(No Model.)

H. A. GEHRET.

SLIDING DOOR FASTENER.

No. 385,550. Patented July 3, 1888.

FIG. 1

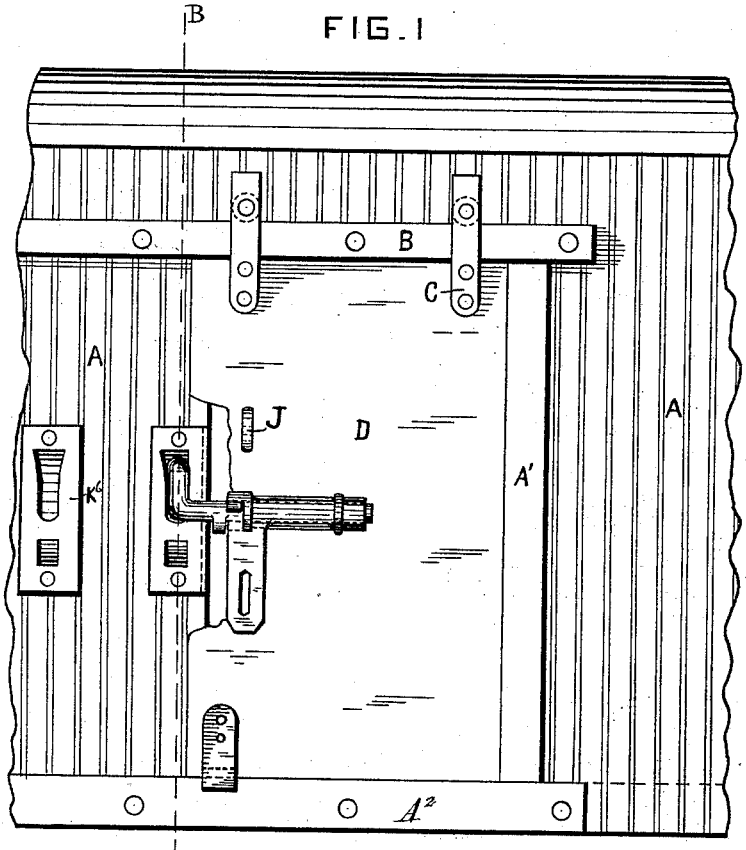


FIG. 2

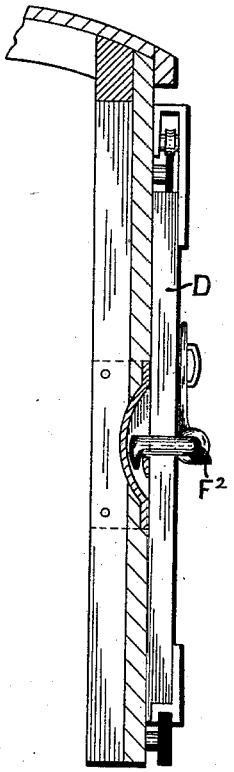


FIG. 3

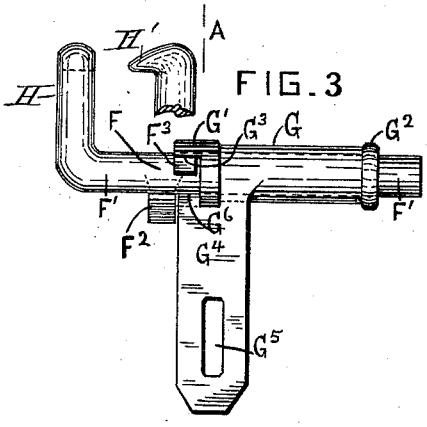


FIG. 4

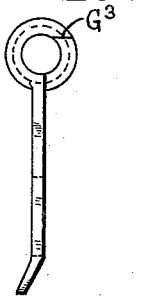


FIG. 5

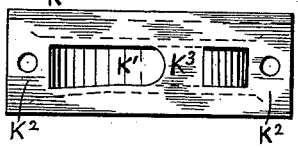
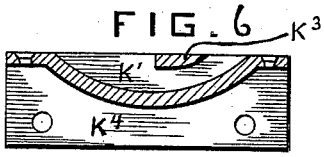


FIG. 6



WITNESSES.
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per- W. J. Stewart
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UNITED STATES PATENT OFFICE.

HENRY A. GEHRET, OF READING, PENNSYLVANIA, ASSIGNOR OF ONE-HALF TO WILLIAM F. MARKS, OF SAME PLACE.

SLIDING-DOOR FASTENER.

SPECIFICATION forming part of Letters Patent No. 385,550, dated July 3, 1888.

Application filed September 16, 1887. Serial No. 249,864. (No model.)

To all whom it may concern:

Be it known that I, HENRY A. GEHRET, a citizen of the United States, residing at Reading, in the county of Berks and State of Pennsylvania, have invented certain new and useful Improvements in Sliding-Door Fasteners; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

This invention relates, generally, to door-fasteners adapted to sliding doors such as are used on freight-cars, but is particularly related to and is an improvement on the style of fastener for which Letters Patent were issued to me October 19, 1886, No. 350,977.

The objects are, first, to make the fastener hold the door more securely by preventing its being forced away from the side of the car, so as to release the fastener; second, to hold the door tight against the side of the car, even if the bottom should by any means be forced from its guideway, thus preventing it from being opened and avoiding the danger of an accident from the bottom of the door swinging outward and being struck while in motion; third, to provide a better means of securing the keeper-plate to the car; fourth, to avoid any projecting arms, whether the fastener is open or locked.

Figure 1 is a side elevation of a portion of a car, showing the door closed and the fastener attached to it unlocked. The door is broken away so as to show the keeper-plate attached to the door-post. Fig. 2 is a cross-section through A B, and shows the fastener closed and ready to be sealed. Fig. 3 is a front elevation of the fastener complete, showing the hasp integral with a sleeve slipped over the body of the locking-bar. Fig. 4 is an end view of the hasp-sleeve. Figs. 5 and 6 show the keeper-plate in detail.

In all of which A represents the body of the car; A′, the closing-strip; A^2, the sill; B, the guide-rail; C, the door-hangers, and D the door.

The fastener consists of a locking-bar, F, adapted to be supported in bearings at F′, provided with lugs F^2 and F^3 between said bearings, and a locking-arm, H, at right angles to the main body, said arm having a heel-piece, H′, and a sleeve, G, adapted to fit loosely over the body of the locking-bar, having its periphery cut away between G^3 and G^6, so as to engage the lug F^3, and formed integral with it a hasp, G^4, with staple-slot G^5. The beads G′ and G^2 strengthen the sleeve and increase the bearing-edges. The keeper-plate K, formed with a concave recess, K′, adapted to clear the sweep of the locking-arm, and with a projecting plate, K^2, adapted to receive screws for securing it to the car, is provided also with a flange, K^4, at right angles with the front face and extending back two inches (more or less) as an additional means of securing it to a post or similar support, the flange being deep enough to extend beyond the weather-boarding and allow the screws to run through it into the solid post, and also with a cross-bar, K^3, connecting the two side walls of the concave recess just below the center. I prefer to make this recess somewhat wider at the top than in the middle, so that the locking-arm may easily enter it, even though the door is not in exactly proper position. As the arm is turned down to the middle locking-point, the door will then be moved slightly to such position and securely held there.

The flange K^4, when it can be readily used, is an advantage not only as an additional means of securing the keeper-plate, but also as a means of strengthening it.

When secured directly against the side of the car, as K^6, the flange may be omitted.

The heel-piece H′ is strongly made and the fastener and keeper-plates are so formed and secured to the door and car, respectively, that when the hasp is thrown up so as to allow the staple J to project through the slot G^5 sufficiently to receive the seal the heel-piece shall extend back of and below the top of the cross-bar K^3 in such a manner that the door cannot by any means be pried or forced away from the side of the car without breaking the cross-bar, thus avoiding the danger of the door being opened without breaking the seal, even though the bottom guide be removed.

The cross-bar is made very strong, yet is not

allowed to clog up the recess, ample room being given behind it to prevent ice and snow from accumulating in the same. I prefer to use bolts with nuts inside of the car through the front face of the keeper-plate and wood-screws through the flange K^4, which is not exposed.

The construction of the fastener in two separate pieces is intended to prevent the locking-arm H from projecting at right angles from the face of the car when the hasp is thrown down against the face, which is unavoidable when the hasp and locking-arm are in one piece. The locking-bar body F has a lug, F^2, projected slightly in a direction opposite to the locking-arm H, and arranged to come in contact with the face of the door when the arm is vertical, thus preventing the latter from turning any farther. The locking-bar is then turned by means of the lug F^3, which is operated by the faces G^6 and G^3 of the hasp sleeve periphery alternately for locking and unlocking. The portion of the periphery cut away between G^3 and G^6 is sufficient to allow the hasp sleeve to make the lower quarter-turn without operating the locking-bar. The bearing nearest the locking-arm is furnished with a separate cap, which is bolted on. The end bearing may be in one piece. Both the fastener and its keeper-plate have in their general construction been described and claimed in the specification forming part of Letters Patent hereinbefore referred to.

What I desire to claim as new is as follows:

1. The combination, with a locking-bar formed with a right-angled arm having a heel-piece, of a keeper-plate having a recess, K′, of a greater width at the top than in the middle, with a cross-bar, K^3, and adapted to be engaged by said arm with heel-piece, substantially as set forth.

2. In a car-door fastener, the combination, with a keeper-plate formed with a recess, K′, of a locking device composed of a locking-bar body having lugs F^2 and F^3 and a locking-arm H, and adapted to be supported in bearings at F′, and of a sleeve, G, adapted to turn on said locking-bar body between said bearings, having integral therewith a hasp, G^4, with staple-slot G^5, and formed with peripheral faces G^3 and G^6, adapted to operate said locking-bar by means of the lug F^3, substantially as set forth.

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

HENRY A. GEHRET.

Witnesses:
W. G. STEWART,
ROBERT L. KEITH.