Aug. 14, 1928. 1,680,388

F. W. McLEAN

WINDOW

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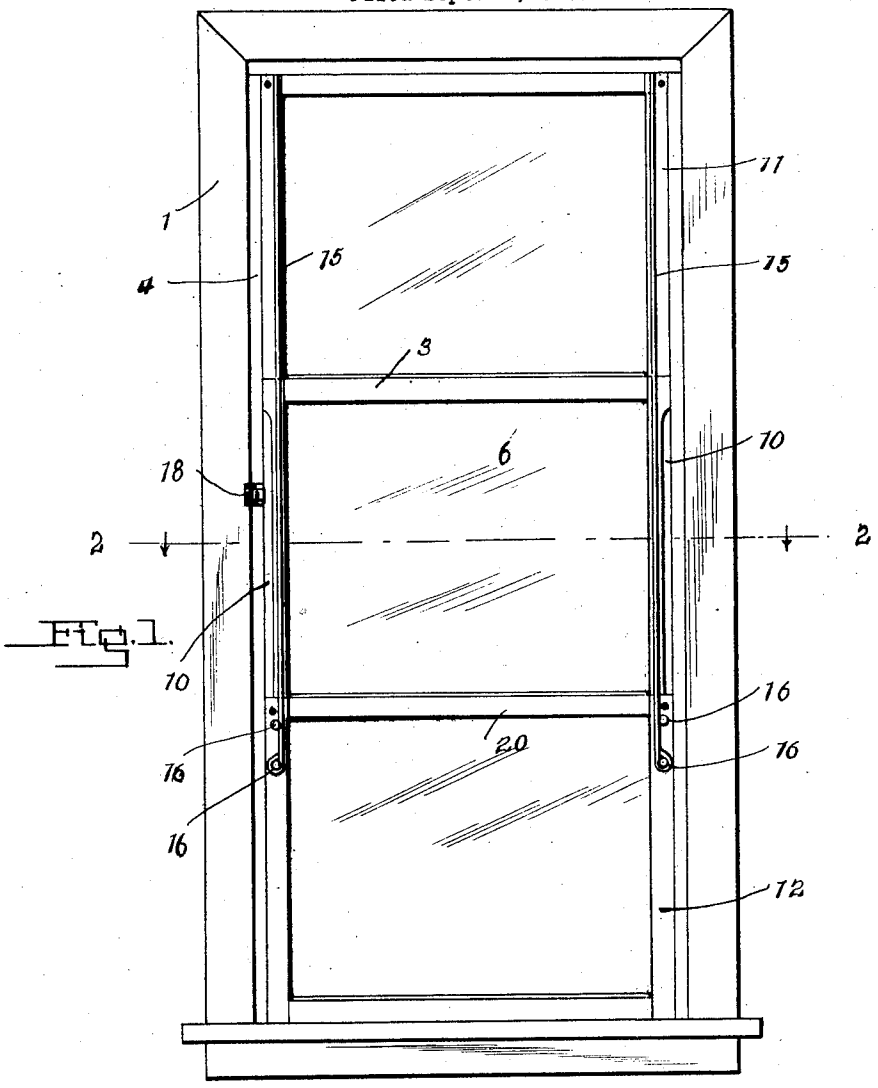


Fig. 1.

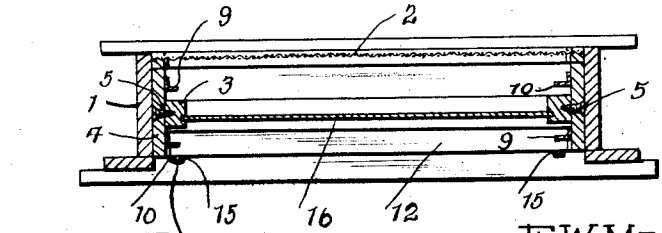


Fig. 2.

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Fig. 7.

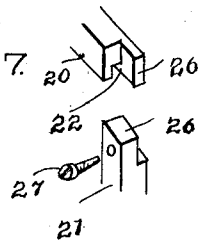


Fig. 3.

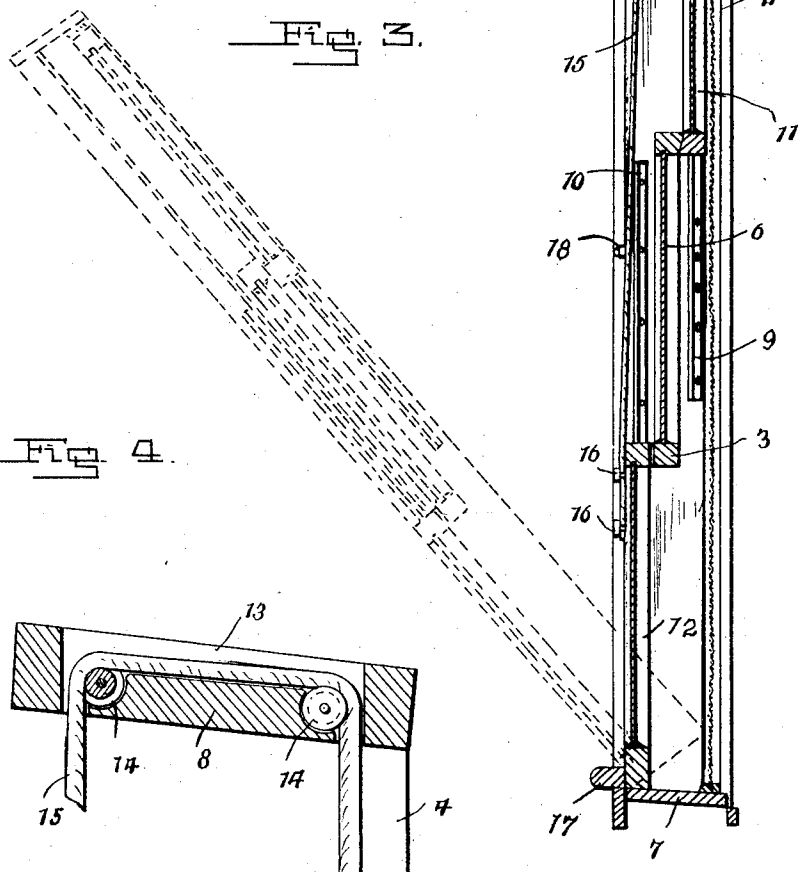


Fig. 4.

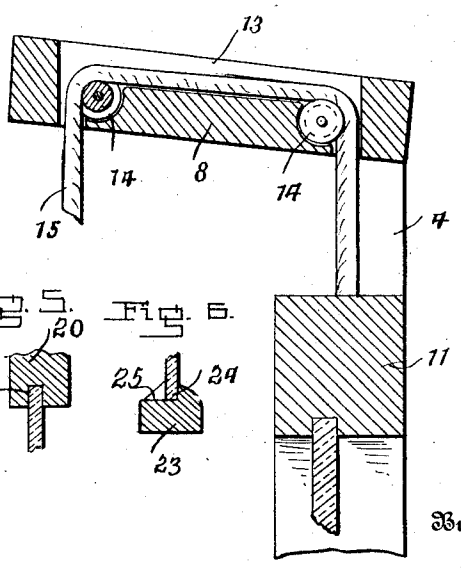


Fig. 5.

Fig. 6.

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Patented Aug. 14, 1928. 1,680,388

UNITED STATES PATENT OFFICE.

FRANK W. McLEAN, OF SHREVEPORT, LOUISIANA.

WINDOW.

Application filed September 30, 1926. Serial No. 138,734.

This invention relates to windows and has for its object the provision of a window adapted particularly for effecting ventilation of a room and adjustable to control the volume of air circulating through the room.

Another object is to provide a window which is removable to facilitate repairs or to leave the window opening entirely unobstructed if desired. The invention is illustrated in the accompanying drawings and will be hereinafter fully set forth.

In the drawings:

Fig. 1 is an elevation of a window embodying my present invention.

Fig. 2 is a horizontal section on the line 2—2 of Fig. 1.

Fig. 3 is a central vertical section.

Fig. 4 is an enlarged detail section showing the housing of the cable in the upper end of the sash frame.

Figs. 5, 6 and 7 are details of the sash construction.

The box or window frame 1 may be of the usual construction and is fitted within the window opening in the wall of a building and secured in the opening in the usual manner. In carrying out my invention, a screen 2, which preferably is of wire netting, is secured within the window frame adjacent the outer side thereof so as to extend over the entire area of the window opening. Located centrally of the window frame is a fixed sash 3 which is secured to a sash frame 4 by screws 5 or the like inserted through the sides of the sash frame into the sides of the sash 3, as shown most clearly in Fig. 2. This sash 3 is glazed with a pane 6, of glass or other transparent material and the sash is of such dimensions that, in the illustrated form of the invention, it occupies about one-third of the area of the sash frame. The sash frame comprises two side bars which are adapted to rest at their lower ends upon the sill 7 of the frame 1 and at their upper ends are connected by a cross bar 8. Upon the side bars of the sash frame at the inner and outer sides of the sash 3, I secure guides or track members 9 and 10 which are adapted to be engaged respectively by an outer sash 11 and an inner sash 12, the said sashes being glazed, as will be understood. The tracks or guide members 9 and 10 may be of any approved form and may conveniently be angle bars each having one web secured to the adjacent side of the sash frame 4, as shown and as will be understood, while the respective sashes will be constructed with grooves in their side rails or stiles to engage the inwardly projecting webs of the respective track members so that the sashes will be caused to move in a vertical rectilinear path when being shifted. The top bar 8 of the sash frame is provided with grooves 13 in its upper side adjacent its ends and at the ends of each groove are guide pulleys 14 over which runs a cable or chain 15. Each cable 15 has one end secured to the upper end of the outer sash 11 while its other end is adapted to be secured to a knob 16 provided on the inner side of the inner sash 12. The end of the cable or chain may be merely wrapped around this knob or it may be formed into a loop or equipped with a hook or otherwise formed so that it may be readily engaged with the knob, and two or more of the knobs may be provided at each side of the inner sash so that the cable may be adjusted to retain the inner and outer sashes in a desired relation to each other, although, of course, if the cable be long enough, one knob will suffice. In the arrangement illustrated in the drawings, the cables have been secured to a lower knob on the inner sash 12 and the said inner sash has been fully lowered, the outer sash being thereby brought to the top of the sash frame so that the window opening is fully closed.

It will be understood from what has been said that the sashes 11 and 12 are connected through the medium of the cables or chains 15 to maintain a desired relation to each other so that, if either sash be raised or lowered, the other sash will be correspondingly lowered or raised and the window may, therefore, be readily adjusted to permit a greater or less volume of air from the outside to pass into a room and, of course, permit the escape of a corresponding volume of air from the room. Ventilation will thus be easily effected and the temperature of the room may be readily regulated.

The lower end of the sash frame 4 rests upon the sill 7, as has been stated. It also engages behind the stool 17 and, therefore, will fit closely between the stool and the screen 2, the entire rear edges of the sash frame bearing against the said screen, as will be understood. When the sash frame is in its upright position within the window frame, it is retained in that position by a latch, indicated at 18, which may be of any well-known form. While I have illustrated

only one latch, it will, of course, be understood that any desired number of latches may be employed but, ordinarily, a single latch on one side of the frame will be sufficient. Should it be desired to remove or renew the screen or to repair any other element of the window or to permit an unobstructed circulation of air through the entire area of the window opening, the latch 18 may be released and the sash frame then swung inwardly about the stool 17, as indicated by the dotted lines in Fig. 3. The sash frame may be entirely removed in this simple manner or it may be supported by permitting its lower end to rest upon the stool 17 while its upper end is supported by a chair or any other convenient object.

I have also shown a sash construction which will facilitate replacement in the event the glass is broken. The under side of the top rail 20 and the inner side of each stile 21 is plowed to produce a groove, as at 22, therein, in which the corresponding edge of the glass pane will fit snugly. The lower rail 23 is formed with a shoulder 24 against which the lower edge of the pane rests, the usual luting 25 being employed at the opposite face of the pane but the use of putty or the like at the top and sides being unnecessary. The ends of the top rail and the upper ends of the stiles are tenoned, as at 26, and are secured by wood screws 27. When replacement of glass is necessary the screws are easily withdrawn and the top rail lifted off, whereupon the broken glass may be removed and a new pane inserted, the grooved construction guiding the pane to its place and minimizing the chance of its being dropped.

Having thus described the invention, I claim:

1. The combination with a window frame, of a sash frame fitting closely within the window frame and resting at its lower end upon the sill of the window frame and adapted to rock forwardly upon the same to be withdrawn from the window frame, said lower end of the sash frame being wholly detached from the window frame, a latch secured upon the window frame and engaging the sash frame to releasably secure the sash frame within the window frame, and a plurality of sashes carried by and within the sash frame.

2. A window comprising a sash frame, a sash fixed within the sash frame midway the upper and lower ends thereof and also midway the inner and outer sides thereof, tracks secured on the inner faces of the sides of the sash frame in front of the fixed sash and extending from a point in front of said sash to the lower end of the sash frame, other tracks secured on the inner faces of the sides of the sash frame at the rear of the fixed sash and each extending from the top of the sash frame to a point at the rear of said fixed sash, inner and outer sashes provided in their sides with grooves slidably engaged with said tracks, and a flexible connection between the inner and outer sashes, the intervening portion of said connection being housed in the top of the sash frame.

In testimony whereof I affix my signature.

FRANK W. McLEAN. [L. S.]