Jan. 20, 1970 J. S. LUNDVALL ET AL 3,490,388

FLOOR LATCH STRIP FOR RAILWAY CARS

Filed Nov. 25, 1966

FIG. 1

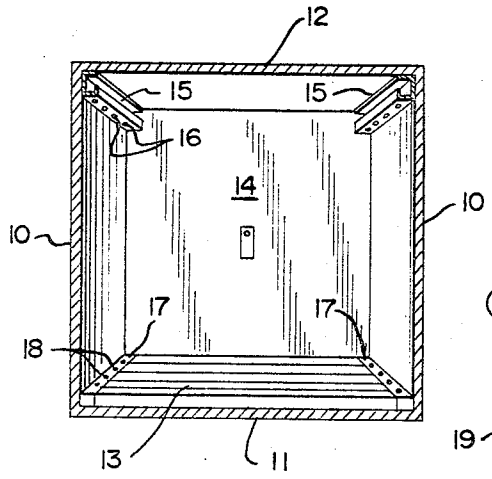


FIG. 2

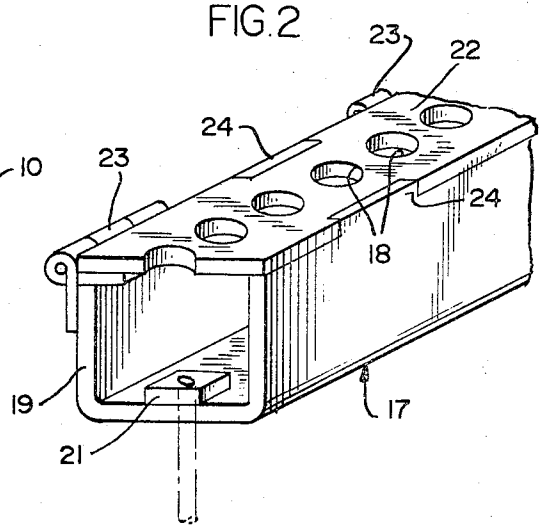


FIG. 3

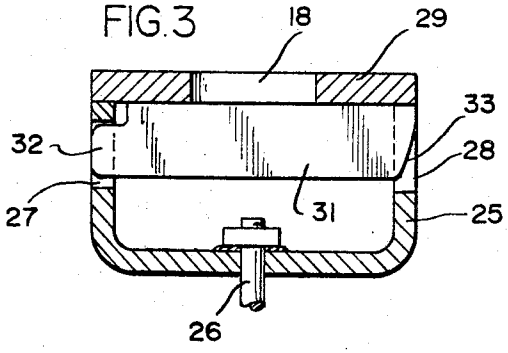
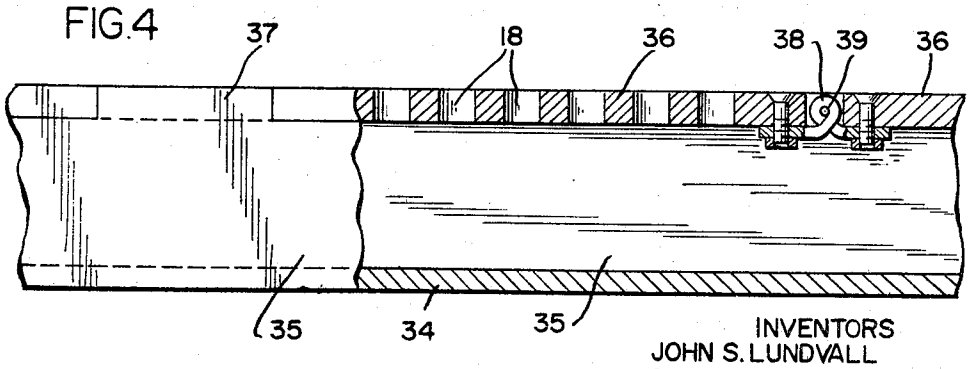


FIG. 4



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United States Patent Office 3,490,388 Patented Jan. 20, 1970

3,490,388

FLOOR LATCH STRIP FOR RAILWAY CARS

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Filed Nov. 25, 1966, Ser. No. 596,974
Int. Cl. B61d 17/10, 45/100 B65j 1/22
U.S. Cl. 105—422 2 Claims

ABSTRACT OF THE DISCLOSURE

A floor latch strip for freight-carrying cars is provided with features that permit it to be readily cleaned. The strip is constructed of an elongated upwardly-opening channel member and an elongated, apertured, movable cover strip that is adapted to receive therethrough latch pins of a lading separator and to permit waste to gravitate therethrough, and which is supported on the legs of the channel to overlie the leg-bounded, interior space of the channel. The strip is movable between an operative position and a channel-open position which permits ready cleaning of waste from the strip. When in the operative position there are interengaging elements that cooperate between the cover strip and channel legs to securely hold the cover strip against longitudinal movement. Two species of cooperating interengaging elements are disclosed.

This invention relates to a floor latch strip for railway cars, and more particularly to a sanitary latch strip which is easily cleanable.

It is common practice in the railway industry to provide lading separators in cars movable to different positions longitudinally thereof and which are latched in selected positions by latch pins extending from the upper and lower edges thereof. The latch pins are received in openings in upper latch strips near the roof of the car and in floor latch strips mounted in the floor of the car. The floor latch strips in such cars tend to collect dirt and foreign materials and as heretofore constructed have been almost impossible to clean. While this may not be serious in shipping many types of commodities, it does create serious sanitation problems in the shipping of food products of various kinds.

It is accordingly an object of the present invention to provide a floor latch strip for railway cars which is easily and completely cleanable.

Another object is to provide a floor latch strip including a movable top or cover strip which can be moved and provide ready access to the channel which is normally covered by the top strip so that the channel can be easily and completely cleaned.

According to a feature of the invention, the top strip and channel in the floor of the car are formed with interengaging parts to hold the top strip against movement longitudinally of the channel thereby to absorb stresses produced in the top strip by the latch pins during use of the car.

The above and other objects and features of the invention will be more readily apparent from the following description when read in connection with the accompanying drawing, in which:

FIGURE 1 is a partial transverse section, in perspective, of a railway car embodying the invention;

FIGURE 2 is a partial perspective view of a floor latch strip, according to the invention;

FIGURE 3 is a transverse section of an alternative floor latch strip construction; and

FIGURE 4 is a side view partly in elevation and partly in section of still another alternative floor latch strip embodying the invention.

As shown in FIGURE 1, a typical railway car may have spaced side walls **10**, a subfloor **11**, and a ceiling or roof **12**. The subfloor may carry flooring material shown as planks **13**, although it will be understood that various other types of flooring may be provided depending upon the use of the car and the desires of the manufacturer and customer.

The car carries a lading separator or door **14** which is of a width and height substantially to span the width and height of the car and which may be moved to different positions longitudinally thereof and latched in place. The door is supported from upper generally C shaped tracks **15** mounted in the car adjacent to the juncture of the side walls and the roof and which are provided in a lower horizontal surface thereof with a series of spaced latching openings **16** to receive latching pins carried by the door. Latching strips **17** are similarly mounted in the floor of the car adjacent to the junctures of the side walls and roof thereof and are formed with spaced latching openings **18** to receive latching pins projecting from the lower edge of the door. The parts as so far described, with the exception of the floor latch strips, are conventional and may take the form more particularly described and claimed in any of patents Nos. 3,005,419, 3,018,843 and 3,018,741.

According to the present invention, the floor latch strips **17** are so constructed that they may be easily and completely cleaned to maintain them in a sanitary condition. As best shown in FIGURE 2, the floor latch strips may be constructed of a channel-shaped strip **19** set into the floor of the car and with its upper edge substantially flush with the top of the flooring **13**. The strip **19** may be anchored in the car in any desired manner as by fastening **21**, securing the bottom web of the strip to the car subfloor.

The open top of the channel-shaped strip **19** is closed by a cover strip **22** in which the latching openings **18** are formed. The cover strip is hinged at one edge by means of hinges **23** to the upper edge of one of the webs of the strip **19**.

In order to hold the cover strip against longitudinal movement on the channel, the channel is formed at spaced points in its length with lug elements **24** projecting upwardly from the top edges of the channel flanges, and the cover strip is formed with complementary cutouts to fit over the lug elements. In this way, longitudinal stresses imposed on the cover strip by the latching pins during operation of the car may be absorbed without allowing any movement of the cover strip **22** lengthwise of the channel.

In use of the floor latch strip as described, the cover strip may be in its closed position as shown in FIGURE 2 and may, if desired, be retained in that position by fastenings such as screws or latch members. In this position the floor latch strip functions in the manner of a conventional floor latch strip with the latching openings **18** receiving the latch pins on the lading separator. However, since many of the latching openings are exposed at all times, it is possible for dirt and foreign material to fall therethrough and to collect in the channel.

To clean the latch strip at the end of a run or preparatory to making a run, the fastenings which hold the cover strip in place may be released and the cover strip may be swung back about the hinges **23** to leave the channel completely open at its top. In this condition, any dirt or foreign material collected in the channel may be swept therefrom or may be removed in any other desired manner. In this way the floor latch strip may be kept clean and in sanitary condition.

The embodiment of FIGURE 3 differs from that of FIGURE 2 in that the cover strip is completely removable therefrom. This embodiment comprises a channel **25** which may be secured to the subfloor of the car by fastenings such as **26**. One of the flanges of the channel **25** is formed at spaced points in its length with a series of openings **27** which are spaced below the top of the flange as shown. At the opposite side and registering longitudinally with the openings **27**, the channel is formed with open slots **28** which extend completely to the top thereof.

The channel is closed by a cover strip **29** in which the latching openings **18** are formed, as in FIGURE 2. To secure the cover strip to the channel, the cover strip carries at spaced points in its length and in registration with the spacing of the openings **27** and slots **28**, cross plates **31** which depend from the undersurface of the cover strip. Each of the plates **31** is cut away at one side adjacent to the cover strip to leave a projecting lug or nose **32**. At its other side, each cross plate extends the full width of the cover strip and preferably has its edge rounded, as indicated at **33**, to facilitate swinging of the cover strip to its open and closed position.

To mount the cover strip on the channels, it is tilted counter-clockwise from the position seen in FIGURE 3, until the lugs **32** can enter the openings **27** in the channel flange. When the cover strip is then tilted clockwise to the closed position shown, the lugs **32** will enter the openings **27** and the opposite edge of the cross plates **31** will slide into the slots **28**. Suitable fastenings such as screws or latches may be provided to hold the cover plate against accidental swinging up away from the channel.

With the cover plate in position as shown, the lugs **32** in cooperation with such other fastenings as may be provided, will hold the cover plate against accidental upward movement away from the channel. At the same time, the lugs **33** fitting into the openings **27** and the opposite edge of the cross plates fitting into the slots **28** will securely hold the cover strip against longitudinal movements relative to the channel. In this position the floor latch strip, as shown in FIGURE 3, may function in the same manner as a conventional floor latch strip.

To clean the floor latch strip, as shown in FIGURE 3, the screws, latches or other fastenings which may be provided are first released and the cover plate is then swung counter-clockwise as seen in FIGURE 3. With the cover plate swung up through a relatively small angle, it can then be shifted to the right, as seen in FIGURE 3, to remove the lugs **32** from the openings **27**. At this time the cover plate can be completely removed from the channel so that the channel is left open to be cleaned.

The embodiment shown in FIGURE 4 comprises a channel having a web **34** which may be secured to the subfloor of the car and side flanges **35** extending upwardly substantially to the level of the top of the flooring **13**. The channel is covered by one or more cover strips **36** which are formed with latching openings **18** therein to receive the lower latch pins on the lading separator or door **14**. The cover strips **36** are formed in their side edges with notches to receive upwardly projecting lugs **37** extending from the tops of the channel flanges in the same manner as the lugs **24** of FIGURE 2.

As shown, the cover strips **36** are hinged to the channel on axes extending transversely of the channel to be swung up longitudinally thereof. As seen in FIGURE 4, there are two cover strips **36** mounted substantially end to end and pivotally connected by hinges **38**. The hinged pivots as shown at **39** may extend completely across the channel and may be secured in the side flanges of the channel adjacent to the top thereof. Alternatively, the hinges could be connected only to the ends of adjacent cover strips **36** so that the cover strips could be completely removed from the channel if desired.

In this construction, when the cover strips are in place as shown, the floor strip functions in the same manner as a conventional floor strip with the latch pins on the bottom of the separator or door **14** being received in the latching openings **18** in the cover strip. The projecting lugs **37** fitting into the side notches in the cover strips will hold the cover strips against longitudinal movement so that the separator will be securely latched in place.

When it is desired to clean the channel, the cover strips may be swung upwardly about the hinge **38** or may be completely removed from the channel. In either case, the channel is left uncovered so that it can easily be cleaned.

While several embodiments of the invention have been shown and described in detail, it will be understood that these are illustrative only and are not to be taken as a definition of the scope of the invention, reference being had for this purpose to the appended claims.

What is claimed is:

1. A cleanable floor latch strip for use in an elongated freight-carrying car that includes a lading separator with latch pins extensible from its bottom for load-transmitting cooperation with the floor latch strip; said cleanable floor latch strip comprising, in combination, an elongated, upwardly-opening, channel-shaped member having the channel legs thereof extending upwardly and adapted to be set into the floor of the car, an elongated cover strip with apertures therein for receiving the latch pins of a lading separator and for permitting waste to gravitate therethrough, said cover strip being movably arranged relative to the channel-shaped member so that when the strip is in a first position arranged to receive latch pins it is supported on the upper edges of the channel legs and when the strip is in a second or open position it exposes the interior of the channel to permit sweeping of accumulated waste from the interior of the channel, and longitudinally spaced interengaging on the cover strip and the channel legs including spaced lug elements defined on the upper edges of the channel's legs and arranged for interfitting with spaced recesses in the longitudinal edges of the cover strip for preventing relative longitudinal movement of the cover strip when the cover strip is in the first position with latch pins interengaged therewith.

2. A cleanable floor latch strip for use in an elongated freight-carrying car that includes a lading separator with latch pins extensible from its bottom for load-transmitting cooperation with the floor latch strip; said cleanable floor latch strip comprising, in combination, an elongated, upwardly-opening, channel-shaped member having the channel legs thereof extending upwardly and adapted to be set into the floor of the car, an elongated cover strip with apertures therein for receiving the latch pins of a lading separator and for permitting waste to gravitate therethrough, said cover strip being movably arranged relative to the channel-shaped member so that when the strip is in a first position arranged to receive latch pins it is supported on the upper edges of the channel legs and when the strip is in a second or open position it exposes the interior of the channel to permit sweeping of accumulated waste from the interior of the channel, and longitudinally spaced interengaging parts on the cover strip and the channel legs for preventing relative longitudinal movement of the cover strip when the cover strip is in the first position with latch pins interengaged therewith, said interengaging parts including the channel being formed in one leg thereof with openings spaced below its upper edge and with the other channel leg formed with open-topped slots, and the cover strip carrying thereon first projections to fit into said openings and second projections to fit into said slots, so as to removably mount the cover strip on the channel-shaped member.

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U.S. Cl. X.R.

105—368, 369, 376