Sept. 28, 1954 A. E. ZIMMER 2,690,138

SEALING MEANS FOR THE LATCHING MECHANISM OF RAILWAY CAR HOPPERS AND THE LIKE

Filed Nov. 29, 1951

2 Sheets-Sheet 1

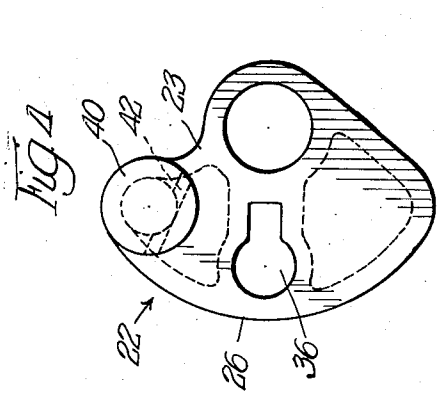


Fig. 4

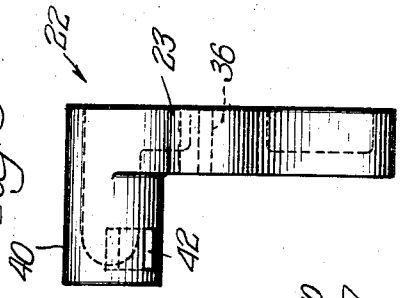


Fig. 5

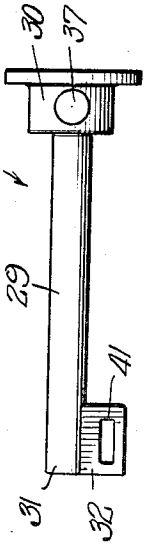


Fig. 6

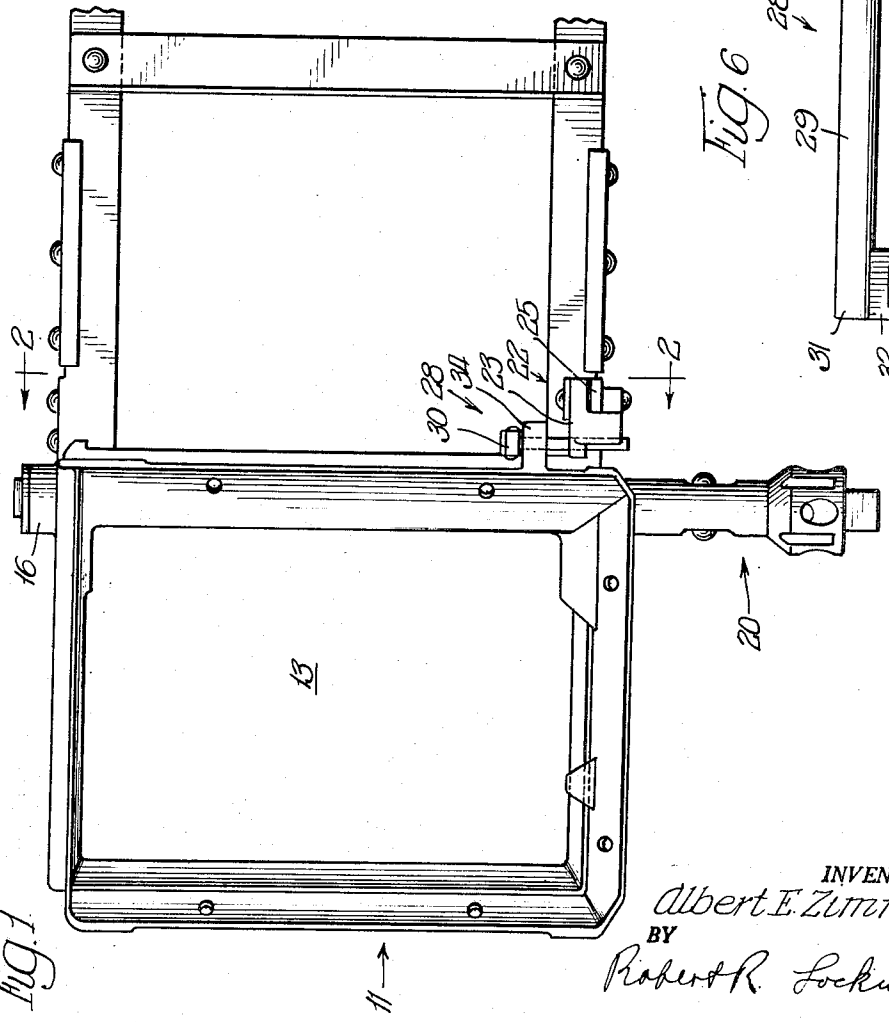


Fig. 1

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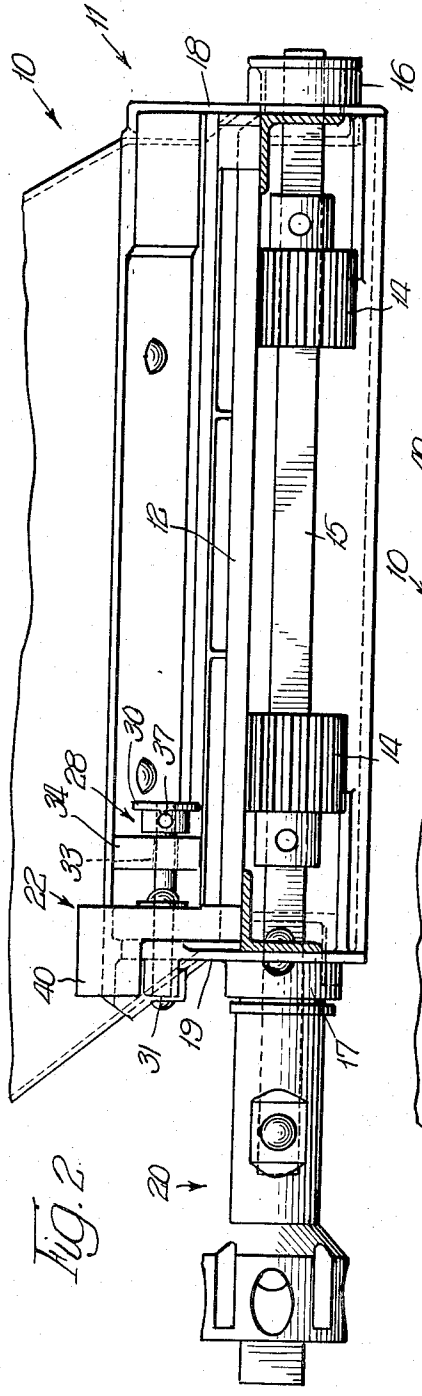


Fig. 2.

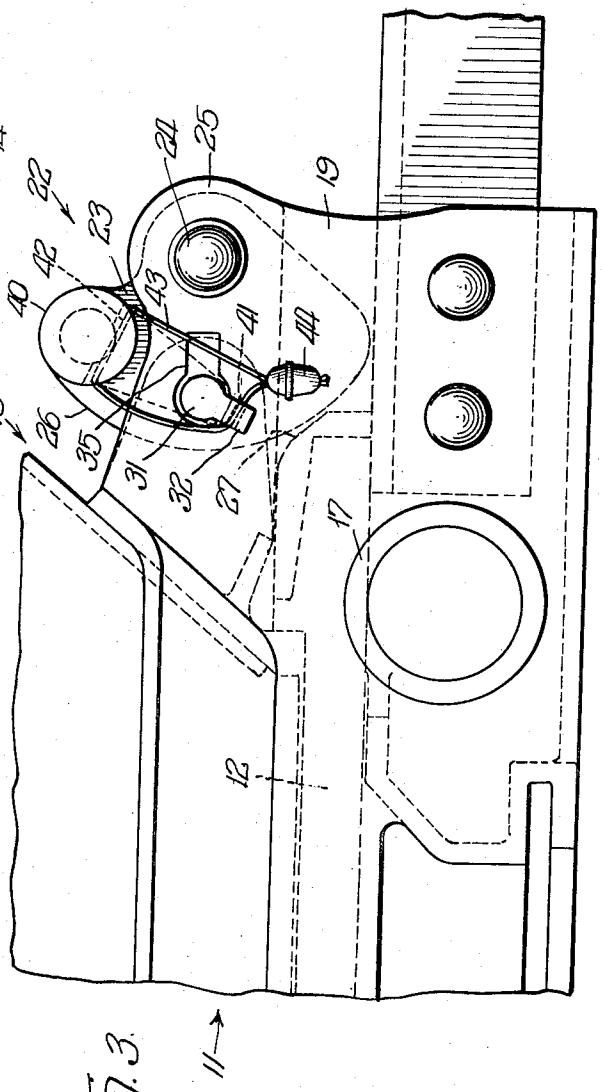


Fig. 3.

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SEALING MEANS FOR THE LATCHING MECHANISM OF RAILWAY CAR HOPPERS AND THE LIKE

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1 Claim. (Cl. 105—282)

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This invention relates to the sealing of the locking mechanism of railway car hoppers and the like.

It is conventional to employ a key shaped pin for holding a latching dog in position where it prevents opening movement of the slidable gate of a railway car hopper. The key shaped end of the pin has a rectangular aperture through which a sealing band, in the form of a flexible ribbon, is threaded and the ends are joined together by a seal. This has been unsatisfactory for the reason that the pin can be withdrawn together with the sealing band through the apertures in which the former is slidably mounted with the result that there may be unauthorized opening of the gate without the breaking of the seal.

Accordingly, among the objects of this invention are: To provide for applying the sealing band in such manner that the sealing pin cannot be withdrawn without breaking the seal; and to provide a second aperture in a lug or boss extending from the locking dog through which the sealing band can be threaded for accomplishing the purpose just stated.

In the drawings:

Figure 1 is a top plan view of an outlet frame for a railway car hopper in which the present invention is embodied;

Figure 2 is a detail sectional view taken generally along the line 2—2 of Figure 1;

Figure 3 is a view in side elevation and at an enlarged scale of a portion of the outlet frame shown in Figure 1, the shaft and operating head being omitted and the application of the sealing band to the special construction arranged therefor being shown;

Figure 4 is a view, in side elevation, of the locking dog having its operating lug apertured for receiving the sealing band;

Figure 5 is a view, in end elevation, of the latching dog shown in Figure 4; and

Figure 6 is a top plan view of the sealing pin which is employed for holding the latching dog in position.

Referring now particularly to the drawings, it will be observed that the reference character 10 designates, generally, a four-sided hopper for a railway car on the lower end of which there is provided a four-sided outlet frame, shown generally at 11. Slidably mounted on the outlet frame 11 is a member or gate 12 which is arranged to close the opening 13 through the frame 11. The member or gate 12 is provided with rack teeth (not shown) on its under side with which

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pinions 14 cooperate to move the member or gate 12 from and to the open position. The pinions 14 are non-rotatably mounted on a shaft 15 which is journaled near its ends by bearings 16 and 17 which are carried by side walls 18 and 19, respectively, of the frame 11. One end of the shaft 15 projects beyond the side wall 19 and carries an operating head 20 which is arranged to receive an operating bar for rotating the shaft 15 to move the gate in conventional manner.

With a view to holding the gate 12 in the closed position, as shown in Figure 3, there is provided a latching dog 22, Figures 4 and 5, which has a body portion 23 that is rockably mounted by a pin 24 which extends through a wall extension 25 of the wall 19. The body portion 23 of the latching dog 22 has an arcuate face 26 that is arranged to be placed in the path of a shoulder 27, Figure 3, on the rear side of the gate 12 for preventing its movement to the open position.

For the purpose of preventing the accidental removal of the latching dog 22 from the latching position, there is provided a sealing pin that is shown, generally, at 28 in Figure 6 of the drawings. It will be observed that the sealing pin 28 has a cylindrical body portion 29 with a head 30 at one end and a key shaped portion 31 at the other end. The key shaped portion 31 includes a radially extending flange 32 which forms a part of the key configuration.

As shown in Figure 2 the body portion 29 of the sealing pin 28 is slidably mounted in an aperture 33 extending through a wall 34 that forms an integral part of the outlet frame 11. The wall extension 25 has a key shaped aperture 35, Figure 3, through which the key shaped portion 31 of the sealing pin 28 can be placed. It will be noted that the body portion 23 of the latching dog 22 has a key shaped aperture 36, Figure 4, which, when the latching dog 22 is in the latching position as shown in Figure 3, registers with the key shaped aperture 35 and thus permits the entry of the key shaped portion 31 of the sealing pin 28. After the body portion 29 of the sealing pin 28 has been inserted through the aperture 33 in the wall 34, the head 30 is applied thereto and held in position by a transverse pin 37.

It will be noted that the latching dog 22 has an operating lug or boss 40 formed integrally therewith. One function of this lug or boss is to receive an operating bar which can be applied for prying the latching dog 22 from the latched position. Also, when the latching dog 22 is swung to the latched position, the operating bar or like tool can be employed for striking the lug or boss

40 to swing the latching dog 22 to the latched position.

With a view to sealing the pin 28 in the position shown in Figure 3, the flange 32 at the key shaped portion 31 is provided with a rectangular aperture 41. The purpose of this construction is to receive a sealing band in the form of a ribbon. As pointed out hereinbefore, when such a sealing band is applied only through the aperture 41, there is the possibility that it and the seal can be withdrawn with the sealing pin 28 through the apertures 35 and 36 and thus permit removal of the latching dog 22 from the latched position without breaking of the seal.

With a view to overcoming this disadvantage, the operating lug or boss 40 is provided with a rectangular aperture 42 which is aligned with the rectangular aperture 41 in the flange 32 when the latching dog 22 is in the latched position and the sealing pin 28 is in the sealing position. This arrangement is possible since the operating lug or boss 40 projects laterally from the body portion of the latching dog 22 and overlies the wall extension 25 to about the same extent that the key shaped end 31 projects therebeyond.

As shown in Figure 3 a flexible sealing band 43 in the form of a ribbon is positioned through the rectangular apertures 41 and 42 and its ends are joined by a seal 44. Now it will be apparent that it is impossible to withdraw the sealing pin 28 without disturbing the seal 44 or breaking the sealing band 43. At once it will be obvious whether there has been unauthorized tampering with the latching dog 22.

What is claimed as new is:

For combination with a stationary wall and a member movable relatively thereto, a latching dog having a body portion pivotally mounted on said wall and arranged to swing in the path of said member to latch it against movement, said dog having an operating lug extending laterally from its body portion, and a sealing pin axially movable through said wall and said body portion to prevent swinging movement of said dog out of latching position, said sealing pin having a key shaped end arranged and adapted to extend beyond said body portion and lie in the path of swinging movement of said operating lug, said projecting key shaped end of said pin and said operating lug both having aligned apertures arranged and adapted to receive a flexible sealing element commonly therethrough.

References Cited in the file of this patent

UNITED STATES PATENTS

Number	Name	Date
618,936	Goehrs	Feb. 7, 1899
762,981	Booth	June 21, 1904
1,623,303	Burnett	Apr. 5, 1927
2,072,292	Campbell	Mar. 2, 1937
2,142,236	Campbell	Jan. 3, 1939