Jan. 6, 1953 J. S. LUNDVALL 2,624,419

DRAIN SPOUT FOR REFRIGERATOR CARS

Filed Sept. 8, 1949 2 SHEETS—SHEET 1

Fig. 1

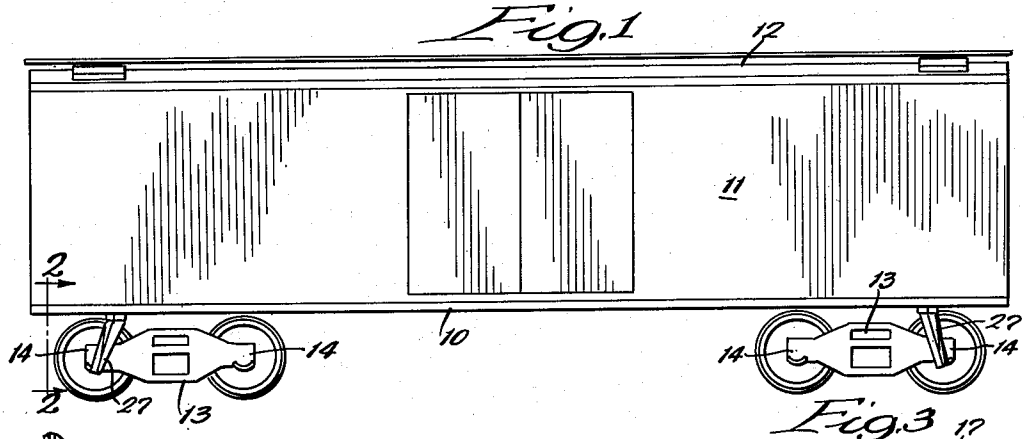


Fig. 2

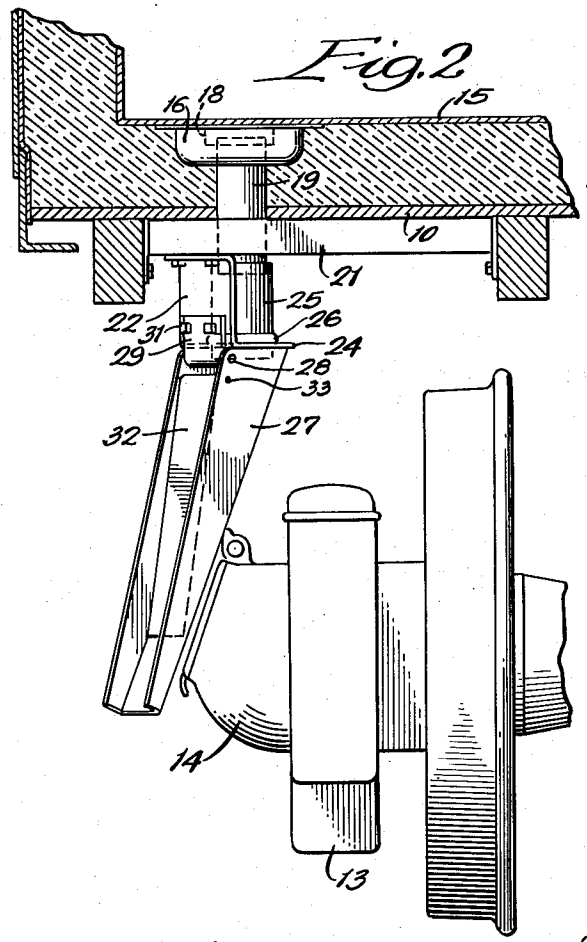


Fig. 3

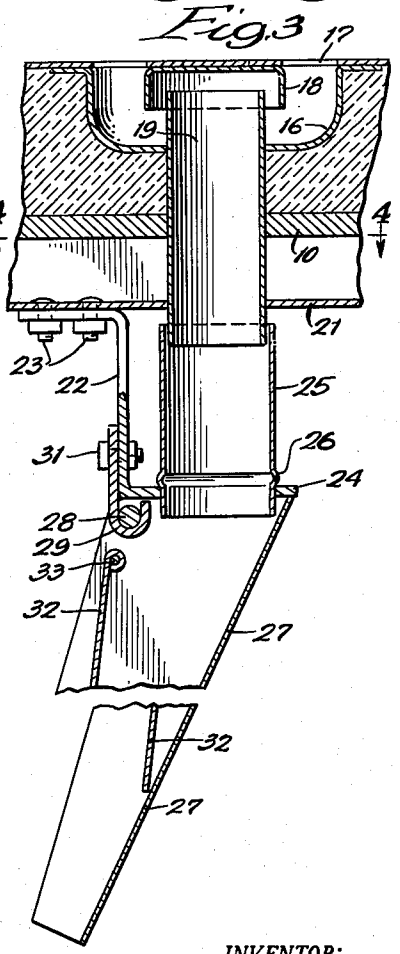


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Fig. 4

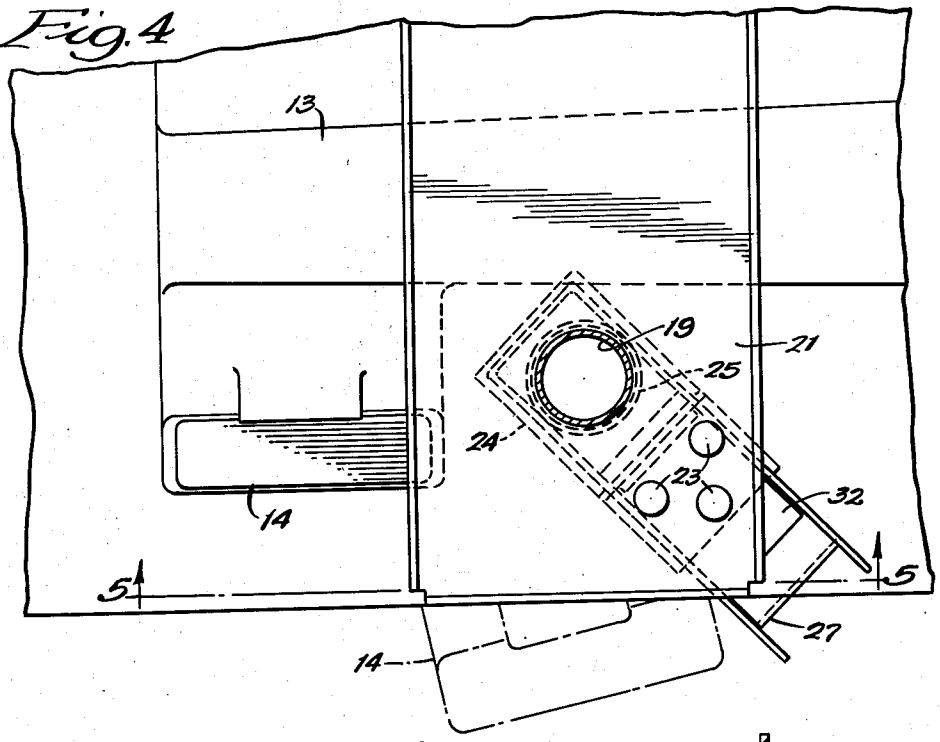
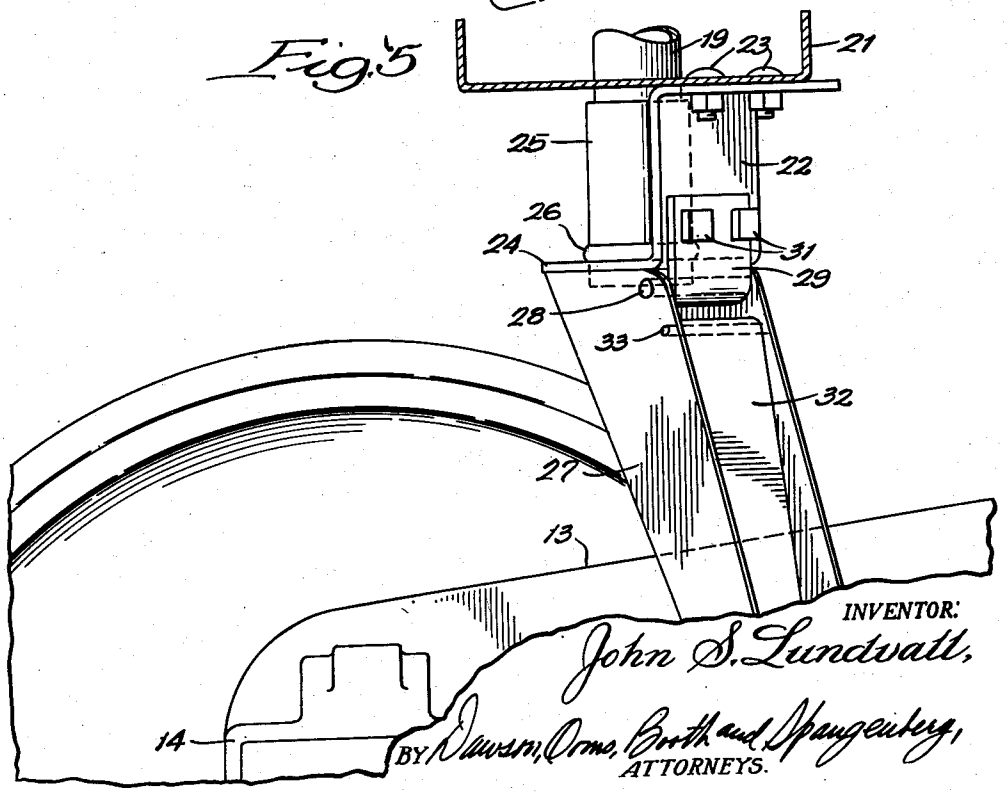



Fig. 5

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## DRAIN SPOUT FOR REFRIGERATOR CARS

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5 Claims. (Cl. 182—8)

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This invention relates to drain spouts for refrigerator cars and particularly to a spout structure adapted to be mounted on a refrigerator car to carry away the brine and melting ice therefrom.

In the operation of refrigerator cars the melting ice becomes mixed with salt or other chemicals used with the ice to form a brine which is highly corrosive. It has been the usual practice to conduct this brine from the car through traps beneath the ice compartments and through spouts projecting from the bottom of the car. Such spouts have heretofore been relatively short in order to provide adequate clearance for the journal boxes and other parts of the car trucks so that the brine is discharged a substantial distance above the ground. As a result the brine blows over the car trucks and other metal parts and causes considerable damage thereto.

It is one of the objects of the present invention to provide a drain spout which confines the brine until it reaches a point below the level of the journal boxes so that it will be discharged on the ground with minimum spraying or blowing over the trucks and adjacent car parts.

Another object is to provide a drain spout in which the parts are supported by a mounting bracket or adapter. By using brackets of different sizes and slightly different constructions, the same spouts can be used on cars of different types or heights thereby eliminating the necessity for a number of spouts of different designs.

Still another object is to provide a drain spout in which a drain pipe extension is provided to conduct the brine from the car drain pipe to the spout. Such drain pipe extensions can be of different sizes to accommodate inaccuracies in the locations of the car drain pipes and spouts.

A further object is to provide a drain spout which is readily removable and replaceable so that worn spouts can easily be repaired or replaced.

A still further object is to provide a drain spout in which a wind guard is provided to prevent brine from blowing out of the spout before reaching its discharge end.

The above and other objects and advantages of the invention will be more readily apparent when read in connection with the accompanying drawings, in which—

Figure 1 is a side elevation of a refrigerator car equipped with drain spouts embodying the invention;

Figure 2 is a partial enlarged section on the line 2—2 of Figure 1;

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Figure 3 is a partial section through the car trap and drain spout structure;

Figure 4 is a partial section on the line 4—4 of Figure 3; and

Figure 5 is a partial section on the line 5—5 of Figure 4.

The invention may be applied to any desired conventional type of refrigerator car, as shown in Figure 1, having a floor 10, side walls 11, and a roof 12, all of which may be of the usual insulated construction. In the interior of the car adjacent its opposite ends ice compartments or bunkers may be provided to contain ice for cooling the lading. The car is supported on conventional four wheel trucks, indicated generally at 13, each of which carries two pairs of wheels rotatably supported in journal boxes 14. The trucks are centrally pivoted to the ends of the car in the usual manner to turn thereon so that the car can negotiate curves.

As shown in Figures 2 and 3, the inner floor of the car, as indicated at 15, is provided adjacent the ends of the car with well traps to receive brine from the ice compartments. Each of the well traps includes a cup shaped stamping 16 mounted below openings 17 in the car floor through which the brine may flow. An inverted cup shaped trap member 18 is centrally mounted in the cup shaped member 16, and the upper end of the drain pipe 19 projects into the member 18. The drain pipe 19, as shown, extends through the floor 10 of the car and may extend through a cross supporting beam 21 beneath the car floor. The structure as so far described is standard conventional practice in refrigerator cars.

The present invention provides a drain spout structure for conducting brine from the car to a point below the journal boxes 14 so that the brine will discharge on to the ground and will not blow or spray over the truck parts and adjacent metal parts of the car. As shown, the spout structure comprises a mounting bracket or adapter 22 secured to the floor of the car or, as shown, to the cross beam 21 by bolts 23 or like fastenings. The bracket 22 is generally Z-shaped so that it extends downward and then horizontally, as indicated at 24, beneath the drain pipe 19. The horizontal portion 24 is provided with a circular opening loosely to receive a drain pipe extension 25 which is preferably of somewhat larger diameter than the drain pipe 19. To hold the extension 25 in place it is provided with an enlarged annular shoulder 26 resting on the bracket portion 24 and with its upper end loosely surrounding the lower end of the drain pipe 19.

With this construction perfect alignment of the bracket 22 and the drain pipe 19 is not required since the extension 25 can tilt to accommodate misalignment. Furthermore, it will be seen that slightly different sizes or shapes of brackets and drain pipe extensions can be provided on cars of different types so that the lower end of the bracket and drain pipe extension will terminate at the same position relative to the car truck parts in all installations.

The bracket carries an elongated channel shaped drain spout 27 which tapers in depth from its upper to its lower end, as best seen in Figure 2, and which may be of constant or tapering width, as desired. The spout 27 is supported pivotally on the bracket 22 by providing a pivot pin 28 carried by the upper end of the spout near its open edge and which is received in a hooked support 29 connected to the bracket by detachable fastenings such as bolts 31. The upper end of the spout is cut off at an angle to its length so that when mounted the spout will extend downwardly from the bracket at an acute angle to the vertical. The brackets are preferably so located that the several spouts will extend outwardly and downward toward the adjacent ends of the car, as best seen in Figure 1.

With the spout mounted as shown it can easily be removed for replacement in the event it becomes damaged. Also due to the positioning of the spout, as seen in Figure 5, it will clear the car journal boxes and other parts of the truck even when turned to the extreme angular position indicated in dotted lines. Furthermore, due to the pivoting of the spout even if it should be engaged by some part of the car truck it can swing outward so that it will not be damaged.

In order to prevent wind from blowing the brine out of the spout or back up the spout and out its top a wind guard plate 32 is provided in each of the spouts. As shown, the wind guard comprises an elongated metal strip of substantially the same width as the spout and pivoted at 33 on an axis adjacent the top open edge of the spout. The plate 32 normally hangs down in the spout as shown so that brine discharging into the spout behind the plate will be protected from the action of the wind until it reaches the lower end of the spout. Due to the pivoting of the plate the brine can discharge behind it, although wind will be prevented from sweeping into the spout to carry the brine out at its upper end. It will be noted, as seen in Figures 1 and 2, that the spouts extend to a point approximately level with the bottoms of the journal boxes so that the brine will be discharged adjacent the ground and blowing and spraying over the trucks and adjacent car parts will be minimized.

While one embodiment of the invention has been shown and described in detail herein, it will be understood that this is illustrative only and is 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 drain spout for a refrigerator car having a drain pipe extending through the bottom of the car comprising a bracket adapted to be connected to the bottom of the car, a drain pipe extension carried by the bracket in register with the drain pipe, a spout in the form of an open channel extending downward at an acute angle to the vertical from the bracket with its upper end underlying the lower end of the drain pipe extension, and a wind guard plate pivoted in the channel adjacent its upper end and extending lengthwise of the channel.



2. A drain spout for a refrigerator car having a drain pipe extending through its bottom comprising a bracket adapted to be mounted on the car bottom and having a horizontal portion formed with an opening lying beneath the drain pipe, a drain pipe extension fitting vertically in the opening and having an enlarged shoulder engaging the horizontal bracket portion to support the drain pipe extension, and a drain spout carried by the bracket with its upper end underlying the drain pipe extension.

3. A drain spout for a refrigerator car having a drain pipe extending through its bottom comprising a bracket adapted to be mounted on the car bottom and having a horizontal portion formed with an opening lying beneath the drain pipe, a drain pipe extension fitting vertically in the opening and having an enlarged shoulder engaging the horizontal bracket portion to support the drain pipe extension, and a channel shaped spout pivoted on the bracket adjacent the open side of the channel with its upper end underlying the drain pipe extension.

4. A drain spout for a refrigerator car having a drain pipe extending through its bottom comprising a bracket adapted to be mounted on the car bottom and having a horizontal portion formed with an opening lying beneath the drain pipe, a drain pipe extension fitting vertically in the opening and having an enlarged portion to support the drain pipe extension, a channel shaped spout carried by the bracket and extending downward therefrom at an acute angle to the vertical with its upper end underlying the drain pipe extension, and a wind guard plate pivoted in the channel adjacent its upper end and extending lengthwise thereof.

5. A drain spout for a refrigerator car having a drain pipe extending through its bottom comprising a bracket adapted to be mounted on the car bottom adjacent the drain pipe, a channel shaped spout carried by the bracket extending downward at an acute angle to the vertical with its upper end vertically underlying the drain pipe, and a wind guard plate pivoted in the channel adjacent the upper open side thereof and extending downward in the channel.

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