C. J. JACKSON.

DOOR CONSTRUCTION.

APPLICATION FILED APR. 10, 1919.

1,332,441.

Patented Mar. 2, 1920.

2 SHEETS—SHEET 1.

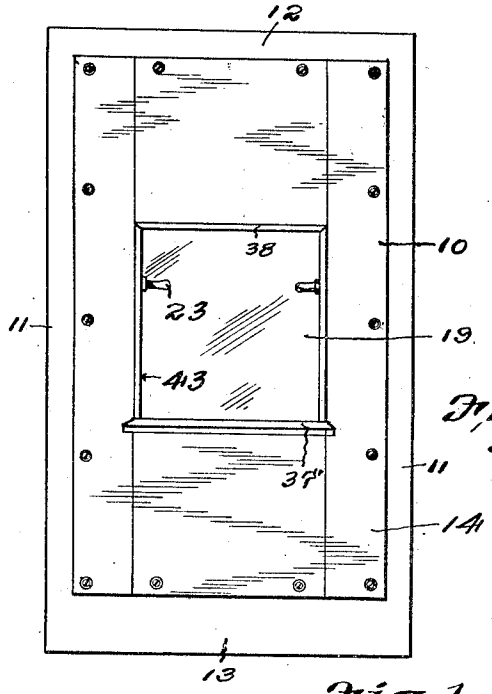


Fig. 1.

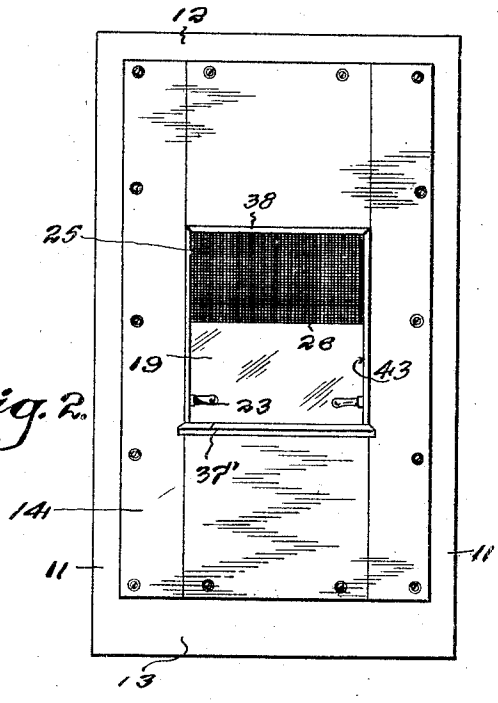


Fig. 2.

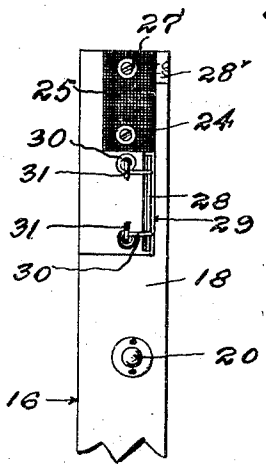


Fig. 7.

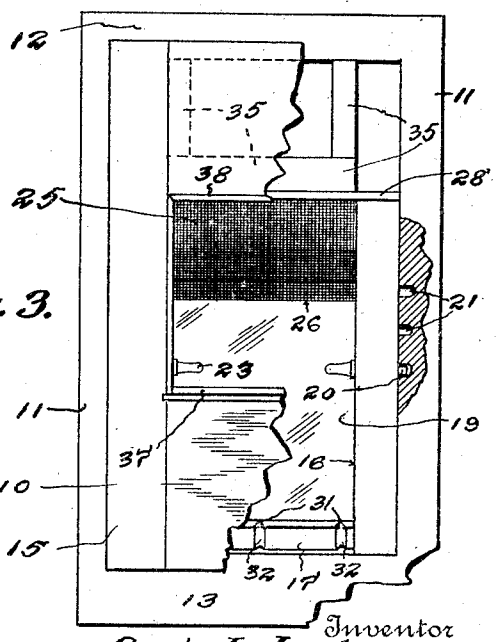


Fig. 3.

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2 SHEETS—SHEET 2.

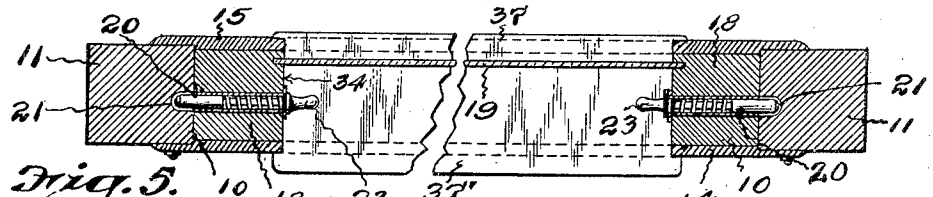


Fig. 5.

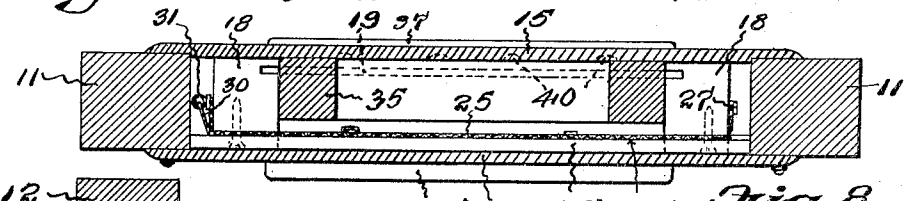


Fig. 8.

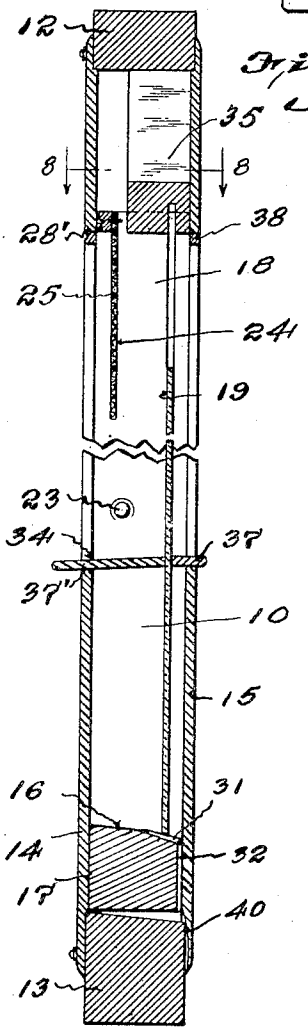


Fig. 4.

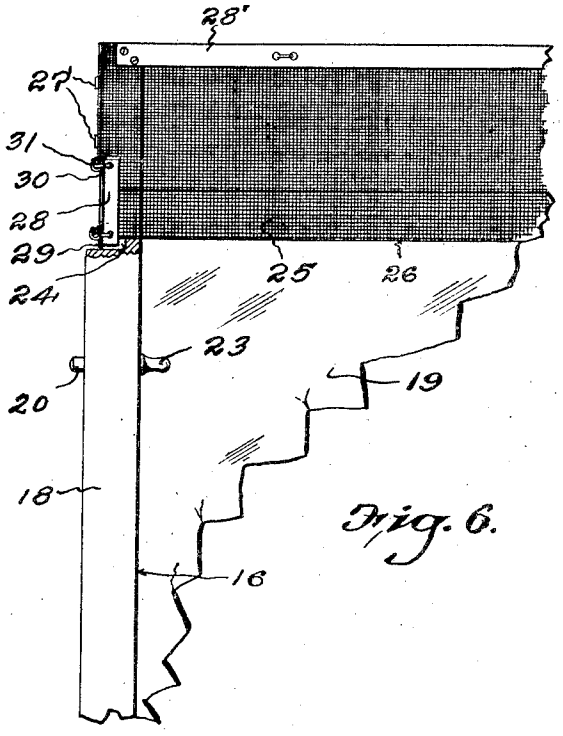


Fig. 6.

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UNITED STATES PATENT OFFICE.

CARL JOHAN JACKSON, OF SUPERIOR, WISCONSIN.

DOOR CONSTRUCTION.

1,332,441. Specification of Letters Patent. Patented Mar. 2, 1920.

Application filed April 10, 1919. Serial No. 289,043.

To all whom it may concern:

Be it known that I, CARL J. JACKSON, a subject of the King of Norway, residing at Superior, in the county of Douglas and State of Wisconsin, have invented certain new and useful Improvements in Door Constructions, of which the following is a specification.

The invention has for an object to effect improvements in combination glass and screen window sash and framing, aiming particularly to enable such devices to withstand rigorous weather conditions, with a minimum deterioration. The invention aims particularly to effect such improvements in construction of the character shown and described in my Patent #1,251,779, of January 1, 1918.

In such construction, water will gain access to both sides of the glass when the device is in one position, and a beating rain occurs, and it is an important aim of this invention to give a construction which will assure the window against accumulation of water either within the frame by reason of water passing down the outer side of the pane, as well as at the inner side of the sash adjacent the pane.

A further object is to give a satisfactory means for adjusting the screen element in the sash so that a lower exposed edge of the screen may be held properly taut in spaced relation with the upper edge of the pane, and whereby in case the screen is accidentally put out of shape it may be rectified without requiring removal of the screen.

Additional objects, advantages and features of invention will appear from the construction, arrangement and combination of parts hereinafter set forth and shown in the drawings, wherein,

Figure 1 is a front elevational view of the device in closed position,

Fig. 2 is a similar view of the device open for ventilation,

Fig. 3 is a rear view of the device open, with a portion of the casing removed,

Fig. 4 is a vertical sectional view,

Fig. 5 is a horizontal sectional view,

Fig. 6 is a detail of the screen structure as arranged in the sliding sash,

Fig. 7 is an edge view thereof,

Fig. 8 is a horizontal sectional view of Fig. 4, on the line 8—8.

There is illustrated a frame 10, which may be formed as a door, if desired. The frame comprises the stiles 11 of simple form, at each side, rectangular in cross section, between which the top and bottom rails 12 and 13 are mounted. Casing portions 14 and 15 are mounted on the foregoing parts, at the inner and outer sides of the door respectively, forming a suitable space within the door for a sliding sash element 16. The sash comprises a bottom bar 17, and two uprights 18 of similar form and construction, these three parts being suitably grooved on the inner edges closely adjacent the front or outer sides to receive a pane of glass 19 which stops short of the upper ends of the uprights 18 a considerable distance. By locating the grooves for the glass nearer to the front side of the door, a considerable portion of the sash frame is left toward the inner side of the door. Intermediately of the height of the sash frame, suitable spring-pressed pins 20 are mounted in the uprights 18 having end portions projecting outwardly from the sash in each direction to engage alternatively in a series of openings 21 formed in the stiles 11. The pins 20 have handle portions 23 projected inwardly before the glass, and suitably formed to enable manipulation of the pins and also to serve as handles to move the sash. The upper ends of the uprights 18 of the sash are formed with a kerf 24, extending a distance below the upper edge of the glass before mentioned, and the kerf extends approximately in a plane parallel to the glass and close to the inner side of the sash, so that the kerf is spaced ordinarily approximately one-half an inch from the glass. Set in the kerfs there is a portion of screen material 25 stretched across the sash having its upper edge flush with the ends of the uprights 18 while its lower edge extends horizontally, about one inch below the upper edge of the glass. The screen is preferably formed so that a woven edge 26 will be presented downwardly, reducing the liability of the fraying of the screen and obviating the need for a special edge guard. The screen is partly secured in place by engaging a number of screws 27 through the material of the screen and into the uprights 18, centrally thereof at the outer sides, the uprights being suitably recessed to permit the edge portions of the screen to be folded and laid therein. These screws are engaged only with the upper part of the screen at one side, the lower part of the vertical edge of

this side having a rigid reinforcement 28 lying loosely within an enlargement 29 of the kerf 24. From this reinforcement two flexible elements 30 are extended outwardly and around take-up devices 31 by which the tension on the lower edge of the screen may be adjusted. In the present instance, the elements 30 are wires, and the devices 31 are screw eyes having the wire coiled thereon. By turning the members 31 to wind up the wire, the screen may be more tightly stretched in case it becomes misshapen. If desired, the upper edge of the screen may be protected by a suitable metal bar 28′ connecting the uprights to which the screen is attached. It is undesirable that any opaque edging material other than the mesh of the screen be located at the lower edge of the screen, as it would tend to induce flies to leave the glass, at times, and crawl upon the inner side of the screen, from which they would tend to pass into the house. It should be noted that the bottom bar 17 of the sash is sloped from the inner side to the outer side, throughout its width, and is formed without any glass receiving groove, the glass resting upon its upper surface. At intervals transverse grooves 31 are formed in the bar from a point intermediately of the bar and extending to its outer edge, these grooves becoming deeper toward their outer part. Corresponding registered grooves 32 are formed upon the front face of the bar 17. In this manner, any water which accumulates upon the inner side of the glass and trickles downwardly will be drained outwardly beneath the glass by the sloping surface of the bar 17, and thereby led to the grooves 31, from which it will pass downwardly through the grooves 32 to the lower part of the sash. From this point it may drain to the exterior of the casing, as will be subsequently explained.

In each casing portion a window opening 34 is formed, having a vertical dimension considerably less than the vertical dimension of the glass in the sash, and also less in width than the space between the uprights 18 of the sash. When the sliding sash is in its uppermost position, with the bar 17 immediately below the opening 34, the glass will extend above the upper side of the opening. The frame 16 is of such size that when in the last mentioned position the uprights 18 extend into close relation with the top rail 12 of the door. One of the recesses 21 in each stile of the door is at such a level as to engage a respective pin 20 to hold the sash in this raised position. In the present instance, the space within the door is such that when the sash 16 is at the lower limit of its movement the screen 25 extends slightly above the opening 34. In the upper part of the door, upon the inner side of the casing section 15 there is provided a guard piece 35, of a width to fit snugly between the uprights 18 of the sash, and having a sufficient thickness to engage closely against the outer side of the screen 25, or very close thereto as found most desirable. The lower edge of the element 35 is grooved to receive the upper edge of the glass 19 snugly therein.

The panel 15 of the outer side of the frame is formed with a sill portion 37, projecting inwardly and adapted to fit snugly between the uprights of the sash and is secured in close relation to the glass so as to completely close the space at the lower part of the frame against ingress of flies or trash. The upper edge portion of the screen is supported and attached to the inner side of the bar 28′ before mentioned, the bar and screen extending across the uprights 18 to which the bar is attached, being of a thickness to lie flush with the inner surface of the uprights. The panel at the outer side of the door is also provided with a sill 37′ adapted to project between the uprights 18 and in close relation to the glass. The panel 15 at its lower part is formed with grooves 40, extending downwardly over the face of the bottom rail 13 of the frame 10, the latter having its upper side sloped toward the outer side of the frame so as to drain water from the casing and out through the last mentioned grooves.

The panel 14 of the frame may be made quickly detachable by being secured in place with removable fastenings, such as screws, as illustrated, and by removal of this panel the entire sash is exposed for removal as well as the entire interior of the frame, enabling ready cleaning and repair if necessary.

With this device satisfactory ventilation may be obtained through doors while closed, and the device operates as a trap means, at least to the extent of permitting ready escape of flies alighting upon the glass when they follow their natural tendency to crawl upwardly toward light, and in having an opposing effect upon flies without the door, since flies do not tend to crawl downwardly into dark places. When the sash 16 is in closed position, should there be any flies upon the screen 25, these will be caused by the piece 35 to take flight from the screen through the upper part of the opening 34 as the sash is raised, until the opening is closed by the glass 19.

It will be seen that a very simple construction of closure and fly guard is provided adapted to be manufactured at a low cost and used readily by the general public without difficulty.

In the event that the glass 19 becomes broken, in order to replace it with a new panel piece, the casing piece 14 is removed; the sliding sash taken out, the broken pieces removed, and a new pane of glass slipped into place.

Should the glass fit too loosely between

the uprights, the devices 31 may be manipulated to increase the tension on the screen, drawing the uprights inward against the glass, until it is held firmly.

What is claimed is:

1. In a sash of the character described, a sash frame comprising uprights and a bottom bar, a screen element therein, said screen being attached to the uprights of the sash, the attaching means including an adjustable device engaging the screen under tension and operable successively to draw the screen to successively shorter lengths tranversely of the sash.

2. In a device of the character described, a fastening comprising supporting uprights, a screen extending therebetween and a take-up device mounted on the stiles, and connected to the screen, said take-up including rotating members, and a flexible windable connection between the rotating member and said screen.

In testimony whereof I have affixed my signature in presence of two witnesses.

CARL JOHAN JACKSON.

Witnesses:

HENRY L. LLOYD,

S. W. WHITMORE.