(Model.)

J. C. WANDS.

TIGHTENING AND FASTENING DEVICE FOR CAR DOORS.

No. 412,939. Patented Oct. 15, 1889.

Fig. 1.

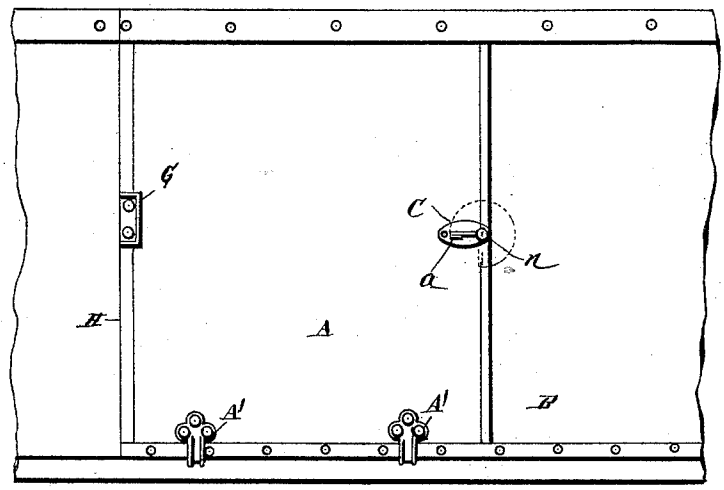


Fig. 6.

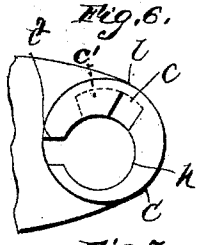


Fig. 7.

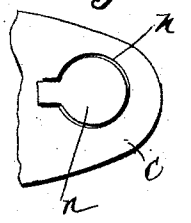


Fig. 8.

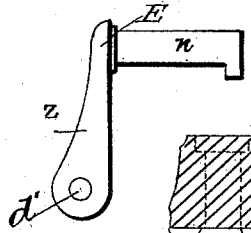


Fig. 2.

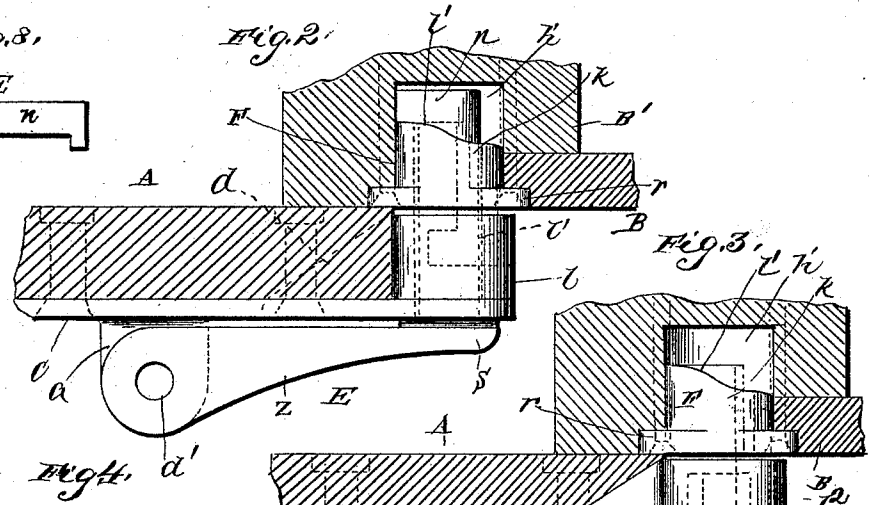


Fig. 4.

Fig. 3.

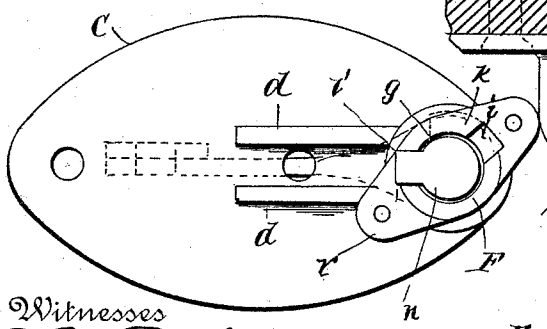
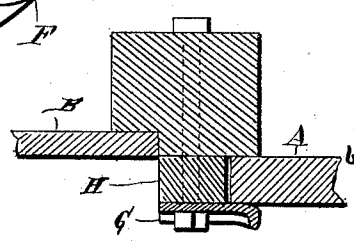
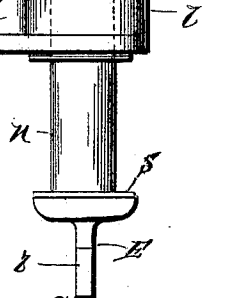


Fig. 5.





Witnesses

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UNITED STATES PATENT OFFICE.

JOHN CLARK WANDS, OF ST. LOUIS, MISSOURI.

TIGHTENING AND FASTENING DEVICE FOR CAR-DOORS.

SPECIFICATION forming part of Letters Patent No. 412,939, dated October 15, 1889.

Application filed April 27, 1889. Serial No. 308,803. (Model.)

To all whom it may concern:

Be it known that I, JOHN CLARK WANDS, a citizen of the United States, and a resident of St. Louis, in the State of Missouri, have invented certain new and useful Improvements in Tightening and Fastening Devices for Freight-Car Doors; 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 letters or figures of reference marked thereon, which form a part of this specification.

Figure 1 of the drawings is a front view of the invention applied to a car-door. Fig. 2 is a detailed horizontal sectional view of the same. Fig. 3 is a similar view thereof, the parts being unlocked. Fig. 4 is a rear view of the invention. Fig. 5 is a detailed sectional view of the keeper applied to the forward edge of the door. Fig. 6 is a rear view of the key or fastener case. Fig. 7 is a similar view of the key or fastener and its case. Fig. 8 is a detached side view of the key or fastener.

This invention relates to tightening and fastening devices for freight-car doors; and it consists in the novel construction and combination of parts, as hereinafter set forth.

The object of the invention is to prevent sagging of the doors at the sides, which frequently happens on account of the pressure of freight when the cars are locked.

In the accompanying drawings, the letter A designates a car-door in bearings A′ on the car B.

C indicates a cast-metal plate bolted to the outside of the car-door on its rear edge portion midway between the top and bottom. At its front end said plate is provided with a horizontal outwardly-projecting stop-lug *a*, through which is an opening *b* for locking purposes, and at the other end the plate is provided with an inwardly-extending slotted or grooved barrel *l*, to which are joined the angular braces *d d*, cast on the plate C. An opening *h*, having an offset notch *h*′, leads into the barrel *l* from the front. Said barrel has also at its rear end an offset notch *c*, and immediately at one side of said notch, and forming a lateral extension of said notch, is a bearing-groove *c*′, to receive the bolt or key lug and prevent the bolt or key from being withdrawn when the door is unlocked.

The opening in the barrel *l* is provided to permit the introduction of the fastening or tightening bolt *n* to secure the door. When the plate C is to be secured to the door, the angular braces *d d* are let into the wood-work at the edge, and the plate is then securely bolted to the door. The braces *d* provide additional support to resist the strain when the key-bolt is turned to force the door against its bearing at the side of the car.

F is a thimble let into a socket *h*′ of the jamb B′ of the door-opening of the car opposite the barrel *l* and registering therewith when the door is closed. This thimble has a face-plate *r*, which is provided with a circular opening *g*, having an offset notch *i*. Said thimble is beveled, as at *l*′, upon its inner or back edge portion *k*, and has in one side a slot, which communicates with the notch *i* of the plate *r*, and into which terminates the lower or base edge of the bevel of the back edge portion of the thimble.

E indicates a fastening or tightening bolt to be used in connection with the barrel of the plate C, provided with the exterior lever-handle Z, having a broad rear end provided with a locking-opening *d*′ to engage the stop-lug *a* of the door-plate C. From the other end of the lever-handle extends horizontally inward the pivotal key-bolt *n*, which therefore stands at right angles to the lever-handle, as shown. This fastening or tightening bolt is provided at its inner extremity with an angularly-projecting toe-lug to engage the inclined or inner beveled edge *l*′ of the thimble F when the key-bolt is turned in said thimble to force the door against the side of the car.

S is the bearing flange or shoulder around the outer end of the bolt.

A metallic bevel-edge keeper G is bolted to the front jamb H at about its middle portion, or at the level of the fastening or tightening bolt E, and is intended to act in connection therewith by securing and binding the forward edge of the car-door when closed firmly against the side of the car.

When the device is to be operated, the door is closed and the key-bolt *n*, having its toe-

lug in the angular groove of the barrel of the door-plate, the handle is turned until the toe-lug registers with the notch of the thimble-piece, which is bolted to the door-jamb. The key-bolt is then pushed into and through said thimble until its toe-lug is free on the inside thereof. The bolt is then turned around by a sweeping movement of its handle-lever from right to left, causing the toe-lug to engage and bind on the inner beveled edge of the thimble, and as it moves upon the incline it gradually draws the door against the side of the car. The handle is at the end of the movement brought into engagement with the stop-lug of the door-plate, and may be locked or sealed thereto through the openings in the end of the handle and in the horizontally-projecting lug of said plate. When the lock is unfastened, a reverse motion of the lever-handle releases the bolt, so that it can be drawn outward from the thimble of the door-jamb into the barrel of the door-plate, in the angular pocket-groove of which its toe-lug remains, while the bolt-handle hangs downward.

Having described this invention, what I claim, and desire to secure by Letters Patent, is—

1. The door-plate having at one end an inwardly-projecting slotted or notched barrel provided with an offset notch, in combination with a bevel-edged thimble secured to the door-jamb, and the fastening or tightening bolt having a lug engaging said barrel and thimble, substantially as set forth.

2. In a car-door fastening, the combination, with the door-plate having at one end a perforated stop-lug and at the other end an inwardly-projecting slotted or notched barrel, of the bevel-edged thimble bolted to the door-jamb, and the tightening-bolt having a lug on one end and the perforated handle on the other, substantially as specified.

3. The car-door-tightening devices and fastening, consisting of the keeper-plate on the middle portion of the front jamb, the bevel-edged thimble on the middle portion of the rear jamb, the door-plate having the slotted or notched barrel and the perforated stop-lug, and the fastening or tightening bolt having a toe-lug engaging an angular notch or groove of the barrel of the door-plate, and a perforated lever-handle adapted to be locked or sealed to said stop-lug of the door-plate, substantially as specified.

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

JOHN CLARK WANDS.

Witnesses:
J. A. MARTIN,
F. J. COGSWELL.