

Aug. 3, 1948.

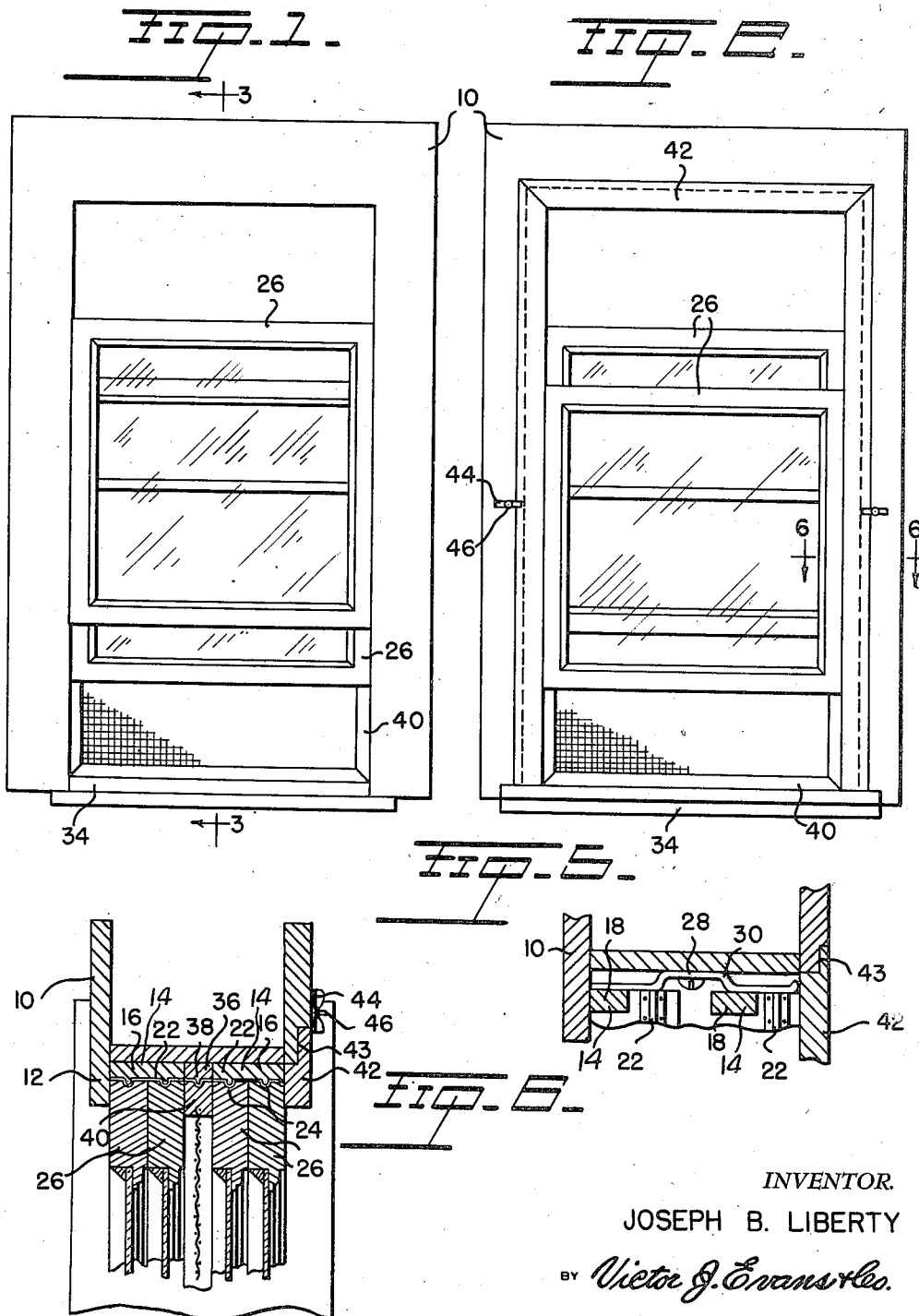
J. B. LIBERTY

2,446,375

AIR-LOCKED WINDOW

Filed Jan. 14, 1946

3 Sheets-Sheet 1



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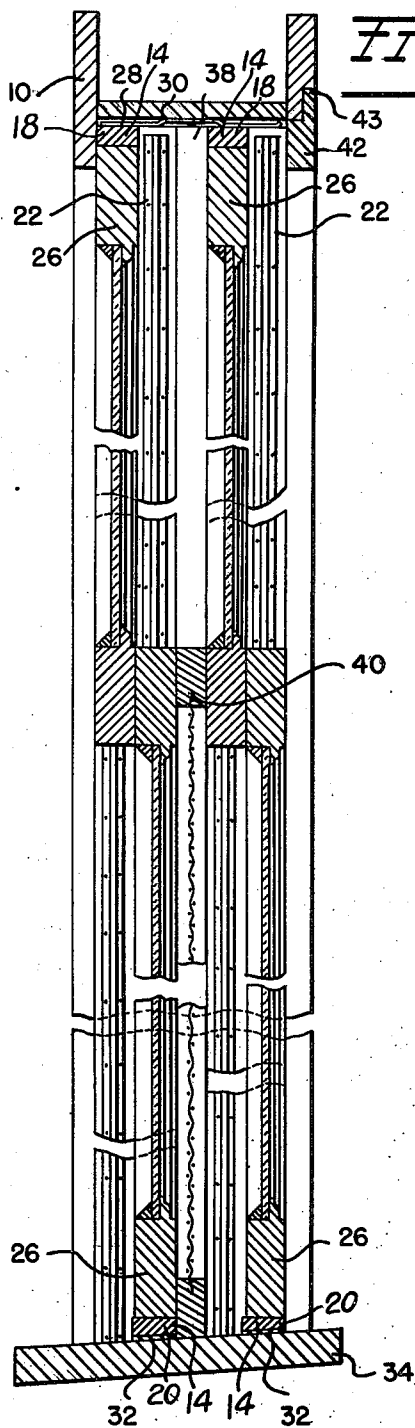
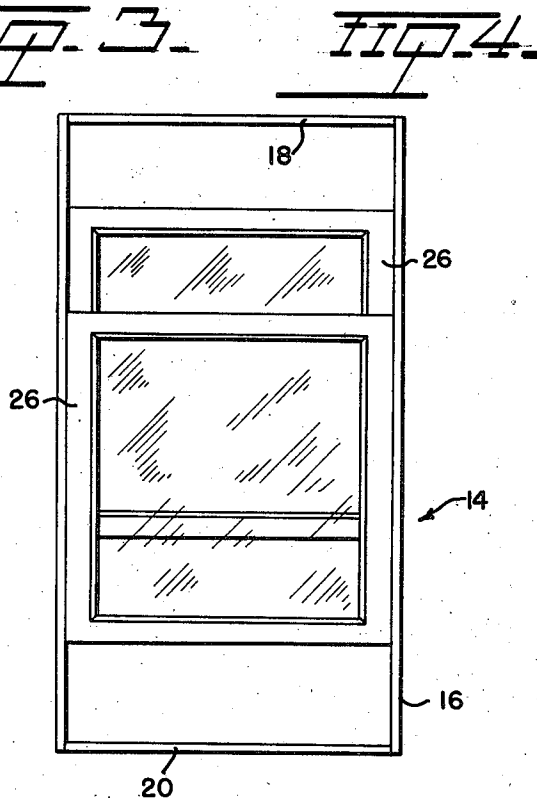
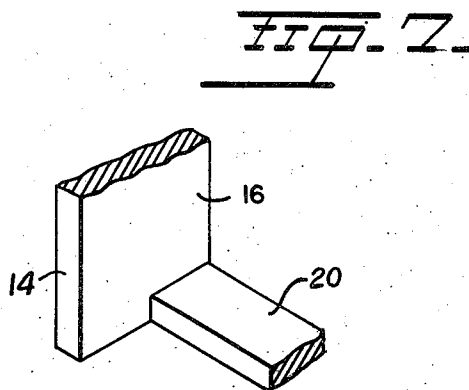
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3 Sheets-Sheet 2



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3 Sheets-Sheet 3

Fig. 8.

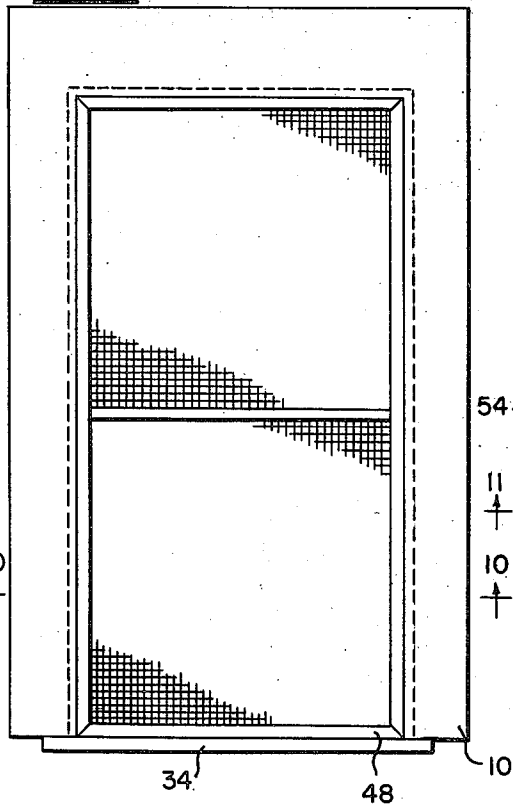


Fig. 9.

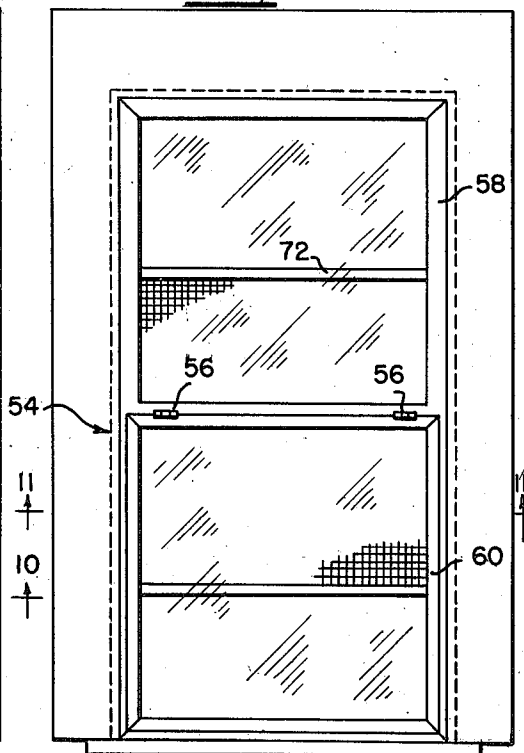


Fig. 10.

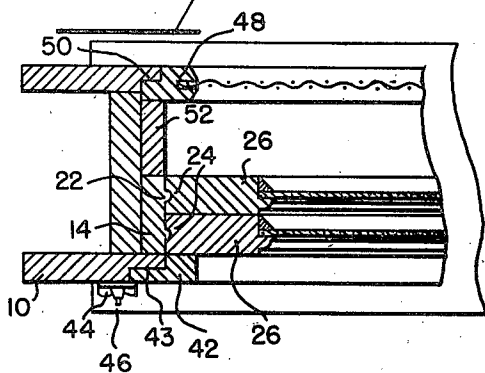
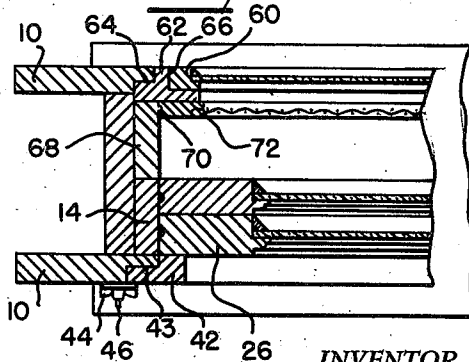


Fig. 11.



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UNITED STATES PATENT OFFICE

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AIR-LOCKED WINDOW

Joseph B. Liberty, Royal Oak, Mich.

Application January 14, 1946, Serial No. 641,041

3 Claims. (Cl. 160—101)

1

This invention relates to air locked windows and it is one object of the invention to provide inserts having sash therein which are adapted to fit within a window frame and provide a window which is insulated by an air chamber between the inserts against heat or cold and also serves to deaden noises which pass through a window of usual construction.

Another object of the invention is to provide a window structure wherein inner and outer sashes are carried by separate inserts and a screen is movably mounted between said inserts for up and down movement thereof.

Another object of the invention is to so mount the inserts that they may be removed from the window frame and the glass panes washed and cleaned without danger of injury due to leaning from a window or sitting upon a window sill.

Another object of the invention is to provide a window structure which is simple to assemble and can be manufactured and sold at a small cost.

With these and other objects and advantages in view, the invention consists of the novel details of construction, arrangement and combination of parts more fully hereinafter described, claimed and illustrated in the accompanying drawings in which:

Figure 1 is a view looking at the outside of an embodiment of the invention;

Figure 2 is a view looking at the inside thereof;

Figure 3 is a vertical sectional view taken on the line 3—3 of Figure 1;

Figure 4 is a view of one of the inserts;

Figure 5 is an enlarged detailed view of the spring interposed between the inserts and the frame;

Figure 6 is a sectional view on the line 6—6 of Figure 2;

Figure 7 is a detailed view of one corner of the insert showing the manner of joining of the sides and top and bottom pieces thereof.

Figure 8 is a perspective view looking at the outside of a modified form of the invention showing full screen;

Figure 9 is a view looking at the outside of a modified form of the invention showing storm sash and half screen;

Figure 10 is a sectional view on the line 10—10 of Figure 8 and

Figure 11 is a sectional view on the line 11—11 of Figure 9.

The frame 10 of this improved window structure may be of any dimensions, but is preferably of dimensions corresponding to those of a con-

2

ventional window frame used in houses and other buildings for admitting light and air.

The frame 10 is so constructed that the outer trim or casing extends inwardly to form an internal flange or stop 12 which is adapted to contact and retain in position in the frame 10 the inserts 14.

The inserts comprise sides 16 and top and bottom pieces 18 and 20 respectively which are dovetailed at their ends to form the unitary insert 14.

The inner surfaces of the sides 16 are provided with double track weather stripping 22 which are adapted to fit in the grooves 24 in the sash 26 and slidably retain them therein.

When the inserts 14 are positioned in the frame 10 there is a small clearance between the two to compensate for contraction and expansion thereof and flat springs 28 having their medial portion bowed at 30 are positioned between the inserts 14 and the frame 10 to prevent movement of the inserts within the frame 10. The number of the springs is not limited and as many are used as is found necessary to effect a tight fit between the inserts and frame.

A rubber strip 32 is positioned on the sill 34 of the frame and when the insert is positioned thereon provides a weathertight seal as does the inward flange of the frame 10.

An insert strip 36 placed between the tops and bottoms of the inserts 14 provides a channel 38 for the reception of a sliding screen 40, and the strip 36 is provided with a single track weather stripping 41.

A trim 42 placed around the edge of the inner insert 14 extends into the countersunk edge 43 of the frame 10 and lies flush with the frame on the inside of the house.

In assembling my window the outer insert 14 is positioned in the frame 10, the insert strips 36 are inserted and the inner insert 14 is positioned in the frame after the screen 40 has been placed in the channels 36.

Locks 44 mounted on the frame 10 by means of screws 46 are then turned into locking position to retain the inserts in position.

In Figure 10 one of the inserts 14 have been removed and a full screen 48 is positioned in the frame 10 as shown. The frame 10 and screen 48 are dovetailed at 50 and a spacer 52 is positioned intermediate the screen 48 and the insert 14 to retain the screen in position.

In Figure 11 one of the inserts 14 has been removed and a storm sash 54 hinged at 56 at the center thereof divides the sash into upper and lower sections 58 and 60 respectively.

3

A frame 62 is rabbeted at 64 to fit the frame 10 and is provided with the groove 66 to receive the storm sash 54, thus a tight fiat between the frame 10 and sash 54 is provided. The spacer 68 positioned intermediate the frame 62 and insert 14 is provided with a single track weather strip 70 to support the screen 72.

Thus the invention can be modified to use a full screen or a storm sash and a half screen in lieu of one insert.

It is believed that the description of the invention when taken in conjunction with the disclosures in the drawings will fully explain the operation thereof and it is to be understood that various changes and modifications of the various parts may be made provided they fall within the purview of the invention and the claims appended thereto.

What is claimed is:

1. A device of the character described comprising a window frame, removable inserts in said frame, sashes mounted in said inserts, spacing means between said inserts forming with adjacent

4

sashes in the inserts channels for slidably mounting a window screen therein.

2. The invention as described in claim 1 wherein one of said inserts may be replaced with a full screen and means between said screen and said remaining insert to retain said screen and said insert in position.

3. The invention as described in claim 1 wherein one of said inserts may be replaced with a frame, a storm window in said frame, means between said frame and said remaining insert to retain said frame in position and means on said last means for slidably retaining a screen therein.

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REFERENCES CITED

The following references are of record in the file of this patent:

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Number	Name	Date
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