Mar. 13, 1923. 1,448,135.

N. A. LEIST ET AL.

SLIDING DOOR FASTENER.

FILED DEC. 15, 1921.

2 SHEETS—SHEET 1.

Fig. 1.

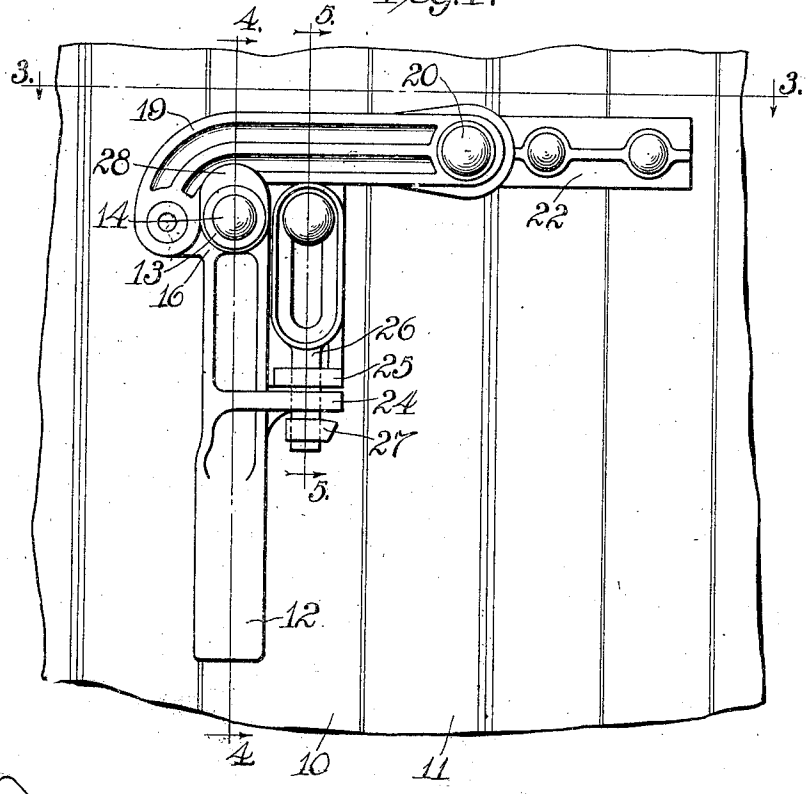
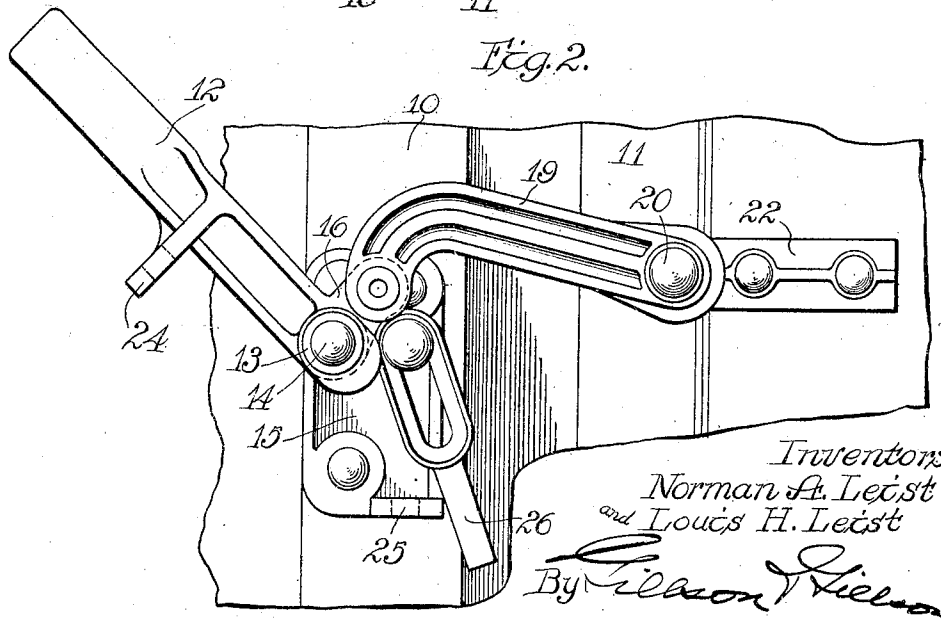


Fig. 2.



Inventors;
Norman A. Leist
and Louis H. Leist
By Wilson & Wilson
Attorneys

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Fig. 3.

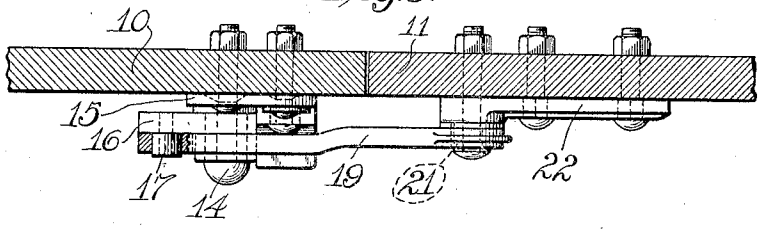


Fig. 4.

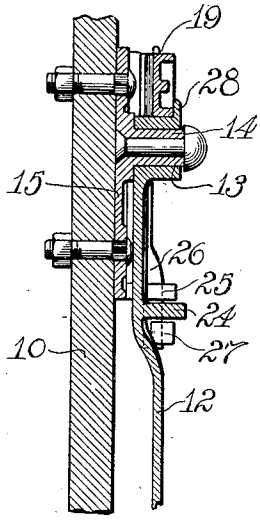


Fig. 5.

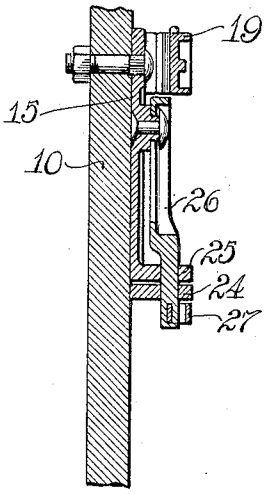


Fig. 6.

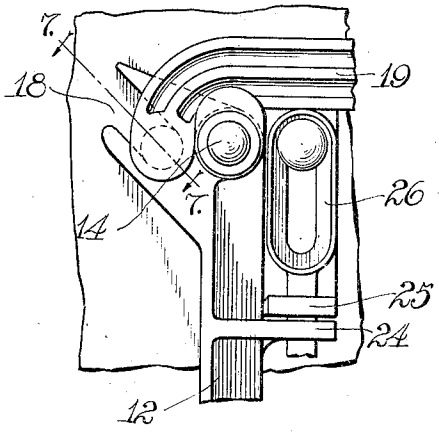
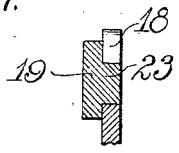


Fig. 7.



Inventors;
Norman A. Leist
and Louis H. Leist
By Fillson & Fillson
Attorneys

Patented Mar. 13, 1923. 1,448,135

UNITED STATES PATENT OFFICE.

NORMAN A. LEIST AND LOUIS H. LEIST, OF MICHIGAN CITY, INDIANA.

SLIDING-DOOR FASTENER.

Application filed December 15, 1921. Serial No. 522,655.

To all whom it may concern:

Be it known that we, NORMAN A. LEIST and LOUIS H. LEIST, citizens of the United States, and residents of Michigan City, county of Laporte, and State of Indiana, have invented certain new and useful Improvements in Sliding-Door Fasteners, of which the following is a specification, and which are illustrated in the accompanying drawings, forming a part thereof.

The invention relates to fasteners for sliding doors, such as are used on box cars; its object being to provide an improved fastening device having adequate leverage for forcing the door to completely closed position and for starting its opening movement, and which can be released only in the normal and intended manner.

It consists of a structure such as is hereinafter described, and as illustrated in the accompanying drawings, in which

Fig. 1 is a detail side elevation of a car side with the improved fastener mounted thereon, the door being in closed position;

Fig. 2 is a similar view, the door being partially open;

Fig. 3 is a detail section on the line 3—3 of Fig. 1;

Fig. 4 is a detail section on the line 4—4 of Fig. 1;

Fig. 5 is a detail section on the line 5—5 of Fig. 1;

Fig. 6 is a detail elevation showing a modified form of construction; and

Fig. 7 is a detail section on the line 7—7 of Fig. 6.

The door frame or post is represented at 10, and the front edge of a sliding door at 11. The improved fastener comprises a lever 12, pivoted at 13 to the post 10, its pivot 14 being preferably carried by a wall plate 15 which may be securely bolted to the post.

The load end 16 of the lever projects laterally and, in the construction as shown in Fig. 3, is provided with a lug or stud 17, and in the construction of Figs. 6 and 7 with a slot 18, the lug or the slot forming a shoulder for engagement by a link 19 pivotally attached, as shown at 20, to the door and adapted to swing in a plane parallel with the surface thereof. Preferably the pivot 21 of the link is carried by a wall plate 22, adapted to be securely bolted to the door.

The link 19 is provided at its free end with an aperture for fitting over the lug 17 of the lever, or, as shown in Fig. 7, with a stud 23 adapted to enter the lever slot 18. The free end of the link is turned downward, as shown.

The power end of the lever is provided with a laterally projecting apertured plate 24, which, when the door is closed, fits under an outstanding apertured lip 25 formed on the plate 15. A seal bolt 26 is slidingly carried by the plate 15, in position to enter the apertures of the plates 24, 25. The lower end of the bolt 26 is adapted to receive an ordinary seal 27, which will prevent its withdrawal from engagement with the plates, and thus prevent the releasing of the door fastening device without destruction of the seal.

The door having been partially closed, as indicated in Fig. 2, the lever 12 is swung upwardly and the link 19 placed in engagement with it, the engagement of the link with its pivot being sufficiently loose to permit any necessary lateral movement in effecting such engagement. The lever 12 is now swung downwardly and the door is drawn snugly against the post 10. The seal bolt being now inserted and a seal affixed, the door cannot be opened without withdrawing the bolt, which involves the destruction of the seal.

Means is provided for preventing the disengagement of the link from the lever when the door is closed, such means comprising the lateral engagement of the link and lever. In the embodiment of the invention as disclosed, the load arm of the lever is provided with a laterally projecting lip 28, which engages the outer face of the link when the door is secured, as shown in Figs. 1 and 4.

Various changes of detail may be made in the structure within the scope of the invention. For example, the engaging shoulders carried by the lever and link may take the forms shown in the drawings, or any other suitable shape. While in the construction of Figs. 6 and 7 there is shown a slot in the load end of the lever, it is apparent that one wall only of this slot is effective in securing the door.

We claim as our invention—

1. A sliding door fastener comprising, in combination, a lever and a link detachably engageable therewith, one of such parts being adapted for attachment to a door and the other to a door frame, and to swing in

a plane parallel with the door face, the lever being provided with a lug for laterally overlapping the link when the door is fastened.

2. A sliding door fastener comprising in combination, a lever and a link detachably engageable therewith, one of such parts being adapted for attachment to a door and the other to a door frame, and to swing in a plane parallel with the door face, and means for preventing relative lateral movement of the lever and link when the door is fastened.

3. A sliding door fastener comprising, in combination, a lever adapted for pivotal attachment to a door casing and having a shoulder, a link adapted for pivotal attachment to a door and normally having lateral movement and being provided with a shoulder for engaging the shoulder of the lever, and means for preventing lateral movement of the link when engaged with the lever.

4. A sliding door fastener comprising, in combination, a lever adapted for pivotal attachment to a door casing and having a shoulder, a link adapted for pivotal attachment to a door and normally having lateral movement and being provided with a shoulder for engaging the shoulder of the lever, and a lug on the lever for overlapping the link when the parts are engaged.

5. A sliding door fastener comprising, in combination, a lever and a link detachably engageable therewith, the lever being adapted for pivotal engagement with a door casing and having a shoulder, the link being adapted for pivotal attachment with a door and normally having lateral movement and being provided with a shoulder for engaging the shoulder of the lever, and means for preventing lateral movement of the link when engaged with the lever.

NORMAN A. LEIST.
LOUIS H. LEIST.