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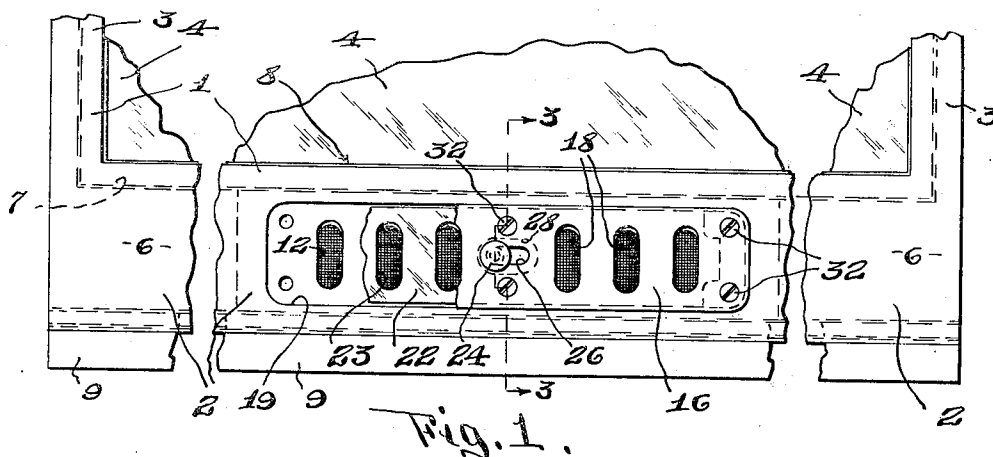
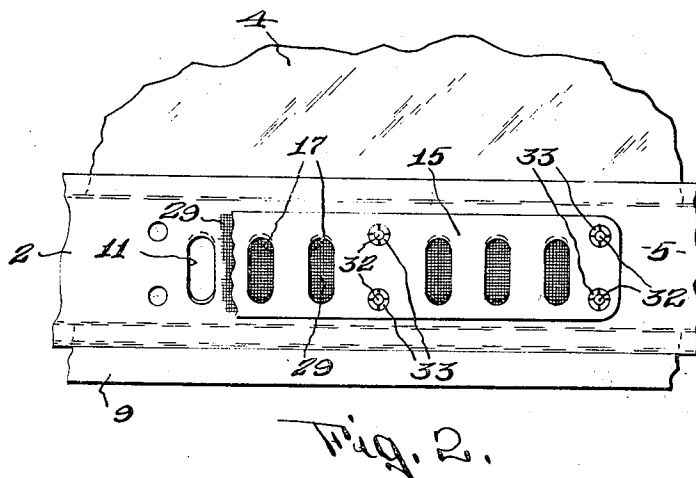
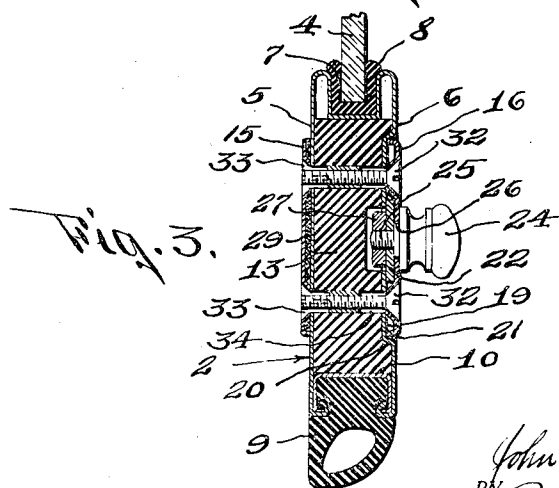
J. F. LEVAN

1,996,426

WINDOW SASH AND VENTILATOR CONSTRUCTION

Filed April 25, 1930

2 Sheets-Sheet 1



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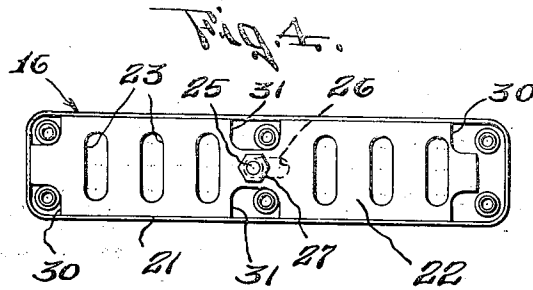
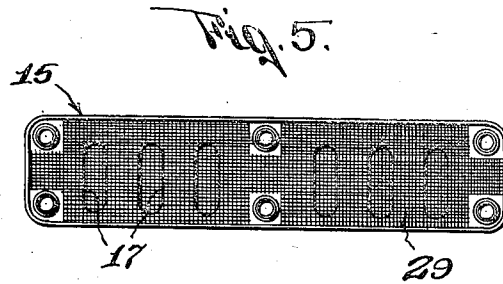
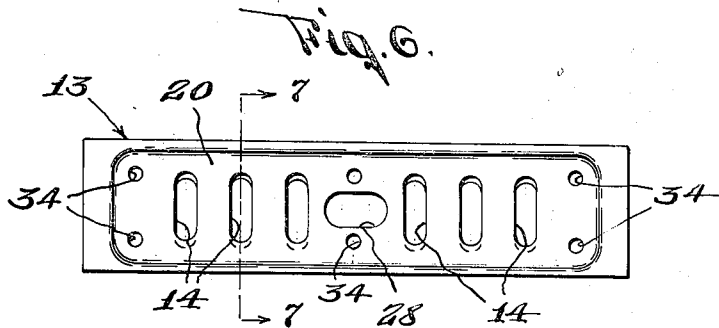
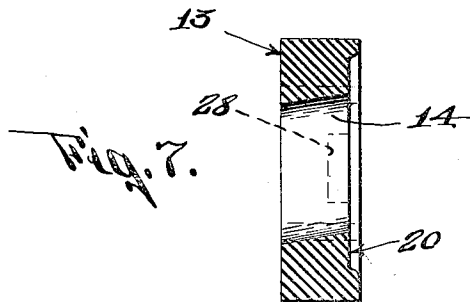
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WINDOW SASH AND VENTILATOR CONSTRUCTION

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2 Sheets-Sheet 2



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UNITED STATES PATENT OFFICE

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WINDOW SASH AND VENTILATOR
CONSTRUCTION

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Application April 25, 1930, Serial No. 447,359

7 Claims. (Cl. 98—97)

This invention relates to ventilators, and particularly to ventilators which are built into the sashes, as the lower rails of the sashes of windows, as railway cars and bus windows, which are usually made up of light sheet metal material, and has for its object, a ventilator and sash construction or assembly, which is particularly simple and economical in construction, and in which the accumulation of dust within the sash is prevented.

The invention consists in the novel features and in the combinations and constructions hereinafter set forth and claimed.

In describing this invention, reference is had to the accompanying drawings in which like characters designate corresponding parts in all the views.

Figure 1 is a fragmentary elevation of a sash embodying my invention.

Figure 2 is a fragmentary opposite side elevation from that seen in Figure 1.

Figure 3 is an enlarged sectional view on line 3—3, Figure 1.

Figure 4 is an inner face view of the closure, and the adjacent plate which retains it in position.

Figure 5 is an inner face view of the plate on the front or outer side of the sash, the screen associated therewith being also shown.

Figure 6 is an elevation of the block which is located within the sash member.

Figure 7 is a sectional view on line 7—7, Figure 6.

This ventilator comprises generally, a block interposed between and fitting between the front and rear walls of a hollow or sheet metal sash member, usually the lower rail of the sash, the block having transverse ventilator openings therethrough which are in communication with openings in the front and rear walls of the sash member, front and rear plates overlying the front and rear walls of the sash member and having openings alined with the openings in said front and rear walls, one of these plates, preferably the plate on the inner or rear side of the sash, being spaced apart from the adjacent wall of the sash, a closure located in the space between the last mentioned plate and the opposing wall of the sash member, and having openings movable into and out of alinement with the openings in said plate, and in the opposing wall of the sash member, the closure having a handle on the outside of said plate, and means for clamping the plates to the sash member.

Some of the foregoing elements may be omitted,

and also the ventilator may be installed in any hollow frame member, regardless of whether or not the frame member is part of a sash, or of any other frame.

1 designates generally, the sash having the usual top and bottom rails and stiles. 2 designates the bottom rail, and 3 the stiles. 4 designates the glazing.

The bottom rail is formed up of sheet metal to have opposing front and rear walls 5, 6 and a reentrant groove 7 for receiving a channel 8 in which the margin of the glazing 4 is received. The bottom rail 2 is here shown as provided with a buffer or weather strip 9 of any suitable construction, this strip 9 being usually of rubber having a backing 10 in the form of a sheet metal channel suitably mounted and interlocked in the lower edge of the bottom rail. This feature in itself, forms no part of this invention, except that the buffer 9, or its backing 10, constitutes the lower edge wall of the sash member on which the ventilator block is mounted.

The front and rear walls of the sash are formed with openings 11 and 12. 13 is a block, usually of fibrous material, interposed between the front and rear walls of the sash member 2, or between a portion of said walls, as the ventilator does not extend the full length of the member 2, and the block preferably fills the space between the front and rear walls 5, 6 with its upper edge abutting against the bottom of the re-entrant groove 7, and its lower edge against the backing 10 for the buffer strip 9. The block is formed with openings 14 in the form of upright slots. The openings or slots in the front and rear walls of the sash, and in the face plates and the closure to be presently described, are of similar shape.

15 and 16 are front and rear plates overlying the front and rear walls of the sash member 2, and formed with openings 17 and 18 alined with the openings 11 and 12 of the front and rear walls of the sash member, one of these plates 16 being preferably spaced apart from the underlying wall of the sash member forming a space for the closure to be presently described.

In the illustrated embodiment of my invention, the rear or inner wall of the sash member 2 is formed with a depressed portion 19 in the bottom of which the openings 12 are formed, and this depression fits a corresponding recess 20 formed in the block 13.

The plate 16 is provided with angularly bent margins 21, the edges of which abut the bottom of the depression 19, and space the plate 16 away from the bottom of the depression.

22 is the closure or slide movable in the space between the plate 16 and the bottom of the depression 19, this closure or slide having openings 23 movable into and out of alinement with the openings in the plate 16, and the bottom of the recess 19. The closure is operated by means of a handle 24 having a head or knob overlying the plate 16, and a stem 25 extending through a slot 26 in the plate 16, and secured to the closure, as by a nut 27 threading on the inner end of the stem against the inner side of the closure, the nut working in a suitable recess or clearance 28 formed in the block 13.

A screen 29 is interposed between the outer plate 15 and the front wall of the sash member 2.

The plates are clamped in position against the front and rear walls of the sash member 2 by means which are self-contained with the ventilator construction, and which extend transversely through the sash member 2 and the block 13. There are a plurality of such means suitably located as not to interfere with the sliding of the closure, and as here shown, the means are located at the corners of the plates 15, 16, and intermediate of the ends thereof, and the closure is provided with slots 30 and 31 through which the fastening means extend. Each of the fastening means comprises an ordinary screw 32 and a sleeve screw 33 into which the former screw 32 threads. The screw 32 extends through one of the plates 15, 16, as the plate 16 through the bottom of the depression 19 of the rear wall 6 of the sash member, and into a passage 34 in the block 13, and the sleeve screw 33 extends through a similar opening in the plate 15 and into said passage 34.

The passages 14 of the block 13 are preferably formed with their upper and lower walls arcuate, and also inclined downward from their inner ends toward their outer ends, so that any dust that may filter through a screen, will sift toward the lower ends of said passages 14, and to a large extent, work out through the screen.

This ventilator is particularly advantageous in that, owing to the block 13, the dust, soot etc., is prevented from filling into the hollow sash member, and there is a minimum space for the dust to accumulate, and further in that the ventilator is readily applied to the sash, and also can be readily cleaned if necessary, by removing the outer plate 15, together with the screen, and cleaning out the passages 14.

Also, owing to this construction, the ventilator can be applied substantially flush with the front and rear walls of the sash. Also, owing to the location of the closure in the depression in one of the walls of the sash member, the ventilator does not materially thicken the sash member. Also, owing to the mounting of the closure, it is readily operable, and owing to the block 13 with its ventilator openings 14 with the inclined upper and lower walls, clogging of the closure, or the liability of dust accumulating in the space in which the closure slides, is reduced to a minimum.

What I claim is:

1. In combination, a window sash having a hollow member provided with openings in its front and rear walls, a ventilator comprising a block interposed between said walls and abutting against the same, the block having openings therethrough in communication with the former openings, the block also having a recess in one side thereof, and the contiguous wall of the sash member being provided with a depressed portion

substantially fitting said recess, the openings in said wall which is formed with the depression being provided in the bottom of the depression, a closure movable in the depression and having openings movable into and out of alinement with the openings in the bottom of the depression, and means for securing the closure in position.

2. In combination, a window sash having a hollow member provided with openings in its front and rear walls, a ventilator comprising a block interposed between said walls and abutting against the same, the block having openings therethrough in communication with the former openings, the block also having a recess in one side thereof and the opposing wall of the sash member being provided with a depressed portion substantially fitting said recess, the openings in said wall which is formed with the depression, being provided in the bottom of the depression, a closure movable in the depression and having openings movable into and out of alinement with the openings in the bottom of the depression, a plate covering the depression, and having means for spacing it from the bottom of the depression, the plate being formed with openings alined with the openings in the bottom of the depression, and the closure being located between the plate and the bottom of the depression, and having a handle on the outside of the last mentioned plate, and means for holding the plate in position.

3. In combination, a window sash having a hollow member provided with openings in its front and rear walls, a ventilator comprising a block interposed between said walls and abutting against the same, the block having openings therethrough in communication with the former openings, the block also having a recess in one side thereof, and the opposing wall of the sash member being provided with a depressed portion substantially fitting said recess, the openings in said wall which is formed with the depression, being provided in the bottom of the depression, a closure movable in the depression and having openings movable into and out of alinement with the openings in the bottom of the depression, plates arranged on the front and rear walls of the sash member, one of said plates forming a cover for the depression and having means for spacing it from the bottom of the depression, both of said plates being formed with openings alined with the openings in the front and rear walls of the sash member, and the closure having a handle on the outside of the adjacent plate, and means for clamping the plates against the front and rear walls of the sash member.

4. In combination, a window sash having a hollow member provided with openings in its front and rear walls, a ventilator comprising a block interposed between said walls and abutting against the same, the block having openings therethrough in communication with the former openings, the block also having a recess in one side thereof and the opposing wall of the sash member being provided with a depressed portion substantially fitting said recess, the openings in said wall which is formed with the depression, being provided in the bottom of the depression, a closure movable in the depression and having openings movable into and out of alinement with the openings in the bottom of the depression, plates arranged on the front and rear walls of the sash member, one of said plates forming a cover for the depression and having means for spacing it from the bottom of the depression, both

of said plates being formed with openings alined with the openings in the front and rear walls of the sash member, and the closure having a handle on the outside of the adjacent plate, and means extending transversely through the block, the front and rear walls of the sash, and through said plates for clamping the plates against the front and rear walls of the sash member.

5. In combination, a window sash having a hollow member provided with openings in its front and rear walls, a ventilator comprising a block interposed between said walls and abutting against the same, the block having openings therethrough in communication with the former openings, said openings being upright slots having their top and bottom walls inclined downward and outward, the block also having a recess in one side thereof and the opposing wall of the sash member being provided with a depressed portion substantially fitting said recess, the openings in said wall which is formed with the depression, being provided in the bottom of the depression, a closure movable in the depression and having openings movable into and out of alinement with the openings in the bottom of the depression, a plate covering the depression, and having means for spacing it from the bottom of the depression, the plate being formed with openings alined with the openings in the bottom of the depression, and the closure being located between the plate and the bottom of the depression, and having a handle on the outside of the last mentioned plate, and means for holding the plate in position.

6. In combination, a window sash having a hollow member with openings in the front and rear walls thereof, a ventilator including a block interposed between the front and rear walls and substantially filling the space between the same, the

block being formed with openings communicating with the former openings, and means self-contained with the block for securing the ventilator in the hollow member comprising removable plates overlying the outer faces of the inner and outer walls of the hollow sash member and having openings coinciding with the openings in the front and rear walls of the sash member, and means common to the plates and the block for securing the same to the sash member including fastening members extending transversely through the plates and the block.

7. In combination, a window sash having a hollow member with openings in the front and rear walls thereof, a ventilator including a block interposed between the front and rear walls and substantially filling the space between the same, the block being formed with openings communicating with the former openings, and means self-contained with the block for securing the ventilator in the hollow member comprising removable plates overlying the outer faces of the inner and outer walls of the hollow sash member and having openings corresponding with the openings in the front and rear walls of the sash member, and means common to the plates and the block for securing the same to the sash member including fastening members extending transversely through the plates and the block, one of the plates and the opposing wall of the hollow member being formed with a depression between them and a closure slidable in the depression and having openings movable into and out of alinement with the openings in the block and in the adjacent wall of the sash member, and a handle on the outside of the latter plate for opening the closure and operatively connected to the closure.

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