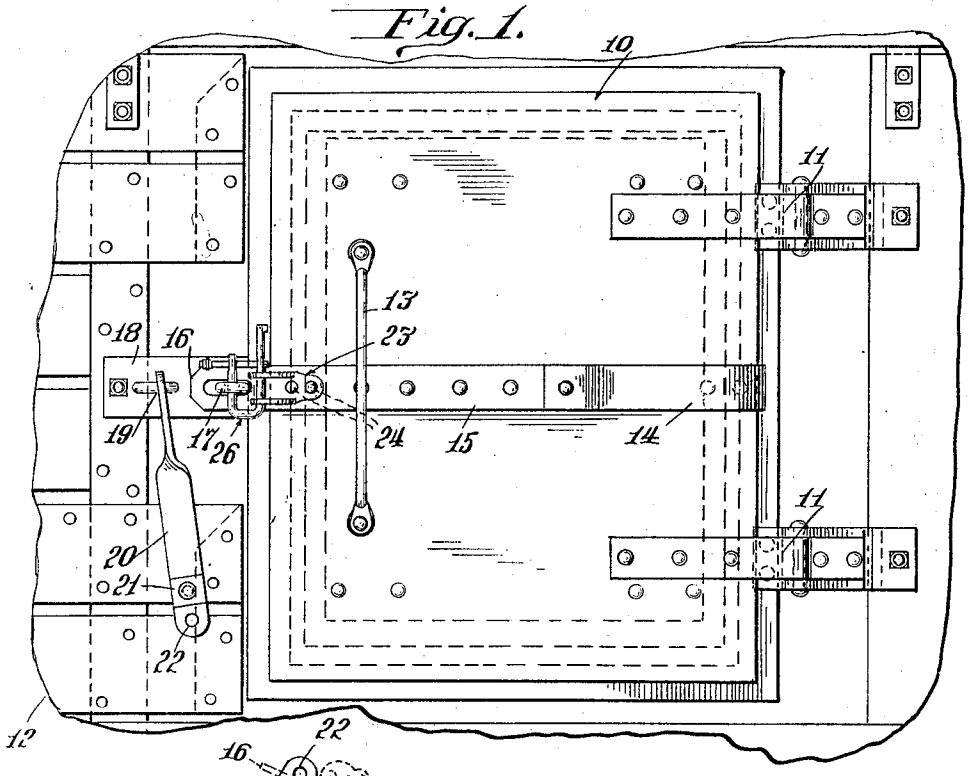
Aug. 23, 1932. V. H. HARBERT 1,873,645

HATCH COVER LOCKING MEANS

Filed July 13, 1931

Fig. 1.



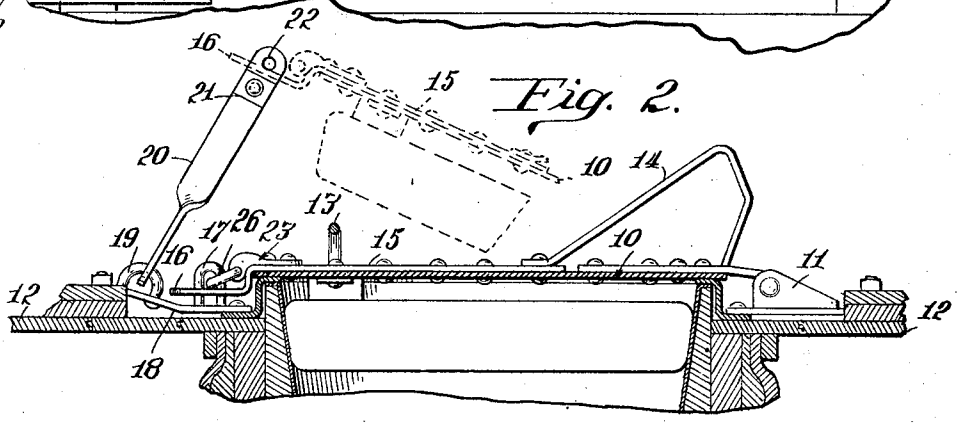
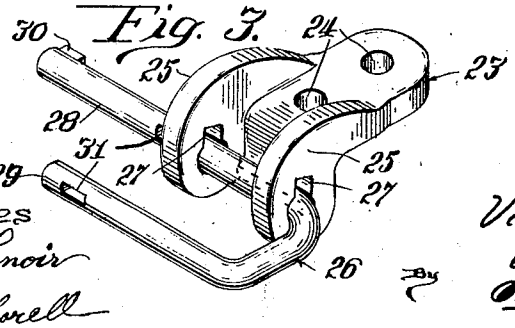


Fig. 2.

Fig. 3.



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UNITED STATES PATENT OFFICE

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HATCH COVER LOCKING MEANS

Application filed July 13, 1931. Serial No. 550,394.

My invention relates to means for locking the hatch covers of refrigerator cars either in closed or in ventilating positions so that improper access to the car through the hatch will be impossible without breaking the usual car seal employed.

The object of the invention is to provide locking means which will overcome the serious difficulties encountered with the usual fastening hook at present employed, which is secured in place by a chain which permits the hook to dangle or shift about on the car roof, when not in locking position, and permits the hook to become fastened on the running boards of the car, causing serious damage to the car sheathing.

My invention also obviates the frequent loss of the hooks at present employed; my invention providing locking means associated with the hatch cover so that its accidental removal after installation is impossible; while on the other hand my locking means will at all times be in position for movement into locking position because of its intimate association with the hatch cover.

My improved locking means is especially adapted for use on the hatch covers of refrigerator cars, but it is apparent that it may be employed for other uses; and the objects and advantages of the invention will be readily apparent from the following detailed description of the accompanying drawing, wherein:

Figure 1 is a plan view of a portion of a car roof showing the hatch cover provided with my improved locking means in cover locking position.

Figure 2 is a transverse sectional view with the locking means in side elevation; while a portion of the hatch cover is also shown in dotted lines in ventilating position.

Figure 3 is a perspective view of my improved locking means.

For purposes of exemplification, I have shown a hatch cover 10 of well known construction hingedly secured at 11, 11 to the car roof, a portion whereof is shown at 12.

The hatch cover 10, adjacent to its free end, is shown provided with a hand grasp 13; while the hinged end is shown provided with a bracket or stirrup 14 intended to support the hatch cover from the car roof when the cover is swung to complete open position.

This stirrup portion 14 may consist of one end of the metal strap 15 disposed transversely of the cover 10 and secured thereto, with the forward end extending beyond the free end of the cover and bent downwardly as shown in Figure 2 to constitute the hasp portion 16, which is provided with an opening therethrough to receive the staple 17.

The staple 17 is secured to the car-roof 12 adjacent to the free end of the hatch cover and may be integral with the strap 18 whose one end inclines upwardly and is provided with the eyelet or loop 19 whereby the bar 20 is pivotally secured in place so as to swing vertically. The free end of the bar 20 is provided with a supporting ledge or angle plate at 21 secured to one side face of the bar for the purpose of supporting the hasp portion 16 when the cover is raised into the ventilation position shown in dotted lines in Figure 2; and the end of the bar is also provided with an opening at 22 to receive my locking pin now to be described.

My improved locking means in the embodiment shown consists of a plate or member 23 provided with apertures as at 24 adapted to receive bolts or rivets whereby the member is rigidly secured in place.

In practice, the member 23 is preferably arranged on the hasp strap 15, thus permitting the same fastening means or rivets to be used for securing both elements in place on the hatch cover.

The member 23 has one end bent downwardly and opposite edges of this end enlarged or provided with the vertically or outwardly disposed webs or lobes 25, 25, arranged parallel with each other and in the spaced relation shown in Figure 3.

These lobes 25, 25 are each provided with a transverse aperture corresponding with and adapted to receive the locking bolt or member 26; and each aperture having a slot portion 27 as more clearly shown in Figure 3.

The locking bolt 26 is preferably in the nature of a U-shape pin or hook provided

with parallelly arranged legs 28 and 29 of different lengths; the bolt, at least so far as side or leg 28 is concerned and the main portions of the apertures in the lobes or webs 25 are circular in cross section in order to permit rotative movement of the bolt, at least during assembly.

The outer end of the long leg or side 28 of the bolt member 26 is provided with a lug 30 disposed laterally from one side and in a predetermined manner relative to the slot portions 27 of the apertures in the lobes or webs 25, 25.

That is to say, the relations of the lug 30 and slot portions 27 to the axis of the long leg or side 28 are such that the lug and slot portions 27 will be approximately ninety degrees apart after the device has been assembled and associated with the hasp member of the hatch cover.

As a result, the lug (after assembly and installation) cannot be brought to register with the slot portion 27 and hence the hook member 26 cannot be withdrawn from the plate or holding block 23.

Before the holding plate or member 23 is secured on the hasp strap 15, the locking bolt or pin 26 is inserted through the openings in the lobes or webs 25, 25 of the member 23 and the pin rotated on its longitudinal axis so that the short leg or side 27 will rest on the hasp portion 16. The length of the side or leg 28 of the locking pin 26 is such that the lug 30 will come into contact with the outer side of the adjacent lobe or web 25 and prevent further sliding movement before the free end of the leg or side 27 can clear the hasp portion 16; although permitting sufficient sliding movement of the pin 26 to enable the end of the short leg or side 27 to move to the opposite side of the staple receiving opening from that shown in Figure 1 in order that the leg 27 may clear the staple 17 to permit the hatch cover to be unlocked.

With the lug 30 arranged as shown and described, relative to the slot portions 27, and the sliding movement toward unlocking position limited by the lug 30 so as to maintain the free end of the leg or side 27 of the pin on the hasp portion 16, it is apparent that the locking pin 26, after installation, cannot be rotated sufficiently to bring the lug 30 into alignment with the slot portions 27, 27 and hence the locking pin 26 cannot be removed; but, on the other hand, the pin will at all times be in position to be readily slid through the staple 17 when the hatch cover 10 is closed.

The pin is also in position to pass through the hole 22 in the end of the bar 20 when the hatch cover is to be locked in the ventilating position shown in dotted lines in Figure 2.

The end of the short leg or side 27 and the intermediate portion of the long leg or side 28 of the locking pin 26 are each provided with a transverse opening or slot 31, arranged in alignment to receive the usual car sealing element as indicated at 32 in Figure 1. That is to say, the slot 31 in the long leg or side 28 of the pin is so arranged that it will be clear of the lobe or web 25 when the short leg or side 27 of the pin has passed through the staple 17.

The pivoted bar 20 plays no part in the locking of the hatch cover in closed position, but merely comes into play when the cover 10 is locked or held in the car ventilating position shown in dotted lines in Figure 2, at which time the end of the bar and the hasp are brought into juxtaposition as shown and the short leg 27 of the locking pin is passed through the aperture 22 in the end of the bar. If desired, the pin may then be provided with the usual seal so that complete opening of the hatch cover cannot be made and access to the car prevented.

The device is shown in what is believed to be its simplest embodiment, but modifications may be made without, however, departing from the spirit of my invention.

What I claim is:

Locking means for the hatch cover of a refrigerator car comprising a hasp secured on the hatch cover so as to extend beyond the free end thereof, said extended end being bent downwardly and outwardly substantially into parallel relation with the car roof, said bent portion being apertured longitudinally, a staple secured to the car roof and adapted to pass through said aperture; a plate adapted to be secured on the hasp adjacent to the bent end thereof and provided at its free end with an enlargement extending beneath the plane of the main portion, said enlarged depending end having a transverse opening and a vertically disposed slot communicating with the opening; and a U-shaped locking member having legs of unequal length, the short leg being adapted to rest on the extended end of the hasp and to pass through the staple, while the long leg passes through the opening in the enlarged depending end of said plate and to slide therein, the end of the long leg having a lateral extension adapted to pass through said slot before the plate is secured in place; the slot in the plate being disposed in a plane beyond the arc of movement of the lateral extension at the end of the long leg of the locking member after the plate has been secured in place, the distance between the lateral extension of the locking member and said enlarged end of the plate being such that the short leg of the locking member cannot move beyond one edge of the staple receiving slot in the hasp.

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