

June 28, 1949.

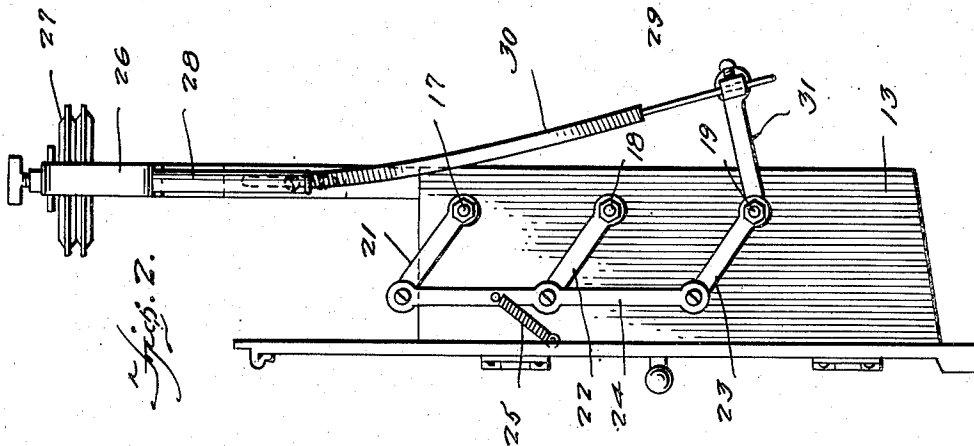
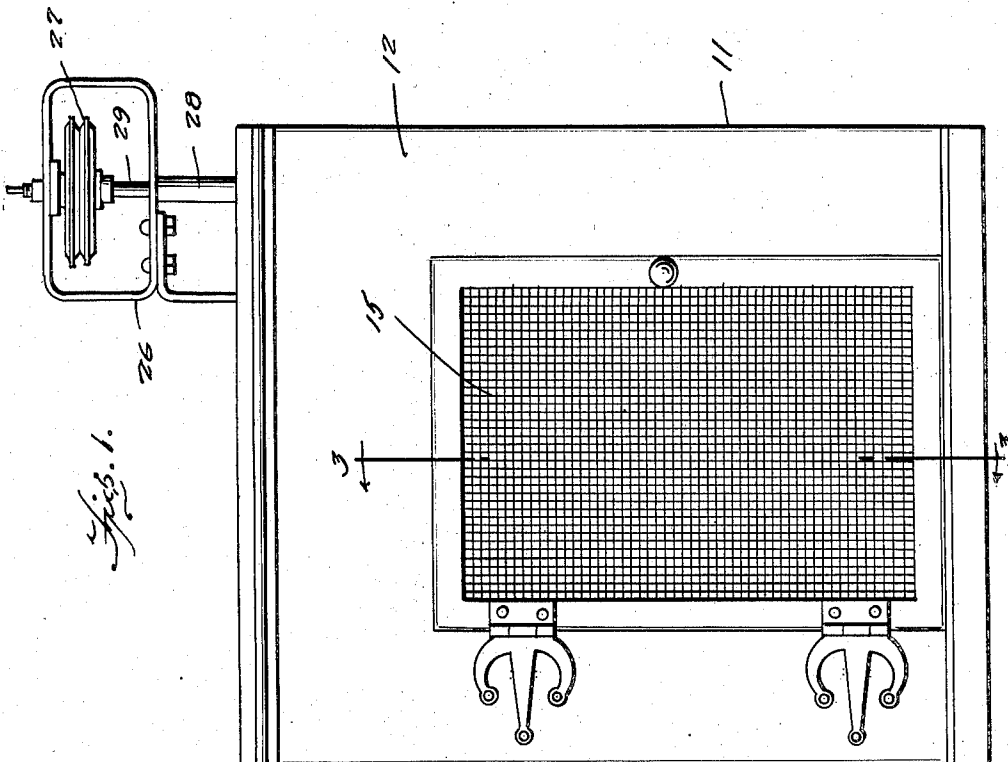
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2,474,760

AUTOMATIC VENTILATOR

Filed March 29, 1946

2 Sheets-Sheet 1



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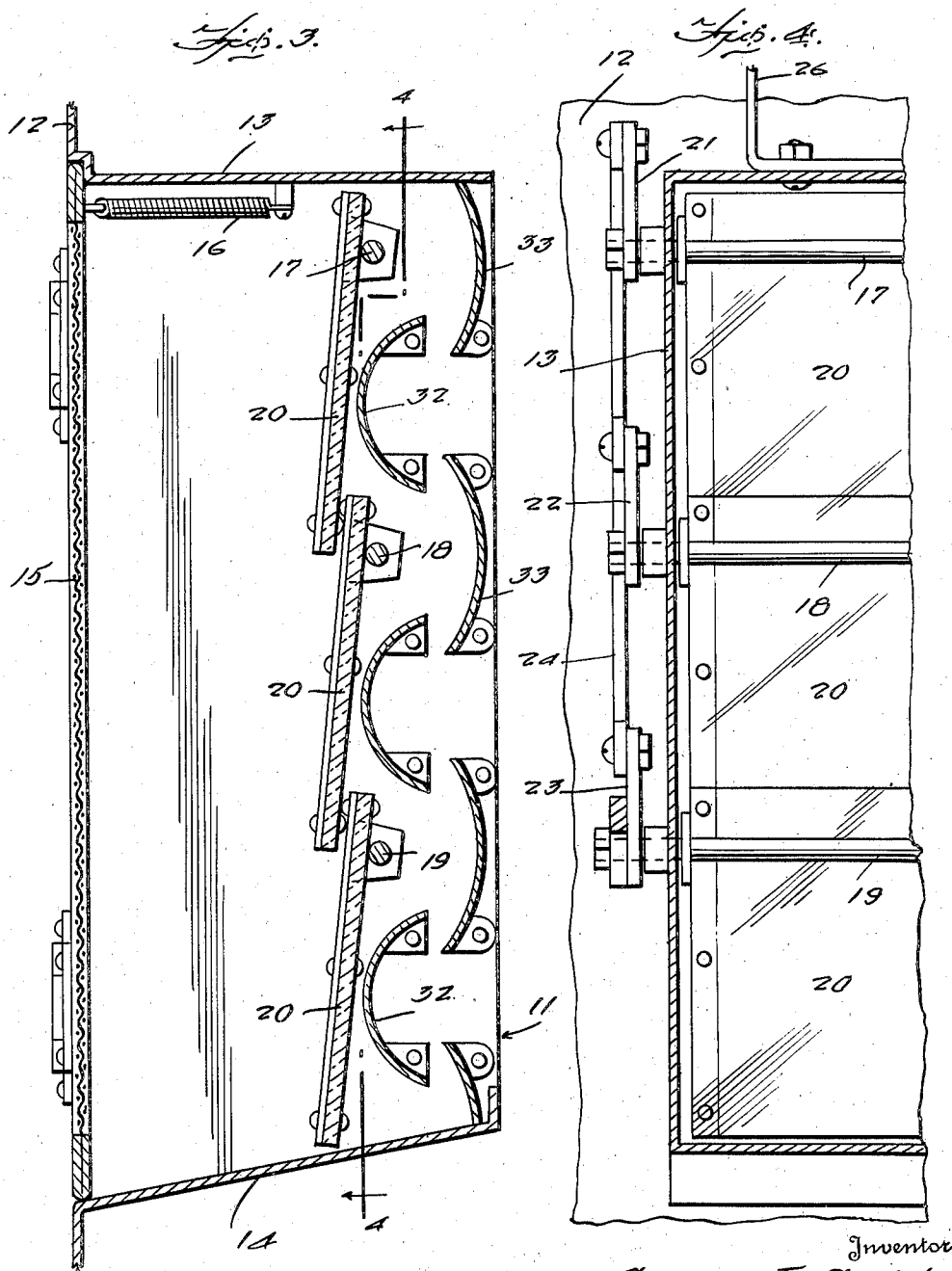
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AUTOMATIC VENTILATOR

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2 Sheets-Sheet 2



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UNITED STATES PATENT OFFICE

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AUTOMATIC VENTILATOR

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1 Claim. (Cl. 98—99.8)

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This invention relates to window ventilator devices, and more particularly to a thermostatically controlled ventilator unit for windows.

A main object of the invention is to provide a novel and improved window ventilator unit of very simple construction which is very easy to install and is automatic in operation.

A further object of the invention is to provide an improved automatic ventilator unit for windows, said unit being inexpensive to manufacture, efficient in operation and of durable construction.

Further objects and advantages of the invention will become apparent from the following description and claim, and from the accompanying drawings, wherein:

Figure 1 is a front elevational view of a window ventilator unit constructed in accordance with the present invention.

Figure 2 is a side elevational view of the ventilator unit of Figure 1.

Figure 3 is a cross-sectional view taken on line 3—3 of Figure 1.

Figure 4 is a cross-sectional view taken on line 4—4 of Figure 3.

Referring to the drawings, 11 designates a housing which comprises a rectangular front panel 12 to which is secured a generally rectangular frame 13 defining a box-like enclosure. The lower wall 14 of frame 13 is sloped in accordance with the slope of a window sill so that the housing 11 may be supported thereon in vertical position.

Front panel 12 is formed with a large rectangular aperture, and hinged to said panel is a screened closure member 15 adapted to normally cover the aperture, a spring 16 connecting the upper portion of the frame of closure member 15 to the top wall of frame 13 to thereby bias closure member 15 toward its closed position.

Pivotally mounted in the sidewalls of frame 13 and extending horizontally across the rear portion of the box-like enclosure are a plurality of vertically spaced shaft members, three shaft members 17, 18 and 19 being shown by way of example, it being understood that any desired number of such shaft members may be employed within the spirit of the present invention. Each shaft member carries rigidly secured thereto a transparent shutter member 20 of Lucite or the like, the adjacent edges of the shutter members 20 overlapping in the manner shown in Figure 3 so that when the shutter members are in depressed positions they form a substantially closed rear wall for the box-like enclosure.

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Externally of frame 13 at one side thereof the projecting end of shaft 17 has an arm 21 secured thereto, the end of shaft 18 has an arm 22 secured thereto and the projecting end of shaft 19 has an arm 23 secured thereto, the arms 21, 22 and 23 being parallel. Arms 21, 22 and 23 are linked together by a bar member 24, said bar member being connected to panel 12 by a spring 25 to thereby bias shafts 17, 18 and 19 toward positions corresponding to the closing positions of shutter members 20.

Secured to the rear portion of the top wall of frame 13 is a vertically adjustable P-shaped bracket member 26 and mounted in the looped portion of said P-shaped bracket member is a thermo-sensitive capsule 27, the upper end of the capsule being adjustably secured to the top arm of said bracket member. Aligned with the axis of said capsule 27 and secured to the lower arm of the loop of the bracket member is a depending sleeve 28 and slidably passing through said lower arm and slidably engaging said sleeve is an axial push rod 29 secured to the lower end of capsule member 27. Push rod 29 is of the flexible type and passes through a suitable flexible sheath 30, the upper end of which is secured to the lower end of sleeve 28. The lower end of push rod 29 is adjustably secured to an arm 31 which is rigidly secured to shaft 19. It is readily apparent that when capsule 27 dilates due to an increase in ambient temperature, which causes the pressure of a suitable gas contained inside the capsule to increase, the push rod 29 moves downwardly and rocks arm 31 and the linkage including arms 21, 22 and 23 in a clockwise direction, as viewed in Figure 2. This rotates the shutters 20 to open positions, the degree of opening depending upon the ambient temperature to which capsule 27 is exposed.

Positioned in the rear portion of the box-like enclosure defined by frame 13 is a first vertically spaced series of horizontal baffle plates 32 presenting outwardly convex surfaces and extending across the box-like enclosure between the side walls of frame 13. Positioned rearwardly of plates 32 and staggered with respect thereto is a second vertically spaced series of horizontal baffle plates 33 presenting concave surfaces toward baffle plates 32 and similarly extending between the walls of frame 13. The baffle plates 32 and 33 are preferably made of transparent plastic material such as Lucite or the like. Said baffle plates provide a tortuous path for air moving past shutters 20 through the box-like enclosure.

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sure and aid in filtering out dust, yet have sufficient transparency to allow a substantial amount of light to be transmitted through them. The screen closure 15 provides protection against the admission of insects through the ventilator unit.

In use, the ventilator unit is positioned on a window-sill with screened closure 15 facing outwardly and the lower edge of the lower sash of the window resting on the top wall of frame 13. Thermostatic capsule 27 is exposed to the ambient temperature of the room and is adjusted so that if the room temperature rises above a predetermined value the shutters 20 will be automatically opened by the dilation of the capsule by an amount corresponding to the degree of temperature elevation of the room temperature above said predetermined value.

Due to the transparency of the shutters 20 and the baffle plates 32 and 33, an appreciable amount of light is transmitted through the ventilator even when the shutters 20 are tightly closed.

While a specific embodiment of an automatic window ventilator device has been disclosed in the foregoing description it will be understood that various modifications within the spirit of the invention may occur to those skilled in the art. Therefore it is intended that no limitations be placed on the invention other than as defined by the scope of the appended claim.

What is claimed is:

An automatic window ventilator comprising a box-like frame adapted to be mounted in a window opening of a room, a screened front closure for said frame, means hingedly connecting said

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screen to said frame, spring means biasing said screen toward a closed position, a plurality of transparent shutters, means pivotally mounting said shutters on vertically-spaced horizontally-disposed axes extending across an intermediate portion of said frame inwardly of said screen, said shutters being adapted to overlap each other when in closed positions to form a substantially closed and transparent wall for said frame, means linking said shutters together for simultaneous movement, means inwardly of said room for opening and closing said shutters, a plurality of stationary transparent baffle plates mounted rearwardly of said shutters and extending across said frame, alternate ones of said baffle plates being oppositely curved and overlapping each other in spaced relation, and spring means operatively connected to said shutters and biasing the same toward a closed position.

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