G. J. HATZ.

DOOR TRACK AND HANGER.

APPLICATION FILED DEC. 21, 1909.

995,673.

Patented June 20, 1911.

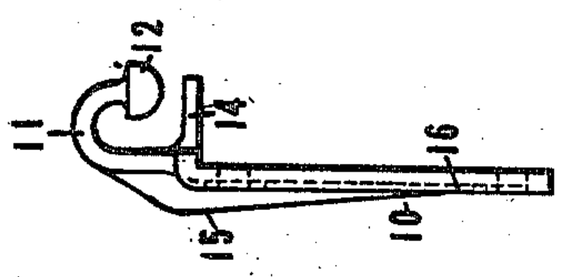

FIG. 3.

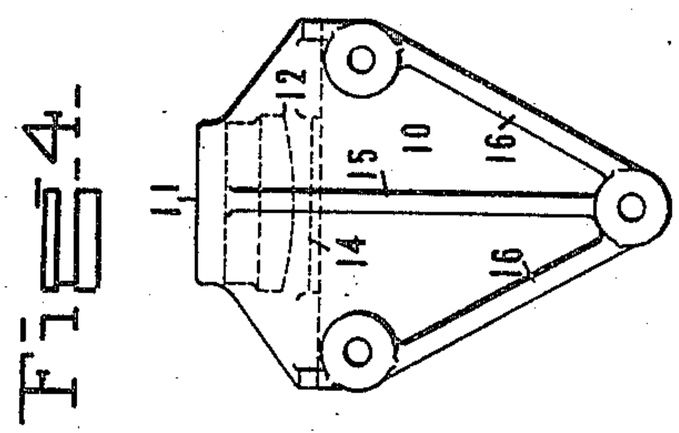

FIG. 4.

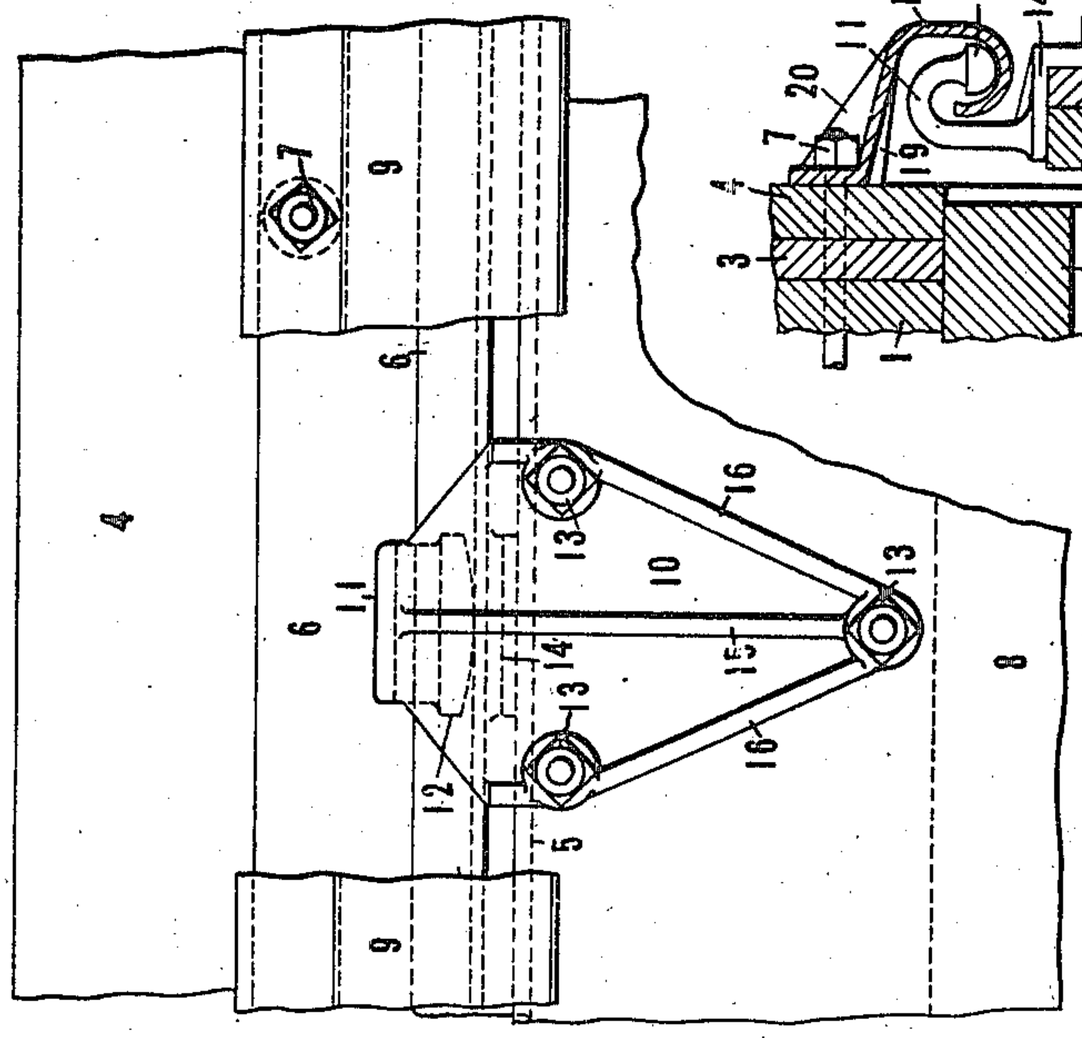

FIG. 2.

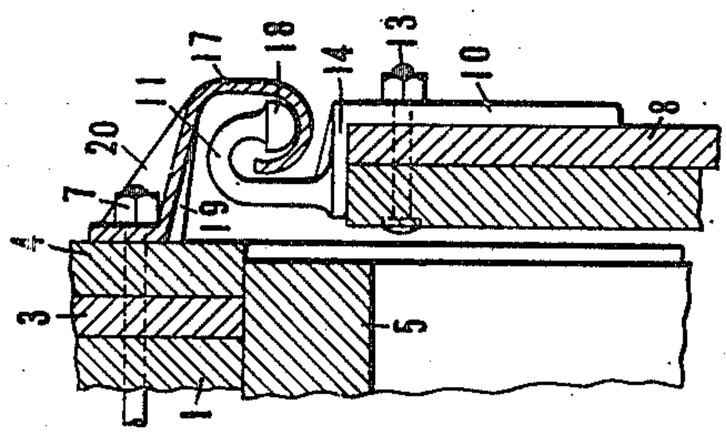

FIG. 5.

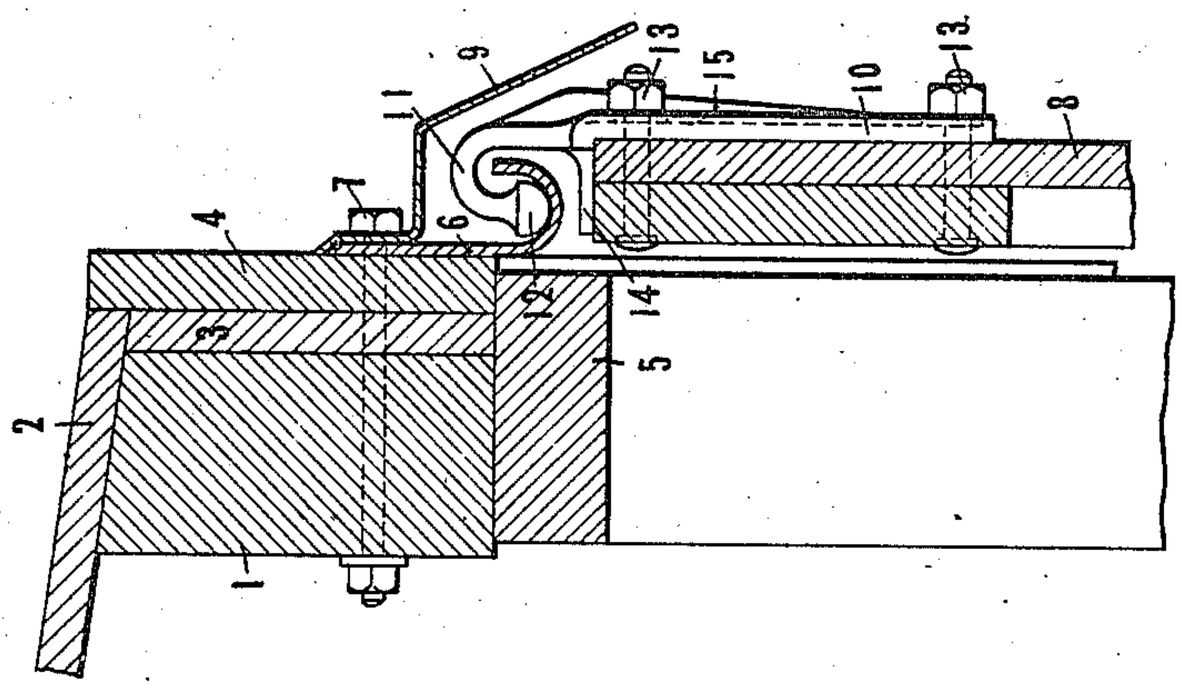

FIG. 1.

WITNESSES:

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GEORGE J. HATZ, OF OMAHA, NEBRASKA.

DOOR TRACK AND HANGER.

995,673. Specification of Letters Patent. Patented June 20, 1911.

Application filed December 21, 1909. Serial No. 534,246.

To all whom it may concern:

Be it known that I, GEORGE J. HATZ, a citizen of the United States, residing at 3011 Sherman avenue, Omaha, in the county of Douglas and State of Nebraska, have invented certain new and useful Improvements in Door Tracks and Hangers, of which the following is a full, clear, and exact description, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to door hangers and tracks therefor, particularly adapted for use on freight cars.

The object of the invention is to combine simplicity and cheapness with smoothness of operation.

By slight modification of form the invention provides either a hanger for use with a track having a separate hood, or a hanger for use with a track which also forms the hood, and in both forms above mentioned the design of the hanger and track is such that lateral removal of the door is impossible. Other incidental advantages will be apparent from the description.

The invention accordingly consists in the features of construction, combination of elements and arrangement of parts which will be exemplified in the construction hereinafter set forth, and the scope of the application of which will be indicated in the following claims.

In the accompanying drawing wherein is illustrated two of various possible embodiments of certain features of this invention, Figure 1 is a cross sectional view through a door opening of a box car. Fig. 2 is a side elevation partly in section showing the parts illustrated in Fig. 1. Figs. 3 and 4 are detail views of the door hanger. Fig. 5 is a cross sectional view of the door opening of a car with a modified form of this invention applied thereto.

Similar reference characters refer to similar parts throughout the several views of the drawing.

While the embodiment of the invention hereinafter described is shown in connection with the sliding door of a box car to which it is applied, it is of course to be understood that certain features of the door track and door hanger may be applied to other railway cars, street cars, steamships or any building or device requiring a sliding door.

Referring to these drawings in detail, 1 represents the upper side-plate of a wooden box car beneath the lower course of roof 2 to which is secured the siding 3 and the side facia-plate 4 beneath which is the upper part of the door frame or a door lintel 5. A track 6 secured to the plate 1 by means of a bolt 7 passing therethrough, extends across the top of the door opening and to one side thereof a sufficient distance to permit a door 8 to be moved to open position. The track 6 is preferably of concave construction or U-shaped in cross-section along which a hanger, hereinafter described, is adapted to travel. A suitable hood 9 is preferably secured with the track 6 to the car by means of the bolt 7 which holds the track in place.

To the door are attached hangers 10 having curved portions 11 extending from the upper part thereof, which are bent upwardly and inwardly, terminating in a shoe 12 adapted to slide along the track. The number and location of such hangers is a matter of design. The shoe 12 is semi-circular, or convex in cross-section, and is so designed as to reduce the friction of the contacting surface thereof with the track to a minimum, as the shoe is curved longitudinally as well as transversely as clearly shown in Fig. 2. The door hanger 10 is secured to the door by a plurality of bolts 13 and is provided at its upper portion with a shoulder 14 extending over the upper edge of the door in close proximity to the shoe 12 carried on the curved portion 11 of the hanger, thereby preventing the door from becoming detached from the track by any lateral movement as the upper and outer edge of the track 6 extends some distance above the center line of the radius forming the concave portion thereof. The semi-circular, or convex shoe 12 of the door hanger is struck from a less radius than the concave portion of the track, so that the door falls by gravity to its normal position at any location at which the door may be.

A vertical strengthening web 15 is provided along the central part of the door hanger connecting the curved and body portions as shown in Fig. 3. A peripheral flange 16 is also provided to give added strength to the body.

Referring to Fig. 5 of the drawings it is to be noticed that the door track may be changed in form to provide a hood and door track combined in one piece 17. The shoe 18 of the door hanger is reversed and the

curved portion 11 is positioned near the inside of the door, thereby allowing the shoe of the door hanger to work freely in the door track. Bracing and strengthening means may be applied as at 19 and 20, if desired.

The door hanger in each form is preferably cast integral, but if desired the sliding surface of the shoe may be made of a different material to decrease the friction or increase its wearing properties. The door-hanger is so designed that when applied to a door it will bring the top of the shoulder 14 projecting over the upper edge of the door, close to the bottom of the door track 6, allowing sufficient clearance between the top of the shoulder and the bottom of the track to prevent binding. This distance is so proportioned that it is less than the distance from the bottom of the track 6 and to the top of the upturned edge of the flange above the line from which the radius of the curve is struck, thereby positively preventing any lateral or tilting movement of the door which can only be removed from the track by removing the hanger secured thereto. It will thus be seen that this invention eliminates the use of rollers, filler box and brackets usually employed in sliding-door constructions of this general style and provides a practical sliding door hanger and track therefor composed of a minimum number of parts, efficient and easy in operation, simple in construction and cheap to manufacture.

It is obvious that many changes and modifications might be made in the above described structure without departing from the spirit of the invention and I do not limit myself to the particular embodiments set forth.

Having described my invention, what I claim as new, and desire to secure by Letters Patent is:

1. The combination of a structure having a doorway; a concave track secured to said structure; a door; and a hanger connected to the door, said hanger being formed with a shoulder extending over the top edge of the door, and having a curved portion terminating in a shoe whose bearing surface is curved longitudinally and transversely so as to contact with the track, at substantially a single point.

2. The combination of a structure having a doorway; a concave track secured to said structure; a door; and a hanger secured to the door and having a curved portion terminating in a convex shoe adapted to contact with the concave surface of the track at a single point, said curved portion serving to bring the shoe into close proximity to the upper edge of the door to prevent lateral removal of the door.

3. The combination of a structure having a doorway; a track of U-shaped cross section carried by said structure; a door; and a hanger attached to the door, said hanger having a longitudinally and transversely curved shoe positioned above the door in close proximity thereto and adapted to contact with the concave side of the track at a single point.

4. The combination of a structure having a doorway; a door; a hanger attached to the door, said hanger having a portion extending upwardly from the door, then curved outwardly and downwardly and terminating in a shoe curved longitudinally and transversely on its bearing surface; and a track carried by said structure said track when viewed in transverse section extending outwardly from said structure, then curving downwardly to form a shield and finally curving inwardly and upwardly to form a U-shaped track to support the hanger shoe.

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

GEORGE J. HATZ.

Witnesses:
F. J. JUMPER,
EDMUND B. DAILEY.