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R. F. GOLDEN

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QUICK RELEASE STOP FOR RAILROAD CAR WINDOWS

Filed July 10, 1930

FIG. 1

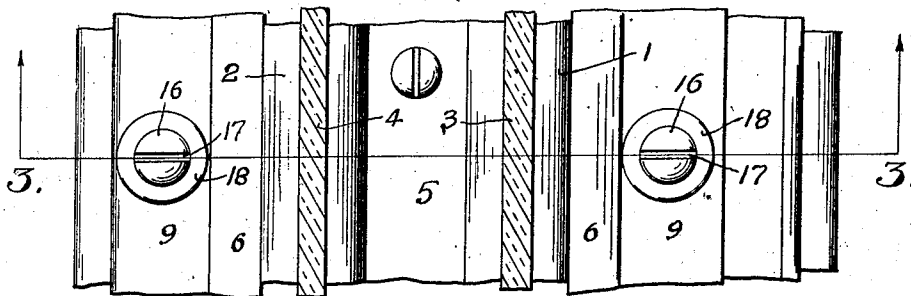


FIG. 2

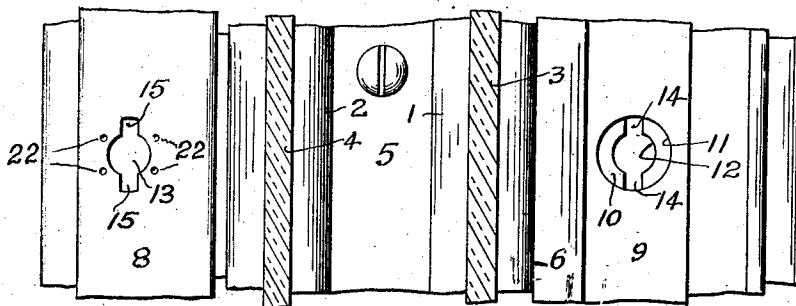


FIG. 3

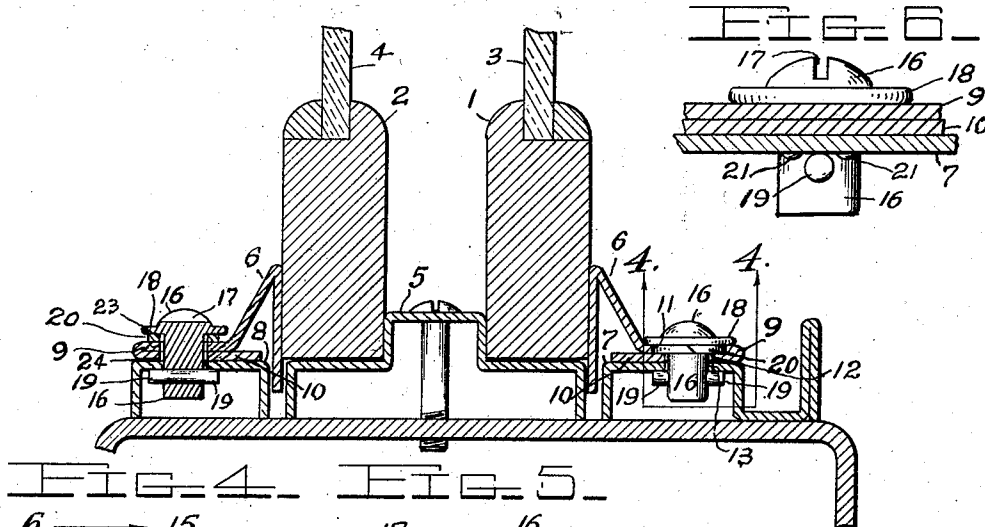
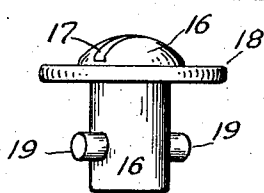
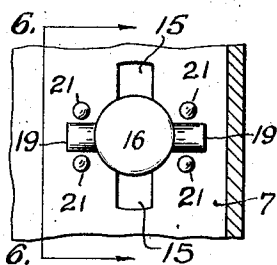


FIG. 4



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QUICK RELEASE STOP FOR RAILROAD CAR WINDOWS

Application filed July 10, 1930. Serial No. 466,935.

This invention has reference generally to railroad car windows, but more particularly relates to a quick release stop for the window sashes.

It has been found that it is important to provide a railroad car window construction that would permit of a quick removal of the window sashes, particularly when there were two sashes to a window, for obvious purposes such as making repairs and cleaning the glass in the sash.

Accordingly the object of the present invention is to equip an outside or inside window stop, so that it may be readily removed, the means for securing the stop being of such a nature that the accidental loosening of the stop is not at all likely.

Since these stops extend throughout the entire length of a window sash, the improved means for securing the stop in position is applied at suitably spaced locations in the stop, but it is deemed sufficient to illustrate this invention as applied in a single instance, and therefore the accompanying drawings will be abridged accordingly.

In these drawings,

Figure 1 is a fragmentary elevation with the sash and window panes in section, showing the improved quick release stop as it appears when applied—

Figure 2 is a view similar to Figure 1, but showing in the instance of one window sash the quick release securing stud removed, and in the instance of the other window sash said stud and also the entire stop removed, exposing only the stop support—

Figure 3 is a section at the line 3—3 of Figure 1, but showing in the instance of one stop, the quick releasing stud and washer in elevation, while in the instance of the other stop these parts are in section, and the opening in the base of the stop sufficient only to admit the plain stud—

Figure 4 is a section at the line 4—4 of Figure 3—

Figure 5 is a detail elevation of the securing stud, and

Figure 6 is a section at the line 6—6 of Figure 4.

Similar numerals of reference denote like

parts in the several figures of the drawings.

This invention is shown applied in the instance of double sashes, although it will be evident that it may be applied with equal facility to a single sash, and since the improved quick release means is the same and applied in the same manner in the instance of inside and outside stops, the following description will be limited to a single quick release means and the manner in which it is applied, and since inside and outside stops are both exactly alike, they will both be designated by the same numeral of reference.

1, 2, designate the inner and outer sashes within which are fixed the usual window panes 3, 4.

5 is the middle stop secured as usual to the window casing, and between which and the inside and outside stops the sashes are secured.

6 designates the stop which bears against the outer faces of the sash and is secured to the usual inner and outer stop supports 7, 8, and the manner of securing this stop to these supports constitutes the present invention which will now be described in detail. The stop as well as any support therefor is made of metal and the base portion of the stop, which lies against the support, is preferably formed by doubling the stock of the stop so as to make two thicknesses designated by the numerals 9, 10, the part 10 resting directly upon the stop support.

In the construction shown at Figure 2 and at the right hand of Figure 3 a large circular opening 11 is shown within the part 9, and smaller openings 12, 13, within the part 10 and its support 7, for the purpose presently to be explained.

In all instances the openings in the base of the stop and in the supports therefor are concentric, and in the supports 7 and 8 are diametrically opposite gates 14 and 15 that lead within the openings in these supports, as shown at Figures 2 and 4.

16 is a stud whose head is provided with a slot 17, after the manner of a screw, with an integral flange-like part 18 immediately below the head, and extending from the body

of the stud 16 near its lower end and at diametrically opposite locations are lugs 19.

In applying this quick release stud 16, a spring washer 20, of a size adapted to the large opening designated by 11 in the part 9, is assembled around the stud, the latter then inserted through the openings in the base portion of the stop and the lugs 19 then formed by driving a pin through the stud, and the stud thus equipped and positioned is inserted through the opening in the support, the lugs 19 passing through the gates designated by the numerals 14 and 15, and it will be clear that the insertion of the stud in this manner, so that the lugs pass below the inner face of the support, will cause the washer 20 to be depressed by the flange part 18, so that there will always be an upward thrust against the flange, and when the stud has been inserted in the manner aforesaid, a quarter turn by means of a screw driver inserted within the slot 17, will move the lugs 19 in a plane athwart the gates, as clearly shown at Figure 4.

While the upward thrust of the spring washer against the flange will preserve the locked position of the stud, as shown at Figure 4, nevertheless it has been deemed expedient to form little teats or protuberances 21 that extend from the inner face of the stop support and these may readily be provided for by simply making depressions 22 in the upper face of this support, as shown at Figure 2. When these teats are provided the turning of the stud by means of a screw driver, as above noted, will cause the lugs 19 to ride over one diametrically opposite pair of these teats, according to the direction in which the stud is turned, against the resiliency of the washer, and when these lugs have cleared the teats the washer will recover and draw the lugs firmly against the inner face of the support, so that not only can there be no rattling, but there can be no accidental turning of the studs to a position where the lugs will register with the gates hereinbefore described, the teats serving as detents to prevent this.

The nature of the openings in the base sections of the stop is quite immaterial, and in some instances, when it is preferred to house and conceal the washer, the large opening may be made in the upper thickness of the base, as described in connection with the construction shown at the right hand of Figure 3, but if this housing concealing the washer is not important, then these openings in the base sections of the stop may both be of the same size, sufficient merely to admit the passage of the stud, or, in other words, these openings may both be plain circular openings with no gated portions, as shown at 23 and 24 in the construction at the left hand of Figure 3, and in this instance the washer 20 will be confined between the flange

18 of the stud and the upper surface of the base section 9.

The invention is applied very quickly, and the studs are likewise withdrawn speedily, so that the stops may be readily removed, and there is no danger whatever of any sticking or rusting of threads such as frequently is the case when the stops are secured by means of the usual machine screws.

What is claimed is:—

1. In a quick release stop for railroad car windows, the combination of the stop support, the stop having a base resting against said support, said base having concentric circular openings therethrough, while said support has an opening concentric with the opening in said base, diametrically opposite gates in said support leading into the opening thereof, a stud whose head is slotted like a screw and which has a flange below said head, lugs extending from diametrically opposed locations near the inner end of the stud, whereby said stud may be inserted through the base and then with its lugs inserted through the opening and gates in said support with the lugs beneath the inner wall of said support, and a spring washer beneath said flange, whereby, when the stud is forced inwardly and given a quarter turn, the spring washer will be compressed and said lugs resiliently forced against the under surface of said support.

2. A quick release stop for railroad car windows, comprising a support having a circular opening with diametrically opposed gates leading therein, a stop having a base which rests against said support and which has a circular opening in its outer face and a smaller circular opening in its inner face, the opening in said support coinciding and alined with the openings in said base, a stud having a slotted head and a flange beneath said head and lugs extending from diametrically opposed locations at the lower end, and a spring washer housed within said large opening, the stud being inserted through said openings and gates with the washer compressed and the lugs beneath the inner wall of said support and then turned to bring said lugs out of alinement with said gates and in resilient contact with said wall.

3. A construction as in claim 2, with the addition that detents are provided that project from said wall and are overridden by said lugs when the stud is turned.

4. A quick release stop for railroad car windows, comprising a headed stud with a flange beneath said head, a support having a circular opening with diametrically opposed gates leading therein, a stop having a base which rests against said support and which has circular openings, the opening in said support concentric with the openings in said base, lugs extending from diametrically opposed locations at the lower end of said stud,

and a spring washer around said stud and
beneath said flange, the stud being inserted
through the openings in the base of the stop,
and, with the lugs in position, thereafter in-
5 serted through the opening and gates in the
support, whereby when the stud is forced in-
wardly and given a quarter turn the washer
will be compressed and the lugs brought out
of alinement with said gates and in resilient
10 contact with the inner surface of said support.

In testimony whereof I affix my signature
hereto.

ROBERT F. GOLDEN.

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