R. T. GILES & P. W. KINSELLA.

VENTILATOR.

APPLICATION FILED AUG. 21, 1916.

1,265,191.

Patented May 7, 1918.

2 SHEETS—SHEET 1.

Fig. 1.

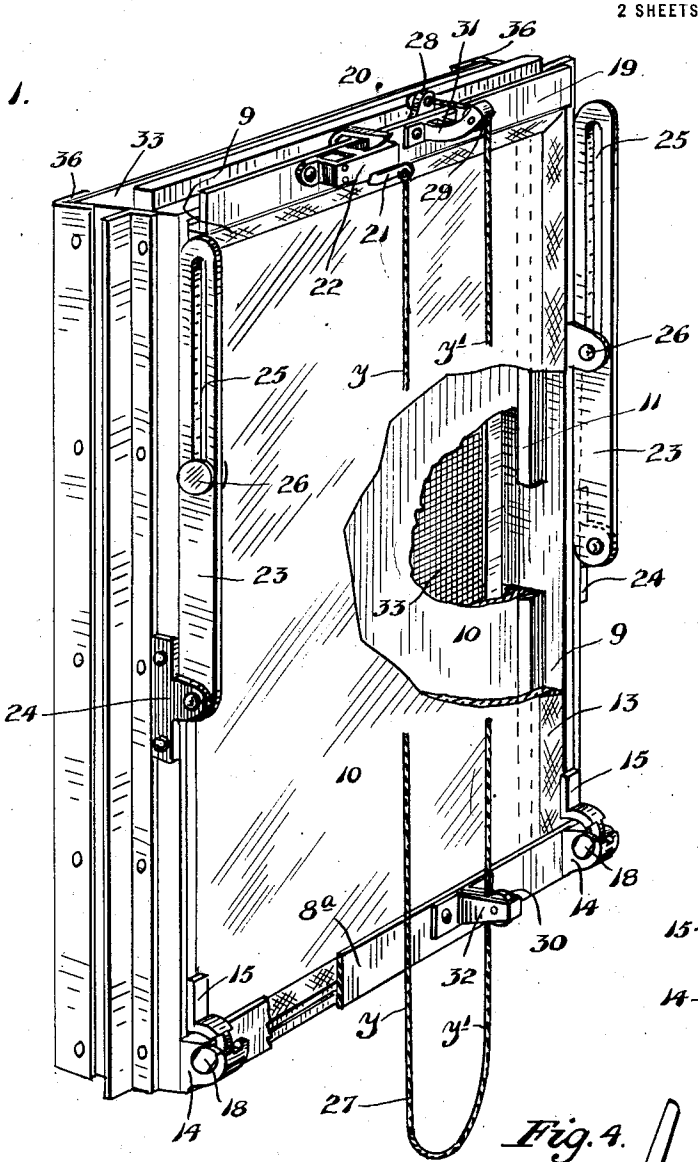



Fig. 3.

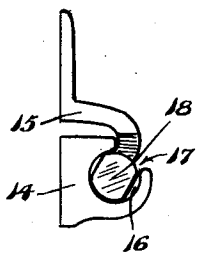



Fig. 2.

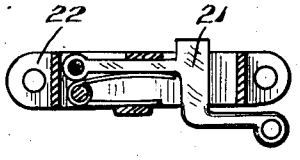
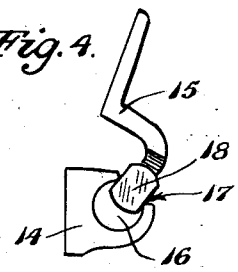



Fig. 4.




Witnesses
H. L. Opsahl.
E. C. Wells

Inventors.
R. T. Giles.
P. W. Kinsella.
By their Attorneys.
Williamson & Merchant

R. T. GILES & P. W. KINSELLA.

VENTILATOR.

APPLICATION FILED AUG. 21, 1916.

1,265,191.

Patented May 7, 1918.

2 SHEETS—SHEET 2.

Fig. 5.

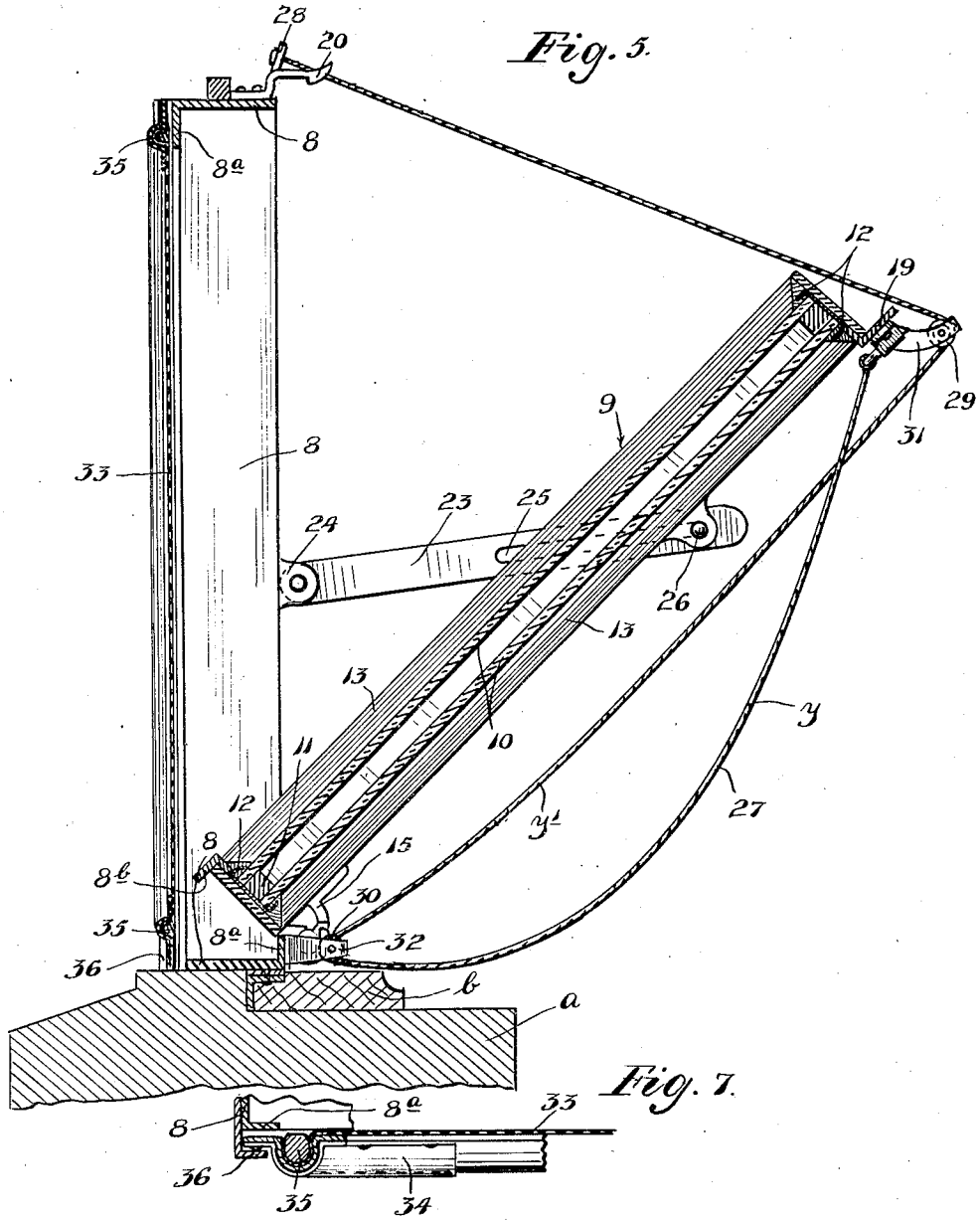
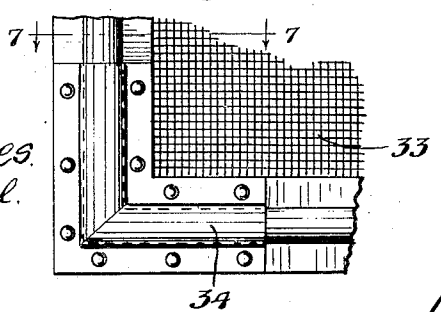



Fig. 7.




Fig. 6.




Witnesses.
H. L. Opsahl.
E. C. Wells

Inventors
R. T. Giles.
P. W. Kinsella
By their Attorneys
Williamson & Merchant

# UNITED STATES PATENT OFFICE.

ROBERT T. GILES AND PAUL W. KINSELLA, OF CHICAGO, ILLINOIS.

## VENTILATOR.

1,265,191. Specification of Letters Patent. Patented May 7, 1918.

Application filed August 21, 1916. Serial No. 115,922.

*To all whom it may concern:*

Be it known that we, ROBERT T. GILES and PAUL W. KINSELLA, citizens of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Ventilators; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

Our invention has for its object to provide a simplified and improved weather tight ventilator for buildings; and to such ends, generally stated, the invention consists of the novel devices and combinations of devices hereinafter described and defined in the claims.

The ventilator is preferably also a metallic or fire proof structure and comprises a window frame and hinged sash combined with certain novel and important features to be hereinafter described.

In the accompanying drawings which illustrate the invention, like characters indicate like parts throughout the several views.

Referring to the drawings:

Figure 1 is a perspective view with parts broken away, showing the improved ventilator;

Fig. 2 is a detail in horizontal section showing the sash latch;

Figs. 3 and 4 are details in side elevation illustrating the construction of the sash hinge;

Fig. 5 is a vertical section taken centrally through the ventilator showing the same applied to a window sill;

Fig. 6 is a fragmentary view of one corner portion of the window screen; and

Fig. 7 is a section on the line 7—7 of Fig. 6, showing also in section, portions of the window frame with which said screen is detachably mounted.

This improved ventilator may be applied in a wall as a complete window, or it may be applied as one of the patterns or panes of a large window sash, but in the drawings, the first mentioned application is illustrated.

The character *a* indicates a window sill, as shown, having a detachable strip *b* nailed, screwed, or otherwise attached thereto.

The frame of the ventilator, as preferably constructed, is made up of four angle iron or steel bars suitably connected at their ends to form a rigid rectangular frame structure. These bars 8 are angle bars, that is, provided with inturned joint flanges $8^a$ for an important purpose which will presently appear. The flanges $8^a$ of the vertical side and horizontal top bars 8 are, at the outer side of the window frame, while the flange $8^a$ of the horizontal bottom 8 is at the inner side of the said frame. The frame made up of the bars 8, is adapted to be directly set into a wall, or to be set as a panel in a large window sash. Fitted within the window frame made up of the bars 8 is a rectangular metal sash 9 shown as made up of flat metal bars. This sash 9 will be fitted with one or more glass panes 10. As shown, the panes 10 are double, are spaced at their edges by strips 11 and secured together directly by clenched metallic channels 12 shown as held within the sash 9 by inner and outer layers of putty 13. At is lower portion, the sash 9 is connected to the frame 8 by inwardly off-set hinges made up of coöperating hinge members 14 and 15. The hinge lugs 14 are secured to the ends of the flange $8^a$ of the lower frame bar 8, and they are formed with trunnion seats 16 having peripheral openings 17 at their upper portions. The hinge brackets 15 are secured to the lower rear edge portions of the side bars of the sash 9 and are formed with outstanding arms terminated in laterally projecting axially alined trunnions 18 that work pivotally within the seat 16 of the lugs 14.

The trunnions 18 are slightly flattened so that they may be applied within or removed from the seats 16 through the openings at 17, when the hinge brackets are turned to the position shown in Fig. 4. In all other positions of the said hinge brackets, in respect to the hinge lugs, the trunnions 18 are interlocked with the seats 16, but free for pivotal motion. By reference, particularly, to Figs. 1 and 5, it will be noted that the coincident axis of the hinge connections between the sash and frame, just described, are located approximately at the bottom of the sash, but offset a considerable distance inward therefrom. Also, it will be noted that the arms of

the brackets 15 are so curved that they will clear not only the upper portions of the hinge lugs 14, but also the flange $8^a$ of the lower frame bar 8, when the sash is closed. When the sash is closed, its lower portion is overlapped with the flange $8^a$ of the said lower bar 8 and is seated against the flanges $8^a$ of the side and top bars 8. This forms a weather-tight joint through which rain, for example, cannot be dashed even under high wind pressure. Any water that may be dashed against the outer pane and run onto the lower frame bar 8 will run freely outward and off from the same, but is prevented from running inward by the flange $8^a$ of the said lower bar.

To the inner edge of the upper bar of the sash 9, is rigidly secured an upwardly projecting flange 19 which, when the sash is closed, engages against the inner edge of the upper frame bar 8. Rigidly secured on the top of the upper frame bar 8 is a latch hook 20 that has a beveled hook end for engagement with the nose of an upwardly spring-pressed latch dog 21 pivotally seated in the bracket 22 that is rigidly secured to the intermediate portion of the flange 19. Obviously, when the latch dog 21 is engaged with the hook or detent 20, the sash 9 will be held in a closed position.

The inward swinging or opening movement of the sash is limited by one or more stop links 23 pivoted to lugs 24 on the upright frame bars 8, and having longitudinal slots 25 that engage studs 26 carried by lugs on the side bars of the sash 8.

Usually this ventilator will be applied high up on a wall and far beyond the reach of a person from the floor, and hence, there is provided a cable connection for effecting both the opening and closing movements of the sash. This cable 27, in the drawings, is shown as much shorter than it would be in practice. It will, of course, be understood that it should be made of such length that its lower portion may be reached from the floor of the room in which the ventilator is installed. One end of this cable 27 is attached to the free end of the latch dog 21 and the other end thereof is attached to a lug 28 secured to the upper bar of the frame 8. The intermediate portion of said cable is passed over two guide sheaves 29 and 30, the former of which is journaled in a bifurcated bracket 31 on the upper edge flange 19 of the sash 9, and the latter of which is journaled in a similar bifurcated bracket 32 on the flange $8^a$ of the lower bar of the frame 8. To the front edge of the lower bar of the sash 9 is secured an angle bar $8^b$, the downturned flange of which is adapted to overlap the outer edge of the said lower bar 8 of the window frame when the sash is closed, and thus form a tight joint at the outer lower portion of the window frame.

The manner of operating the sash by manipulation of the cable 27 is as follows:

When the sash is in its closed position shown in Fig. 1, it may be moved into an open position by taking hold of the said cable, for example, at $y$, and pulling downward thereon. This will first release the latch dog 21 from the latch hook 20 and will then cause the upper portion of the sash to swing outward on its hinges 16 and 18. When the sash is in its open position shown in Fig. 5, it may be closed by taking hold of the cable, for example, at $y^1$ and pulling downward thereon, thereby pulling said cable over the pulley 29 and forcing the sash into a closed position. From what has been said, it will, of course, be understood that the cable 27 is of such length that the points $y$—$y^1$ will be much below the ventilator and within reach from the floor.

The opening through the ventilating frame 8 is covered by a screen 33 held preferably in a rectangular metal frame 34. This frame 34, as preferably constructed, is of pressed sheet metal formed with a groove within which the edge of the screen 33 is fastened by a lock rod or bar 35 (see particularly Fig. 7). The edges of this screen frame 34 are slid downward into channels formed between the flanges $8^a$ of the upright frame bars 8, and the laterally bent flanges of the angle strips 36 rigidly secured to the said sash bars 8, as best shown in Fig. 7. When the screen is thus applied, it sits on the sill $a$ and may be removed by sliding upward.

What I claim is:

1. A ventilator comprising a fixed frame, a sash, a hinge supporting the sash on the lower bar of the frame, the elements of said hinge being detachable from each other in one position of the sash, and means for supporting the sash in such position that the disengagement of the hinge members will be prevented.

2. A ventilator comprising a fixed frame, a sash, a hinge supporting the sash on the frame, said hinge comprising a socket member having a circular seat and a peripheral opening leading thereto, a trunnion carried by the sash and having flattened sides, said trunnion being adapted to rest in said seat and to be displaced therefrom when the sash is swung to such a position that the flattened sides of the trunnion are in alinement with the peripheral opening of the socket member, and means for supporting the sash in such an open position that the disengagement of the trunnion is prevented.

3. In a ventilator, the combination with a rectangular frame having inwardly extending flanges on its side and top outer edges, outwardly projecting strips secured to the side edges of the frame and having inwardly projecting flanges forming channel-ways

with the aforementioned flanges, a screen member slid between said flanges in the channel-ways and a hinged sash mounted on the frame, said sash having a flange on its lower bar which is adapted to engage the lower outer edge of the frame and to be located between the screen and said edge.

In testimony whereof we affix our signatures in presence of two witnesses.

ROBERT T. GILES.
PAUL W. KINSELLA.

Witnesses:
EMMETT J. COLLINS,
WILLIAM B. GAUGHRAN.