No. 741,031. PATENTED OCT. 13, 1903.

J. GOETTEL.

CAR DOOR HANGER.

APPLICATION FILED OCT. 21, 1902.

NO MODEL.

Fig. 1.

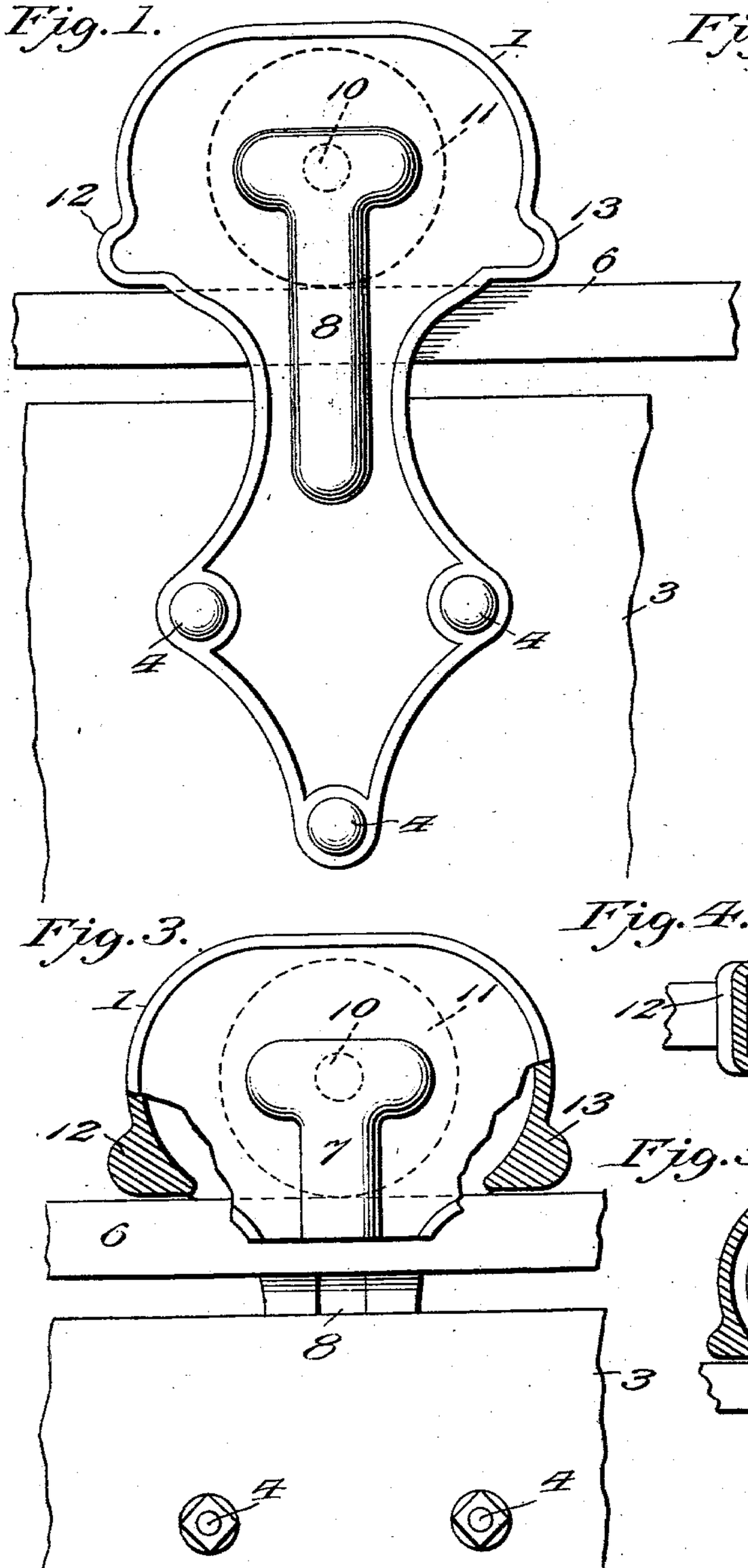


Fig. 2.

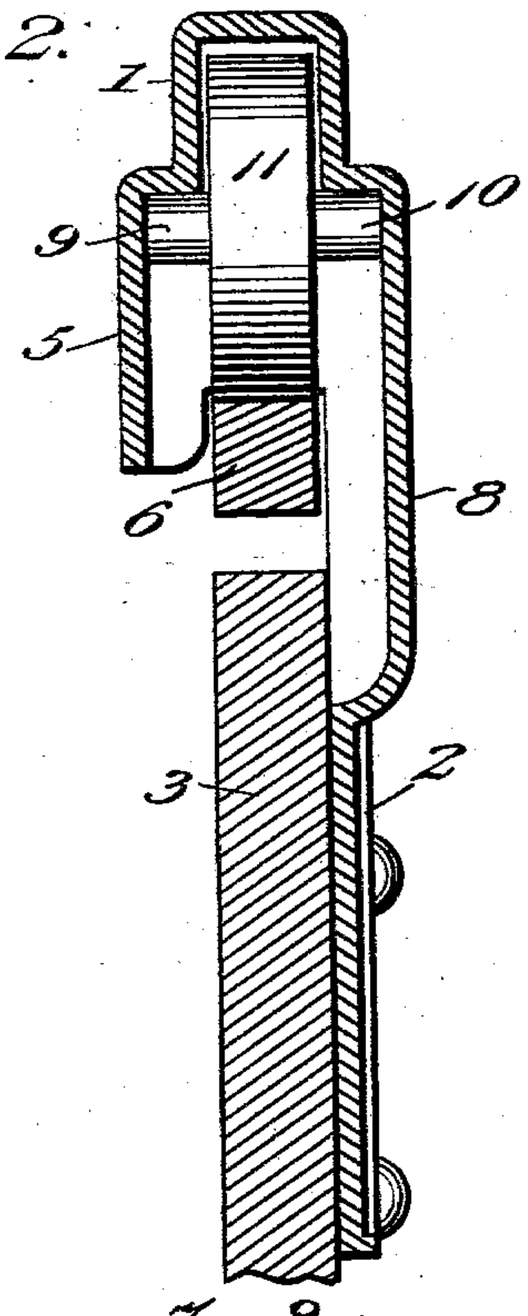


Fig. 3.

Fig. 4.

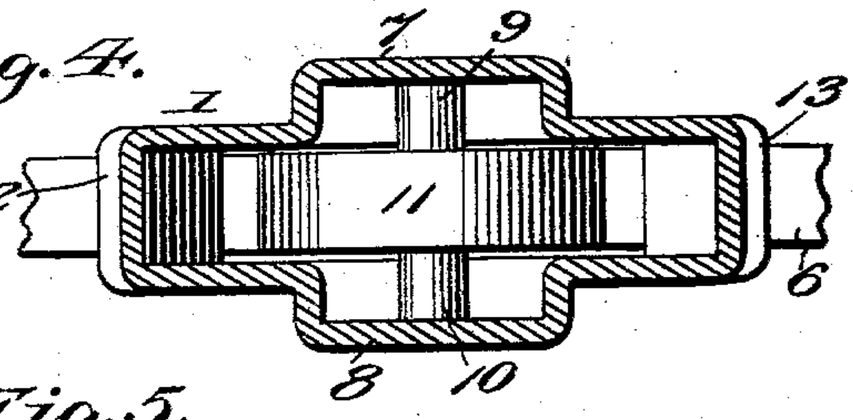
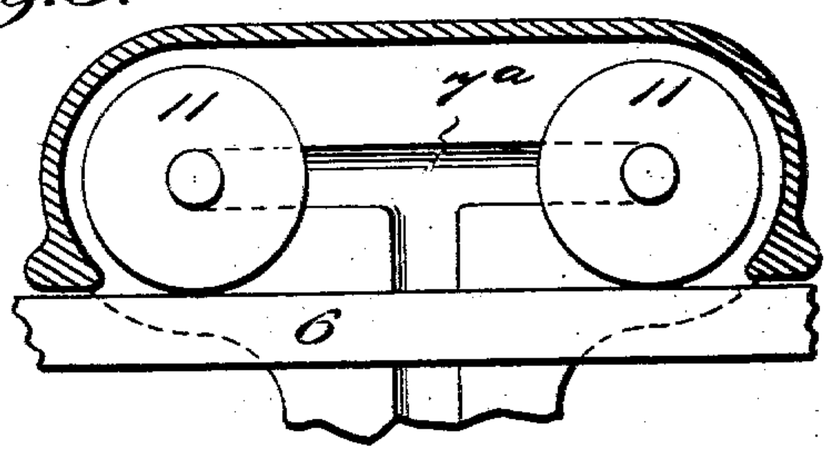


Fig. 5.



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No. 741,031. Patented October 13, 1903.

UNITED STATES PATENT OFFICE.

JOHN GOETTEL, OF BOSTON, MASSACHUSETTS.

CAR-DOOR HANGER.

SPECIFICATION forming part of Letters Patent No. 741,031, dated October 13, 1903.

Application filed October 21, 1902. Serial No. 128,168. (No model.)

To all whom it may concern:

Be it known that I, JOHN GOETTEL, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented new and useful Improvements in Car-Door Hangers, of which the following is a specification.

This invention relates to car-door hangers, and has for its object to provide a hanger which will be cheap, durable, and efficient, the parts of which can be readily assembled.

A further object is to provide a construction of casing having a reinforced portion adapted to bear upon the guide-rail when the wheel becomes worn, whereby the reinforced portion will receive the wear and protect the remaining part of the casing.

The construction of this invention will be specifically described hereinafter and illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of a door-hanger, showing the manner of applying it to the door and rail. Fig. 2 is a vertical longitudinal sectional view through the hanger, the rail, and a portion of the door. Fig. 3 is a side elevation of a door-hanger constructed in accordance with my invention, parts of the casing being broken away to illustrate the thickness of the reinforced portion of the casing. Fig. 4 is a horizontal sectional view through the casing, showing the roller in elevation. Fig. 5 is a vertical longitudinal sectional view through the casing of a slightly-modified form of this invention.

The reference-numeral 1 designates a recessed casing approximately semicircular and closed on all sides except the bottom. From one side of the casing extends a depending plate 2, which is designed to be attached to the door 3 by means of bolts 4. Depending from the other side of the casing is a flange 5, which depends below the top edge of the track 6, which can be fastened by any convenient means to the side of the car. The flange 5 and the opposite side of the casing are each provided with approximately T-shaped grooves 7 and 8, which are formed by casting or impressing in the sides of the casing concavo-convex walls. Resting within the grooves are the ends 9 and 10 of a trunnion which is concentrically arranged with relation to a roller or ball 11, extending up into the casing and designed to rest upon the track. This roller and its trunnion is protected against deterioration by rust, dirt, or other foreign substances by reason of the fact that it is covered entirely, the ends, top, and sides of the casing protecting it, while the track forms a bottom protection. As the dirt or grit cannot find its way into the casing the life of the hanger will be prolonged.

After the hanger has been in use to any considerable extent the roller is liable to wear, necessitating the removal of the worn roller and the substitution of a new one. With the ordinary construction of hanger-casing now employed the casing is liable to become worn by contact with the rail, thereby destroying its efficiency to such an extent that an entirely new hanger must be substituted. In order to overcome this objection, I have reinforced or thickened the lower edges of the casing by casting enlarged portions or ears 12 and 13 on the ends of the top, which rest normally above the rail. As soon as the trunnions become worn so as to permit the thickened portions to come in contact with the rail the lower surfaces thereof will lightly glide over the surface of the rail without affecting the remaining parts of the hanger. Thus the hanger can be employed for sliding the door back and forth without deterioration to the casing until it is convenient to substitute a new roller. It will of course be understood that the roller will be placed in a proper relative position with the casing by inserting the ends 9 and 10 of the trunnion into the grooves 7 and 8; but the hanger is hung over the track 6. The liability of any of the parts becoming broken will be minimized by reason of the lateral disposition of the head of the slot, which is elongated a sufficient distance to permit of a slight play of the ends of the trunnion therein. Owing to the fact that the depending flange 5 overlaps one side of the rail—that is, the side nearest the car—it will be practically impossible to have an accidental displacement of the hanger with relation to the rail.

In Fig. 5 I have illustrated a slightly-modified form of hanger, in which the heads 7^a of the slots are elongated so as to permit of a plurality of rollers to be disposed therein.

The general form and construction, however, is substantially the same as illustrated in Figs. 1 to 4. It will be observed that the strain due to the weight of the car-door will be evenly disposed upon the hanger, and when the ends of the trunnions become worn the weight will be deposited upon the thickened reinforced ends 12 and 13, which will withstand the wear until such time as a new roller can be substituted for the one which has become worn.

A twofold advantage results in impressing the groove 8 from the sheet of metal which forms the casing and the securing-plate. By forming the groove concavo-convex it not only acts as a guide for the trunnion of the wheel 11, but also strengthens the hanger longitudinally, as considerable strain results from the peculiar arrangement of door with relation to the hanger. The ordinary form of hanger is frequently bent owing to a lateral strain caused by the door being swung outward from the car-body, and by forming the groove 8 as shown in Figs. 1, 2, and 4 the tendency to bend is prevented and a much stronger hanger results. The T-grooves in both forms of the device also facilitate the application of the rollers to the casing in each instance, and by having the flange 5 materially shorter than the plate 2 and spaced apart from the latter in parallel relation an opening is formed at the inner portion of the casing for the insertion of the roller. When the roller is inserted, the ends 9 and 10 of the trunnion thereof are guided vertically through the T-shaped grooves until they arrive at their upper limit, which is the top portion or longitudinal members of said grooves, and by this means cutting through or slotting the exterior side of the casing, as well as the rear side thereof, is avoided at the points where the trunnion ends are normally depressed. Moreover, it will be observed that the longitudinal members of the grooves 7 and 8 permit the roller to freely play in a longitudinal direction within the casing, and this provision for movement of the roller, together with the formation of the reinforced ends 12 and 13 of the casing, materially reduces wear on the bearings of the roller as well as the casing.

I have illustrated and described what to me at this time appears to be the best forms of the invention; but I am aware that the minor details of construction and changes in the conformation of the casing and plate can be made without materially departing from the spirit of this invention, and I reserve the right to make such slight changes and alterations as would suggest themselves from time to time and which are contemplated within the scope of the following claims.

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

1. A door-hanger, comprising a casing having an upper inclosing portion with front and rear T-shaped grooves standing outwardly from opposite sides thereof, the rear groove being located in a depending flange of less vertical extent than the front portion of the casing, a door to which the front portion of the casing is secured, a track-rail over which the upper portion of the casing extends, the part of the casing extending over the track-rail having lower terminal reinforcements to contact with the upper edge of the rail, and a roller completely inclosed by the upper part of the casing and provided with a trunnion insertible into the casing through the grooves in the front and rear portions of the latter and freely movable in the upper longitudinal members of the grooves.

2. A door-hanger, comprising a casing fully closed except at the bottom and having a front depending plate and rear depending flange, the flange being materially shorter than the plate, both the flange and the plate being each provided interiorly with a T-shaped groove, said grooves being located centrally of the plate and flange respectively and opposite to each other, and a roller having trunnions to engage the said grooves, the said roller-trunnions being insertible through the vertical portions of the respective grooves to rest and be freely movable longitudinally in the upper horizontal portions of the grooves.

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

JOHN GOETTEL.

Witnesses:
HUGH M. STERLING,
B. F. FUNK.