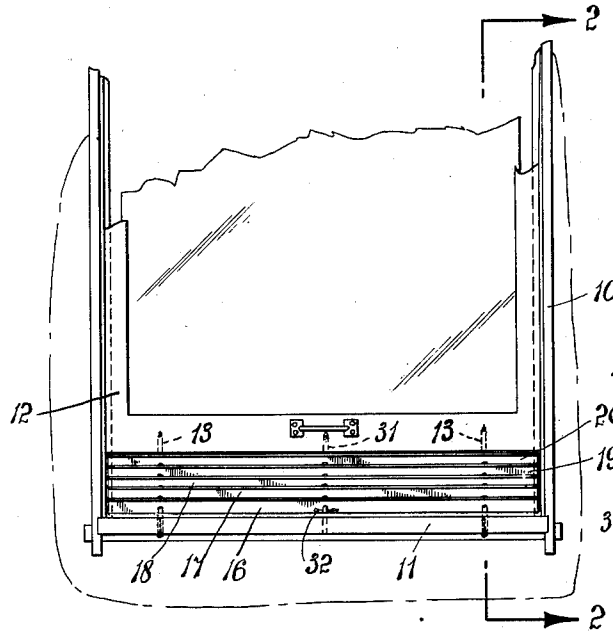



Fig. 1.

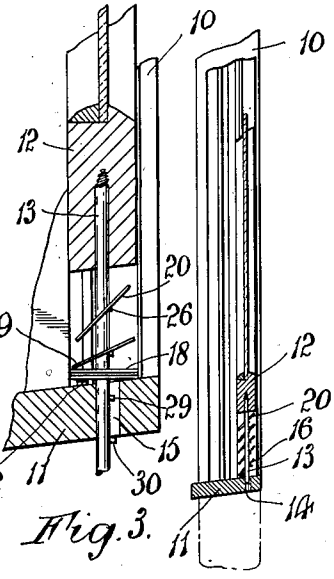



Fig. 3.

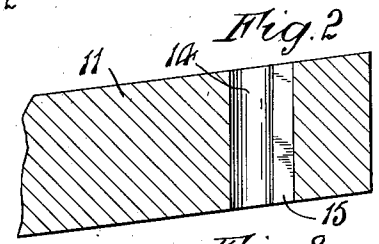



Fig. 2

Fig. 8.

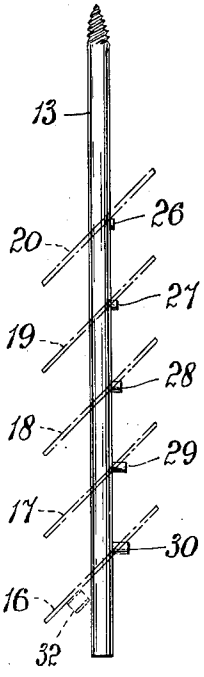



Fig. 4.

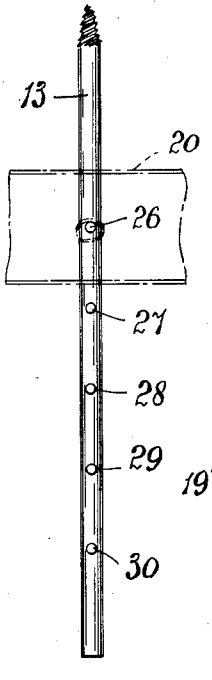



Fig. 5.

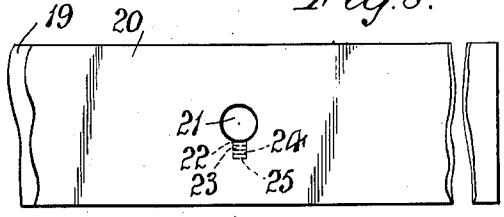



Fig. 7.

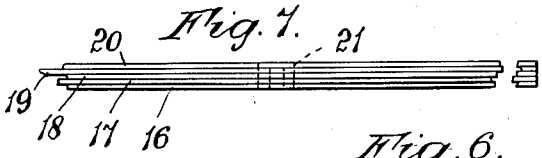



Fig. 6.

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## SASH VENTILATOR

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6 Claims. (Cl. 160—102)

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This invention relates to windows wherein the sash raises upwardly within the frame and has for its object to provide simple and effective means whereby the window may be opened to some extent for the purpose of ventilation and at the same time the resulting opening screened against the ingress of rain more particularly.

A further object is to provide an arrangement of slats adapted to be trapped in a small space between the window sash and its sill in closed position, but to be extended in Venetian blind form when the window is opened with the said slats then assuming a downwardly and outwardly slanted position in vertically spaced relation to one another.

A still further object is to provide such an arrangement of slats beneath the sash of a vertically slidable window wherein the raising and spacing of the slats upon the opening of the window is effected by rods passing through the slats and provided with abutments adapted to progressively engage the slats one after the other as the window sash is raised.

Still further objects or advantages additional or subsidiary to the aforesaid objects, or resulting from the construction or operation of the invention as it may be carried into effect, will become apparent as the said invention is hereinafter further disclosed.

In carrying the said invention into effect, I may adopt the novel construction and arrangement of parts hereinafter described, by way of example, having reference to the accompanying drawing, wherein:

Figure 1 is a fragmentary elevation of a window frame and sash embodying the said invention, the sash being illustrated in its open ventilating position;

Figure 2 is a vertical section of the same, taken on a plane indicated by the line 2—2 in Figure 1;

Figure 3 is a similar view to Figure 2, on a larger scale, showing the sash in an intermediate position of opening wherein the slats or louvers are progressively assuming their screening position;

Figure 4 is a detail view of one of the slat-supporting rods or guides removed from the sash, the slats being indicated in broken lines;

Figure 5 is a similar elevation of the said rod, taken at right angles to the view Figure 4, a single slat being indicated in broken lines;

Figure 6 is a fragmentary edge elevation of the slats in their closed position;

Figure 7 is a plan of the same; and

Figure 8 is a detail cross section of the window sill taken through one of the rod-accommodating openings.

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Similar characters of reference indicate similar parts in the several figures of the drawing.

10 indicates the frame of a window having the lower sill 11 and sliding sash 12, and projecting downwardly from the lower rail of the said sash are two rods 13. These rods 13 are co-axial with openings 14 provided in the said sill 11, the wall of each opening being slotted as at 15 in key hole fashion.

16, 17, 18, 19 and 20 are thin slats, preferably of rust-proof metal, each having a pair of holes 21 therein through which the rods 13 pass, the said slats being of a width and length approximating the thickness and width, respectively, of the lower rail of the said sash 12.

The holes 21 of the slats 19, 18, 17 and 16 are each provided with progressively deeper key ways 22, 23, 24 and 25, respectively, as shown in Figure 7, and the said rods 13 are provided with vertically spaced studs or projections 26, 27, 28, 29 and 30 of progressively increasing length as shown in Figure 4. These studs or projections are positioned on the said rods so that they extend inwardly of the window toward the interior of the room in which the window is installed.

It will be quite clear that the holes 21 of the uppermost slat 20, having no key way, will not permit the said slat 20 to pass downwardly over the rods 13 beyond the projections 26; whereas the slat 19, due to the limited key way 22, may pass downwardly beyond the projection 26 but will be arrested by the somewhat longer projection 27. In a similar manner the slat 16 may pass downwardly beyond all the projections 26, 27, 28 and 29 to be arrested by the longest projection 30. The intermediate slats will be arrested by the intermediate projections, in the manner shown in Figure 4, according to the depth of their key ways.

Thus, when the window is raised to the extent shown in Figure 1, the slats 16 to 20, inclusive, will assume the screening position shown in Figures 1, 2 and 4 wherein they slant downwardly and outwardly of the window in spaced relation to one another, in the manner of a Venetian blind, to permit the ventilating flow of air therethrough into the room and to act as baffles in resisting the entrance of rain into the room beneath the partially opened sash.

When the window is closed the several slats, by reason of their key ways, permit the passage of the rods freely downwardly therethrough into the openings 14 provided in the window sill (the

studs 26 to 30, inclusive, passing through the clearance slots 15 provided for that purpose) and the slats are accordingly trapped in face-to-face abutment between the surface of the sill 11 and the under side of the sash 12. In this position, due to their thinness, they may occupy a minimum of space so that the sash is merely elevated to a slight extent above its normal closed position and any catch or other device which may be provided for locking the sash can be easily adjusted or repositioned to operate under such conditions.

Where the slats are of considerable length, as in the case of wide windows, I may provide further rods, such as at 31, passing through suitably provided holes in the slats for additional guidance and support of the said slats, and such rods need not necessarily be provided with stops or abutments such as the projections 26 to 30, inclusive, previously referred to.

To ensure that the slats, when they are collapsed together, assume a proper position on their rods for eventual operation to their open or raised position, I prefer to provide the lowermost slat on its under side and towards its outer edge with a small spring leaf or resilient abutment 32, especially where the window sill slops downwardly and outwardly as is usually the custom. This leaf 32, while admitting of compression to permit the slats to assume substantially the angle of the window sill when compressed together in closed position, serves, as the slats are closed upon one another, to raise the outer edges of the slats and thus level the said slats in the manner shown in Figure 3; and it also tends to maintain the slats in a position of maximum inward placement of the window so that the slotted ends of the openings 21 are properly positioned above the projections 26 to 30 to ensure a proper engagement of the said projections with the several slats as the window is opened.

This invention may be developed within the scope of the following claims without departing from the essential features of the said invention, and it is desired that the specification and drawing be read as being merely illustrative of a practical embodiment of the same and not in a strictly limiting sense.

What I claim is:

1. In combination with a window frame having a sill and a vertically sliding sash, a plurality of slats arranged in face-to-face abutment between the lower rail of said sash and said sill in the closed position of said sash, a plurality of rods depending from said sash through said slats and into said sill, said rods being provided with means for progressively raising said slats into vertically spaced relationship as said sash is raised, said means supporting said slats in outwardly and downwardly slanting position when the sash is so raised.

2. In combination with a window frame having a sill and a vertically sliding sash, a plurality of slats arranged in face-to-face abutment between the lower rail of said sash and said sill in the closed position of said sash, a plurality of rods depending from said sash, and stepped abutments on said rods for progressively engaging and raising said slats into vertically spaced relationship as said sash is raised.



3. In combination with a window frame having a sill and a vertically sliding sash, a plurality of slats arranged in face-to-face abutment between the lower rail of said sash and said sill in the closed position of said sash, said slats having a plurality of matching orifices therein, rods depending from said sash through said orifices, the orifices of underlying slats being spaced rearwardly of said rods progressively to a greater extent than in the overlying slats, and a series of abutments in number agreeing with the number of said slats in vertically spaced relation on the rear of said rods to progressively engage and raise said slats as said sash is raised.

4. In combination with a window frame having a sill and a vertically sliding sash, a plurality of slats arranged in face-to-face abutment between the lower rail of said sash and said sill in the closed position of said sash, a plurality of rods depending from said sash through said slats and into said sill, said rods being provided with means for progessively raising said slats into vertically spaced relationship as said sash is raised, said means supporting said slats in outwardly and downwardly slanting position when the sash is so raised, and a resilient pad beneath the outer margin of the lowermost slat.

5. In combination with a window frame having a sill and a vertically sliding sash, a plurality of slats arranged in face-to-face abutment between the lower rail of said sash and said sill in the closed position of said sash, a plurality of rods depending from said sash, stepped abutments on said rods for progressively engaging and raising said slats into vertically spaced relationship as said sash is raised, and a resilient pad beneath the outer margin of the lowermost slat.

6. In combination with a window frame having a sill and a vertically sliding sash, a plurality of slats arranged in face-to-face abutment between the lower rail of said sash and said sill in the closed position of said sash, said slats having a plurality of matching orifices therein, rods depending from said sash through said orifices, the orifices of underlying slats being spaced rearwardly of said rods progressively to a greater extent than in the overlying slats, a series of abutments in number agreeing with the number of said slats in vertically spaced relation on the rear of said rods to progressively engage and raise said slats as said sash is raised, and a resilient pad beneath the outer margin of the lowermost slat.

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## REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

| Number | Name | Date |
|---|---|---|
| 2,075,461 | Parmenter | Mar. 20, 1937 |
| 2,196,070 | Hovland | Apr. 2, 1940 |