No. 896,265. PATENTED AUG. 18, 1908.

A. O. BANKS & J. J. TATUM.

DOOR HANGER.

APPLICATION FILED JULY 25, 1906.

Fig. 1.

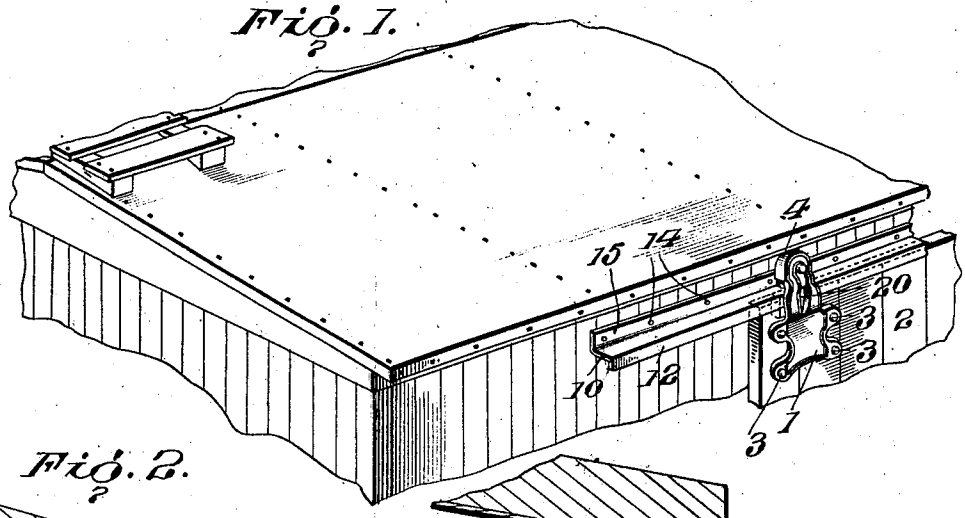


Fig. 2.

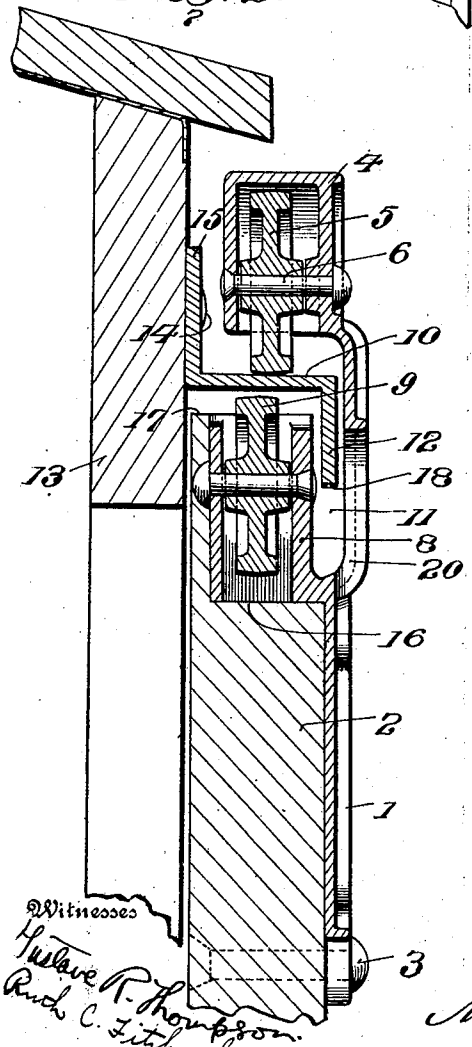
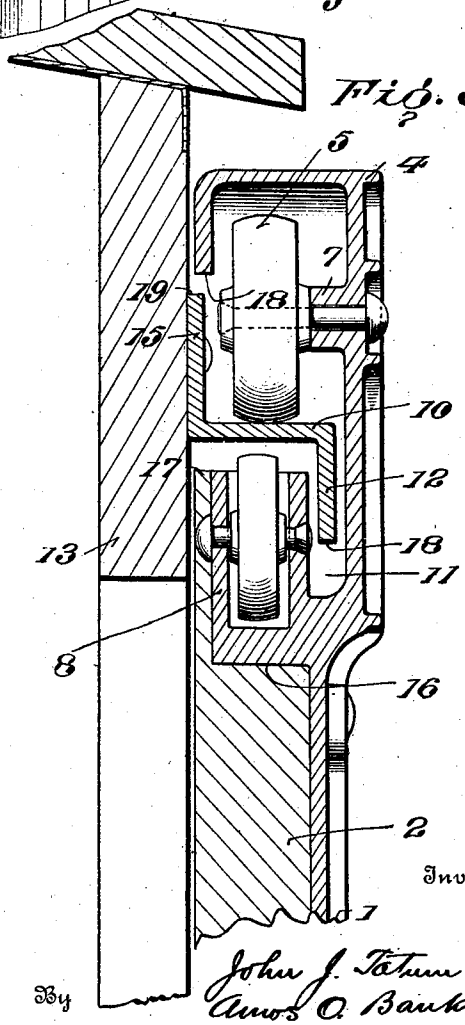


Fig. 3.



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UNITED STATES PATENT OFFICE.

AMOS O. BANKS AND JOHN J. TATUM, OF BALTIMORE, MARYLAND, ASSIGNORS TO THE MARYLAND RAILWAY SUPPLY COMPANY, OF BALTIMORE, MARYLAND, A CORPORATION OF MARYLAND.

DOOR-HANGER.

No. 896,265. Specification of Letters Patent. Patented Aug. 18, 1908

Application filed July 25, 1906. Serial No. 327,743.

To all whom it may concern:

Be it known that we, AMOS O. BANKS and JOHN J. TATUM, of Balitmore, Maryland, have invented a new and useful Improvement in Door-Hangers, which improvement is fully set forth in the following specification.

The object of the present invention is to provide means for hanging the doors of freight cars and other structures in such way that the doors may be readily moved to one side for the purpose of opening the car without undue binding of the supporting hanger upon the track, while at the same time providing an anti-frictional bearing to the hanger, with means for excluding rain, snow, sleet or other foreign substances which would interfere with ready movement of the parts; and furthermore to provide means whereby the entrance of the elements, and particularly snow and water, into the car over the door may be prevented.

For the purpose of protecting the anti-frictional bearings of the door hanger, and also for the purpose of preventing the entrance of snow and rain over the top of the door, a hood has heretofore been provided of sheet metal or wood. Not only has this hood been found to add an additional element of expense, but it has also been found objectionable since the hood is liable to become detached and by projecting outward from the face of the car to engage cars passing on opposite tracks and cause serious damage.

The object of the present invention is to provide means whereby rain, snow, slush and ice can be effectively excluded, not only from the interior of the car itself but from the hanger bearings, without the necessity of employing such additional parts, and with this object in view the invention consists in mounting a track above the door opening which track is provided with means for securing it to the car body, a substantially horizontal way for the door hanger to travel upon, and a downwardly depending flange. The hanger supports the door with its upper edge between this downwardly depending flange and the wall of the car and above the door opening, thereby preventing the elements from passing into the car over the top of the door. The roller of the hanger is protected from interference by the elements by means of a suitable hood or covering which substantially incloses the roller except at the lower portion where it bears upon the horizontal portion of the track or way.

Another difficulty experienced in car doors is the inclination of the same to stick and produce a strain upon the parts when the door is seized by one lower corner for the purpose of moving it upon the track. For the purpose of preventing this binding action it has heretofore been proposed to attach a second roller to the hanger which shall engage the under side of the track; and a further object of the present invention is to so mount this lower roller as to effectively protect it from becoming clogged from snow, ice and slush. With this object in view the roller in the present invention is mounted in a boxing which passes entirely around it and the downwardly-depending flange of the track is so arranged in connection with the body of the hanger as to cover and, in combination with the boxing, practically exclude snow, slush and ice from the roller and its bearings.

The invention will be better understood by reference to the accompanying drawings, wherein

Figure 1 is a perspective view showing the hanger in position on the door of a freight car; Fig. 2 is a vertical sectional view; and Fig. 3 is a vertical sectional view illustrating another expression of the inventive idea.

Referring to the drawings, 1 is a suitable hanger-plate adapted to be secured to door 2 by screws 3, and 4 is a hood within which anti-frictional roller 5, which normally engages the guide rail, is mounted. Preferably said hood is cast integrally with the hanger-plate 1, the spindle 6 on which anti-frictional roller 5 is mounted passing through the front and back walls thereof; but, if desired, said hood may be separately formed and secured to the hanger plate in any desired manner. And, indeed, the roller 5 instead of having its bearings in the walls of said hood may be suitably mounted on a projection 7, as shown in Fig. 3. Preferably the hanger plate has also cast integrally therewith a boxing or housing 8 which completely surrounds an anti-frictional roller 9 and in the walls of which boxing roller 9 has bearings, as shown in the drawings. The height of this boxing is substantially that of the diameter of the said roller 9, which latter, as is well known, is adapted to engage the

lower face of the horizontal portion 10 of the Z-shaped rail or track to prevent the door from jamming when the same is moved, as it would if said anti-frictional roller 9 were not present. The hanger plate 1 and boxing 8 are so cast as to provide a passage-way 11 between them, within which extends the lower vertical flange 12 of the Z-shaped rail, which latter is suitably secured to the car or other structure 13 by screws 14 passing through flange 15.

As shown, housing 8 is preferably set in a cut-out portion 16 of the door, the upper edge 17 of the door being approximately coincident with the upper edge of the housing 8, so that the bottom edge 18 of flange 12 is in a horizontal plane lower than that of the upper edge 17 of the door.

It will be observed that, even should rain drive onto the Z-rail under hood 4, it would simply flow therefrom down into the passage-way 11 and from thence out through opening 20 formed in the hanger plate 1.

In Fig. 3, which is another expression of the inventive idea, the hood 4 for the upper anti-frictional roller 5 extends slightly further inward toward the car or other structure than is shown in the other views, and has a straight horizontal edge 18 engaging the top edge 19 of flange 15. Further, the anti-frictional roller 5, instead of having its bearings in the walls of said hood, is mounted on a projection 7 (as heretofore stated) and the boxing 8 in which the lower anti-frictional roller is mounted is cup-shaped; *i. e.*, closed at the bottom. This boxing may also, instead of being cast integrally with the hanger plate, be formed separately and secured thereto in any desired manner.

It will be seen that by the construction herein described, both of the rollers of the hanger are effectively protected from snow, slush, ice and rain, while at the same time the entrance of snow or rain into the car over the top of the door is effectively prevented.

What is claimed is:

1. The combination with a car and a door therefor, of a track secured to the car above the door opening and having a flange extending down below the top of the door, a hanger plate secured to the door and having a hood at its upper end, a boxing open at the top and intermediate the ends of said plate, a part rotatively mounted in said hood and having a bearing surface to bear on the top of said track, and a part mounted in said box to project from its open end and presenting a bearing surface adapted to engage the under side of said track.

2. The combination with a car and a door therefor, of a Z-track secured to the car above the door opening and having a flange extending down below the top of the door, a hanger plate secured to the door and having a hood at its upper end and a boxing open at the top intermediate its ends, a supporting roller mounted in said hood to bear on the top of said track, and a roller mounted in said boxing to permit its periphery to project from its open end whereby it is adapted to engage the under side of said track.

3. The combination with a car and a door therefor, of an outwardly-projecting substantially horizontal track secured to the car above the door opening and provided with a flange extending down below the top of the door, a hanger plate secured to the door and having a hood at its upper end, a boxing open at the top and intermediate the ends of said plate, antifrictional bearings mounted on said hanger to bear on the top of said track, and antifrictional bearings mounted in said boxing to project from its open end whereby it is adapted to engage the under side of said track.

4. The combination with a car and a door therefor, of a track secured to the car above the door opening and having a flange extending down below the top of the door, a hanger plate secured to the door and having a hood at its upper end, a boxing secured to said hanger plate and supported under the horizontal portion of the track and inside of the lower downwardly-extending flange on the track and with its top substantially level with the top of the door, a roller mounted in said hood and bearing on the top of the track, and a roller having bearings in said boxing and projecting slightly above the same so as to engage the lower face of said track.

In testimony whereof we have signed this specification in the presence of two subscribing witnesses.

AMOS O. BANKS.
JOHN J. TATUM.

Witnesses as to both signatures:
MURRAY HANSON,
BENJ. W. BERRY.