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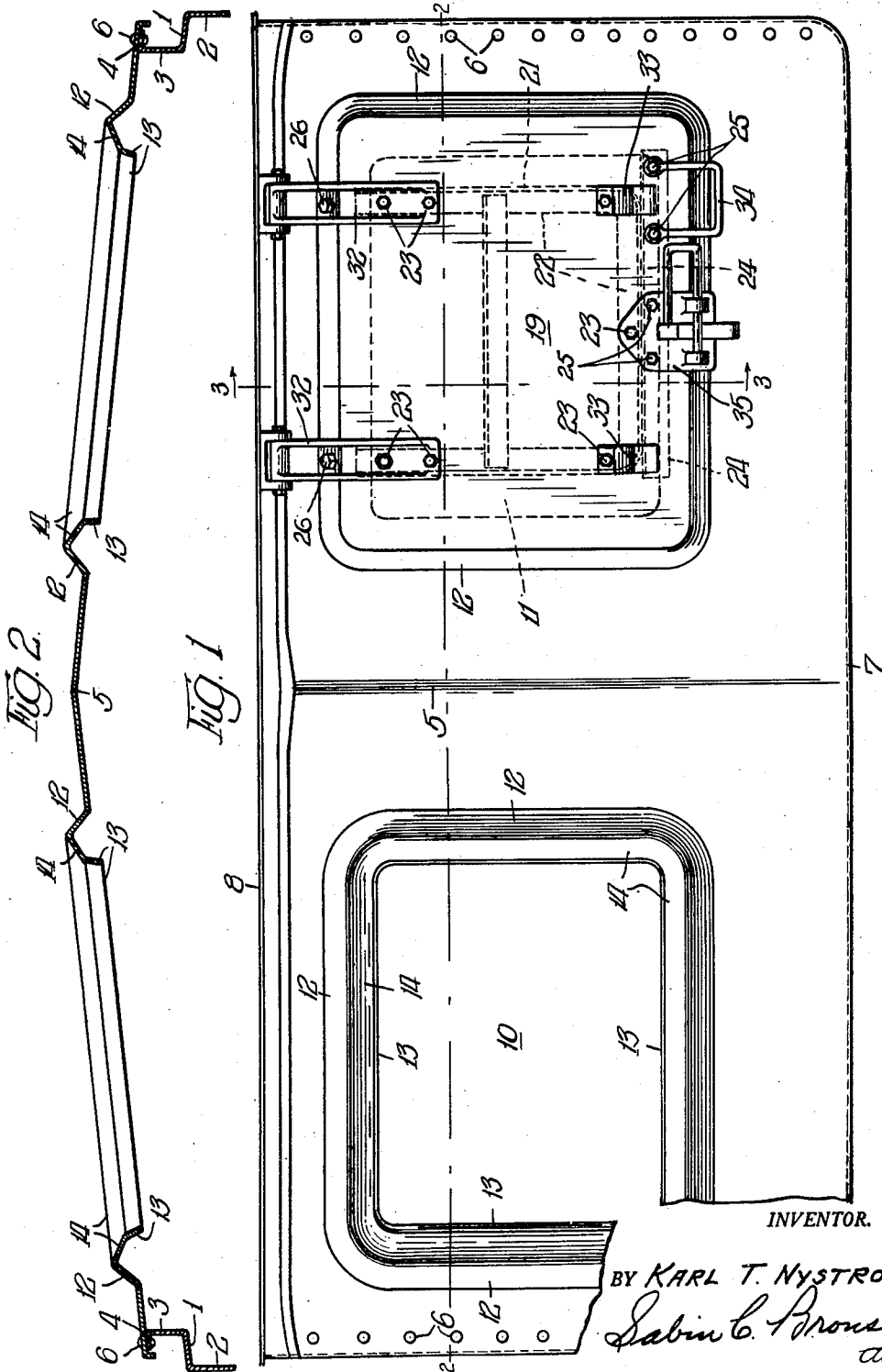
K. T. NYSTROM

2,607,302

HATCH PLUG

Original Filed Oct. 26, 1949

2 SHEETS—SHEET 1



INVENTOR.

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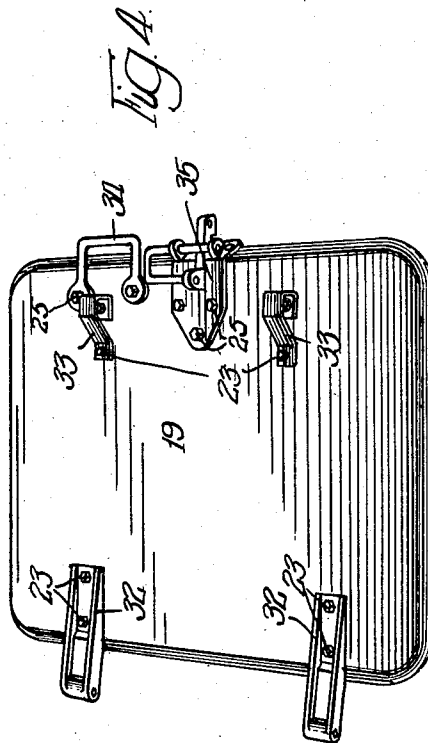
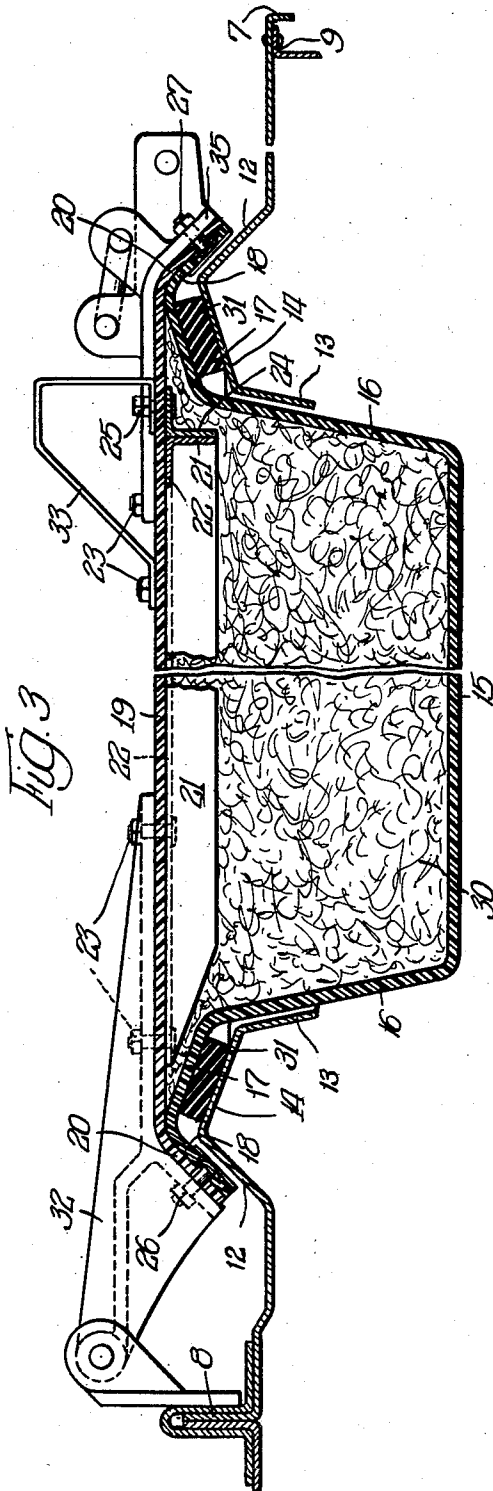
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UNITED STATES PATENT OFFICE

2,607,302

HATCH PLUG

Karl T. Nystrom, Chicago, Ill., assignor to Standard Railway Equipment Manufacturing Company, Chicago, Ill., a corporation of Delaware

Original application October 26, 1949, Serial No. 123,758, now Patent No. 2,565,706, dated August 28, 1951. Divided and this application May 2, 1951, Serial No. 224,241

6 Claims. (Cl. 105-377)

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This invention relates to railway refrigerator cars wherein a plurality of hatchways are provided for servicing the car bunkers with ice or other form of refrigerant. More particularly the invention relates to an improved form of hatch plug for closing said hatchways.

The ordinary hatch plugs for use with such refrigerator car hatchways are usually composed of spaced inner and outer pan shaped metal portions with insulation therebetween and weigh, for an average sized opening, approximately one hundred and thirty-five pounds. This is considerable weight for one man to handle when lifting the plugs, and, consequently, it is desired that these plugs be made as light weight as possible. A hatch plug made in accordance with my hereinafter described design is roughly one hundred pounds lighter than the standard hatch plug now in use and saves an appreciable amount in the total weight of the finished car, and comprises the principal object of the present invention.

The subject matter of this application is divided out of copending application Serial No. 123,758, filed October 26, 1949, of which application I was originally an applicant, now Patent No. 2,565,706, dated August 28, 1951.

Other objects and advantages of the invention will appear in the following description thereof.

Referring now to the accompanying drawing forming part of this application and wherein like reference characters indicate like parts:

Fig. 1 is a plan view of the improved roof sheet having the hatch frames integrally formed therein and with a light weight plug applied to one of said hatch frames.

Fig. 2 is a section on line 2-2, Fig. 1, omitting the hatch plugs.

Fig. 3 is an enlarged section on line 3-3, Fig. 1.

Fig. 4 is a perspective view of one of the improved hatch plugs.

The invention is shown as embodied in a car having metal side plates of substantially Z-shaped cross section, which extend from end to end of the car and have a portion 1 disposed substantially horizontally to rest upon and be secured to the tops of longitudinally spaced vertical side posts (not shown) of the car. From the outer edges of said portion 1 depends a flange 2 which overlaps the upper outer edge of said posts, and at the inner edge of said portion 1 an upstanding flange 3 is provided, it having a laterally turned refflange 4 extending in the plane of the roof of the car.

The invention has to do with those sheets of a

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railway car roof wherein hatch frames are located, and consequently these particular sheets of a railway car roof only will be described.

These hatch roof sheets span the car from side plate to side plate, and conform to the general shape of the car roof having a ridge portion 5 transversely thereof conforming to the ridge of the roof, and the roof sheet slopes downwardly on opposite sides of said ridge portion 5 to the side plates, and the ends thereof rest upon and are secured to the lateral flange 4 of said side plate by a row of rivets 6. The side of the hatch sheet adjacent the end of the car is formed with a down turned flange 7 which is adapted to overlap and be secured to the upper margin 9 of the end wall and be secured thereto, as is common, and the other side of said sheet is formed with an upstanding flange 8 adapted to abut a similar flange of an adjacent sheet and be covered with a seam cap, securing said flanges and caps together, all as is common in the art.

The hatch frames are integrally formed in the roof sheet and are in the form of an upstanding boss having downwardly and outwardly sloping outside walls 12 and downwardly and inwardly sloping inside walls 13 spaced from the outside walls, said inside and outside walls being connected by a shoulder or web 14 which slopes outwardly and upwardly and forms a seat for the hereinafter described cover or plug for said hatch opening.

The hatch plug shown for use with said hatch frames comprises a pan shaped bottom member 15 having rounded corners and outwardly diverging side walls 16 with outturned marginal flanges 17 which terminate into downturned reflanges 18. The top member of the plug comprises a sheet having a flat body portion 19 spanning across the bottom member between the outer edges of flanges 17, and the outer flanged margin 20 of said portion 19 is turned down over and rests flatly against refflange 18 and is bonded thereto. These two members are formed of plastic material which is very durable and is not affected by salt, acid, alkali, soot, cinders, or atmospheric temperatures. A metallic stiffening angle 21 is provided on the under surface of the body portion 19 of the top member, said angle 21 being of U or horse-shoe shape so as to extend around and reinforce the margins of three sides of said portion 19 and one flange 22 of said angle 21 being disposed flatwise against the inner surface of the top member 19. Spaced registering holes are provided through said flange 22 and the adjacent body portion 19, through which extend

bolts 23, the heads of said bolts being welded to said flange with the shank of said bolt projecting through the body portion for application of fixtures thereto. A straight reinforcing angle 24 is also provided across the base of said angle 21 with one flange thereof disposed flatwise against the inner surface of said body portion and is provided with bolts 25 extending through said angle 24 and the body 19 of said top member, similar to bolts 23. Extending through flanges 18 and 20 in opposite sides of the plug are also provided bolts 26 and 27 also for application of fixtures for securing the plug to the hatch frame and adjacent car roof. The space between the bottom 15 and top 19 members of the plug is filled with a suitable insulating material, indicated at 30, and a gasket 31 is bonded to the under side of flange 17 to seat upon flange 14 of the hatch frame.

Ordinary hatch plug hinges 32 are secured along one side of the plug to hingedly secure the plug to the roof, the strap portion of said hinges occurring directly over the ends of flanges 22 and being secured thereto by certain of bolts 23, as shown in Figs. 1 and 4. Along the opposite side of the plug are secured the stops 33, handle 34, and lock 35, each being positioned over the reinforcing angles 21 or 24 and secured thereto by other bolts 23, also as shown in Figs. 1 and 4.

With the exception of the fixtures, the entire hatch plug is constructed of light weight, strong, durable, plastic material which reduces the weight of such a plug to approximately one-third that of the conventional plug constructed of steel, without sacrificing any utility thereof.

I claim:

1. A hatch plug for a railway car roof, said plug consisting only of a plastic cover portion having an outstanding rim flange at the top thereof, metallic members secured to the under surface of the cover portion to reinforce said cover and form a base for securing hinge and cover fixtures along opposite sides of said cover portion, a plastic pan-shaped bottom portion having corresponding rim flanges registering with and sealed to the rim flanges of the cover portion, and insulation material filling the space between said cover and bottom portion.

2. A hatch plug for a railway car roof, a plastic pan shaped body portion having an outwardly extending rim flange at the top only thereof, insulating material within said body portion, a plastic cover member for said body portion having

a peripheral margin sealed to said rim flange, and metallic members secured to the under surface of said cover member to reinforce said cover member and form a base for securing hinge and cover fixtures thereto.

3. A hatch plug for a railway car roof, a plastic pan shaped body portion having an outwardly extending rim flange at the top only thereof, insulating material within said body portion, a plastic cover member having a peripheral margin conforming to the shape of said rim flange and sealed thereto, and metallic members secured to the under surface of said cover member and extending about the margins thereof to reinforce said cover member and form a base for securing hinge and cover fixtures along opposite sides of said cover member.

4. A hatch plug for a railway car roof, a plastic pan shaped body portion having an outwardly extending rim flange at the top only thereof, a sealing gasket secured to the under surface of said rim flange entirely about said plug, insulating material within said body portion, a plastic cover member for said body portion having a peripheral margin sealed to said rim flange, and metallic members secured to the under surface of said cover member to reinforce said cover member and form a base for securing hinge and cover fixtures thereto.

5. A hatch plug for a railway car roof, said plug consisting of a plastic pan shaped body portion having sides and bottom and insulating material within said body portion, a plastic cover member for said body portion having a marginal rim flange sealed to the upper edges of said sides, and metallic members secured to the under surface of said cover member to reinforce said cover member and form a base for securing hinge and cover fixtures thereto.

6. A hatch plug for a railway car roof, said plug consisting of a plastic pan shaped body portion having an outstanding rim flange at the top only thereof, insulating material within said body portion, a plastic cover member for said body portion sealed about its edges to said rim flange, and metallic members secured to the under surface of said cover member to reinforce said cover member and form a base for securing hinge and cover fixtures thereto.

KARL T. NYSTROM.

No references cited.