May 5, 1925.

1,536,548

H. WOLTERS ET AL

DOOR HANGER

Filed Oct. 5, 1922

2 Sheets-Sheet 1

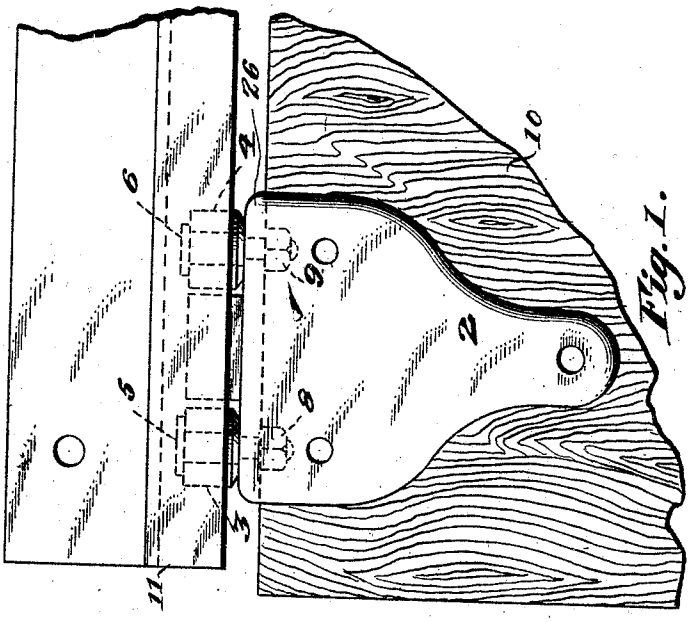


Fig. 1.

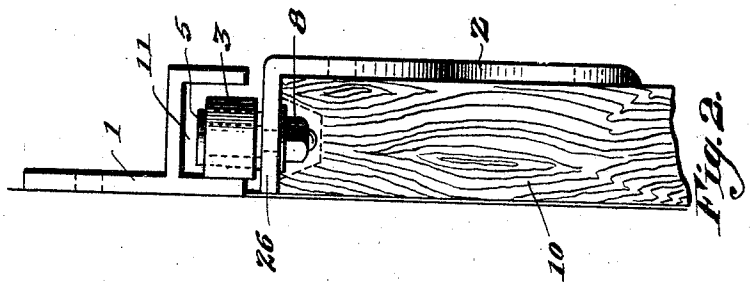


Fig. 2.

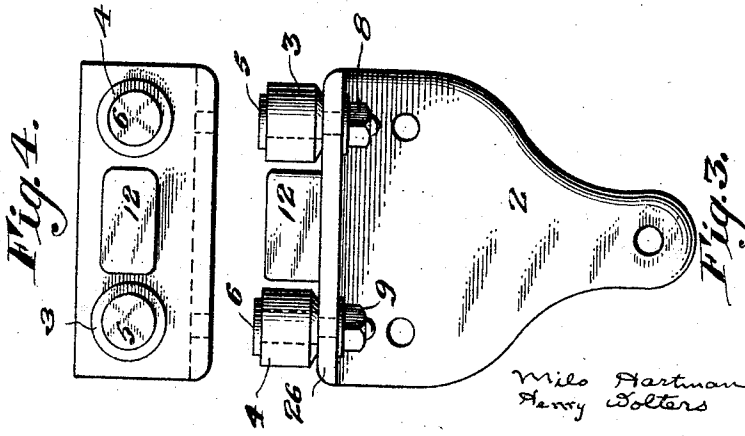


Fig. 4.

Fig. 3.

Inventors.

Milo Hartman and
Henry Wolters

By J. B. Ellis
attorney in fact

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2 Sheets-Sheet 2

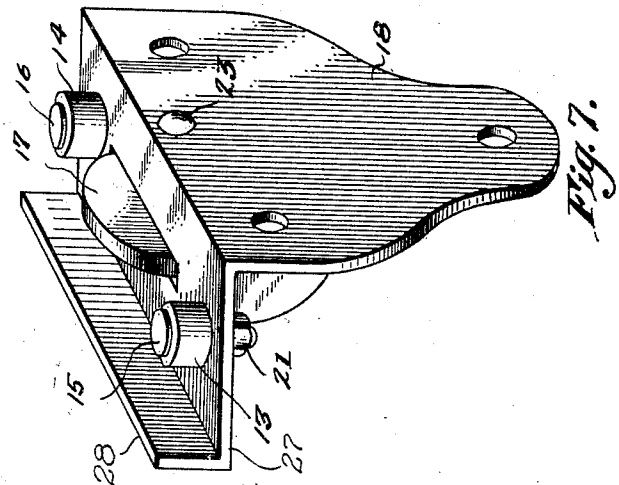


Fig. 7.

Fig. 8.

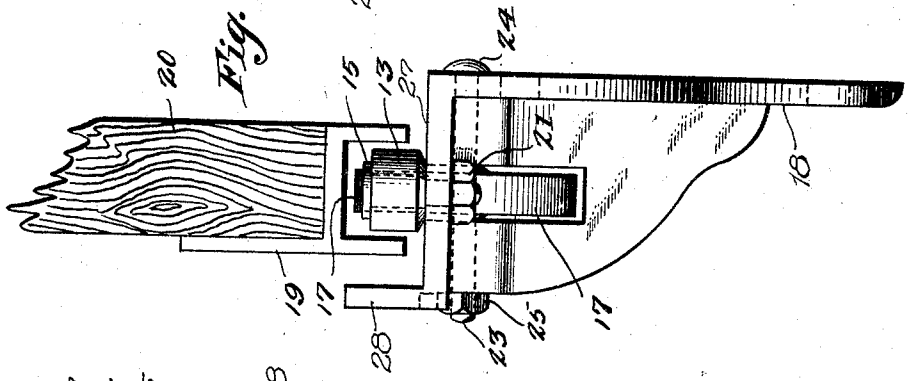


Fig. 6.

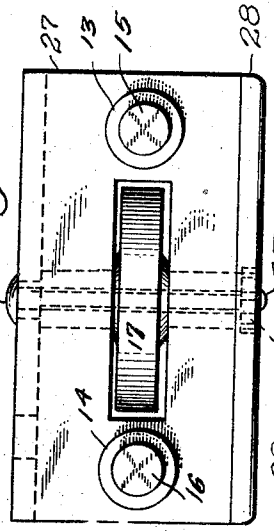
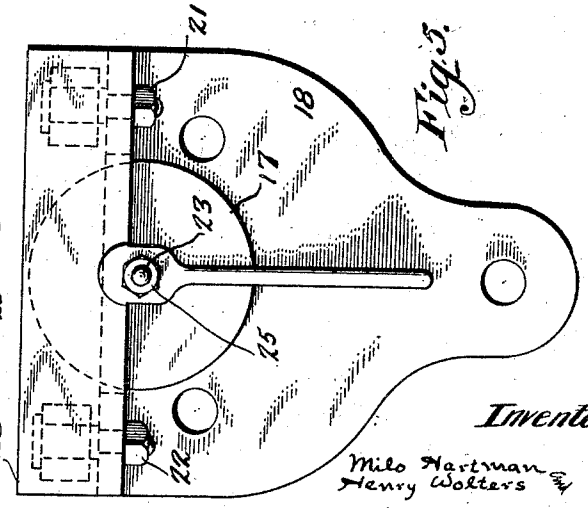


Fig. 5.



Inventors.

Milo Hartman
Henry Wolters

By Joe Tillis
Attorney in fact

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UNITED STATES PATENT OFFICE.

HENRY WOLTERS AND MILO HARTMAN, OF CENTRALIA, WASHINGTON.

DOOR HANGER.

Application filed October 5, 1922. Serial No. 592,594.

To all whom it may concern:

Be it known that we, HENRY WOLTERS and MILO HARTMAN, of Centralia, State of Washington, have invented certain new and useful Improvements in Door Hangers, of which the following is a specification.

Our invention has for its object the smoother operation of heavy doors, particularly freight car doors, and the elimination of friction and binding in opening and closing the same. We attain these objects by the means illustrated in the accompanying drawings, in which:

Fig. 1 is a view of the guiding means for the door top in operative position;

Fig. 2 is an end view of Fig. 1;

Fig. 3 is a view of the door-attaching element according to Fig. 1;

Fig. 4 is a top plan view of Fig 3;

Fig. 5 is a view of a door-supporting element;

Fig. 6 is a top plan view of Fig. 5;

Fig. 7 is a perspective of Fig. 5; and

Fig. 8 is an end view of Fig. 5 showing the door-supporting means in operative position.

Referring now particularly to Figs. 1, 2, 3, and 4:

2 represents a flat plate attachable to the top of the car door by means of screws, and having a rectangular flange, 26, projecting over the edge of the door. On flange 26 are supported rollers 3 and 4 by means of bolts 5 and 6 secured to flange 26 by means of nuts 8 and 9 respectively. The top of the door 10 is recessed to receive nuts 8 and 9. Between rollers 3 and 4, flange 26 has an integral block or fin 12. Several of these brackets as described are arranged along the door top so that the rollers and fins project within an inverted channel 11 secured to the car body immediately above the door by means of the attaching flange 1. The channel 11 is substantially twice as long as the door is broad and, as will be seen, in displacing the door laterally the rollers 3 and 4 will guide same in the direction of channel 11. The fin 12 is provided so that even if bolts 5 and 6 become broken through any cause the door top will still be positively guided.

The door bottom indicated as 20 in Fig. 8, is provided at its lower edge with a channel iron 19, and a plurality of supporting brackets 18 are alined beneath the car door for co-operation with said channel. The supporting members 18 consist of a base plate attachable to the car body and having a rectangular flange 27 extending outwardly therefrom. In this flange are journaled a bearing roller 17 on an axial bolt 23 and guide rollers 13 and 14 mounted on bolts 15 and 16, and attached to the flange by means of nuts 21 and 22 respectively. As will be seen, the car door is supported on rollers 17 of the various brackets, while the rollers 13 and 14 co-operate with the side walls of the channel member 19 to give the door bottom its correct traveling direction. In order to protect the bottom guiding and supporting members from possible injury, we prefer to provide the flange 27 with a protecting upright flange 28 as shown. In practice, we mount seven of the brackets 18 below the car door so that the latter will be resting on four supporting rollers in either its open or closed position.

Having thus described our invention, we claim:

Means for supporting and guiding a sliding freight car door, said door having a longitudinal channeled bottom, comprising a plurality of brackets arranged at the door bottom, each of said brackets comprising a plate attachable to the car body, a flange at substantially right angles to said plate, a bearing roller having its axis perpendicular to said plate, a segment of said roller projecting through an aperture in said flange, a guide roller having a substantially perpendicular axis mounted on said flange and lying substantially in the plane of said bearing roller, and a wall on said flange spaced outwardly from said rollers for guarding the latter, said rollers projecting within said channeled door bottom for respectively supporting and guiding the door; and means for guiding the door top.

HENRY WOLTERS
MILO HARTMAN.