H. H. BREWER.

LOCKING DEVICE FOR CAR DOORS.

APPLICATION FILED OCT. 18, 1915.

1,199,865.

Patented Oct. 3, 1916.

2 SHEETS—SHEET 1.

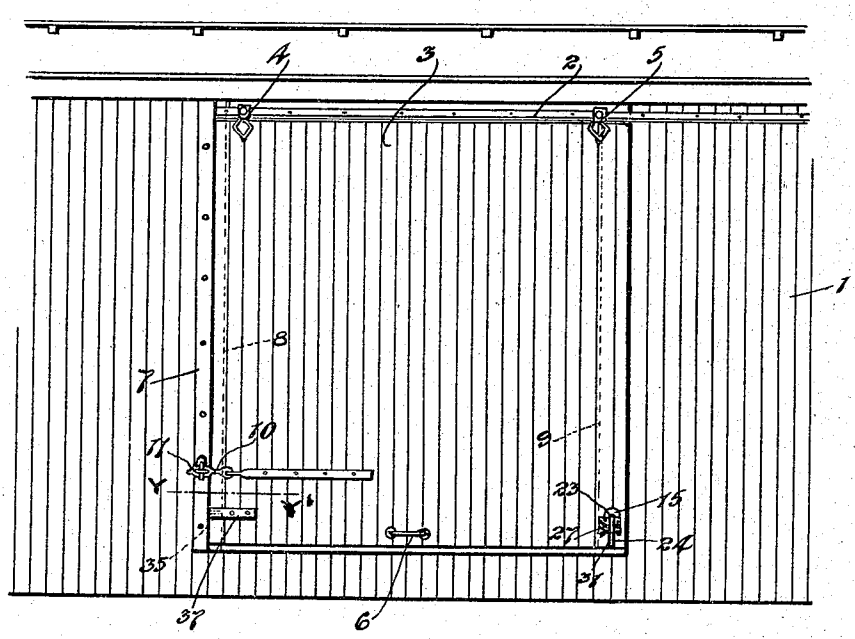


Fig. 1

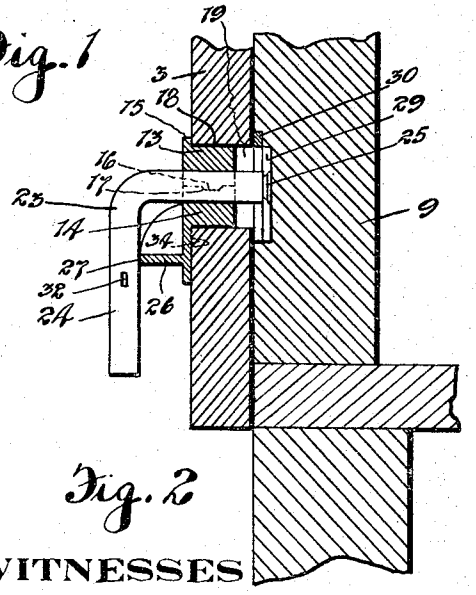


Fig. 2

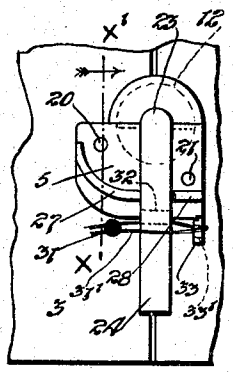


Fig. 3

WITNESSES

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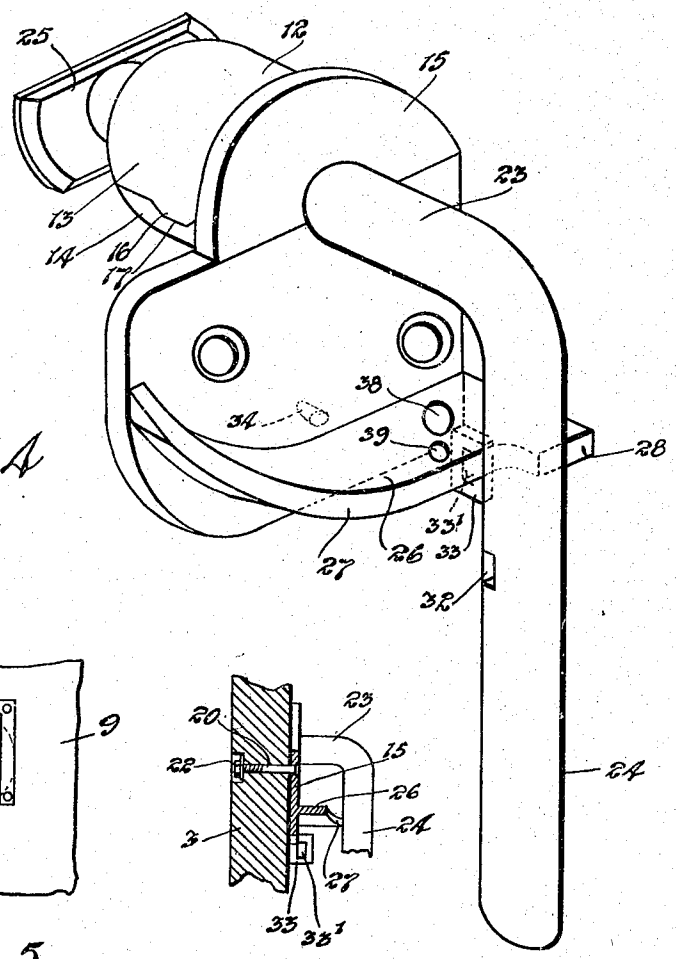


Fig. 4

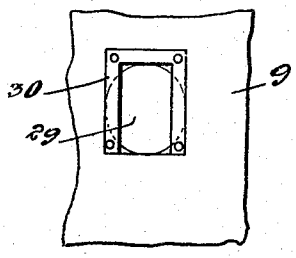


Fig. 5.

Fig. 6

WITNESSES

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UNITED STATES PATENT OFFICE.

HENRY HAMILTON BREWER, OF WINNIPEG, MANITOBA, CANADA.

LOCKING DEVICE FOR CAR-DOORS.

1,199,865. Specification of Letters Patent. Patented Oct. 3, 1916.

Application filed October 18, 1915. Serial No. 56,550.

To all whom it may concern:

Be it known that I, HENRY HAMILTON BREWER, of the city of Winnipeg, in the Province of Manitoba, Canada, have invented certain new and useful Improvements in Locking Devices for Car-Doors, of which the following is the specification.

The invention relates to improvements in locking devices for car doors and the object of the invention is to provide an inexpensive locking device which can be manufactured at small cost and can be easily and quickly applied on the car and which when installed can be easily operated to release or positively fasten the door.

A further object of the invention is to construct the device with as few parts as possible and in a manner such that it can be readily assembled and can be fitted on all existing types of doors without requiring any changes in the door structure.

With the above objects in view the invention consists essentially in a two-piece or split bearing sleeve having one end formed to present a two-piece face plate, a locking bolt mounted in the sleeve and fitted with a hand lever, a clamping T-head located at the inner end of the bolt, a guide flange extending from the plate behind the lever, a receiving retaining plate for the head, means for fastening the retaining plate to the car, means for fastening the face plate to the door and a pin extending from the back face of the face plate into the door, the parts being arranged and constructed as hereinafter more particularly described and later pointed out in the appended claims, reference being had to the accompanying drawings in which;

Figure 1 represents a side view of a door fitted with my locking device. Fig. 2 represents an enlarged detailed vertical sectional view through the locking device as it appears in the locked position, the locking bolt being shown in side elevation. Fig. 3 is an enlarged front face view of the device. Fig. 4 represents an enlarged perspective view of the sleeve, face plate, locking bolt, head and flange. Fig. 5 represents a face view of the fastening plate secured to the door post. Fig. 6 represents a vertical sectional view through the locking device, the section being taken in the plane denoted by the line X—X′ Fig. 3, and looking in the direction of the applied arrow.

In the drawings like characters of reference indicate corresponding parts in each figure.

1 represents the body of the car presenting the usual carrying track 2 on which is mounted the closure or outside door 3 of the car, this door being suspended from the track by the usual hangers and being provided with a hand piece whereby the door can be slid to open and closed position on the track.

7 represents the usual jam strip against which the door is closed, this strip being permanently fastened to the door post 8 of the car.

9 represents the second door post of the car.

All the above parts are of ordinary construction, being found on practically all types of car doors.

According to present practice, the front edge of the door is locked by fastening the hasp to the staple by any of the well known forms of car seals. With my invention applied, the rear edge of the door is fastened to the post and it is unnecessary to utilize the hasp, staple and seal on the front edge of the door.

Referring again to the drawings; 12 is a sleeve formed from interfitting top and bottom sleeve sections 13 and 14, which sleeve has the forward end thereof presenting a two-piece or split face plate 15, the split in the face plate occurring at the joint between the sleeve members.

The sleeve section 12 is fitted with facial extensions 16 and in sleeve section 14 are made receiving pockets 17 which prevent end movement of the sleeve members when the same are closed together.

The sleeve is applied on the door by boring a hole 18 in the lower right hand corner of the door to receive it, and in this connection it is to be noticed that it only projects partially through the door, as best shown in Fig. 2, thereby reserving a receiving opening 19 in the door immediately to the rear of the inserted sleeve.

The face plate is fastened permanently to the door by bolts 20 and 21 passing through the lower part of the face plate and into and through the door, the heads of the bolts being countersunk in the face plate while the nuts 22 on the rear ends of said bolts are countersunk in the back face of the door.

23 is a locking bolt passing through the sleeve and rotatably mounted in the same, and having the outer end thereof formed

into a hand lever 24 positioned at right angles to the body of the bolt and the inner end thereof supplied with a clamping T-head 25, said head having the inner corners thereof beveled off and the ends thereof rounded, as best shown in Fig. 4 of the drawings.

The head is set at right angles to the hand lever so that when the lever is in the vertical position the head is in the horizontal.

26 is a flange cast as part of the lower portion of the face plate 15. This flange gradually increases in width throughout its length and by so doing presents an inclined guiding face 27 on which the lever 24 is designed to operate in the turning thereof.

A stop 28 is formed as part of the flange, which stop limits the swinging of the lever in one direction.

Immediately behind the inserted sleeve, the front face of the post 9 is cut away as indicated at 29 to receive the head of the locking bolt, and the opening so formed is guarded by a retaining plate 30 which is designed to admit the head 25 into the opening 29 when the head is in the vertical position, but is arranged to prevent the withdrawal of the head from the opening upon the head being turned a quarter turn after insertion therein.

The opening 19 is arranged to receive the head when the locking bolt, after being unlocked, is withdrawn fully outwardly.

In designing this locking device, it is necessary that the length of the locking bolt be such that with the head inserted behind the retaining plate and the hand lever in the position on the flange shown in Fig. 4 of the drawings, the door be jammed tightly against the post. It is obvious that as the lever is turned and climbs up the inclined face 27, the face plate and door to which it is attached will be forced inwardly toward the post. Conversely, as the lever is released, the door will be released.

In order to prevent the lock from being undone by removing the bolts 20 and 21, I have supplied a pointed stud 34 on the back face of the face plate, which pin is embedded in the face of the door and operates to prevent the face plate being rotated after the removal of the bolts. If it cannot rotate, the head cannot be released from the retaining plate.

With my invention applied on a car, all that is necessary to do is to close the door in the usual way against the jam strip. The attendant then has only to enter the T-head in the opening 29 and bring the lever to the horizontal position as shown. In turning it he effects the jamming of the door against the posts in the manner hereinbefore described. After the car seal is applied the car is ready for shipment.

In considering a door fitted with my invention, it will be seen that it is impossible to pry the door open, as the usual hangers on the track prevent the top of the door from being sprung outwardly, while my fastening, together with the pin 35, prevents the lower side of the door from being pried away from the posts.

In instances where it is not convenient to apply the ordinary car seal to lock the lever, this can be accomplished by locking a padlock to the flange, the bolt of the padlock being inserted through one or other of the openings 38 and 39 provided.

What I claim as my invention is:—

In combination in a closure of the class described having an operating lever, a face plate, and means thereon for withdrawing said lever, comprising a flange on said plate having a curved edge, said flange being curved upwardly toward one extremity, and a stop provided on the other extremity.

Signed at Winnipeg, this 18th day of August, 1915.

HENRY HAMILTON BREWER.

In the presence of—

G. S. ROXBURGH,

S. SILVERT.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."