No. 827,037. PATENTED JULY 24, 1906.

B. B. ROSS.

CAR DOOR LOCK.

APPLICATION FILED DEC. 7, 1905.

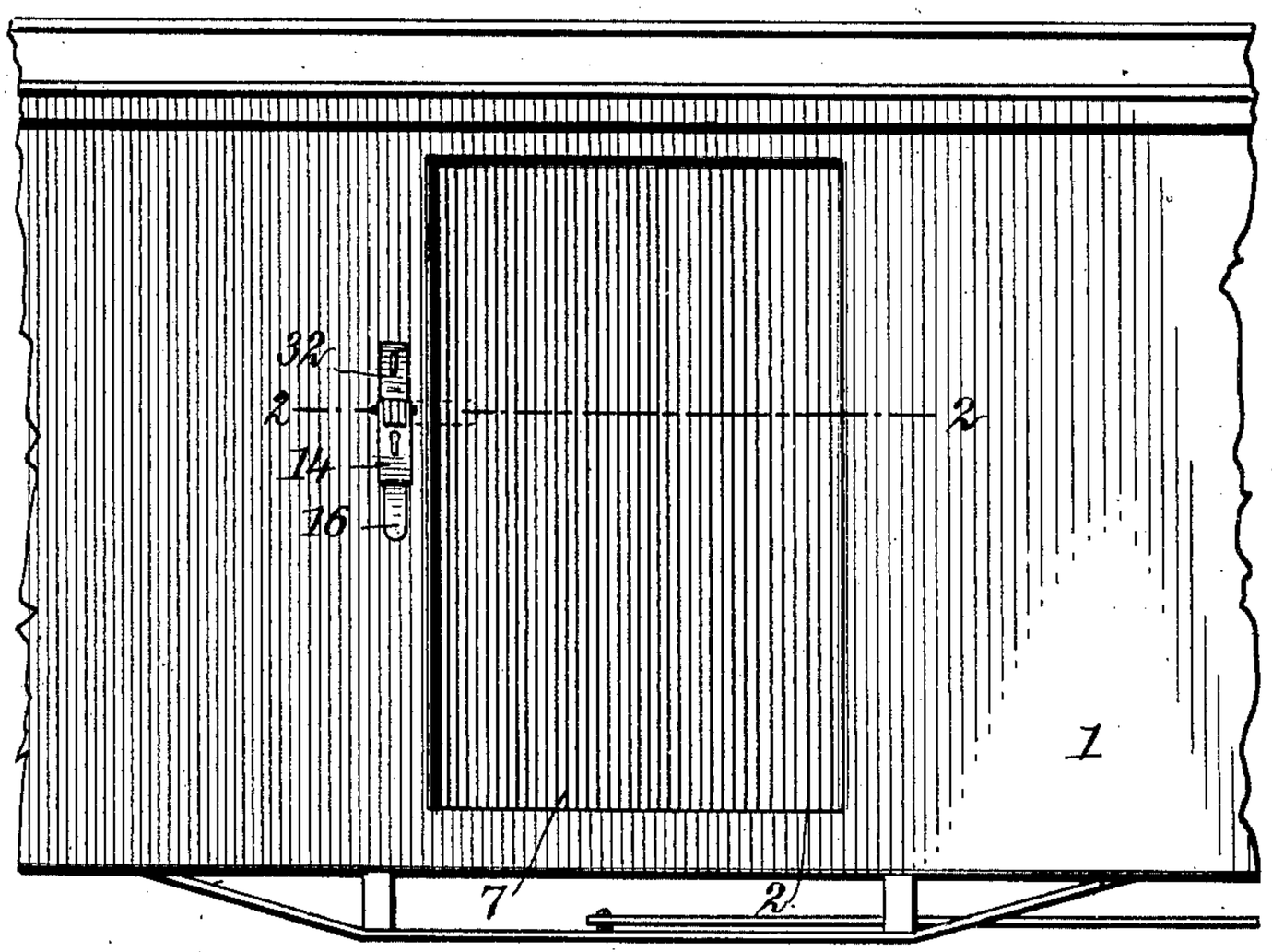


Fig. 1

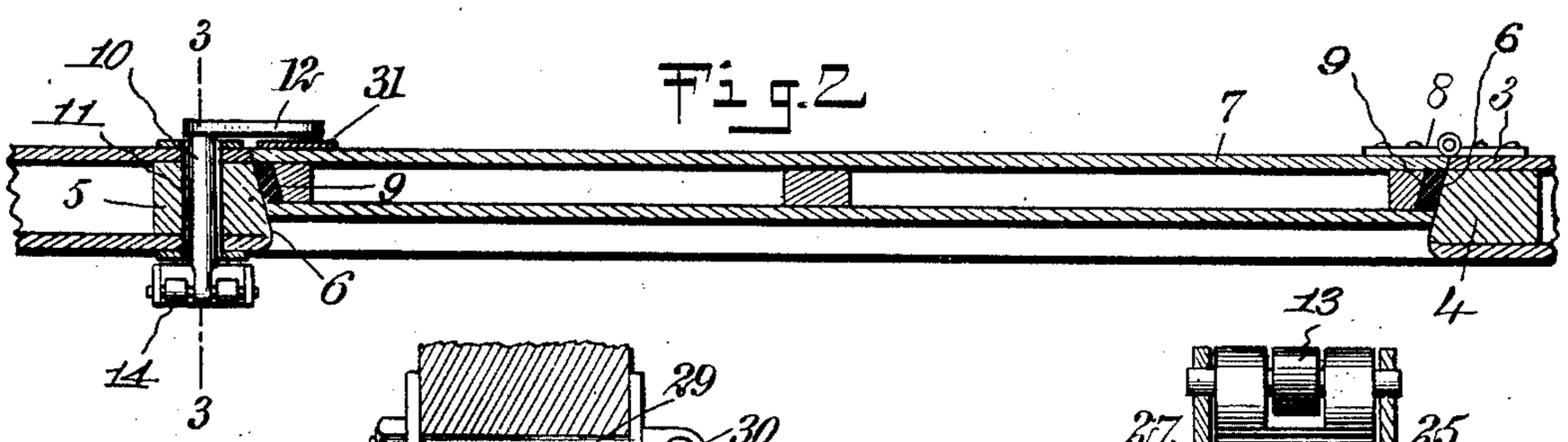


Fig. 2

Fig. 6

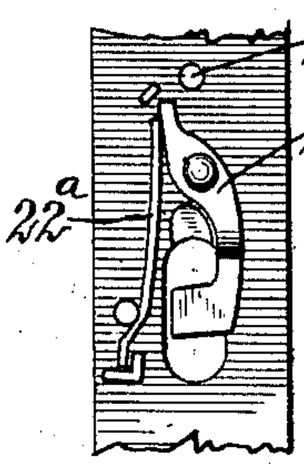


Fig. 3

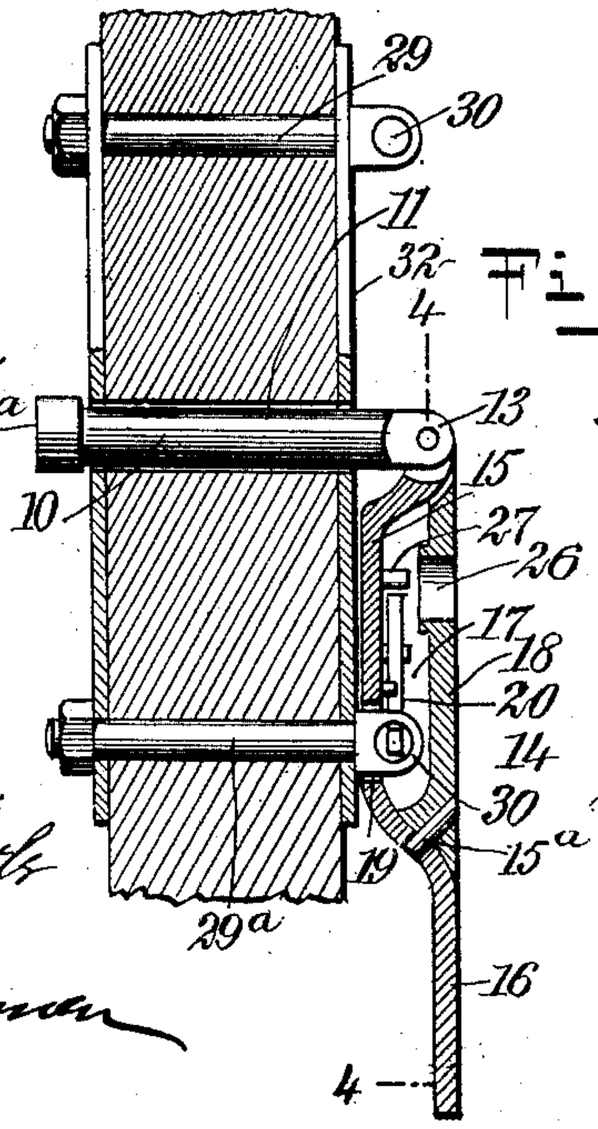


Fig. 4

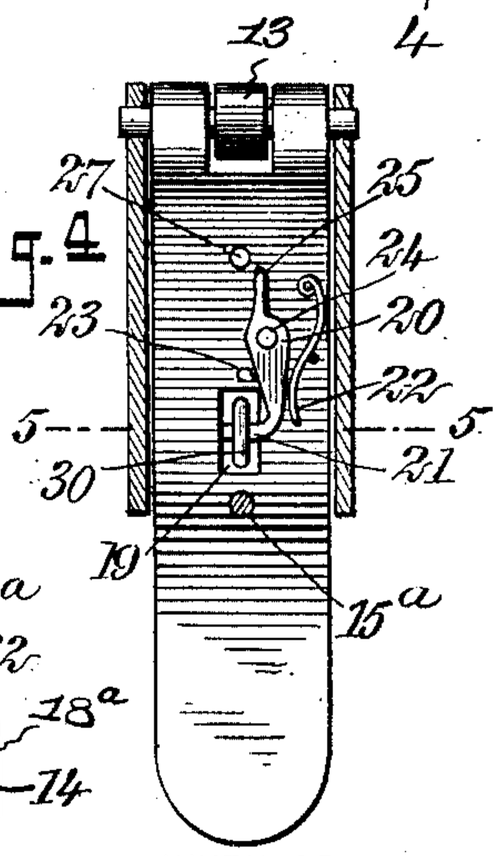
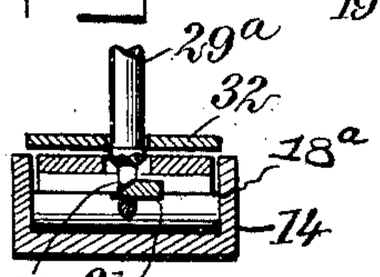


Fig. 5



WITNESSES:

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CAR-DOOR LOCK.

No. 827,037. Specification of Letters Patent. Patented July 24, 1906.

Application filed December 7, 1905. Serial No. 290,729.

To all whom it may concern:

Be it known that I, BENJAMIN B. ROSS, a citizen of the United States, and a resident of Albany, in the county of Albany and the State of New York, have invented a new and Improved Car-Door Lock, of which the following is a full, clear, and exact description.

This invention relates to door-locks, and is especially applicable to doors of freight-cars. The invention is intended to be used for locking the doors of milk-cars, and while it is especially applicable in this connection it may be applied to doors of other constructions.

The object of the invention is to produce a lock of simple construction which is always held in a fixed position, so that it cannot swing against the wooden parts of the door-frame or door to cause damage.

The invention consists in the construction and combination of parts to be more fully described, and definitely set forth in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a side elevation of the middle portion of a car, showing the lock applied thereto. Fig. 2 is a horizontal section taken on the line 2 2 of Fig. 1 and upon an enlarged scale. Fig. 3 is a vertical section taken on the line 3 3 of Fig. 2. Fig. 4 is a section taken on the line 4 4 of Fig. 3. Fig. 5 is a cross-section on the line 5 5 of Fig. 4; and Fig. 6 is a view similar to Fig. 4, showing a modification.

Referring more particularly to the parts, 1 represents the body of the car, the same being formed with a doorway 2, as shown. This doorway is formed with a frame 3, presenting jambs 4 and 5, having inclined inner faces 6. To the jamb 4 the door 7 is attached by hinges 8, as shown. The door 7 is preferably constructed with a double wall and is provided at its edges with buffer-strips 9, which are adapted to come against the faces 6 of the jambs, as indicated. Preferably near the middle point of the jamb 5, which lies opposite the hinges 8, I mount a pivot-bolt 10, which extends through a suitable bore 11 from the outside of the door-frame to the interior of the car. A head 10^a is formed on one end of the bolt, to which is rigidly attached a laterally-projecting arm 12, and the other extremity of said bolt is provided with a flattened end 13, to which a hasp 14 is pivotally attached. The body 15 of this hasp is preferably formed of an elongated plate which is offset inwardly, so as to lie normally against the outer face of the door-frame, as indicated in Fig. 3. The outer extremity of this body 15 is offset outwardly from a door-frame, so as to constitute a handle 16. In this way a depression or an enlarged recess or chamber 17 is formed, which is closed by a cover-plate 18, extending from the handle 16 toward the pivot-point of the hasp, said cover-plate having side flanges 18^a, as shown. This cover is rigidly secured at one end to the body 15 by a rivet 15^a or other suitable means. At its other end it is attached pivotally to the end 13 of the bolt 10.

At a suitable point the body 15 is provided with an opening 19, leading into the chamber 17. Adjacent to this opening a latch 20 is pivoted on the inner face of the body, said latch being provided with a lateral projecting finger 21, which projects across the opening 19, as indicated. This latch 20 is thrown by means of a spring 22 against a stop 23, which is formed at a suitable point on the body 15, as shown. It is pivoted at the point 24 and beyond this point is formed with a projecting tail 25. At a point just above or near this tail 25 the cover 18 is provided with a key-hole 26, through which a key may be inserted, said key being adapted to center upon a stud 27, which projects outwardly from the body 15, as shown. For a purpose which will appear more fully hereinafter the forward extremity of the finger 21 is beveled or inclined, as indicated at 28.

At a suitable point on the door-frame above or below the pivot-bolt 10 I provide eyebolts 29 and 29^a, the same having eyes 30, which are adapted to pass into the opening 19, so as to be engaged by the finger 21. In Fig. 3 the lower bolt 29^a is represented as engaged in the manner suggested. When held in this way, the finger 21 passes through the eye 30, as shown most clearly in Figs. 4 and 5. At this time the arm 12 projects itself across the door-jamb, so as to lie behind the rear face of the door, as indicated in Fig. 2, preventing the door from swinging inwardly, as will be readily understood. In order to reduce the wear, I prefer to provide the rear side of the door with a wear-plate 31 and provide the door-jambs with facing-strips 32, of metal, through which the bolts 10, 29, and 29^a pass.

When it is desired to open the door, a key of the proper form is inserted in the keyhole and rotated toward the right, so that its web engages the tail 25. This releases the finger 21 from the eye 30 and enables the hasp to be swung outwardly upon the axis of the pivot-head 13. In this way the hasp becomes disengaged from the eyebolt. After being disengaged the hasp may then be used as a handle, so as to rotate the pivot-bolt 10 upon its axis. In this way the arm 12 is moved into a vertical position, which clears the doorway and permits the door to swing inwardly. After the door has been unlocked in this way the hasp 14 will be rotated into a substantially vertical position, so as to come opposite the eyebolt 29, whereupon it will be forced down upon the eyebolt, so that the eye thereof passes through the opening 19 into the lock-chamber 17. In passing into the chamber in this way the upper face of the eye strikes against the inclined or beveled extremity 28 of the finger 21 and displaces the finger laterally, so as to enable the hasp to seat itself. After the hasp is seated the spring 22 operates to force the finger 21 into the eye, so that the hasp will be locked in this position. When the hasp has locked in this way as described, it is held against movement, and hence it cannot damage any of the wooden parts of the door or door-frame by swinging to and fro with the motion of the car or by being accidentally struck.

As the pivot-pin 10 projects considerably at its outer end beyond the outer face of the door-frame, I am enabled to give the pin a sliding motion, which assists in closing the door. This operation is substantially as follows: By holding the hasp out in a horizontal position the bolt 10 may be slid inward and then rotated to bring the arm 12 behind the door. After doing this the hasp is pushed down over the bolt 29^a to lock the door. In forcing the hasp against the side of the door it operates as a lever to draw the bolt outwardly to its normal position, and the arm 12 pressing at the back of the door closes the same tightly.

In Fig. 6 I show a modification in which a spring 22^a is arranged to bear upon a latch 20^a, said spring being located at the side of the latch opposite that at which the spring 22 is arranged with relation to the latch 20.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. In combination, a pivot-bolt adapted to be mounted in a door-frame, an arm rigidly attached to said bolt and adapted to engage the door to prevent the opening thereof, a hasp pivotally attached to said pivot-bolt, fastenings adapted to attach to the door-frame, and means for latching said hasp to either of said fastenings whereby said arm may be held in or out of engagement with the door.

2. In combination, a door-frame, a door mounted therein, a pivot-bolt mounted in said door-frame, a hasp pivotally attached to said pivot-bolt and having a chamber formed therein with an opening through the wall thereof, bolts attached to said door-frame, and having projecting heads adapted to extend through said opening into said chamber, said heads having eyes respectively, a pivot-latch within said chamber, and having a finger adapted to engage said eyes, said chamber having a keyhole to admit a key to engage said latch, and a spring in said chamber normally pressing said latch in engagement with one of said bolts.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

BENJAMIN B. ROSS.

Witnesses:

EDWIN W. SANFORD,

EUGENE B. SANFORD.