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F. P. RIDDELL ET AL

1,773,241

COLLAPSIBLE WINDOW

Filed Feb. 4, 1929

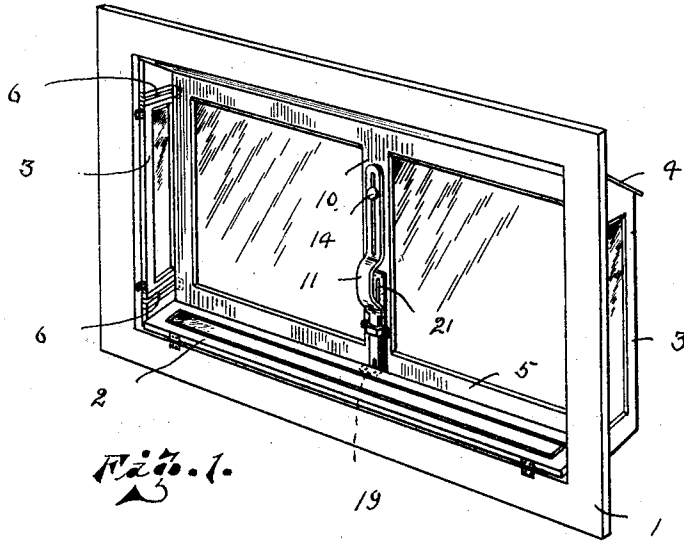


Fig. 1.

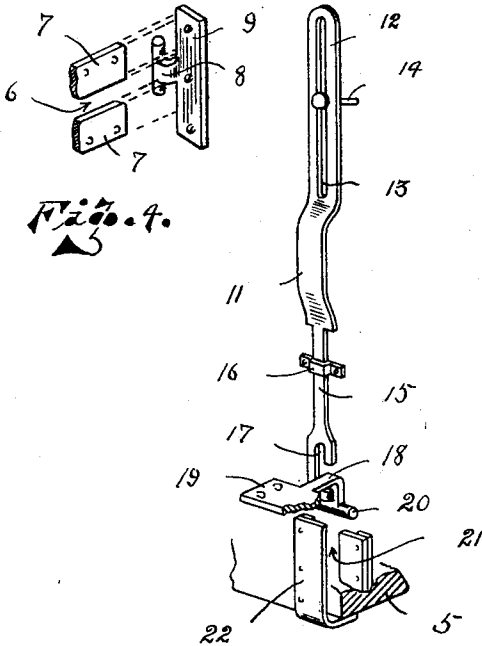


Fig. 2.

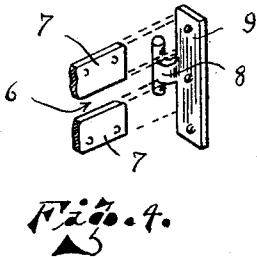


Fig. 4.

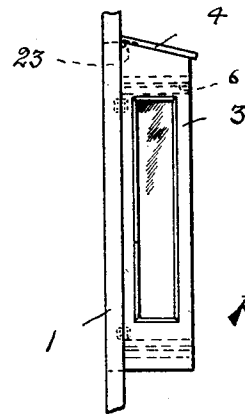


Fig. 3.

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COLLAPSIBLE WINDOW

Application filed February 4, 1929. Serial No. 337,315.

This invention relates to windows, and has special reference to one which may be extended or folded as desired, it being particularly adapted for use on locomotive cabs or the like where it becomes essential for the operator of the vehicle to have a clear, unobstructed vision both forwardly and backwardly, as well as laterally. Furthermore the invention is designed to be applicable to dwelling houses, apartments, or the like.

The principal object is to provide a practical and simple device of this character having novel and advantageous features heretofore unknown.

Other objects and advantages of the invention will appear in the further description thereof.

Referring now to the accompanying drawing, forming part of this application, and wherein like reference characters indicate like parts:

Figure 1 is a perspective view of one of our improved windows as viewed from the interior thereof and the window slightly less than fully extended;

Figure 2 is a diagrammatic fragmental perspective view of the principal operating parts;

Figure 3 is an end elevation of the window fully extended; and

Figure 4 is an enlarged perspective view of the end window connections with the major window.

1 represents a frame which may be insertible within a window opening, or may represent the fixed frame of the window, as preferred. To this frame is hingedly united the bottom, end, and top sashes, 2, 3 and 4 respectively, all of which may or may not be glazed as desired.

Intermediate of the end sash 3, below the top sash 4, and abutting the outermost edge of the lower sash 2, is installed the major sash 5, which is susceptible of lateral upright motion only, it being slidably carried by the end sashes 3. This slidable connection comprises a horizontally disposed groove 6 upon the inner face and adjacent each end of the end sashes 3, and which groove may be accomplished by the spaced strap irons

7 over a rabbet made in the face of the sash, or it is obvious that there may be formed a grooved strap in its entirety. Into this groove is slidably fitted the head of the T projection 8 on the butt 9, and which butt is fastened as by screws or the like into the outer face of the major frame or sash 5.

This attachment of the major sash to the end sash obviously restricts the motion of the former to an outer or inner position while held vertically, and when wholly withdrawn to a plane substantially with that of the inner face of the frame 1 the end sashes will fold inwardly against the outer face thereof.

Upon the inside of the central mullion 10 of the major frame or sash is vertically reciprocally mounted the operating bar which is provided with an outwardly bulged handhold portion 11, and its uppermost end 12, which lies prone against the mullion, is slotted vertically as at 13 and designed to be held against the mullion by means of a suitable pin or screw 14. The lower extension 15 of the operating bar is preferably reduced in width and held against the mullion as by a clip 16 through which it readily slides, and the lower extremity of the portion 15 of the bar is also slotted as at 17 and engages the L-shaped neck 18 of the butt 19 which is fastened to the under side of the outer edge of the bottom sash 2 forming as it were a loose connection between the outer edge of the sash 2 and the lower edge of the major sash 5. The innermost end of the L or goose-neck 18 is formed with a T shaped head 20 which fits within a vertical groove or slot 21 formed in the mullion or by two spaced stepped straps 22 as preferred; this groove being disposed vertically just back of the extension 15 of the operating bar so that when the operating bar is raised it will cause the T-shaped head of the butt 19 which carries the sash 2 to be raised simultaneously with the bringing in of the sash 5, or lowered simultaneously with the thrusting outwardly of said sash. The lower extremities of the straps 22 are turned inwardly under the edge of the sash 5 so as to form a convenient pivotal connection for the T-shaped head so that the sashes 2 and 5 may readily lie to-

gether when the window is closed or assume a limited right angular relation when opened.

The upper or top sash 4 is hinged as at 23 to the upper innermost edge of the frame 1 preferably as with spring hinges biasing the sash in closed relation, and it is designed to rest as by gravity combined with the biasing effect of the hinges upon the inclined uppermost ends of the sashes 3 so that when they are swung outwardly by an outward movement of the sash 5 they will naturally swing out and raise the top sash 4. Likewise when drawn in again to closed position the sash 4 will assume its vertical folded position thereagainst and may be mortised temporarily therein, as well as the end sashes.

From the foregoing it is evident that we have devised an exceedingly simple and practical extendible window which may be employed for example in dwellings, apartments, or the like, as a cooling shelf on which milk bottles, etc., may be placed for keeping same cool; or for use by children in viewing in all directions without the danger of falling therethrough.

Having thus described our invention, what we claim and desire to secure by Letters Patent, is:

30 1. A collapsible window of the type described comprising a supporting frame, a major operating sash, end sashes hingedly united to the frame and supporting the major sash, a bottom sash hinged to the frame and operated by the major sash, and a top sash for the purpose described.

2. A collapsible window of the type described comprising a supporting frame, a major operating sash, vertically reciprocable means carried by the sash for control of same, marginal sashes at all four edges of the major sash and operated thereby.

3. The combination with a window frame, of four marginal sashes hinged to and about the innermost edges thereof, and an operating sash carried by the marginal sashes for control of the latter.

4. An extendible window of the type described comprising a suitable support about a window opening, foldable cooperative sashes within the opening, one of said sashes acting as the operating and controlling means for all the other sashes.

5. A foldable window of the type described comprising a supporting frame, a major operating sash, end sashes hingedly attached to the frame and supporting the major sash, a top sash, a bottom sash hinged to the frame and pivotally attached to the major sash, operating means carried by the major sash for simultaneously operating all of the sashes.

In testimony whereof we affix our signatures.

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