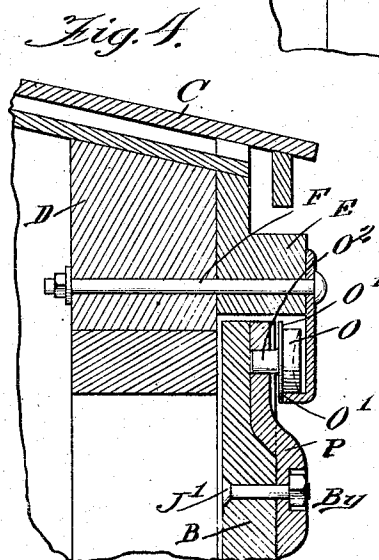
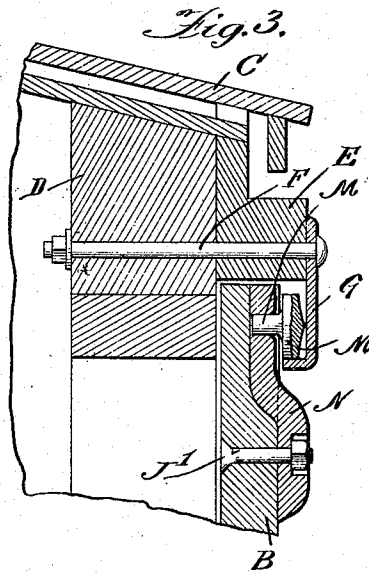
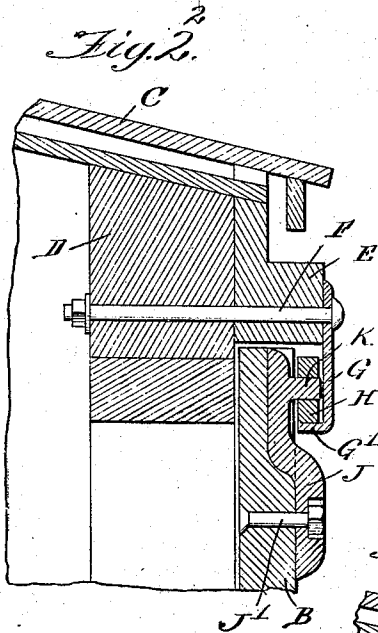
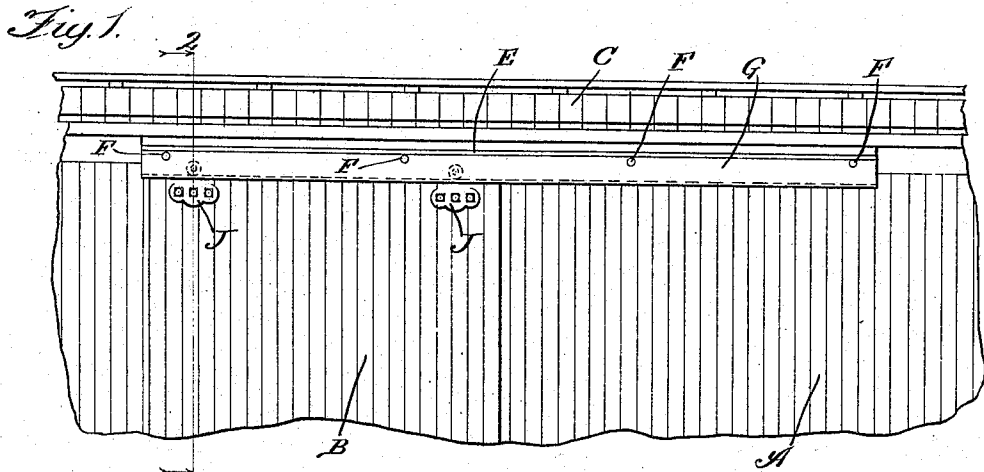


E. A. HILL.
 COMBINED HANGER AND TRACK FOR CAR DOORS.
 APPLICATION FILED MAY 15, 1909.

942,324.

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COMBINED HANGER AND TRACK FOR CAR-DOORS.

942,324.

Specification of Letters Patent.

Patented Dec. 7, 1909.

Application filed May 15, 1909. Serial No. 498,163.

To all whom it may concern:

Be it known that I, EDWARD A. HILL, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Combined Hangers and Tracks for Car-Doors, of which the following is a specification.

My invention relates to freight car doors of the sort which are movably hung from the top on the outside of the car, and the invention has for its object to provide a new and improved construction and arrangement in the means used for mounting a door of this kind upon the car which shall be strong and durable, and which shall also provide effective means for preventing rain from entering the car over the top of the door and for likewise protecting from the weather the rollers or similar devices by which the door is supported.

It is a further object of the invention to provide a door construction having the above mentioned characteristics which shall necessitate the use of but a small number of parts, and those of simple conformation, so as to be cheaply made and easily put together. It is important that structures of this sort should economize material and the labor required to produce them to the utmost extent, inasmuch as they are used in large numbers, because every ounce of metal saved in a single instance and every simplification in manufacture will amount to a very considerable saving where thousands of structures are concerned. It is hardly less important that the construction should consist of as few parts and as simple parts as possible, as freight cars frequently have to be repaired a long way from the shops where they were built and by workmen possessing no great amount of skill or intelligence. It has been common in the construction of doors of this general class to provide some sort of means intended to prevent the rain from driving in over the top of the door. For example, it has been customary to construct the run-way which supports the door Z-shape in cross-section, or of other configuration so as to have a flange that will extend down from the track on which the door rollers or trolleys run, which flange stands or is calculated to stand in front of the space which necessarily intervenes between the top of the door and the door

frame. This additional flange involves just so much more metal and serves no function except to keep or tend to keep the rain from beating in over the top of the door. My invention, in the embodiment shown, uses a simple L bar which is arranged to extend below the upper edge of the door, that is, so that the horizontal flange of such bar stands below the edge of the door; the door and the hangers for the trolley wheels or sustaining devices attached to the door being arranged to conform to this position of the track without materially increasing the width of the car at this place over constructions in which the trolleys are above the door. This arrangement of the track below the top of the door enables me to accomplish a secondary object of my invention, that is, to simplify the construction and mounting of the trolley wheels. With the track below the top of the door, the trolley wheels may be loosely journaled on the hangers and will be held in position by their arrangement between the vertical flange of the L bar and the hangers.

The invention has for further objects such other new and improved constructions in combined hangers and track for freight car doors as will be described in this specification and particularly specified in the claims appended thereto.

The invention in a preferred embodiment is illustrated in the accompanying drawing, wherein—

Figure 1 is a fragmentary side elevation of a freight car and outside door. Fig. 2 a section taken on line 2—2 of Fig. 1 but on an enlarged scale. Fig. 3 a similar section illustrating a modification, and Fig. 4 a section illustrating another modified structure.

Like characters of reference indicate like parts in the several figures of the drawing.

Referring to the drawing, A represents the side of the freight car, B the door, C the roof of the car and D the upper longitudinal timber of the car frame. The drawing illustrates a familiar construction of box freight car. The particular construction of car, however, is a matter of no importance so far as my present invention is concerned, as the door and attachments of my invention might be applied to various constructions of car.

Referring first particularly to Fig. 2, on

the outside of the car is secured, for example, by bolts F, a block E to which is attached, preferably, by the same bolts, the L shaped metal track member G, the inwardly turned flange of which G' forms a track for the trolley wheels H of the door. The L bar is constructed and arranged to extend a considerable distance below the upper edge of the door in the manner shown. The trolley wheels H are mounted on the hangers J which are preferably bolted at their lower ends to the door by the bolts J'. The upper portions of the hangers are preferably offset and fitted into recesses in the door, as shown. The purpose of this is to minimize the projection of the track member beyond the side of the car. The arrangement also serves to strengthen the attachment between the hangers and the door. In the construction illustrated in Fig. 2, the hangers are provided with integral studs K and the trolleys H are loosely mounted on these studs. This is an economical construction, but my invention is not limited thereto. The trolleys, it will be seen are kept from displacement by the proximity of the L bar G to the end of the stud.

The construction shown in Fig. 3 is in all respects the same as that shown in Fig. 2, except that in this case the trolley wheels M are provided with integral studs M', the hangers N being perforated for such studs.

The construction of Fig. 4 follows that of Fig. 3. The trolleys O, however, have the flanges O' which tend to lessen the friction between the studs O' of the trolleys and the hangers P.

It will be seen that the L bar constituting the track for the trolleys by itself and without the need of any additional flange, effectively protects from the weather the space which necessarily intervenes between the top of a door and the door frame. It is not possible for rain to be driven in over the top of the door. In the familiar Z bar constructions so commonly used at the present time, the depending flange serves no function, except to protect the upper joint of the door, and as it involves the use of more metal, the tendency is to make this flange rather too short to adequately fulfil its purpose, particularly when the space between door and the door frame has become enlarged by shrinkage of the wood or the loosening or settling of the door on its supports. The result is, that in many cases the Z bar construction of track has

not proved effective to protect the car from the weather, in some instances special hoods having been added for this purpose. When the L bar track is turned inwardly, which is my preferred arrangement, the trolleys and their bearings are also protected from the weather, as well as the track, which latter from its position, cannot become clogged up with ice or snow. By offsetting the upper parts of the hangers as shown, the track bar can be made to project little, if any, beyond the lower parts of the hangers.

I do not limit myself to the exact constructions, arrangements and devices shown, as modifications might be devised which would come within the scope of my invention as defined by the claims.

The protection afforded by the L bar against the rain also is effective to prevent sparks from entering the car over the top of the door.

I claim:

1. The combination with a railway car and a door, of a block arranged above said door, an inwardly turned L bar attached to said block and extending below the upper edge of the door, hangers attached to the outside of said door, the upper parts of which are off-set into the door so as to be substantially flush with the outer surface of the door, and trolley wheels mounted on the off-set parts of said hangers to sustain the door on said L bar.

2. The combination with a railway car and a door, of hangers which are secured on the outside of said door, the upper parts of which are off-set into said door, trolley wheels mounted on the upper parts of said hangers above the bend in the off-set and below the upper edge of the door, and a track for said trolley wheels secured to the car above said door.

3. The combination with a railway car and a door, of hangers secured on the outside of said door having perforations in the upper parts thereof below the upper edge of the door, trolley wheels having axles rigid therewith mounted in said perforations and a track bar secured to the car above the door, comprising a vertical member and intumed flange, said track bar sustaining the trolley wheels and holding them from lateral displacement in the hangers.

EDWARD A. HILL.

Witnesses:

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