April 21, 1936. E. W. DART 2,037,765

RAILWAY CAR

Filed July 7, 1934 3 Sheets-Sheet 1

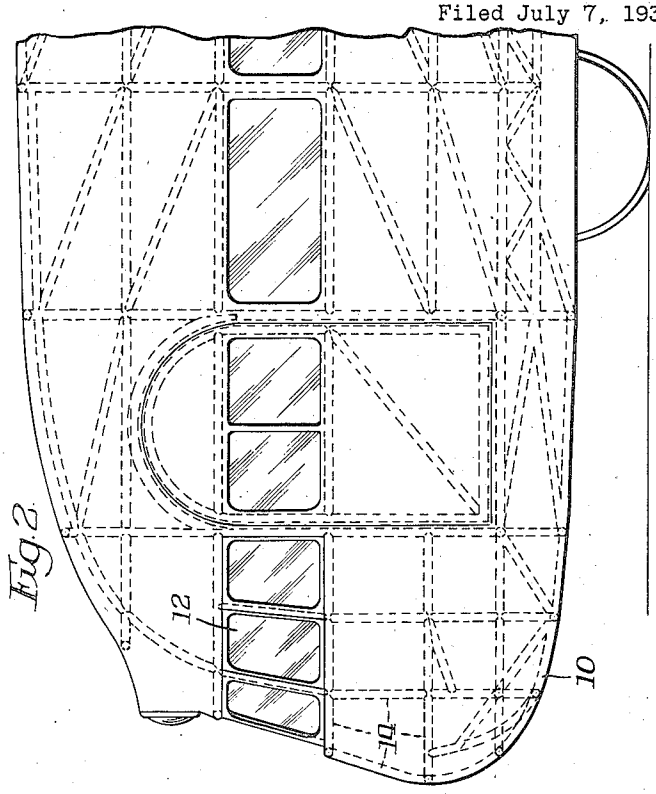


Fig 2.

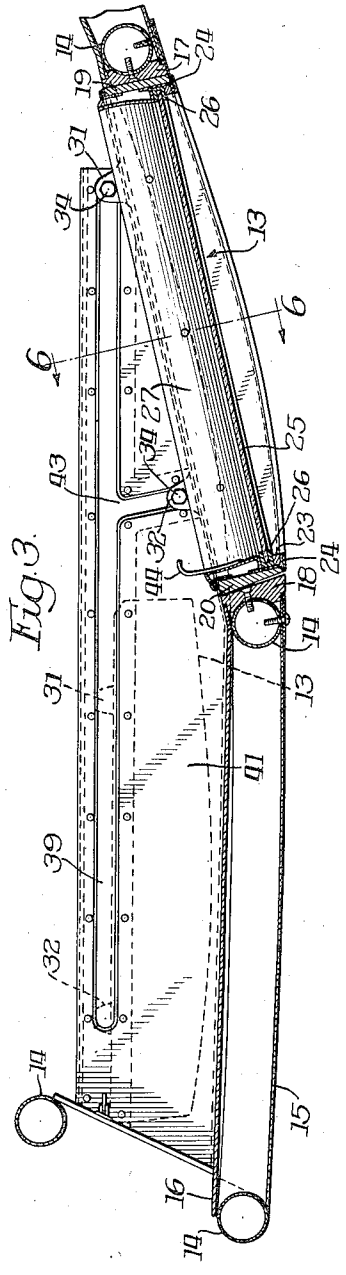


Fig 3.

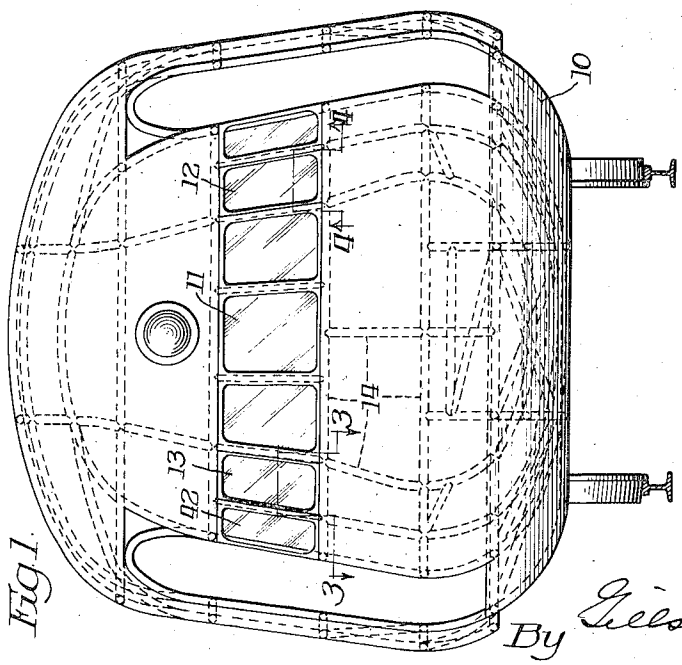


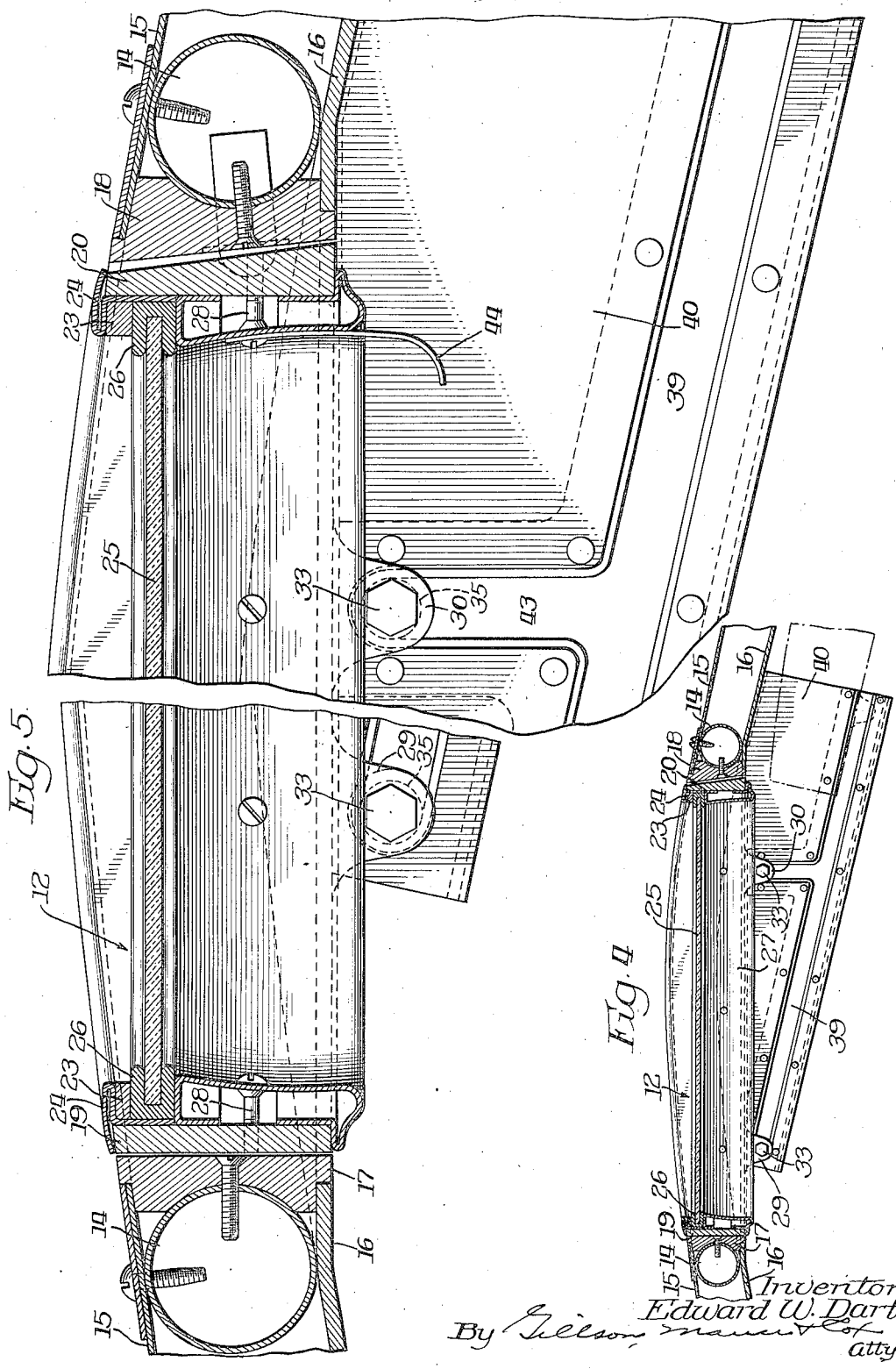
Fig 1.

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RAILWAY CAR

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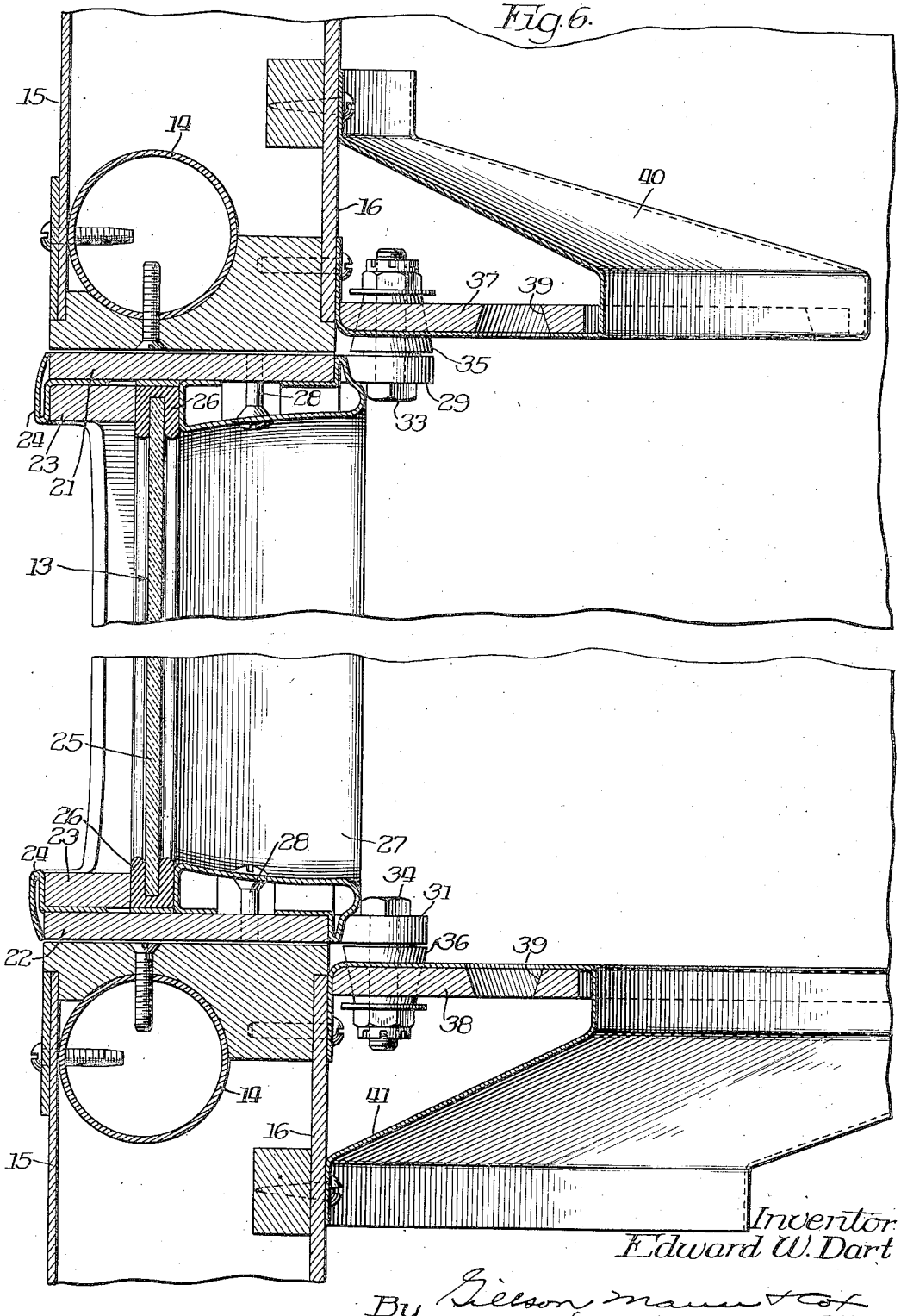


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RAILWAY CAR

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Fig. 6.



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Patented Apr. 21, 1936 2,037,765

UNITED STATES PATENT OFFICE

2,037,765

RAILWAY CAR

Edward W. Dart, Dearborn, Mich., assignor to Pullman-Standard Car Manufacturing Company, a corporation of Delaware

Application July 7, 1934, Serial No. 734,178

1 Claim. (Cl. 189—64)

The invention relates to railway cars having an openable panel, such as a window, which is, when closed, oblique to an adjacent panel. Such a condition frequently arises in "stream line" cars, where abrupt surface angles are to be avoided, and in which, especially in the driver's cab, the space is too limited to admit of the use of swinging sash.

The object of the invention is to provide for the mounting of a window sash in such an ablique panel in such manner that while it may be snugly fitted within the window opening when closed, it may be readily opened by slight turning, followed by a lateral sliding movement.

One embodiment of the invention is hereinafter described, and is illustrated in the accompanying drawings, in which

Fig. 1 is an end elevation of of the improved car;

Fig. 2 is a detail side elevation of the front portion thereof;

Fig. 3 is a plan section on the line 3—3 of Fig. 1;

Fig. 4 is a detail inverted section on the line 4—4 of Fig. 1;

Fig. 5 is a detail section on an enlarged scale, taken from the same point of view as Fig. 4; and

Fig. 6 is a detail section on an enlarged scale on the line 6—6 of Fig. 3.

The car body 10 is designed with view to reducing air resistance, particularly when traveling at a high rate of speed. Its forward end is preferably of rounded contour, as indicated in Figs. 1 and 2, and incloses a compartment or cab for the engineer or driver, this compartment being provided with a central forwardly looking window 11, and lateral windows 12, 13, located in the backwardly and laterally sloping walls of the front end of the car. These windows, certainly those designated 12, 13, are desirably openable. The compartment being necessarily restricted in size, it is essential that the window sash be mounted for sliding movement. Because of the curved or panel form of the car wall, both horizontally and vertically, and the necessity for securing a close fit for the window when closed, an ordinary slideway cannot be used.

The framing of the car, as indicated at 14, is formed of tubing, and is covered and lined with sheet metal sheathing 15, 16. The frame 17, 18, for the window 12 is desirably of metal, and is secured to the car wall preferably by screws entering frame elements, as 14, as plainly shown particularly in Fig. 5. The inner face of one of the stiles of the window frame 17 is preferably substantially normal to the section of the wall to which it is attached, that of the opposite stile 18, however, being slightly oblique to the plane of the wall, the inclination being toward the window opening from the inner to the outer margin of the face.

The window sash may be of any suitable form and structure, providing it will fit within the casing, and, as shown, it comprises a pair of stile elements 19, 20, and top and bottom rails 21, 22, outer stops 23, 23, for the glazing and an outer sheet metal molding 24 covering the outer faces of the elements 21, 22 and 23, these parts being secured together by any suitable means, such as brazing. The glazing 25 is preferably mounted in a molded frame 26, and secured against the stops 23, 23, by means of a sheet metal stop 27, secured to the sash frame, as by means of screws 28.

The sash is openable by a pivotal, followed by a lateral movement. A track is provided for carrying the sash laterally, and in a path inclined away from the plane of the casing, the sash being swung about one of its stiles into and out of the casing.

In its broader aspects the invention includes any form of track disposed as above, and any form of connection between the sash and track which will permit the pivotal movement of the sash into and out of its casing, and its longitudinal movement along the track.

In the illustrated embodiment of the invention, each of the top and bottom sash rails 21, 22, is provided with a pair of instanding lugs 29, 30, and 31, 32, located, respectively, as shown, near the sash stiles 19, 20. Each of these lugs carries a pivot bolt 33, 34, projecting, respectively, upwardly and downwardly, and upon which are mounted anti-friction rollers 35, 36, preferably slightly conical in form. Track plates 37, 38, are mounted, respectively, above and below the window opening, and each is provided with a straight slot 39 for receiving the rollers 35, 36. These track plates are secured to the car wall by means of sheet metal brackets 40, 41, and extend along the inner face of the wall section 42, which is next adjacent and to the rear of the window 12. The track slots 39 terminate a short distance from the forward sash stile 19, and are aligned with the inner margin thereof.

A lateral slot 43 extends from the slot 39 toward the window casing, and is spaced, approximately, at both ends from the inner end of the slot 39 correspondingly with the spacing

of the lugs **29**, **30**. The slot **43** is inclined backwardly toward its inner end, corresponding approximately with the inclination of the inner face of the casing element **18**.

When the window is open to its full extent the sash occupies the position shown in dotted lines in Fig. 3. In closing the window the sash is moved to the right (Fig. 3) until the roller **36** carried by the lug **31** reaches the end of the slot **39**, the sash stile then making contact with the inner margin of the casing stile, and the roller carried by the lug **32** being now opposite the slot **43**. The sash now being swung about the roller **36** as a pivot, the roller carried by the lug **32** moves to the inner end of the slot **43**, and the window is snugly closed. Any suitable locking means may be employed for holding the sash in closed position. A hook **44** may be secured to the stop **27** for convenience in moving the sash.

While the construction shown and described is highly efficient, various changes may be made therein within the scope of the appended claim.

I claim as my invention—

A railway car having a pair of adjacent wall panels relatively oblique, a window opening in one of such panels, a laterally openable sash for such opening, a straight track extending from adjacent the remote side of the window casing and overlapping the companion panel and spaced therefrom, a lateral track extending from the main track toward the opening and being inclined toward the remote end of the main track, and pintles secured to the sash adjacent its sides for engaging the tracks, the pintle engageable with the lateral track being so located that as it approaches the remote end of such track it will urge the remoter sash stile against the casing.

EDWARD W. DART.