H. A. CHRISTY.

BOX CAR.

APPLICATION FILED JAN. 9, 1913.

1,068,320. Patented July 22, 1913.

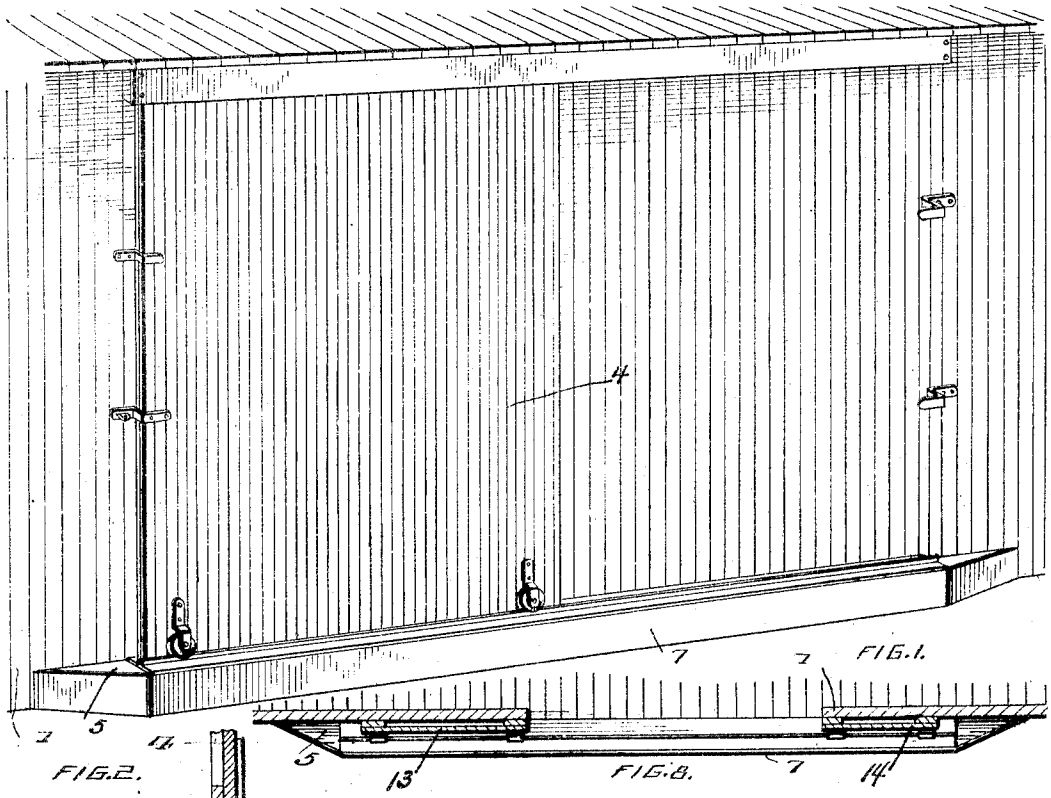

FIG. 1.

FIG. 8.

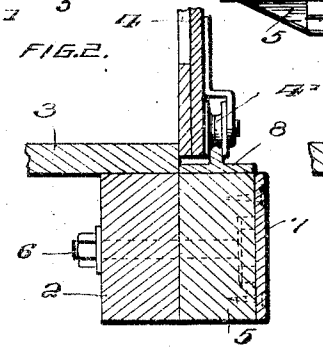

FIG. 2.

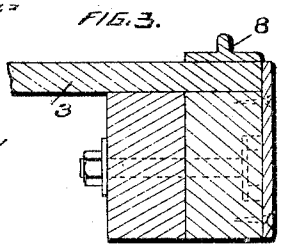

FIG. 3.

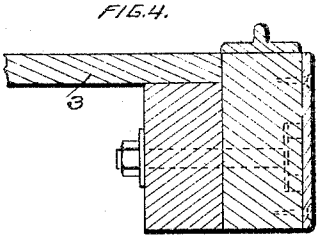

FIG. 4.

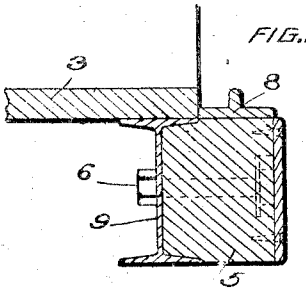

FIG. 5.

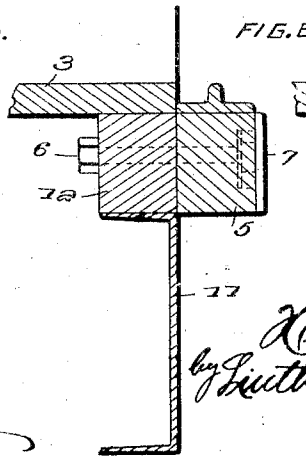

FIG. 6.

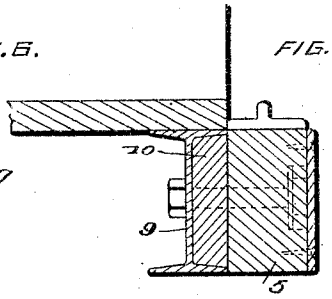

FIG. 7.

WITNESSES

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BOX-CAR.

1,068,320. Specification of Letters Patent. Patented July 22, 1913.

Application filed January 9, 1913. Serial No. 741,050.

To all whom it may concern:

Be it known that I, HENRY A. CHRISTY, a citizen of the United States, residing at Kenilworth, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Box-Cars, of which the following is a specification.

This invention relates to box cars, and has for its object to guard and protect the doors thereof by preventing vehicles and other cars from striking against the doors, both in the closed and opened positions thereof.

It is an important object of the invention to adapt the same to any of the several forms of box cars now in common use, and to permit of the convenient application of the invention to such cars without making any changes or alterations in the construction thereof.

The invention has been embodied in the form of a fender placed below the car door on the outside of the car and carried by the side sill. The fender extends lengthwise of the car across the doorway and at the side thereof for a distance at least equal to the width of the door, thereby to protect the door when open as well as when closed.

With these and other objects in view, the present invention consists in the combination and arrangement of parts as will be hereinafter more fully described, shown in the drawings and particularly pointed out in the appended claim, it being understood that changes in the form, proportion, size and minor details may be made within the scope of the claim, without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawings:—Figure 1 is a perspective view of a portion of a box car equipped with the fender of the present invention. Figs. 2, 3, 4, 5, 6, and 7 are enlarged detail cross-sectional views taken through the fender and the adjacent side sill and showing different applications of the fender in accordance with different forms of side sills and arrangements of car floors. Fig. 8 is a detail plan section showing the invention applied where two doors are used.

Like characters of reference designate corresponding parts in each of the several figures of the drawings.

In Fig. 1 of the drawings, 1 designates the side wall of any ordinary or preferred form of box car, while in Figs. 2, 3 and 4, 2 designates an ordinary wooden side sill, on which is laid the floor 3 of the car in the usual way. In Figs. 1 and 2, 4 designates any common or preferred form of door.

The parts thus far shown and described are common and well known and need no further description.

In carrying out this invention, I provide a fender 5 which is preferably a piece of timber of suitable proportions secured to the outer side of the car below the door and extending the full length of the doorway and also a the side thereof for a distance equal to at least the width of the door. In other words, the fender extends throughout the length of the path of movement of the sliding door. As best shown in Figs. 2, 3 and 4, this fender is secured by means of bolts, one of which is shown at 6, extending through the fender and the sill. By preference, the vertical thickness of the fender is the same as that of the side sill, but of course this proportion may be varied under different circumstances without departing from this invention. The exterior of the fender may be left plain or it may be protected by a metal strip or plate 7 extending the full length of the fender on the outer vertical face thereof. The ends of the fender are beveled or rounded as best shown in Figs. 1 and 8 so as to avoid abrupt shoulders at the ends of the fender. The horizontal thickness of the fender should be at least equal to the greatest lateral external projection of any portion of the door, its fastenings or its mounting, so that when a vehicle backs up against the fender, said vehicle will not come into contact with the door or any part of its mounting. Should two cars on different tracks come close enough to contact with one another, the fender of one will strike the fender of the other, or the fender of one will strike the other car in a line with the side sill thereof, because the underframing of all cars are the standard heights, and consequently the doors of both cars would be protected by the fender.

The present invention is intended to protect outside doors and is of course entirely independent of any mounting of the door, and, therefore, it may be applied to cars already in service without making any change in the construction of the car and without requiring any change or alteration in the construction and mounting of the

door. However, I contemplate utilizing the fender as a support for the door, so that the door may rest and slide along on the fender, instead of being hung from its top as in common practice. In carrying out this feature of the invention, I place a track, such for instance as shown at 8, on top of the fender, and provide the door with two or more grooved rollers 9 which rest on and travel upon the track. The top of the door may be guided in any common or preferred manner, and therefore I have not illustrated any particular form of guiding arrangement for the top of the door.

In the embodiment shown in Fig. 2, the floor 3 of the car terminates flush with the outer face of the side sill 2, in which arrangement the top of the track 8 is preferably flush with the top of the floor, whereby the bottom edge of the door travels between the upstanding part of the track 8 and the floor, thereby sealing the lower edge of the doorway. In this arrangement the track being flush with the floor of the car offers no obstruction in loading and unloading the car.

In the embodiment shown in Fig. 3 of the drawings, the floor 3 of the car is extended out across the fender, with which arrangement the track 8 is still supported by the fender, although it rests directly upon that portion of the floor which overlaps the fender.

Under some conditions, as shown in Fig. 4 of the drawings, the vertical thickness of the fender may exceed that of the sill, with the top of the fender flush with the top of the car floor 3.

Where a metal I-beam side-sill 9 is used, as in Fig. 5, the fender 5 is shaped and proportioned to fill the outer side of the I-beam and project a suitable distance beyond the same, the fender being secured to the I-beam side sill by a bolt 6, as hereinbefore described, the track 8 being supported upon that part of the fender which projects laterally beyond the flanges of the I-beam.

As shown in Fig. 7, in applying the fender to a car having an I-beam and a wooden filler beam 10 to which the sheathing is ordinarily nailed, the fender 5 is merely bolted through the filler 10 and the I-beam 9.

Fig. 6 shows a common car construction wherein the side sill 11 is in the form of a channel iron, on the upper flange of which is the usual wooden strip or beam to which the sheathing of the car is connected. In applying the invention to this construction the fender 5 is bolted to the wooden strip or bar 12.

It will of course be understood that when applied to side sills such as shown in Figs. 5, 6 and 7, the fender may have any of the arrangements shown in Figs. 2, 3 and 4.

Where the doorway is large, and two sliding doors 13 and 14 are employed, as shown in Fig. 8, the fender will project at opposite sides of the doorway a distance sufficient to protect both doors in their open positions as well as in their closed positions, the track 8 extending as far as necessary to accommodate the sliding of the doors to either position.

What is claimed is:—

A box car having a side doorway and a slidable door therefor, a door fender secured to the outer face of the side sill and extending laterally outward beyond the side of the car and beyond the plane of the door and any of the door mountings, said fender extending across the width of the doorway and beyond one side thereof for a distance at least equal to the width of the door, the ends of the fender being beveled transversely so as to incline toward the car body and toward the respective ends of the car, and guide-means on the fender and back of the front face thereof, the door being slidably guided at its bottom by said means, substantially as specified.

In testimony whereof I hereby affix my signature in presence of two witnesses.

HENRY A. CHRISTY.

Witnesses:
HERBERT S. SHEPARD,
CALVIN T. MILANS.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."