W. P. EGGERS.
COLLAPSIBLE WINDOW.
APPLICATION FILED OCT. 28, 1920.

1,376,193.

Patented Apr. 26, 1921.
2 SHEETS—SHEET 1.

Fig. 1.

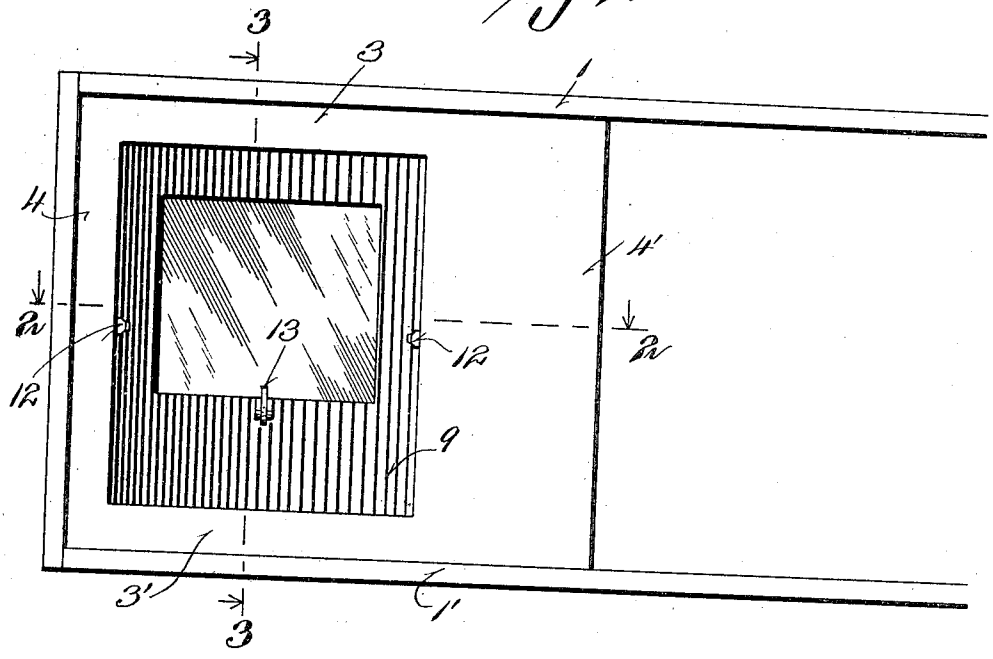
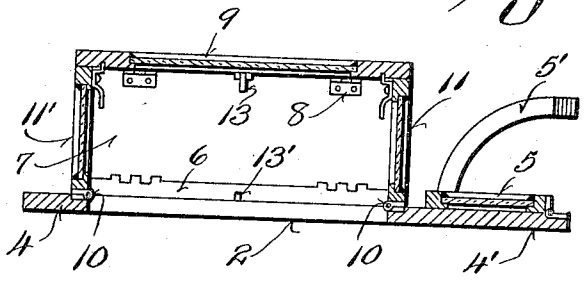


Fig. 2.



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Fig. 3.

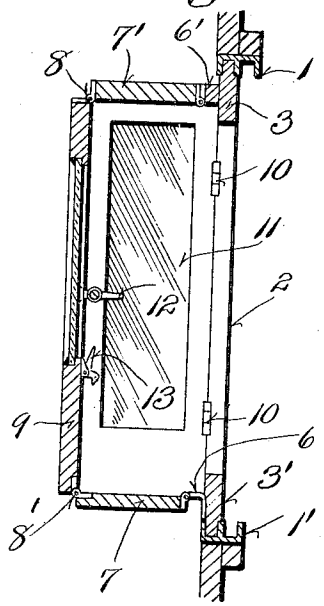


Fig. 4.

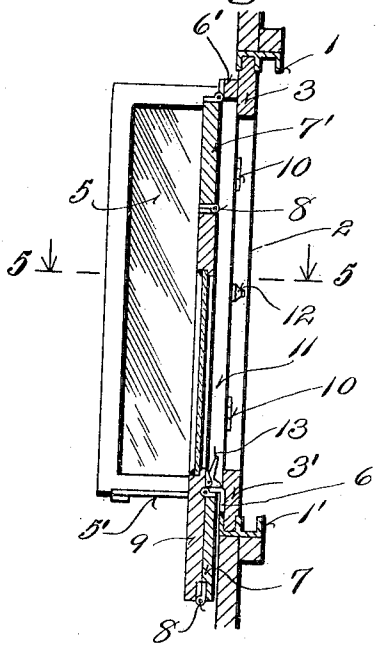
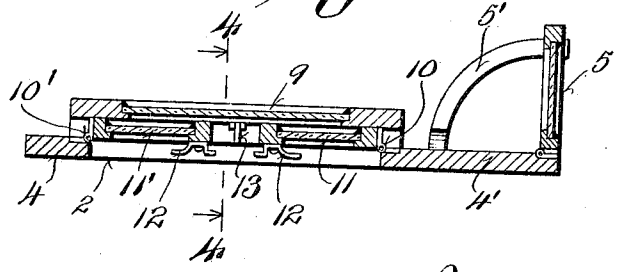


Fig. 5.



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COLLAPSIBLE WINDOW.

1,376,193. Specification of Letters Patent. Patented Apr. 26, 1921.

Application filed October 28, 1920. Serial No. 420,134.

To all whom it may concern:

Be it known that I, WILLIAM P. EGGERS, a citizen of the United States, and resident of Fond du Lac, in the county of Fond du Lac and State of Wisconsin, have invented certain new and useful Improvements in Collapsible Windows; and I do hereby declare that the following is a full, clear, and exact description thereof.

My invention refers to windows and has for its particular object to provide a simple, economical and effective collapsible window for locomotive cabs, or other shelters, wherein an unobstructed view in all directions is required.

With the above object in view, the invention consists in the peculiar arrangement and construction, whereby various hingedly connected window units may be folded flatly, when not in use, and may be distended to form a "bay window," whereby parties may obtain an unobstructed view to the side and also forwardly and backwardly.

In practice it has been found absolutely necessary in locomotive cabs, to provide observation openings or window frames which would permit the engineer to obtain an unobstructed view up and down the right-of-way as well as to the side of it, and owing to this fact it has been impractical to protect the engineer against inclement weather.

Furthermore the problem cannot be solved by simply building out what might be termed a "bay window" on both sides of the cab, because under certain conditions a window of this character would have to be dispensed with or removed. Hence the problem which I have solved, is the provision of a window which will obtain the desired result, and which window when not in use can be folded in a compact body and shifted so that the opening through which the engineer depends for his various views is clear of obstructions.

With the above objects in view, the invention consists in certain peculiarities of construction and arrangement of parts, as will be hereinafter set forth, with reference to the accompanying drawings and subsequently claimed.

In the drawings:

Figure 1 represents a side elevational view of a cab opening having folded therein a collapsible window embodying the features of my invention, the window being shown in its distended or working position.

Fig. 2 is a plan sectional view of the same, the section being indicated by line 2—2 of Fig. 1.

Fig. 3 is a vertical transverse section through the same, the section being indicated by line 3—3 of Fig. 1.

Fig. 4 is a similar sectional view, showing the window collapsed or folded back against the side walls of the cab, in which position it is when not in use, the section being indicated by line 4—4 of Fig. 5, and

Fig. 5 is a plan sectional view, showing the window in its collapsed position, the section being indicated by line 5—5 of Fig. 4.

Referring by character to the drawings, 1, 1′ represent upper and lower rails of window openings of standard dimensions of a locomotive cab or like structure. These rails are ordinarily equipped with sliding windows of standard variety, which may be slid from open to closed position, and usually the rear standard window of this type is slid forwardly so that the driver or engineer may lean out to obtain an unobstructed view.

My invention contemplates the provision of a skeleton frame 2, which frame is built up from upper and lower strips 3 and 3′ respectively, and is adapted to slide in the rail members of 1 and 1′, it being understood that the track rails in which the frame strips lie may be provided with suitable reinforcing strips to prevent wear, or they may be provided with anti-friction rollers. The upper and lower strips 3 and 3′ are connected by end strips 4 and 4′, as best shown in Fig. 2, and the front end strip 4′ may, in some instances, have hinged to its outer edge a shield window 5, which window when not in use may be swung flatly against the outer face of the front strip.

In this exemplification of my invention, the shield window 5 is locked in its outer or working position by a suitable spring segment 5′, although any means for locking it may be employed other than that mentioned. Under ordinary conditions, the front edge of a cab window has usually attached thereto, a wind shield similar to that mentioned above, and hence I provide the sliding skeleton frame with the standard wind shield, which can be used when the collapsible window is pushed forward in the track rails 1 and 1′, so that the engineer may have an open space, for observation, when the climatic conditions warrant.

Secured to the lower strip 3′ of the skeleton frame is an angle iron plate 6, having one of its webs extending from the adjacent wall of the strip, a predetermined distance, for hinged connection with the inner edge of a sill panel 7. The upper strip 3 is provided with a projecting ledge 6′, to the outer edge of which is hingedly connected a roof panel 7′, the same being of corresponding dimensions to the sill panel 7 previously mentioned.

The outer edges of the roof and sill panels carry leaf hinges 8 and 8′, which leaf hinges are in turn secured to the upper and lower edges of a side sash frame 9.

The edges of the front and rear frame strips 4 and 4′ have also secured thereto one section of companion hinges 10 and 10′, the other section of said hinges being secured to front and rear window sashes 11 and 11′ respectively. These companion window sashes when swung outwardly, to their working positions, are of such width that they will come flush with the corresponding outer edges of the upper and lower panels 7 and 7′. Hence as shown in Fig. 3 of the drawings, when the collapsible structure is distended for use, the panels together with the window sashes, form what might be termed a "bay window" in which the engineer can rest the upper part of his body, in driving, so as to command a clear front, rear and side view with relation to the right-of-way, and at the same time he is protected against the inclement weather conditions.

When the collapsible window parts are so distended it will be observed that owing to the fact that the front and rear sashes 11 and 11′ are swung outwardly, they serve as a support for the roof panels 7′, whereby the latter is held against dropping down upon its hinged axis, and it follows that the window 9 and the lower sill panel 7 are also indirectly supported in this manner.

As best shown in Fig. 2, the front and rear window sashes are locked against swinging by buttons 12, which engage locking recesses in the inner face of the side window frame, and hence the parts are securely held against horizontal and vertical play.

As best shown in Figs. 4 and 5 of the drawings, when the window as a unit is collapsed the front and rear sash frames are swung inwardly against the face of the skeleton frame causing the roof panel, side window sash and sill panel to collapse by gravity to a closed position. When so collapsed these parts are locked against rattling by a suitable clip 13, which clip has a tongue that engages a recess 13′ in the plate 6, as best shown in Fig. 2. When the parts are thus collapsed, the window as a whole, may be shoved forward so as not to form an obstruction, whereby the engineer can obtain a clear view through the open space formed by the standard window-rails. When the window is thus positioned out of commission, the shield 5 may be swung outwardly as shown in Fig. 5 so as to provide the ordinary protection.

It is manifest that in case of rain or sleet, the collapsible window sashes may be readily wiped from time to time if desired, but if the weather be such as to render it impractical to keep the glass clear, the entire apparatus may be folded and pushed along the rails 1 and 1′ out of commission.

While I have shown and described a structure which is built up from wooden strips, obviously metal may be used for all parts and the dimensions may be varied without departing from the spirit of my invention. While I have shown the roof panel 7 composed of a solid strip, this panel may also be provided with glass so as to further increase the light effect desired.

Attention is called to the fact that the rails 1, 1′ are shown built into the cab window opening, but in practice I prefer to attach the rails to the outside face of the cab to thus avoid complication in the fittings.

I claim:

1. A collapsible cab window comprising a skeleton frame, roof and sill panels hingedly secured to the upper and lower strips of the skeleton frame, a side window sash hingedly connected to the outer edges of the roof and sill panels, and front and rear windows in hinged connection with the end strips of the skeleton frame, the upper edges of the front and rear windows serving as supports for the roof panel when the hingedly connected parts are distended.

2. In a cab having a window opening therein, and a slidable skeleton frame fitted in the window opening, the skeleton frame comprising upper and lower strips and vertical end strips; the combination of a collapsible window including a roof panel in hinged connection with the upper frame strip, a sill panel in hinged connection with the lower frame strip, front and rear window sashes in hinged connection with the vertical end strips of the frame, a side window having its upper and lower edges hingedly connected to the outer edges of the roof panel and sill panel, whereby the hingedly connected units may be swung to form a bay window, the front and rear windows being swung outwardly to form front and rear closures therefor, and means for locking the front and rear windows to the side window whereby the collapsible parts are held rigid in their distended position.

In testimony that I claim the foregoing I have hereunto set my hand at Fond du Lac, in the county of Fond du Lac and State of Wisconsin.

WM. P. EGGERS.