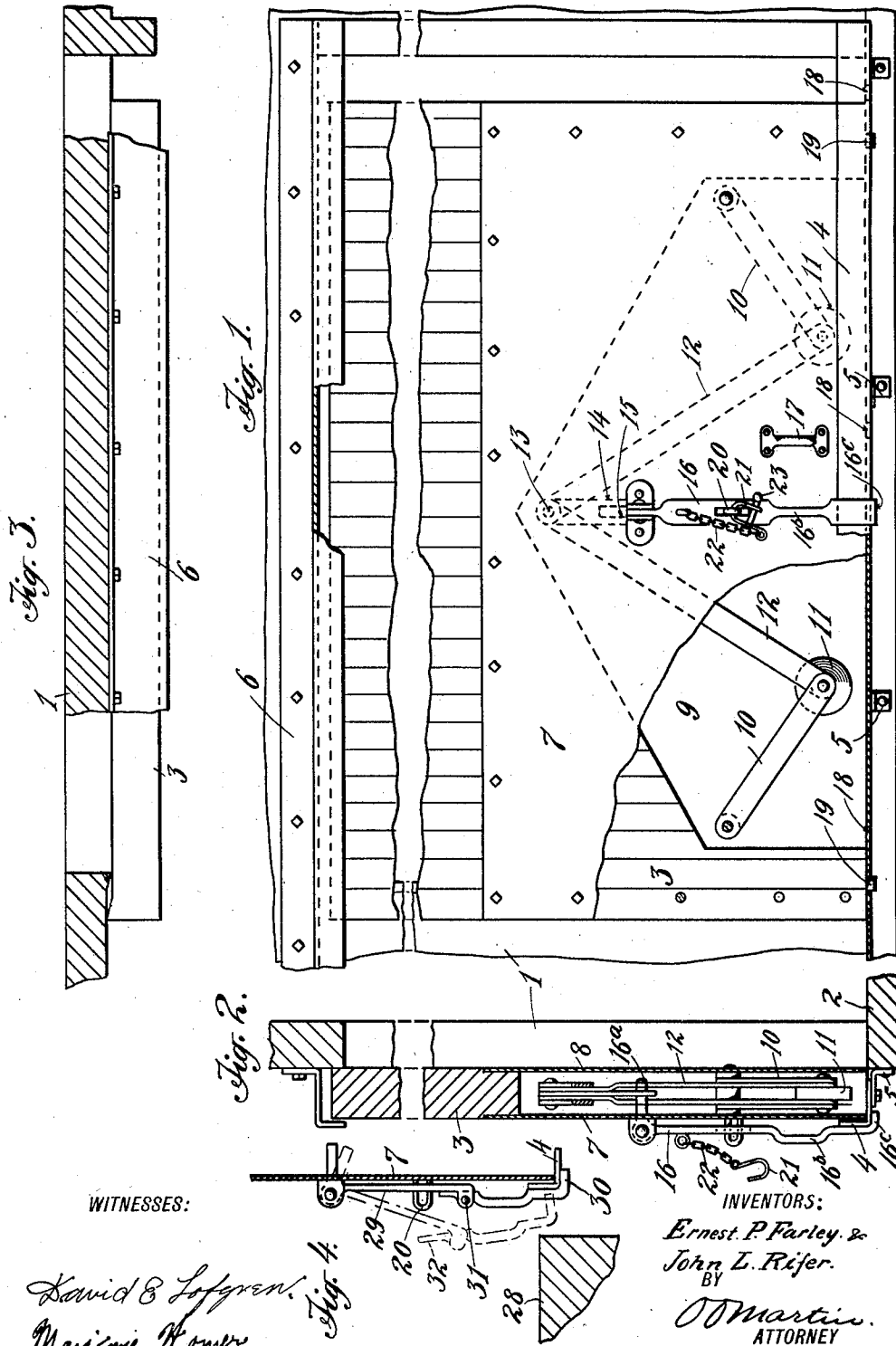


E. P. FARLEY & J. L. RIFER.
 RELEASING DOOR HANGER.
 APPLICATION FILED SEPT. 9, 1912.

1,056,014.

Patented Mar. 18, 1913.



WITNESSES:

Kavid & Lofgren.
Marjorie Homer.

INVENTORS:
Ernest P. Farley &
John L. Rifer.
 BY
O. Martin.
 ATTORNEY

UNITED STATES PATENT OFFICE.

ERNEST P. FARLEY AND JOHN L. RIFER, OF PORTLAND, OREGON.

RELEASING DOOR-HANGER.

1,056,014.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that we, ERNEST P. FARLEY and JOHN L. RIFER, citizens of the United States, residing at Portland, in the county of Multnomah and State of Oregon, have invented new and useful Improvements in Releasing Door-Hangers, of which the following is a specification.

Our invention relates to means of controlling the opening and closing of a sliding door and refers in particular to the door of a railway box car.

The object of our invention, in a general sense, is to provide a box car door mechanism of simple, durable and inexpensive construction.

More specifically, our aim is to provide means for locking the door against vertical and lateral displacement, both when the door is closed and when partly or completely opened. Said means including a series of rollers interposed for the purpose of reducing the friction incident to the movement of the door.

This and the further objects and features of our invention are fully explained in the following description, and drawings are hereto annexed for the purpose of facilitating the reading of said description and with a view of enabling those versed in the art to readily construct our device.

In the drawings: Figure 1 illustrates, inside elevation, the door mechanism embodying our invention, Fig. 2 is a cross sectional end elevation of the mechanism taken substantially through the center of Fig. 1, Fig. 3 is a plan view of the device with parts broken away, for the sake of clearness, and Fig. 4 illustrates a modification to be hereinafter more fully explained.

The door frame 1 and the sill 2 are of any well known construction and are provided with means for slidably supporting a door 3. Said means are in the drawings shown to comprise an angle bar 4, secured to the door sill by means of a series of brackets 5 and a Z bar 6, rigidly mounted to guide the top of the door. The lower center portion of the door is removed, and a pair of metal plates 7 and 8 are mounted to cover the opening thus created. In a chamber 9, formed between said plates, are pivotally hung a pair of arms 10, and the outer ends of said arms are perforated to receive rollers 11. A series of arms 12 loosely hung on the spindles of said rollers

extend upward, their upper ends being pivotally hung on a stud 13, said stud carrying a central, pendent arm 14, having an elongated perforation 15. On the outer surface of the plate 7 journals a bell crank shaped lever 16, the inner end 16^a of which engages the said perforations 15, and a portion of said lever 16 is shaped to form a handle 16^b. By gripping said handle said lever is raised, thereby causing a depression of the roller carrying the frame, which depression, in turn, causes the rollers to engage the angle bar 4, and to raise the door clear of the said angle bar. A suitable handle is mounted on the outer surface of the door plate 7, by means of which the door, having been thus raised, may easily be moved back and forth on the angle bar. The latter is provided with a series of pockets 18, said pockets spaced for registration with a series of studs 19 of the door. In raising the door as above described, the said studs are drawn out of their pockets and when the door is again lowered it is caused to move along until the studs reach a point of registration with another desired set of pockets, into which they drop on account of the super-imposed weight of the door.

From the above description and by referring to the drawings it is readily seen that the studs 19 lodging in the set pockets 18 hold the door against lateral displacement and as many sets of pockets may be provided as are required to retain the door in any desired position.

The lower extremity of the lever 16 is bent to form a hook 16^c, said hook positioned to engage the angle bar 4 when the said lever is in its closed position, as shown in Figs. 1 and 2, thereby holding the door against vertical displacement, or in other words, retaining the door against displacement in any direction.

In order to lock the levers 16 in closed position, a mechanism is introduced comprising a fixed staple 20 on the door projecting through a perforation of the lever when the latter is closed, as best shown in Fig. 2.

A hook 21 is suspended from the lever 16, by means of a chain 22, and said hook is caused to engage the staple 20, whereupon the usual sealing tape 23 is applied, all as clearly shown in Fig. 1.

It is well known that a door mechanism of this character must be sealed, as other-

wise it does not fulfil the requirements of the rules pertaining to this class of devices, and it is readily seen that the lever 16 cannot be sealed unless the door is properly positioned, that is to say, completely resting on the angle bar 4, having the studs projecting into the pockets 18. If the said studs fail to enter the pockets then the hook 16 of the lever 16 will abut the outer surface of the angle bar, thus preventing the insertion of the hook 21.

Occasionally it happens that the station platform adjacent to which the car comes to a stop is positioned too close to the door mechanism to allow for the free operation of the lever 16. In order to suit this condition we provide a modified form of lever, shown in Fig. 4, in which 28 represents the station platform. The operating lever 29 is jointed, that is to say, the lower end 30 of said lever is pivoted on its upper end at 31, the mechanism otherwise remaining identically as above described. It is readily seen how this modified form of lever may be raised without interfering with the station platform even though the latter is positioned very close to the car door, also that the lever when sealed, as above described, forms as perfect a locking mechanism as the one piece lever hereinbefore referred to, this because the lower end 30, due to the stop 32, only folds inwardly.

We claim:

1. In a sliding door, the combination with anti-friction rollers, and stops engaging the sill of the door for the purpose of holding the door against lateral displacement; of manually operated means for causing said

rollers to engage the door sill and thereby to withdraw said stops, said means formed to engage said sill when the door is resting on the sill, thereby locking the door against vertical displacement.

2. In a sliding door, the combination with anti-friction rollers, and stops engaging the sill of the door for the purpose of holding the door against lateral displacement; of an operating lever mounted to depress said rollers, thereby raising the door and releasing the stops; a hook on said operating lever for engaging the door sill for the purpose of locking the door against vertical displacement; said operating lever jointed so as to permit its lower portion to swing inwardly when the lever is raised, thereby causing said hook to rise along the surface of the door.

3. In a sliding door, the combination with anti-friction rollers, and stops engaging the sill of the door for the purpose of holding the door against lateral displacement; of an operating lever mounted to depress said rollers, thereby raising the door and releasing the stops, the lower end of said lever formed into a hook positioned to engage the bottom of the sill when the door rests on the latter, thereby locking the door against vertical displacement.

In testimony whereof, we have hereunto affixed our signatures in the presence of two witnesses.

ERNEST P. FARLEY.
JOHN L. RIFER.

Witnesses:

DAVID E. LOFGREN,
LESTER W. HUMPHREYS.