

June 14, 1949.

C. R. HAMILTON

2,473,098

HATCH COVER OPERATING DEVICE

Filed Feb. 13, 1946

2 Sheets-Sheet 1

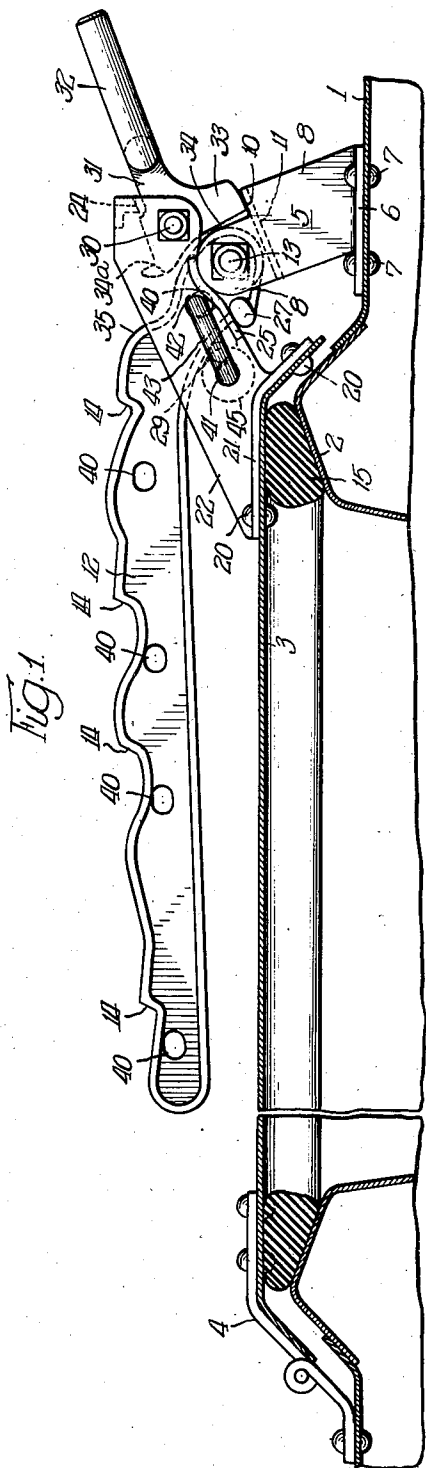
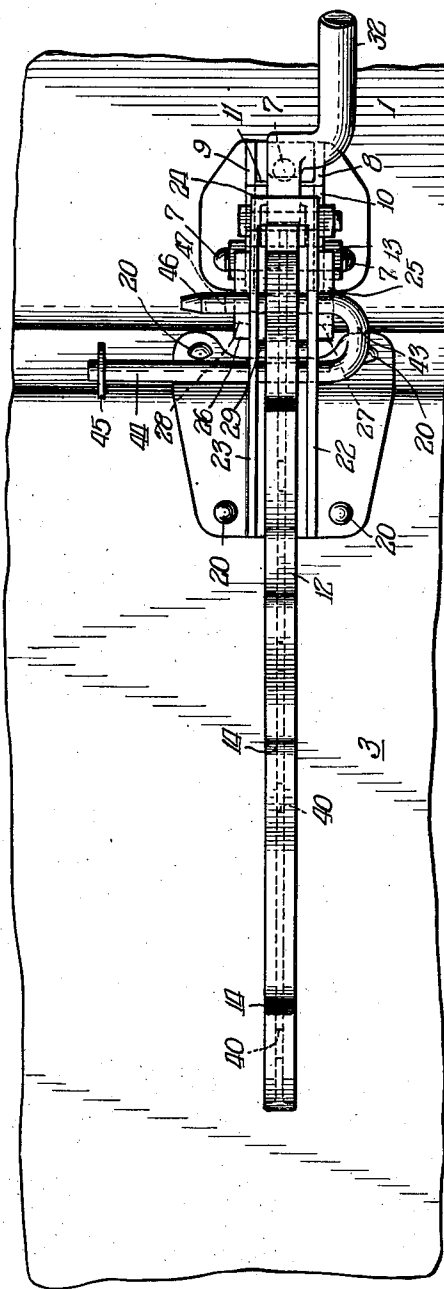


Fig. 3.



INVENTOR.
Clarence R. Hamilton,

BY

Antony W. [Signature]

June 14, 1949.

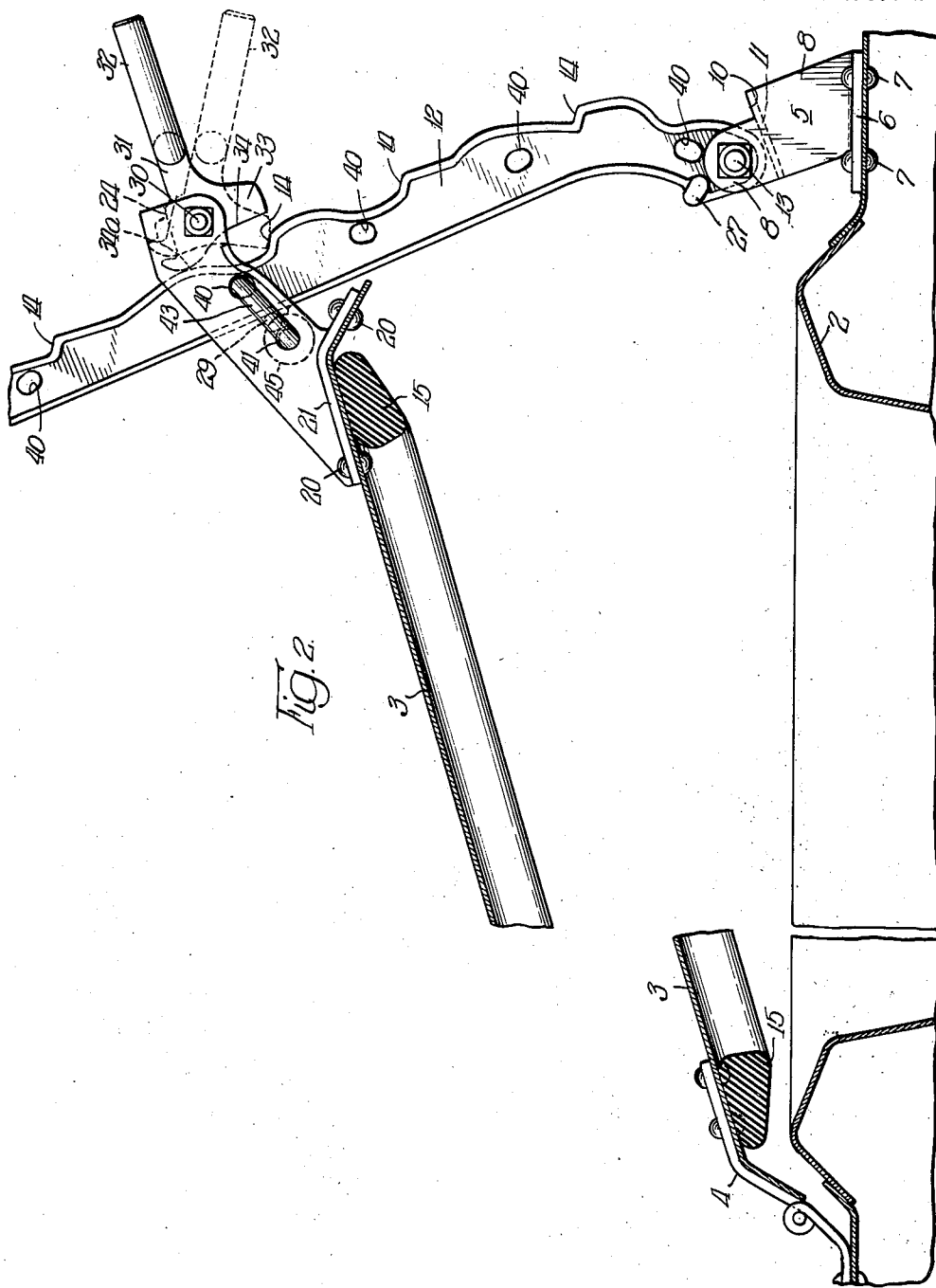
C. R. HAMILTON

2,473,098

HATCH COVER OPERATING DEVICE

Filed Feb. 13, 1946

2 Sheets-Sheet 2



INVENTOR.
Clarence R. Hamilton,
BY *Antony Eschman*
att'y.

UNITED STATES PATENT OFFICE

2,473,098

HATCH COVER OPERATING DEVICE

Clarence R. Hamilton, Roseville, Calif.

Application February 13, 1946, Serial No. 647,311

4 Claims. (Cl. 98—7)

1

My invention relates to improvements in devices for supporting a refrigerator car hatch cover in partially or fully opened position for the purpose of ventilating the interior of the car.

Refrigerator cars are now provided with a plurality of hatch openings through the roof thereof through which the refrigerant is loaded into the car. Said hatches are provided with covers for closing said hatches when desired, and such covers also prevent entrance of undesirable foreign matter into the car. Some of said cars are provided with devices for supporting the hatch covers in partially or fully opened position for the purpose of ventilating said cars while in transit.

A specific object of my invention is to provide such a hatch cover operating device which may be operated with one hand by the trainman.

Another object is to provide such a hatch cover operating device having an operating handle which when raised holds the associated elements of said device in such relation to each other that the cover may be freely raised by lifting said handle, and so that after the cover is raised and the handle is released, the device automatically functions to maintain said cover in said raised and ventilating position.

A further object is to provide such a hatch cover operating device whereby when the cover is in raised position a slight raising of said handle releases said mechanism so that the cover may freely close.

In some cases a gasket is used between the hatch frame and cover and another object is to provide such a device with means to limit the downward movement of the cover on said gasket.

In the drawings:

Figure 1 shows a hatch cover and associated parts embodying my invention when the cover is in closed position.

Figure 2 is similar to Figure 1, but shows the cover in open position for ventilation.

Figure 3 is a partial plan view of Figure 1.

Referring to the drawings, a portion of a railway refrigerator car roof is indicated at 1, it being adjacent a hatch opening, a portion of the frame for said opening being indicated at 2. A hatch cover is indicated at 3 for normally closing said opening, said cover being hinged at 4 to the car roof 1. A gasket 15 is preferably used between the cover 3 and hatch frame 2. Adjacent said hatch is mounted upon said roof 1 an upstanding bracket indicated generally at 5 and comprising a base plate 6, riveted, as at 7, to the roof sheet 1. A pair of spaced, parallel upstanding inclined walls 8 and 9 project upwardly from said plate

2

6, to which they are secured, the upper portions of which are cut away or stepped forming a shoulder or stop surface 10, the remainder of said wall continuing upwardly and terminating in a semi-circular or arcuate contour, as clearly shown in Figure 2. Between these upstanding walls 8 and 9 and in the plane of the shoulder 10 extends a member 11 secured to said walls and forming a sort of shelf therebetween.

Also between the upper part of said walls there is shown one end of a lever or bar 12 pivoted thereto, as at 13. This bar is elongated and curved slightly at its pivoted end and one edge thereof is of irregular contour preferably having a plurality of irregularly spaced notches 14 in said edge with outwardly curved portions therebetween, the purpose of which will appear later.

To the outer edge of the cover 3, preferably opposite to its hinged edge, I have secured thereto, as by rivets 20, a bracket base 21, said base and cover being flanged to overlap the outer walls of the hatch frame 2 and close down upon the gasket 15 therebetween for sealing said hatch opening. Secured to said base 21 are a pair of upstanding parallel spaced walls 22 and 23, they extending laterally beyond the edge of said cover, one upon either side of said ventilating bar 12, or in other words, the bar 12 extends from its pivotal mounting upwardly between said walls 22 and 23. Extending between the upper outer corners of said walls 22 and 23 is a narrow bar 24 and also extending between said walls adjacent the base thereof is a pin 25, the purpose of both of which will appear later. The walls 22 and 23 are spaced substantially the same distance apart as the walls 8 and 9 and project thereover and may rest thereupon when the cover is in closed position, as shown in Figure 3. Wings 25 and 26 project laterally from the lower edges of walls 22 and 23, respectively, the outer ends of said wings being arcuate so as to fit and rest upon the arcuate upper end of walls 8 and 9 when the cover is closed, said wings amply compensating for the difference in spacing between walls 22 and 23 or wings 25 and 26 resting upon walls 8 and 9 when cover is closed. Wings 25 and 26 extend inwardly somewhat so as to also extend laterally over lateral projections 27 and 28 from opposite sides of lever 12 adjacent its pivotal mounting 13. Thus when the free end of lever 12 is raised projections 27 and 28 engage wings 25 and 26 and thereby pry the cover loose from the hatch frame, should it be frozen shut, for example.

3

Between the outer free ends of walls 22 and 23 there is shown pivoted, as at 30, adjacent its inner end a combined handle and pawl member 31, the handle portion 32 of which projects outwardly and is laterally offset, as seen in Figure 1. In the normal closed position of the cover, the pawl portion 33 rests upon the shelf member 11. Handle portion 32 extends materially outwardly of pivot point 30 thereby providing ample counterweight to insure that pawl portion 33 is always in position to engage the nearest notch 14 or shelf member 11 below and thus prevent further downward movement of said cover. The overbalancing weight of handle portion 32 causes the inner edges 34 of the pawl portion 33 to slide against the outer irregular surface 35 of the bar 12 so as to always be in position for engagement with any notch 14 therein. Thus the pivotal movement of bar 12 is limited between pin 29 and pawl 33, as the cover is swung on its pivot point 4. Bar 24 acts as a stop for the upward pivotal movement of handle 32 and, when a trainman raises said handle 32 until stop 24 is engaged, surface 34 has moved away from surface 35 and stop 24 also prevents surfaces 34a from engaging said surface 35 so that a further lifting of handle 32 will raise the cover and pin 29 being under bar 12 will swing said bar 12 keeping the irregular edge 35 thereof adjacent pawl 33 so that when handle 32 is released pawl 33 will engage the next lower notch 14 and hold cover in that position.

To lock the cover in any selected elevated position I have provided a plurality of longitudinally spaced holes 40 in the web of said bar 12. Also there is provided a pair of spaced holes 41 and 42 in each of the walls 22 and 23, said holes registering, horizontally with each other, for reception of the J-shaped locking member 43. The longer lug 44 is installed within the opposed holes 41 under the bar 12 and near its free end is provided with a stop 45 so that said locking member 43 cannot become disengaged from said holes 41.

The shorter leg 46 of said member 43 is insertable through said registering holes 42 and selectively through any of said holes 40 when a key may be inserted through the keyway 47 to hold said leg 46 from being accidentally withdrawn from said holes. Instead of a key a regular car seal may be used if desired. When the cover is to be lowered, for example, the key is withdrawn from keyway 47, the member 43 withdrawn until leg 46 is out of holes 42 and 40 when the cover may drop down against the hatch frame gaskets. If the cover should not completely close, the bar 12 may be manually pushed downwardly which will cause it to bear downwardly on pin 29 and thus forcibly close the cover upon the gasket so that pawl 33 is also in engagement with shelf 11 and wings 25 and 26 are in engagement with walls 8 and 9 and projections 26 and 28, as shown in Figure 2, in which position the cover is completely closed, and leg 46 of member 43 may be reinserted in holes 42 and hole 40 of bar to lock the cover in closed and sealed position.

The handle 32 of the pawl member 31 is preferably offset from the pawl part thereof and from the longitudinal axis of the bar 12 so that if the hatch cover 3 is thrown back upon the roof for icing and the bar 12 is left standing in upright position and while the bar is in this position the hatch cover 3 is thrown to closed po-

4

sition, the pawl handle 32 will not hit the bar 12 and be broken or bent by the impact. Such bending may cause the pawl to become inoperative. In other words, the handle 32 of the pawl 31 is not in the path of movement of the bar.

Thus I have provided a simple hatch cover device easily operable with one hand by a trainman.

The accompanying drawings illustrate the preferred form of the invention, though it is to be understood that the invention is not limited to the exact details of construction shown and described, as it is obvious that various modifications thereof, within the scope of the claims, will occur to persons skilled in the art.

I claim:

1. In a railway car having a hatch in the roof thereof and a cover for said hatch hinged to said roof; a base member secured to said roof adjacent said hatch and having a shoulder projecting laterally therefrom to form a rest for the herein-after mentioned pawl when said cover is lowered, spaced walls secured to said cover adjacent said base member and extending in overlapping relation therewith when said cover is in closed position, said walls having registering spaced openings therethrough, wings extending laterally from said overlapping portion of said walls, an elongated bar pivotally mounted at one end to said base member and having a plurality of spaced transverse openings therethrough selectively registerable with certain of said openings through said walls, an edge of said bar having a plurality of spaced notches formed therein, lugs projecting laterally from said bar in engagement with said wings when said cover is closed, a J-shaped locking pin, one leg of which is insertable through a pair of said registering holes in said spaced walls below said elongated bar and the other leg of which pin being insertable through another pair of said registering holes in said spaced walls and also through one of said openings in said bar to thereby lock said cover in a selected position, a holding member pivoted between said walls above said bar and having a pawl portion selectively engageable with any of said notches or said shoulder to stop the lowering movement of said hatch cover, said holding member also having a laterally offset handle portion to provide a weight to bias said pawl member into engagement with a notch or said shoulder and also to provide a handle for manipulating the device.

2. A device for operating a railway car hatch cover comprising a bracket having spaced walls secured to a car roof adjacent said hatch cover and having a laterally projecting stop surface, a bar pivotally mounted at one end to said bracket between the walls thereof, spaced walls secured to said cover adjacent and overlapping said bracket when the cover is closed; a combined handle and pawl member pivotally mounted between the walls of said cover adjacent said bar so as to move with said cover, said pawl portion of said member selectively engageable with said laterally projecting stop surface or said bar to hold said cover in a predetermined position, said handle portion being offset and extending outwardly and laterally from said bracket providing means for manually operating said cover and providing an overbalancing weight to bias said pawl portion toward engagement with said stop surface or said bar.

3. A device for operating a railway car hinged hatch cover, said device comprising a bar pivotally attached to the car and having a notch therein, a bracket secured to said hatch cover straddling said bar, means on said bracket to swing

5

said bar when the door is raised, and a pawl member pivoted to said bracket, said pawl member having a laterally offset outwardly extending portion forming a handle, said bracket provided with a stop in the path of upward movement of said member so that when said cover is in closed position and said handle portion is raised said member engages said stop to maintain clearance between said member and said bar so that said cover may be raised to open position and simultaneously swing said bar therewith and whereby when said handle portion is released the overbalancing weight of said handle portion causes the pawl portion to drop in the path of and engage the notch of said bar and hold said cover in open position.

4. A structure as defined in claim 3 including a hatch frame, a gasket between said hatch frame and said cover, and a bracket having a laterally

6

projecting stop surface adapted to be engaged by said pawl portion to limit the downward movement of said cover on said gasket.

CLARENCE R. HAMILTON.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
1,473,655	Sweeley -----	Nov. 13, 1923
1,567,671	Nystrom -----	Dec. 29, 1925
1,574,777	Wine -----	Mar. 2, 1926
2,231,885	Christy -----	Feb. 18, 1941
2,314,649	Lundvall -----	Mar. 23, 1943
2,360,533	Zeidler -----	Oct. 17, 1944
2,368,824	Geddes -----	Feb. 6, 1945