May 15, 1934. G. G. GILPIN 1,958,749

RAILWAY CAR DOOR FIXTURE

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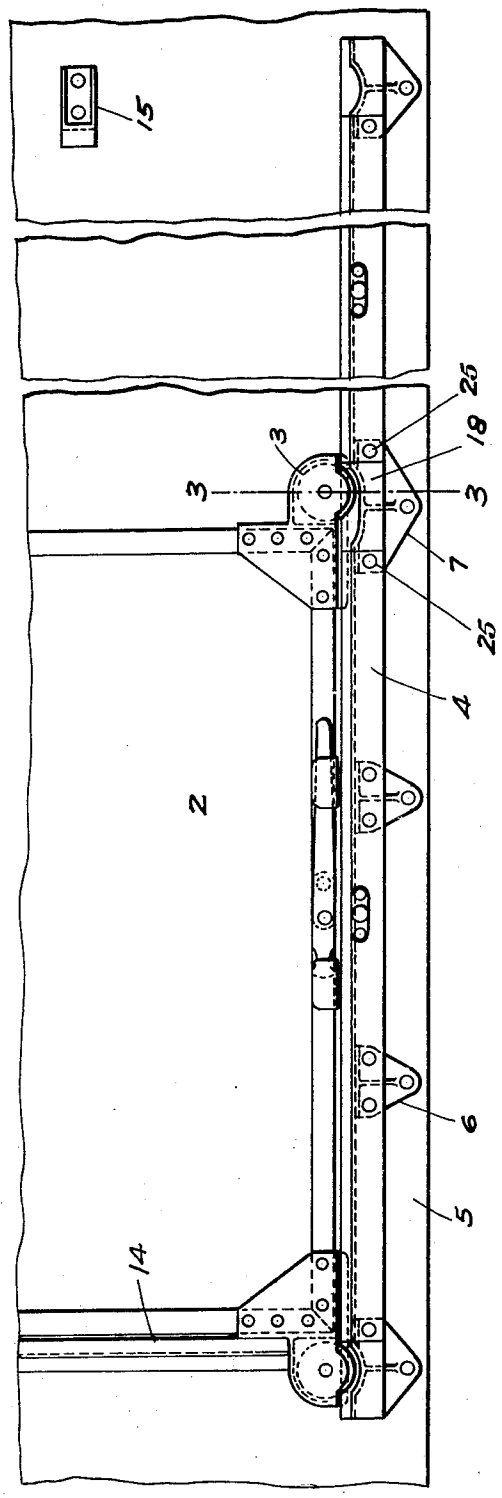


Fig. 1

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Fig. 3

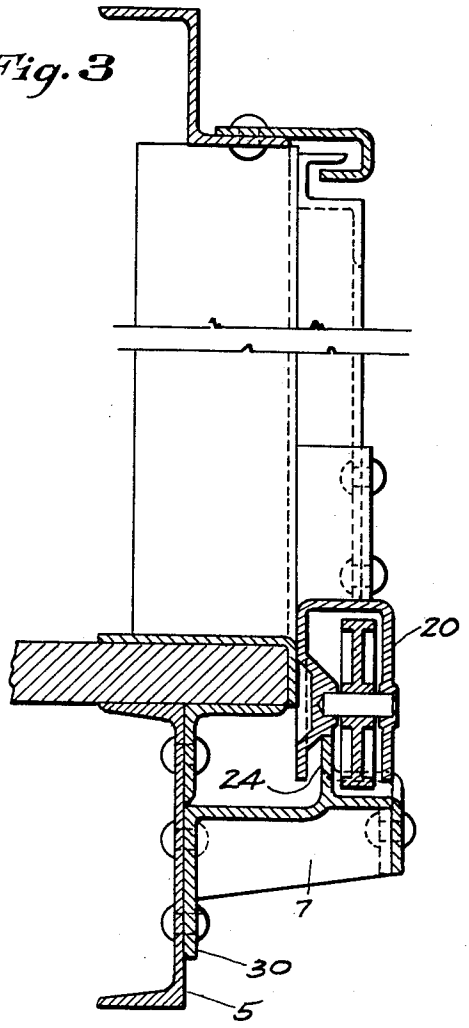
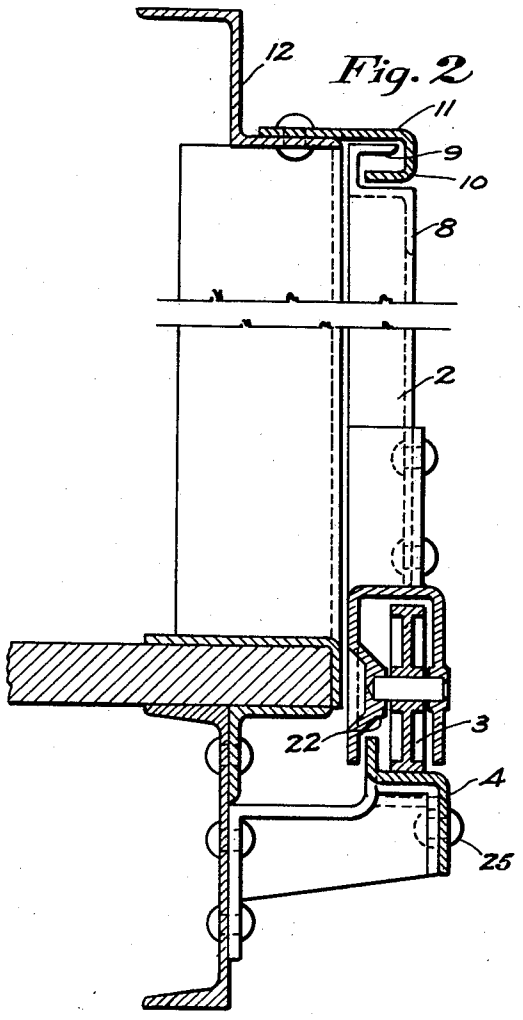


Fig. 2



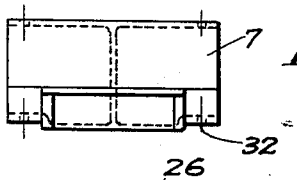


Fig. 4

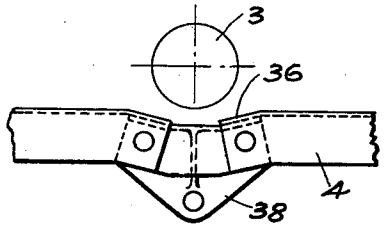


Fig. 7

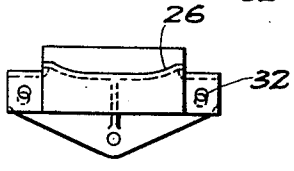


Fig. 5

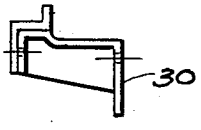


Fig. 6

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UNITED STATES PATENT OFFICE

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RAILWAY CAR DOOR FIXTURE

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Application March 16, 1933, Serial No. 661,111

4 Claims. (Cl. 16—96)

Side doors of railway freight cars are generally arranged to slide horizontally to open or close the door opening and anti-friction rollers are provided between the door and the supporting element to reduce the effort required to move the door. The inertia of such a door caused by the sudden stopping or starting of the car bangs or slams it against the front or back stop causing damage to the car and the door and resulting in a leaky car. Even if the door is locked such inertia causes considerable strain upon the locking mechanism. An object of my invention is to transfer the weight of the door from the anti-friction rollers to a rigid part of the door and thence directly to the track so that the tendency of the door to move longitudinally of the track will be resisted by the friction between such rigid part of the door and the track, thereby retaining the door in a predetermined position. It is desirable to retain the door in a closed position or in full open position. However, my arrangement can be varied to retain the door in any position therebetween. The increased weight of the doors caused by the metallic reinforcements used thereon and the use of all steel doors has increased the necessity for such an arrangement.

Another object of the invention is to provide a construction wherein the inertia of the door, due to the movement of the car, is transferred from the locking or holding mechanism to a track positioned below the door.

In the drawings:

Fig. 1 shows a typical railway car door provided with my improved door fixtures.

Fig. 2 shows the roller in engagement with the tread of the track.

Fig. 3 shows the roller over the space between the track sections.

Figs. 4, 5 and 6 show the track supporting bracket in detail.

Fig. 7 shows a modified construction.

The drawings show a typical railway car side door and the associated parts of the car wherein the door 2 is provided with rollers 3 which run along the tread of the track 4 which is mounted upon the car below the door and is supported upon the side sill 5 of the car brackets 6 and 7. The upper part of the door is retained adjacent the car and is provided with some waterproofing means and typical arrangement of the upper part of the door is shown in Figs. 2 and 3, wherein the top rail 8 is provided with an outwardly projecting flange 9 which overlies an inwardly projecting flange 10 forming part of the hood 11, which hood is secured to the side plate 12 of the car.

The door is limited in its forward movement by the front stop 14 and in its backward movement by the back stop 15.

The track comprises two or more aligned sections with their adjacent ends separated to provide a space 18 therebetween forming an interrupted portion of the tread so that when one of the rollers 3 is moved to a position over one of the interrupted portions of the tread the door moves downwardly until a part of the door (or some member thereon) engages means to support the weight of the door thereupon independently of the roller, thereby frictionally resisting movement of the door longitudinally of the car.

In the drawings the roller bracket 20 is provided with a shoulder 22 which engages portion 24 of the bracket 7 when the roller moves over the interrupted portion of the tread.

One or more of the brackets (7) supporting the track upon the car is arranged also to support the ends of the track sections adjacent the space 18 therebetween and secured thereto by the rivets 25. (See Fig. 1). This bracket also maintains the track sections in proper spaced relation and is also preferably provided with inclined guideways 26 which elevate the roller to the level of the tread and facilitate the engagement of the roller with the tread when the door is being moved longitudinally of the car.

Figs. 4, 5 and 6 show one of the brackets 7 in detail wherein the flange 30 is secured to the car and the rivet holes 32 accommodate rivets 25 to hold the respective ends of the track sections to the brackets.

In the modification shown in Fig. 7 each end of the adjacent sections is provided with downwardly inclined treads 36 adjacent the spaces between the adjacent sections. The bracket 38 is arranged to support the inclined portion.

The broad feature of providing a track with interrupted portions so that as the roller on the door is moved to a position over such interrupted portions to shift the weight of the door from the roller to some other part of the door is disclosed and claimed in my Patent No. 1,902,772 of March 21, 1933, and the specific track having a substantially horizontal tread with upwardly and downwardly extending flanges is disclosed and claimed in my co-pending application No. 658,213, filed February 23, 1933.

The accompanying drawings illustrate the preferred form of the invention, though it is to be understood that the invention is not limited to

the exact details of construction shown and described, as it is obvious that various modifications thereof, within the scope of the claims, will occur to persons skilled in the art.

I claim:

1. In a railway car, a track having a tread arranged to engage rollers supporting a door and a member on the door out of engagement, said track comprising two aligned sections with their adjacent ends separated to provide a space therebetween, and a bracket connecting and supporting the adjacent ends of the sections so as to form an interrupted portion of the tread to allow the door to move downwardly when a roller is moved to a position over said interrupted portion of the tread until the member engages the bracket and supports the weight of the door upon the bracket independently of the roller.

2. In a railway car, a track having a tread arranged to engage rollers supporting a door and a member on the door out of engagement, said track comprising two aligned sections with their adjacent ends separated to provide a space therebetween, and a bracket connecting and supporting the adjacent ends of the sections so as to form an interrupted portion of the tread to allow the door to move downwardly when a roller is moved to a position over said interrupted portion of the tread until the member engages the bracket and supports the weight of the door upon the bracket independently of the roller, said sections having downwardly inclined treads at their ends adjacent said space.

3. In a railway car, a track having a tread arranged to engage rollers supporting a door and a member on the door out of engagement, said track comprising two aligned sections with their adjacent ends separated to provide a space therebetween, and a bracket connecting and supporting the adjacent ends of the sections so as to form an interrupted portion of the tread to allow the door to move downwardly when a roller is moved to a position over said interrupted portion of the tread until the member engages the bracket and supports the weight of the door upon the braket independently of the roller, said bracket provided with inclined guideways to facilitate the engagement of the rollers with the tread.

4. In a railway car, a track having a tread arranged to engage rollers supporting a door, said track comprising two aligned sections with their adjacent ends separated to provide a space therebetween of sufficient length to allow a roller to move downwardly when the roller is moved to a position over said space and relieve the roller of the weight of the door, and means to support the weight of the door independently of the roller when the roller is in said position.

GARTH G. GILPIN.