Feb. 3, 1931. M. J. TRACY 1,790,733

WINDOW

Filed May 22, 1929 2 Sheets-Sheet 1

Fig. 1.

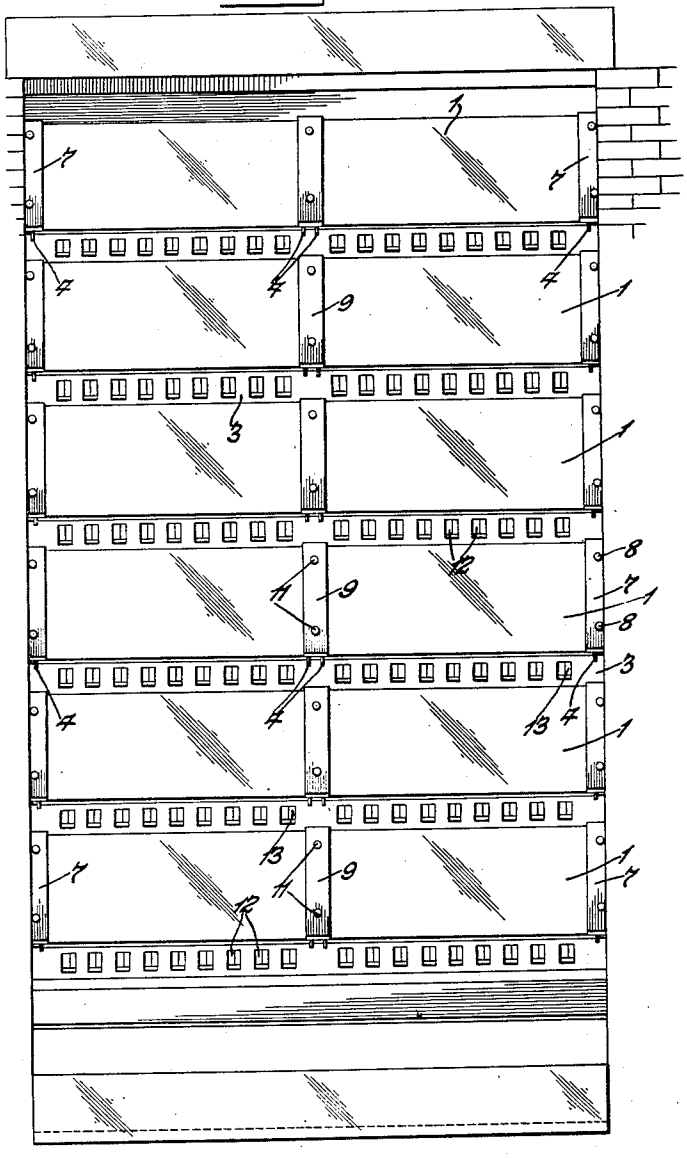
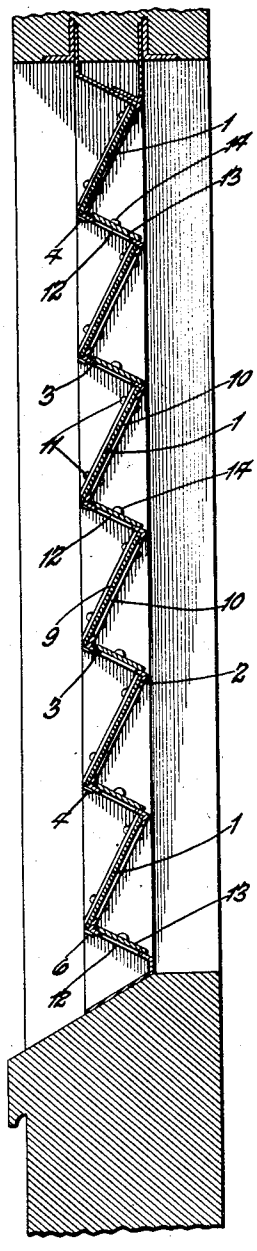


Fig. 2.



Inventor:
Michael J. Tracy,
by Rippey & Kingsland,
His Attorneys.

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Fig. 3.

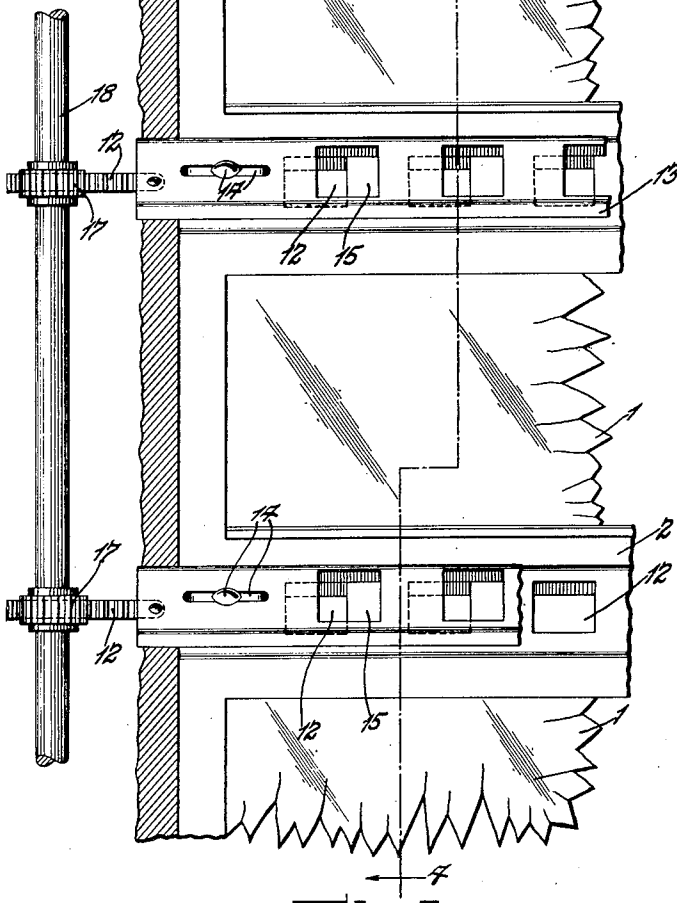


Fig. 4.

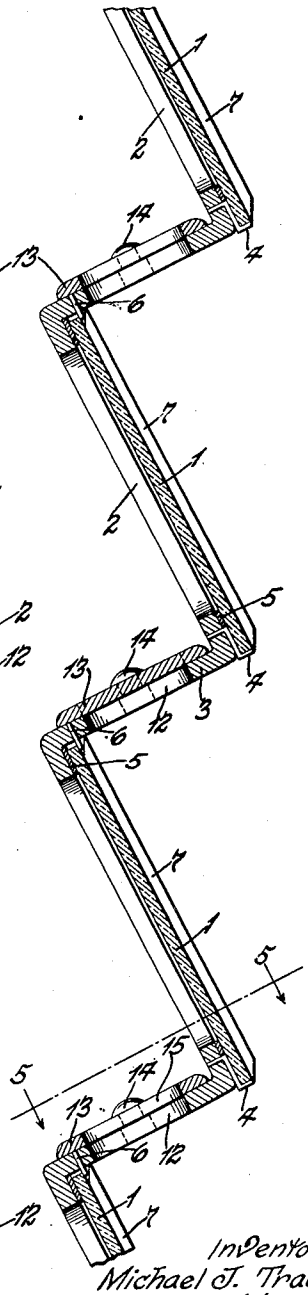
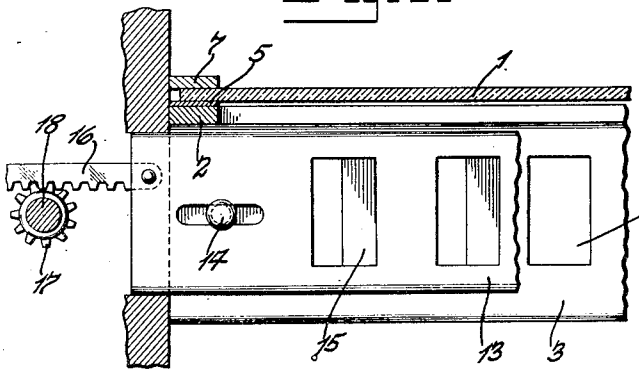


Fig. 5.



Inventor:
Michael J. Tracy,
by Rippey & Kingsland.
His Attorneys.

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UNITED STATES PATENT OFFICE

MICHAEL J. TRACY, OF ST. LOUIS, MISSOURI

WINDOW

Application filed May 22, 1929. Serial No. 364,986.

This invention relates to windows.

An object of the invention is to provide an improved window comprising a frame supporting a series of transparent or translucent panels of glass and the like and having ventilating means mounted in the frame between the panels.

Another object of the invention is to provide an improved window comprising a frame supporting a series of glass panels or the like in a relationship that the upper and lower edges of the respective panels are spaced apart so as to provide ventilating openings, in combination with devices controlling said openings so as to regulate the circulation or passage of air therethrough.

Other objects will appear from the following description, reference being made to the accompanying drawings in which—

Fig. 1 is an outer side elevation of a window embodying the present invention.

Fig. 2 is a vertical sectional view of the window.

Fig. 3 is an enlarged inner side view showing the arrangement of the ventilating devices.

Fig. 4 is an enlarged vertical sectional view on the line 4—4 of Fig. 3.

Fig. 5 is a sectional view approximately on the line 5—5 of Fig. 4.

The frame of my improved window is constructed and designed to support a series of glass or like panels 1 in a louver relationship so that the lower and upper edges of the respective panels are spaced apart. These panels incline downwardly and outwardly, though it is obvious that this inclination of the panels may be reversed, if desired.

In order to support the panels 1 in this inclined or louver relationship I provide a frame construction comprising a series of open and downwardly inclined frames 2, the upper and lower edges of the respective frames 2 being integrally united by inwardly and downwardly inclined ventilating frames 3. Thus, in the embodiment shown, the frame structure comprising the panel frames 2 and the ventilating frames 3 is an integral unit composed of a single metallic member shaped and formed to provide these frames. Instead of making the frame structure of an integral unit it may, of course, be made of separate parts.

The panels 1 are supported by hooks 4 attached to the frames 2, an impervious joint between the panels 1 and the frame 2 being obtained by gaskets 5 located between said panels and said frames. The upper edges of the panels 1 are engaged under pins 6 projecting from the frames 3. The ends of the panels 2 are engaged and held clamped against the gaskets 5 by metallic or other strips 7 which are attached to the frames 2 by rivets 8 passing through said strips 7 and engage the frames 2 beyond the ends of said panels 1. The intermediate portions of the panels 1 are strengthened by strips 9 laid against the outer sides of said panels and secured to cross members 10 of the frames 2 by rivets 11. That is to say, the upper and lower portions of each frame 2 are connected about midway of their ends by this cross connection 10 which constitutes a support for the middle portion of the adjacent panel 1. Or, each panel 1 may comprise two sections having their inner ends seated upon the cross connection 10. If the panel 1 is made of a single section, appropriate holes for the rivets 11 must be provided; but, if the panels be made of separate sections, the rivets 11 may pass between the adjacent ends of said sections.

The frame portion 3 has therethrough a series of ventilating openings 12 to permit circulation and passage of air as desired. Upon the inner side of each frame portion 3 a slide 13 is mounted, being retained and guided in its longitudinal movements by pin and slot devices 14. Each slide 13 has therethrough a number of holes 15. The slides 13 are movable longitudinally so as to place the holes 15 is partial or complete registration with the holes 12, as desired; or the slides 13 may be moved to position to close the holes 12. In this way the ventilating holes 12 may be entirely closed or opened to any desired extent so as to control and regulate the circulation and passage of air.

Any appropriate operating means for the slides 13 may be used without departure from

the nature and principle of the invention. As shown, each slide 13 has attached thereto a rack 16 meshing with a pinion 17 on a rotary shaft 18. The shaft 18 may be rotated manually and it is obvious that when said shaft is rotated the slides 13 will be moved thereby.

The window of this construction is designed and adapted specially to dispense with the use of bars in the windows of institutions so as to obtain proper lighting and ventilation and at the same time dispense with the unsightly bars. The openings through the various frame portions are of such size that it is impossible for persons to pass through said openings and at the same time the panels 1 may be of the character generally known as non-breakable. Accordingly, I obtain all of the benefits and advantages that it is possible to obtain from barred windows and I eliminate the undesirable features of barred windows. The construction, arrangement and relationship of the parts may be varied otherwise than as specially suggested without departure from the nature and principle of the invention.

I contemplate such variations as may be found desirable and what I claim and desire to secure by Letters Patent is:—

1. A window comprising a series of rigid transverse panel supporting members inclining downwardly and outwardly, a glass panel rigidly attached to the outer side of each of said panel supporting members, means sealing the joints between said panels and said supporting members, frames rigidly connecting the lower and upper edges of said supporting members respectively, and devices mounted on said frames controlling the passage of air therethrough.

2. A window comprising a series of rigid transverse panel supporting open frames inclining downwardly and outwardly, a glass panel rigidly attached to the outer side of and closing each of said frames, means sealing the joints between said panels and said frames, ventilating frames permanently connecting the upper and lower edges of said supporting frames, ventilating devices mounted on said ventilating frames, and means for operating said ventilating devices to regulate the passage of air through said ventilating frames.

3. In a window, a downwardly and outwardly inclined rigid open frame, a lighting panel attached to and closing the opening through said frame, a downwardly and inwardly inclined frame rigid with the lower edge of said first frame, and a ventilating device for regulating the passage of air through said second frame.

4. A window comprising a rigid downwardly and outwardly inclined open frame, a lighting panel rigid with said frame and covering the opening therethrough, a downwardly and inwardly inclined frame rigidly united with the lower edge of said first frame, a slide mounted for lateral sliding movements on said second frame to regulate the passage of air therethrough, and means for operating said slide.

5. A window comprising a series of rigid transverse panel supporting frames inclining downwardly and outwardly on the louver principle, lighting panels attached to said frames and closing the openings therethrough, a series of ventilating frames rigidly connecting the lower and upper edges of said first frames, respectively, devices for opening and closing said ventilating frames, and means holding said devices in connection with said ventilating frames for movement to different adjusted positions.

6. A window comprising a series of rigid transverse panel supporting frames inclining downwardly and outwardly on the louver principle, lighting panels attached to said frames and closing the openings therethrough, a series of ventilating frames rigidly connecting the lower and upper edges of said first frames, respectively, devices for opening and closing said ventilating frames, means holding said devices in connection with said ventilating frames for movement to different adjusted positions, and means for moving said devices longitudinally along said ventilating frames to positions to open and to close said ventilating frames.

7. In a window, a vertical series of panel supporting frames arranged on the louver principle, lighting panels attached to said frames and closing the openings therethrough, ventilating frames rigidly connecting the lower and upper edges of said frames, respectively, slides mounted on and movable along said ventilating frames to open and to close said ventilating frames, and means holding said slides in connection with said ventilating frames and permitting said sliding movements of said slides.

8. In a window, a vertical series of panel supporting frames arranged on the louver principle, lighting panels attached to said frames and closing the openings therethrough, ventilating frames rigidly connecting the lower and upper edges of said frames, respectively, slides mounted on and movable along said ventilating frames to open and to close said ventilating frames, means holding said slides in connection with said ventilating frames and permitting said sliding movements of said slides, and mechanism for moving said slides simultaneously to open and to close said ventilating frames.

MICHAEL J. TRACY.