

Feb. 8, 1938.

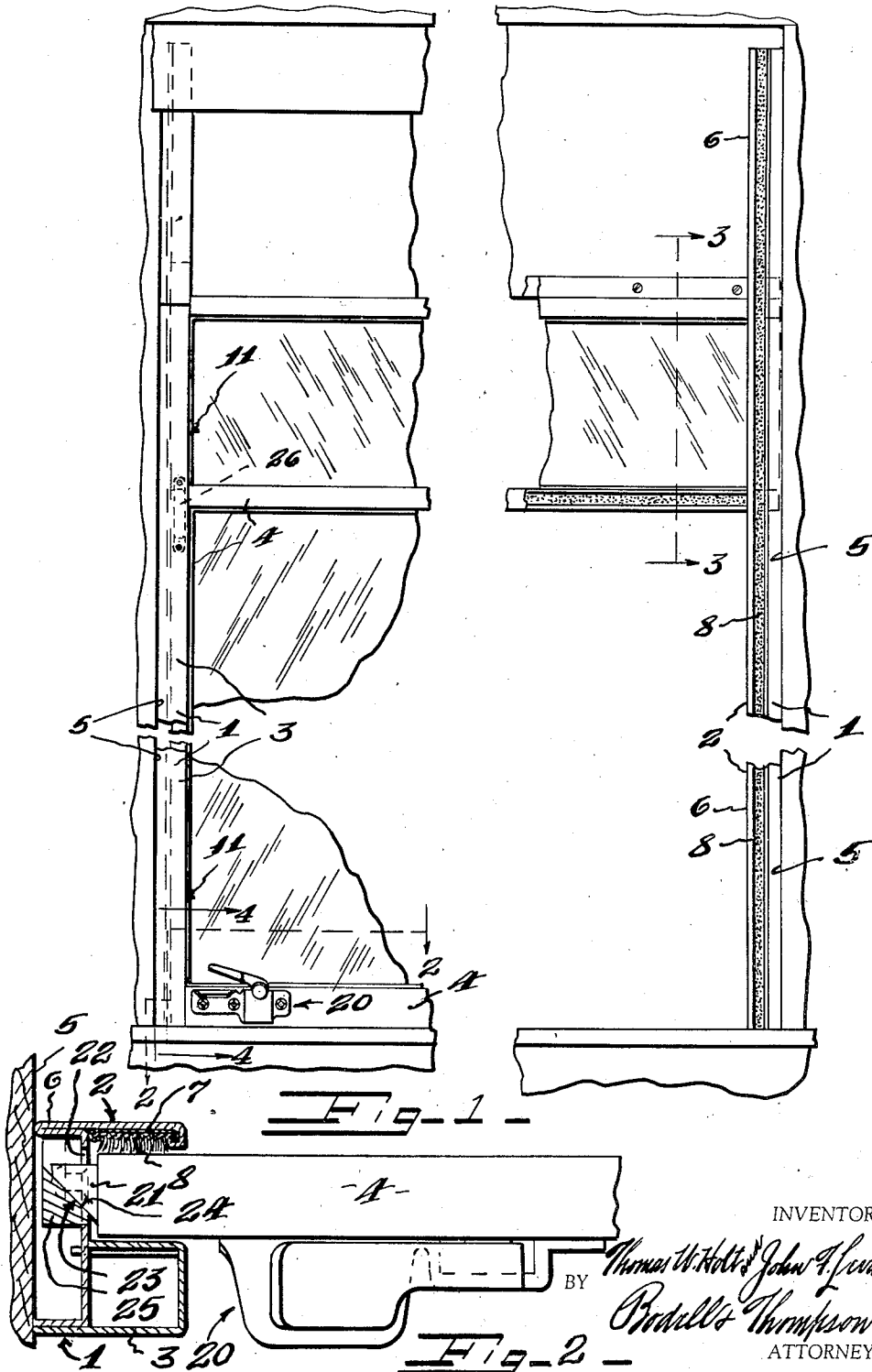
T. W. HOLT ET AL

2,108,000

WINDOW CONSTRUCTION

Original Filed Jan. 9, 1931

2 Sheets-Sheet 1



INVENTORS.

BY

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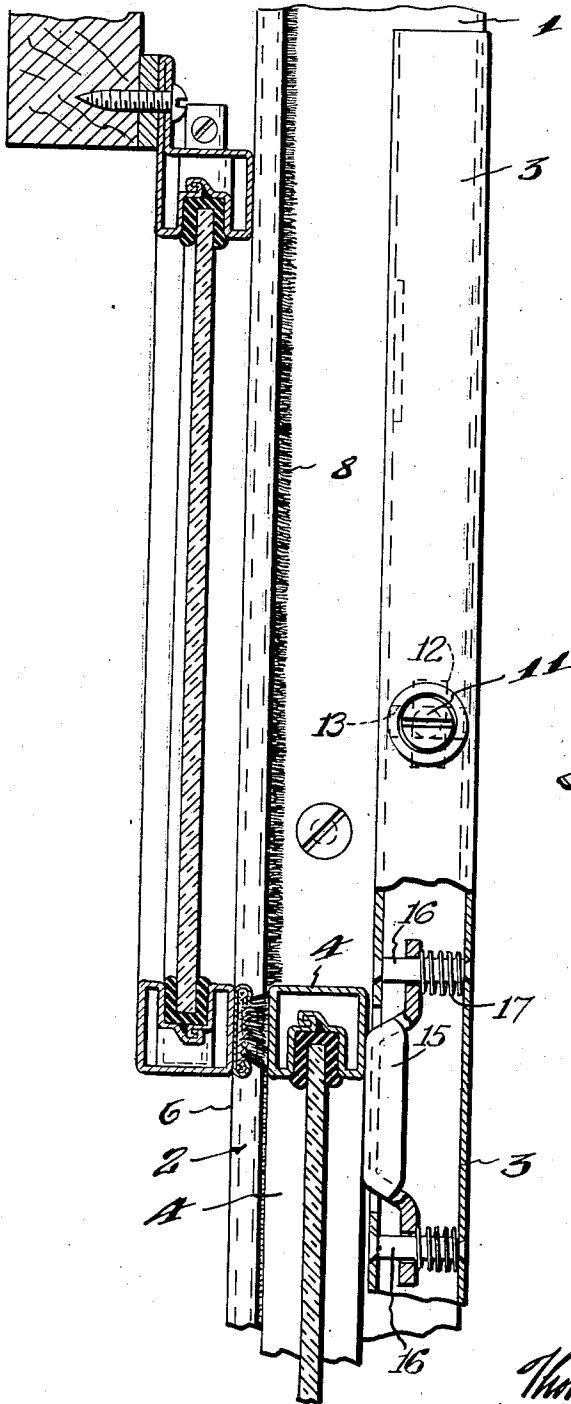


Fig. 3 -

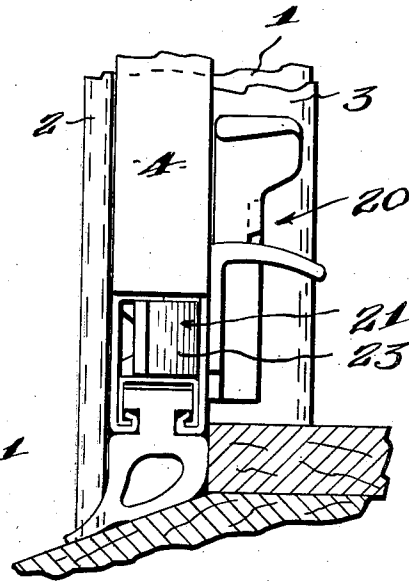


Fig. 4 -

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UNITED STATES PATENT OFFICE

2,108,000

WINDOW CONSTRUCTION

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Original application January 9, 1931, Serial No. 507,670. Divided and this application July 24, 1935, Serial No. 32,918

1 Claim. (Cl. 189—72)

This invention relates to window constructions, such as are used in railway cars and of the type shown in our pending application, Ser. No. 507,670, filed January 9, 1931, and for which Patent No. 2,011,052 was granted August 13, 1935, of which application this is a division.

It has for its object a particularly simple mechanism for compressing the sash against an outer window stop to hold the sash weather tight and from rattling.

It further has for its object a means for thrusting the sash against an outer stop, which means is carried by the demountable window stop of the type shown in said application and patent, and also by the sash in the form of a bolt of a sash holder.

It further has for its object a window frame and stop construction in which the outer stop, against which the sash is pressed, is provided with a weather strip of yielding material, as felt, or a material formed with a nap or bristles, and means for pressing the sash against the yielding weather strip on the outer stop.

The invention consists in the novel features and in the combinations and constructions hereinafter set forth and claimed.

In describing this invention, reference is had to the accompanying drawings in which like characters designate corresponding parts in all the views.

Figure 1 is a fragmentary elevation of a window embodying this invention.

Figures 2 and 3 are enlarged sectional views taken on lines 2—2, 3—3, Figure 1.

Figure 4 is an enlarged sectional view on line 4—4, Figure 1.

1 designates the side members or post structure of a window frame, which is also provided with outer and inner stops 2, 3, forming a guide for the sash 4. There is a guide for each edge of the sash. The post structure is formed up of sheet metal as in our patent referred to, and is here shown as rectangular in general form in cross section and open on its outer side. It is set with the open side toward the wall 5 of the window opening, and it is secured in the window opening in any suitable manner. The outer stop 2 consists of a flange reversely folded from a flange 6 of the post structure 1 and extended beyond the inner wall of the post 1 to lap or confront the sash 4 and form an outer stop therefor. The outer stop is also shaped to receive a holder 7 for a weather strip 8 which engages flatwise against the outer face of the stile of the sash. This weather strip may be of any suitable yield-

ing material, as felt, or a material formed with a nap or bristles.

The inner stop 3 is demountable for the purpose of permitting the removal and replacement of the sash. It is formed up of sheet metal and held in position, as in our patent referred to, and as this feature forms no part of this invention, further description is thought to be unnecessary. It is merely to be borne in mind that the stop is hollow and demountable and is held in position by plungers 11, each of which has a cross-head or button 12 interlocking through a slot 13 in the window frame. By turning the plunger to align the cross-head with the slot, the cross-head can pass through the slot permitting the inner stop 3 to be demounted. The stop is secured to the post structure by replacing the outer stop in position, after being demounted, and pressing the plunger 11 inwardly to pass the cross-head thereof through the slot 13, and then partly turning the plunger and the cross-head.

Each demountable inner stop is provided with spring-pressed compression devices or spring-pressed shoes which press against the inner face of the sash frame and press the sash against the weather strip 8. As seen in Figure 3, these compression devices comprise shoes 15 mounted within the inner stop and projecting through slots in the face of the inner stop toward the sash frame, these shoes having eyes at their ends through which guide rods 16 extend. Compression springs 17 encircle the rods 16 within the inner stop 3 and press at opposite ends against the inner stop and against the ends of the compression devices 15.

When the inner stop is secured in position in a window frame, the shoes 15 are compressed against the springs 17, and hence, the sash is thrust by the reaction of the springs 17 against the weather strip 8.

The sash is further held against the weather strip 8 by the camming action of the locking bolt of the sash holder on a surface on the window frame.

20 designates the sash holder, there being one at each lower corner of the sash. Each sash holder further includes a bolt 21 located within the bottom rail of the sash and projecting beyond the edge of the sash through openings 22 in the post structure, each bolt having a beveled surface 23 which coacts with a complementary surface 24 on a block 25 located within the post structure. These sash holders and bolts are located near the lower corners of the sash and the compression devices or shoes 15 carried by the stops are lo-

cated near the upper edge or top rail of the sash, when the sash is closed. The coacting inclined-plane surfaces of the bolts 21 and blocks 25 are arranged to thrust the sash outwardly against the weather strip 8. Thus, the bolts of the sash holders and the compression devices on the removable stop cooperate to press the sash against the weather strip of yielding material and hold the sash from rattling. Also, the compression devices and the camming action of the bolt of the sash holder automatically take up for any wear of the outer stop.

The sash may be readily removed by removing the outer stop and operating the sash holder to withdraw the ends of the bolts 21 out of engagement with the post structure.

What we claim is:—

In a window construction, the combination of a window frame comprising a post structure and inner and outer stops forming a sash guide and

a sash in the guide, the post structure being formed hollow and mountable in the window opening, and being formed with passages in its inner faces toward the edges of the sash, sash holder means carried by the sash and each including a bolt extending through the edge of the sash and through one of said passages, and means in the hollow post structure in line with said passages and on the opposite side of the contiguous portion of the post structure to that on which the sash is located, said means coacting with the bolt for thrusting the sash against the outer stop when the bolt projects through one of said passages, whereby the bolt and the means within the hollow post structure with which it coacts are located within the front to rear thickness of the sash.

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