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SASH VENTILATOR

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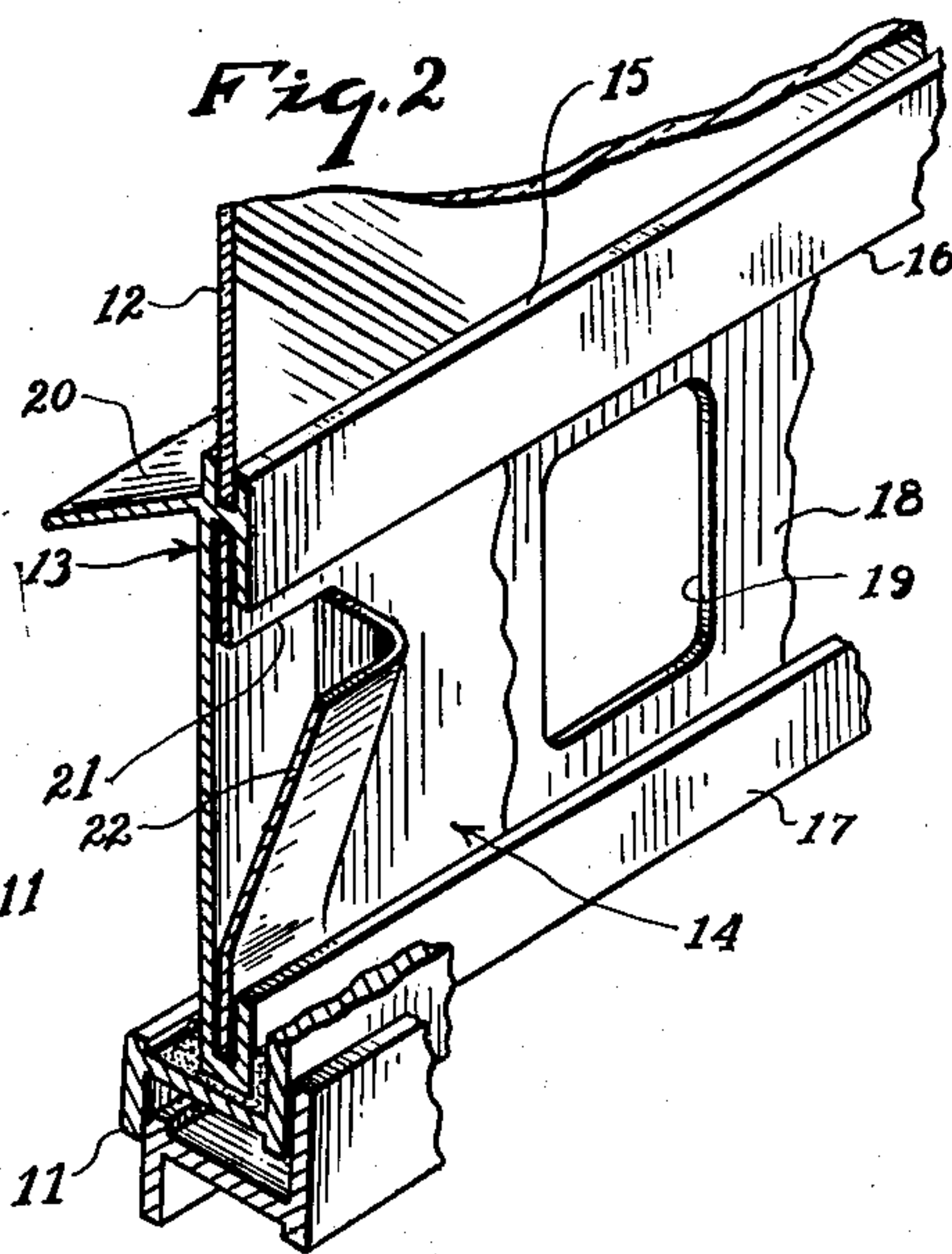
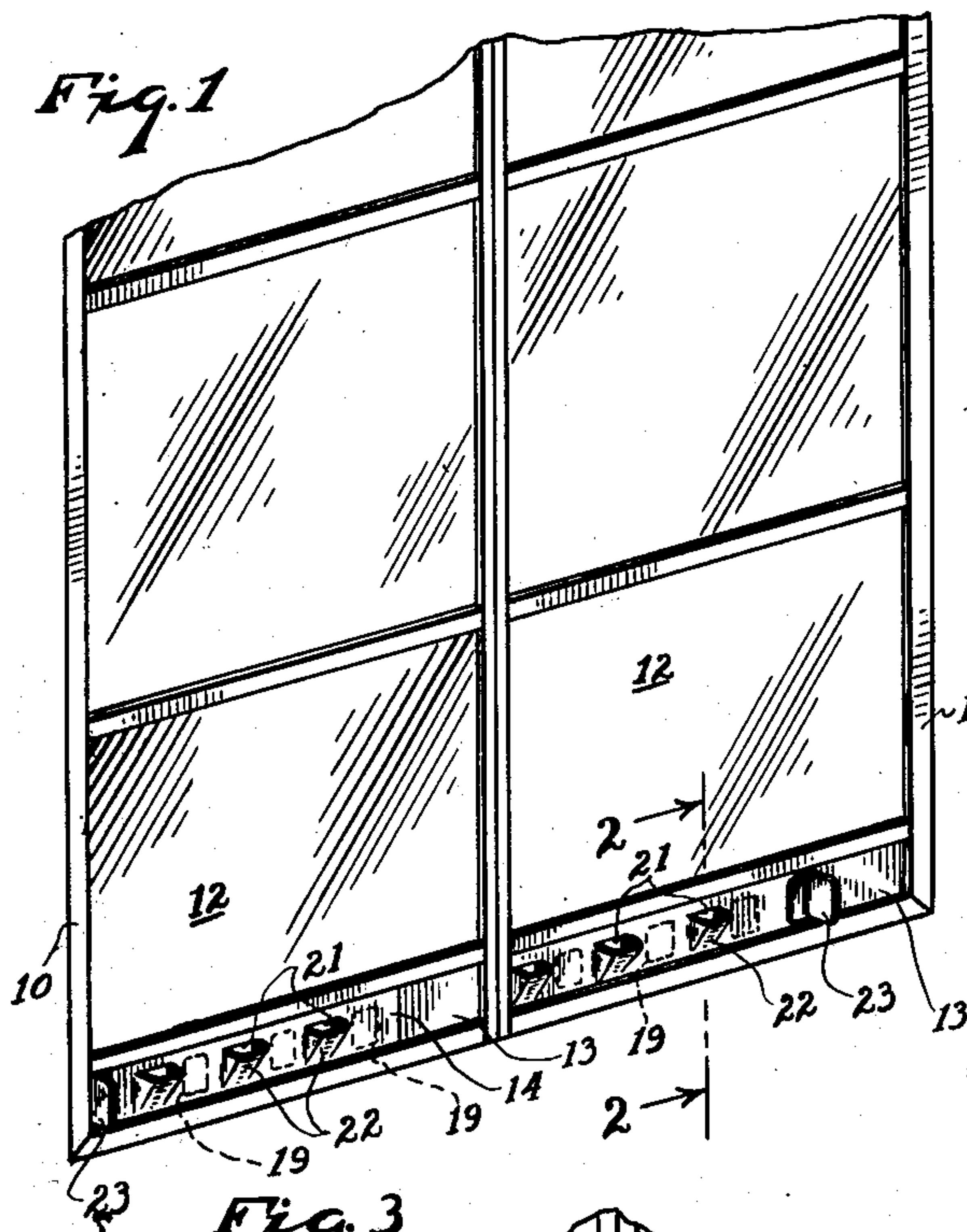
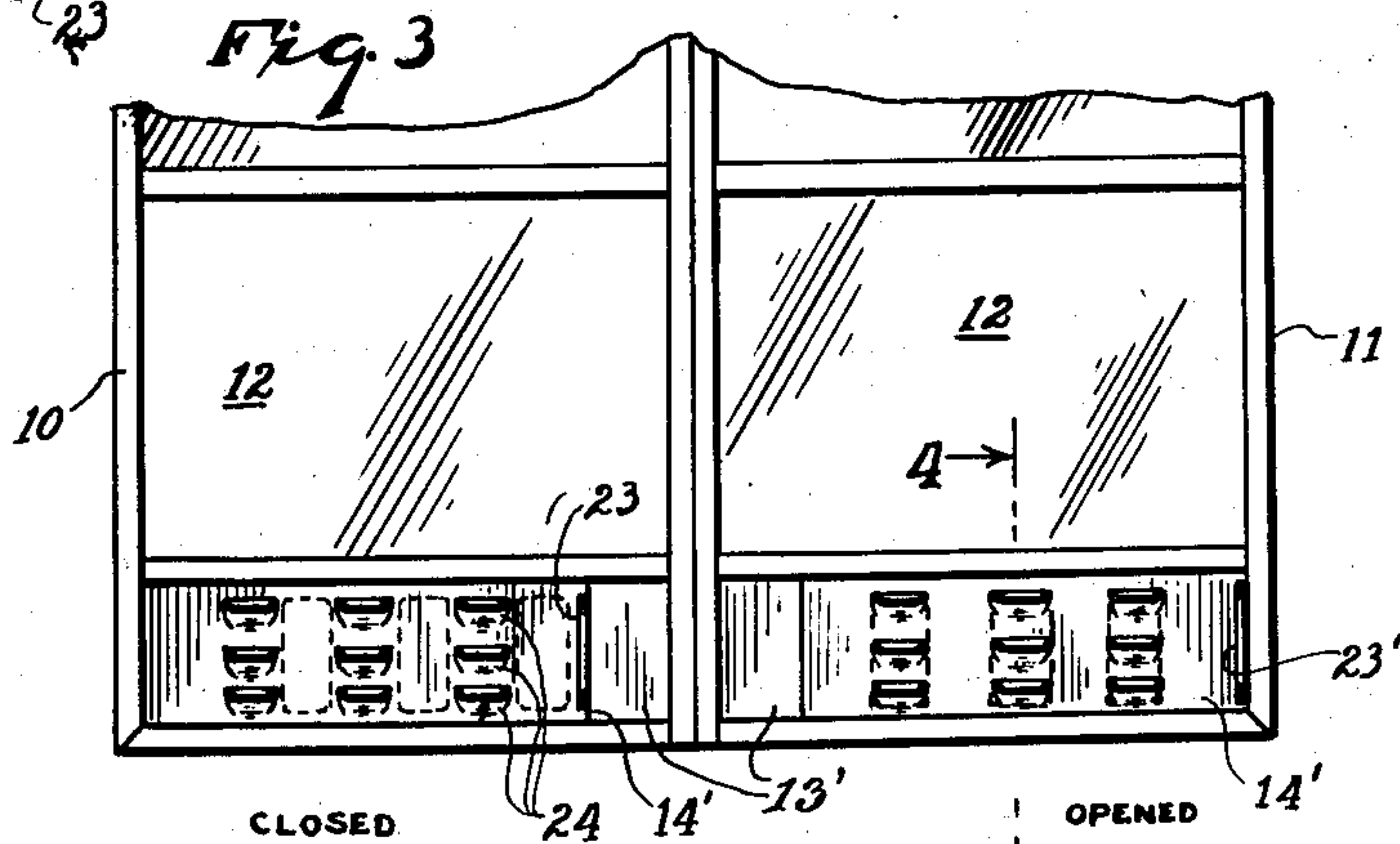
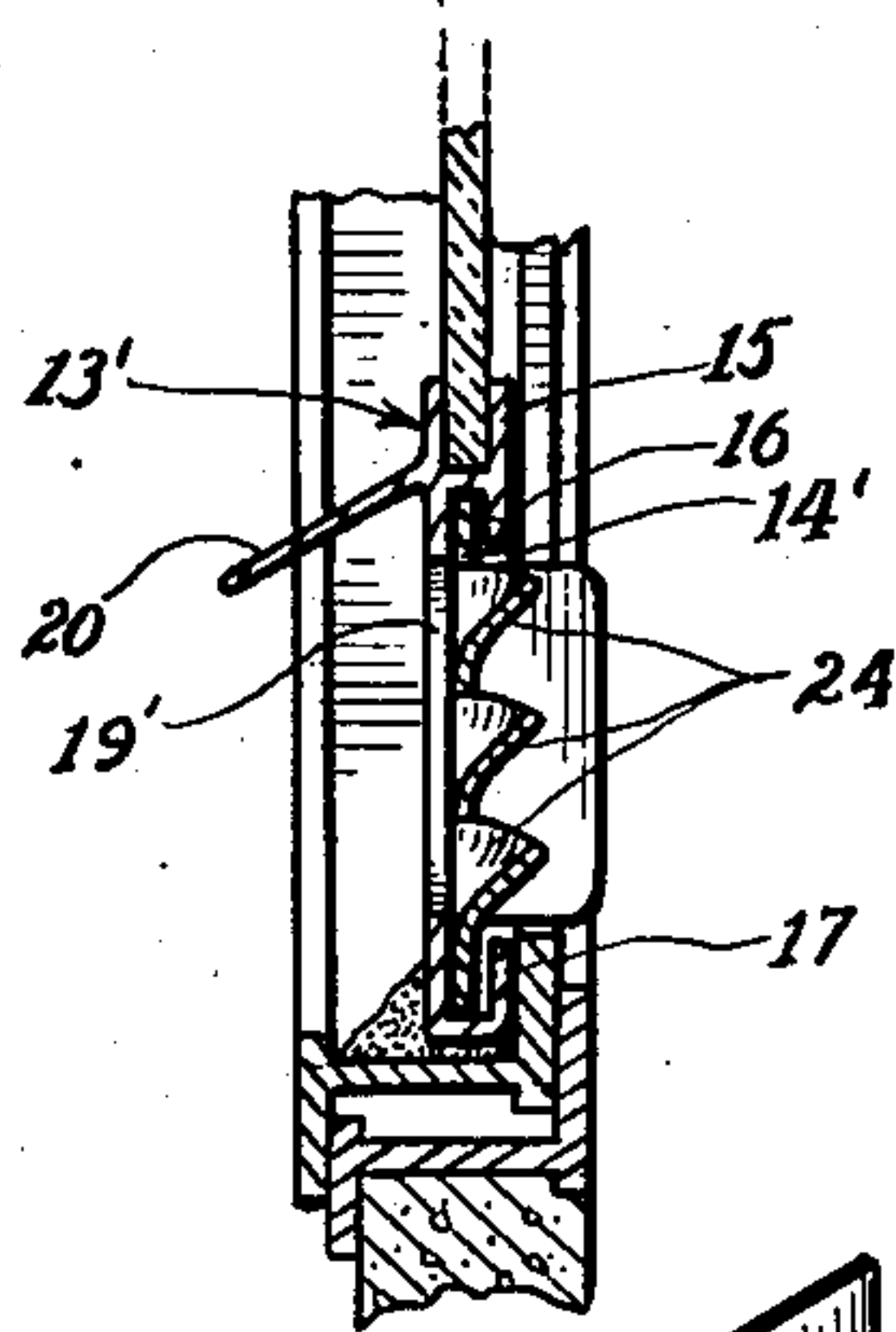


Fig. 4



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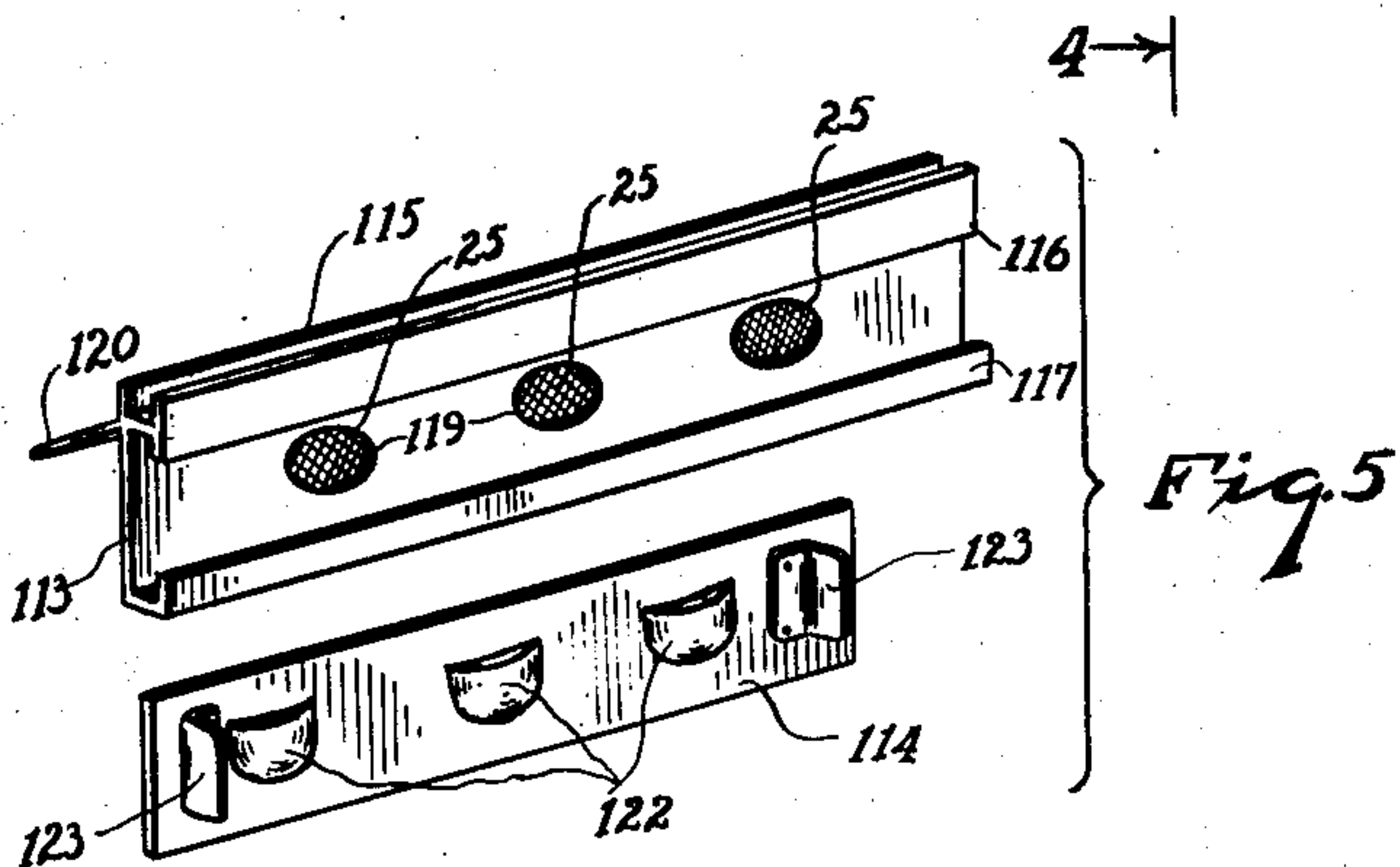
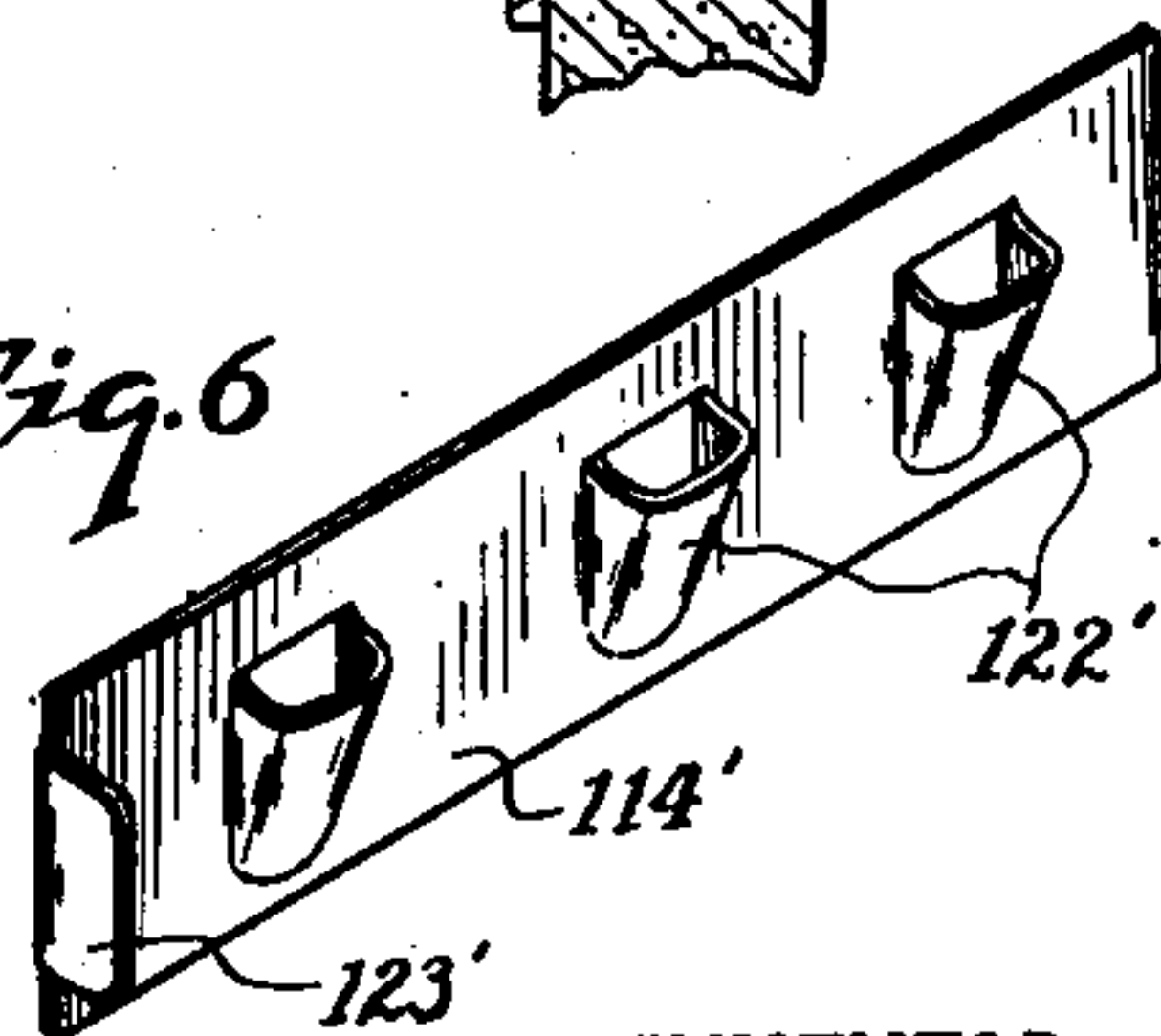


Fig. 6



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SASH VENTILATOR

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6 Claims. (Cl. 98—96)

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This invention relates to ventilators in general and particularly to the type adapted for association with sashes both of the double-hung and casement window construction.

The purpose of sash ventilators is not only to provide air circulation while windows are closed, but primarily are intended to prevent objectionable sweating and "weeping," which manifestations are particularly common with casement windows and windows providing light for chambers of small dimensions or other confined spaces, such as railroad cars, buses, automobiles and other vehicles.

The principal objects of the present invention are the provision of an extremely simple, inexpensive but nevertheless highly effective sash ventilator which consists of essentially only two prime components, and which components can be manufactured in continuous lengths with the intent of cutting them to required sizes corresponding to the width of sashes in which they are to be installed, and to which end it is proposed that at least one of the components constitutes a relatively simple, pre-fabricated extrusion shape of a uniform cross section, while the other component can be of suitable standard strip material, whereby the overall cost is brought to a minimum for most economic quantity production and equally economic and rapid installation.

Another object of this invention is the provision of a ventilator structure which not only assures adequate ventilation to prevent window sweating, but which will effectively and positively minimize infiltration of rain and snow, exclude insects and eliminate draft, and which structure is adjustable to control the amount of air desired for passage through the structure.

A more specific object of the present invention is the provision of ventilators of the class indicated which are adapted to be readily fitted into the frames of existing as well as new window sashes by the simple expedience of replacing the bottom ends of window panes, in that the panes are suitably shortened and their bottom edges are set into channels forming the top edges of the fixed members of the ventilators, and of putting or otherwise sealing the ventilators in the window frames as though they were parts of the window panes.

Another specific object of this invention is the provision of a ventilator composed of essentially two members, a stationary or fixed member adapted to be permanently associated with a sash frame and a movable member operative in respect to the fixed member, and wherein the fixed mem-

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ber comprises a triple channel-shaped structure with an upwardly open, pane-receiving channel formation at the top edge of said member and two oppositely disposed and bodily spaced channel formations, one adjacent to the pane-receiving channel, the other forming the bottom edge of the member, the web between the two opposite channels being provided with spaced ventilating apertures, and a downwardly directed drip shield or cap extending outwardly along the entire length of the member above these apertures for excluding rain and snow; said movable member comprising a strip of suitable material inserted into and guided by the opposite channel formations of the fixed member and having louvered ventilating openings corresponding in number and position to the ventilating apertures in said fixed member, and means provided with the movable member for facilitating its adjustment and thus the positioning of its openings in respect to the apertures of the fixed member.

The foregoing and still other objects and additional advantages of the instant invention will become more readily understood from the ensuing description in conjunction with the accompanying drawings, disclosing a few of the many possible embodiments thereof, and in which:

Fig. 1 is a fragmental perspective view of a casement window provided with one type of ventilators in accordance with the present invention;

Fig. 2 is an enlarged perspective sectional view taken substantially along line 2—2 of Fig. 1;

Fig. 3 is a fragmental front elevation of a casement window equipped with a modified ventilator structure;

Fig. 4 represents an enlarged sectional view taken along line 4 of Fig. 3;

Fig. 5 is a perspective modified embodiment of two corresponding ventilator members wherein the stationary member is provided with screening; and

Fig. 6 is a perspective view of still another embodiment of a movable ventilator member.

In describing the illustrations in detail, numerals 10 and 11 denote sash frames. The lower lights or panes 12 are shortened to accommodate a ventilating structure in accordance with the present invention. In Figs. 1 and 2 one form of such structure is illustrated. It consists of two continuous members 13 and 14. Member 14 constitutes preferably an extrusion shape having a triple channel formation, there being provided a top channel 15 opening upwardly and adapted for the reception of the lower edge of a window

pane 12 and directly below and adjacent to channel 15 an upper channel 16, and at the lower edge of member 13 a bottom channel 17. The open ends of channels 16 and 17 are disposed directly opposite each other, the channels being separated or spaced by a relatively broad web 18 which is provided with a plurality of equally distanced apertures 19. Extending outwardly from upper channel 15 is a shield or drip cap 20 which extends along the entire length of member 13 and overhangs apertures 19.

As stated, member 13 is a continuous extrusion shape which can be readily cut to size or length to fit any existing or any new sash in which the ventilator is to be installed. In addition member 13 is adapted to be sealed, cemented or puttied in the sash frame, the same as would be the full-size lower pane 12.

Member 14 is made from a continuous strip of material which is approximately as wide as web 18 separating channels 16 and 17, and is adapted to be placed within these channels and to be guided by them. From member 14 are preferably stamped out openings 21 in such a way that upwardly-opening, inwardly projecting, pocket-like louver structures 22 are formed, the bottom and sides of which being closed. The number and position of louvered openings 21 correspond with that of apertures 19 in member 13. In order to facilitate operation of member 14 in respect to member 13, there are provided grips or handles 23 which either form integral parts of member 14 or angular stampings which are fixedly secured to that member.

In the embodiment shown in Figs. 1 and 2 apertures 19 and louvered openings 21 in the fixed and movable member, respectively, are shown in their simplest forms. In Figs. 3 and 4 a modified structure is illustrated wherein the louver structure is somewhat broader and the movable members 14' are equipped with series of superimposed louvered openings 24 and handles 23' forming integral parts of these members. Fixed members 13' are very similar in every respect to members 13 of Figs. 1 and 2, with the exception that their apertures 19' are somewhat longer to correspond with the area of the series of louvered openings 24 of the movable members.

Obviously apertures 19 and 19' of fixed members 13 and 13' could be equipped with a screening to prevent access to insects, dust or other matter, and such provision of screening is shown in the embodiment illustrated in Fig. 5, and wherein fixed member 113 again comprises a top channel 115 and two oppositely disposed channels 116 and 117, top channel 115 again forming the upper edge of the fixed member, while bottom channel 117 serves as the lower edge thereof. There is again provided a drip cap 120 extending over the entire length of member 113. The apertures 119 in this embodiment are of oval construction and are provided with screening 25. The movable member 114 again comprises a strip of material from which are stamped louvered openings 122, and a double set of handles 123 facilitate the operation of the movable member in respect to the fixed member.

A modified form of the movable member for use with fixed member 113 is illustrated in Fig. 6 and is indicated at 114', equipped with louvered openings 122' and handle 123', the latter forming an integral part of the member.

In every one of the embodiments shown and described, the governing thought is simplicity in structure, positiveness in operation and reduction in cost. To that end the fixed as well as the

movable members form continuous shapes of originally uniform cross sections. The only additional work required is the stamping of apertures in the web of the fixed members and the stamping and shaping of the louvered openings and handles from the body of the movable member. The ultimate effect is simple and inexpensive ventilating structure elements which may be produced in continuous lengths and cut to desired dimensions to be applied to either existing or new window sash frames, irrespective of their structure and purpose, the only other requirement being of shortening the lower end of the glass pane and sealing that pane and the ventilating structure in the window frame as one unit. The advantage of providing an upper, glass-receiving channel at the top edge of the stationary or fixed ventilating member is of great advantage in the mounting and sealing of the pane and the ventilator and reduces the cost of installation to a minimum.

While in the foregoing only a few of the many possible embodiments of the present invention are described, it becomes obvious that changes and improvements may have to be incorporated to meet various requirements, such changes and improvements being deemed to reside within the scope of the present invention as defined in the annexed claims.

What is claimed as new is:

1. In a ventilator for association with a window sash, a pre-fabricated stationary member of a uniform cross section cut to desired length and adapted to replace the lower end portion of a window pane, said member comprising a triple channel formation wherein one channel, opening upwardly, forms the top edge of the member and serving for the reception of the bottom edge of the window pane, two oppositely disposed and spaced channels separated by a vertical web, the latter being provided with spaced apertures, the upper of the spaced channels being adjacent to the top edge channel and opening downwardly, the lower channel forming the bottom edge of the member and opening upwardly, a drip shield extending along the entire length of the member above the apertures and depending at an incline from that upwardly opening one channel; a movable ventilator member inserted in, operative within and guided by said spaced channels and having spaced louvered openings, the spacing of these openings substantially corresponding to that of the apertures in said web, said apertures having upwardly opening and inwardly projecting louver structures which are closed at their bottom and their sides.

2. In a ventilator in accordance with claim 1, and in which said movable ventilator member comprises strip material from which the louvered openings are formed, and having means, also formed from the strip material for facilitating operation of the movable member in respect to the stationary member.

3. In a ventilator according to claim 1, and wherein screening is provided over the apertures of said web.

4. In a ventilator structure, stationary and movable members, both being the products of continuous pre-fabrication with originally uniform cross sections, said stationary member constituting an extrusion shape having a triple channel arrangement wherein one channel, opening upwardly, forms the top edge of the member, the two other channels being disposed with their open ends opposite each other and being

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spaced by a relatively wide web, one of these channels forming a continuation of the top edge channel but opening downwardly, the other constituting the bottom edge of the stationary member and opening upwardly, a downwardly inclined drip cap projecting outwardly from the top edge channel and extending over the entire length of the stationary member, a plurality of spaced apertures provided in said web; said movable member comprising a strip operative within said oppositely disposed channels of the stationary member and having openings corresponding in number and position to the apertures provided in the web of the stationary member, the openings of said movable member being provided with inwardly directed louver structures open on top and closed at the bottom and sides, and integral means extending from the movable member for operating it.

5. In a ventilator for association with a window sash and adapted to replace a portion of a window pane and to form a continuation of the latter and to be sealed within the sash frame as though a part of the window pane, the combination with a continuous extrusion shape including a top channel, a pair of oppositely and parallelly disposed guide channels beneath the top channel, a web spacing the guide channels, and

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a continuous drip cap extending from below the top channel, of a one-piece strip element operative in said guide channels in adjacent relation to said web, spaced ventilating apertures in said web, equally spaced openings in said strip element provided with upwardly opening and inwardly directed louver structures, said drip cap projecting over said web apertures, and operating means for said strip element forming an integral part thereof.

6. In a ventilator according to claim 5, the said louver structures comprising relatively short, deep stampings, the stamped-out edges of which extend upwardly.

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