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Scdoris

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[54] **HOOK FOR OPENING BOXCAR DOORS**

[76] Inventor: **Perry W. Scdoris,** 11115 S.E. Stark St., Portland, Oreg. 97201

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[51] **Int. Cl.** **A44b 21/00**

[58] **Field of Search** ..... 248/361 A; 105/369 A, 282 R, 286, 306; 24/68 R, 68 CT, 68 CD, 73 CE, 73 CS, 73 HH, 230.5, 230.5 BH, 230.5 R

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Primary Examiner—Donald A. Griffin
Attorney—Eugene M. Eckelman

[57] **ABSTRACT**

A hook designed for engagement with a side edge of a boxcar door to provide means establishing a pulling connection for the door. The hook includes a body member reversely turned at one end for engaging the edge of the door. The other end of the body member has an outturned tongue portion having a slot extending partially into the body member. The slot is arranged to receive a chain for connection to a pulling member such as a lift truck for opening and closing the boxcar door.

3 Claims, 5 Drawing Figures

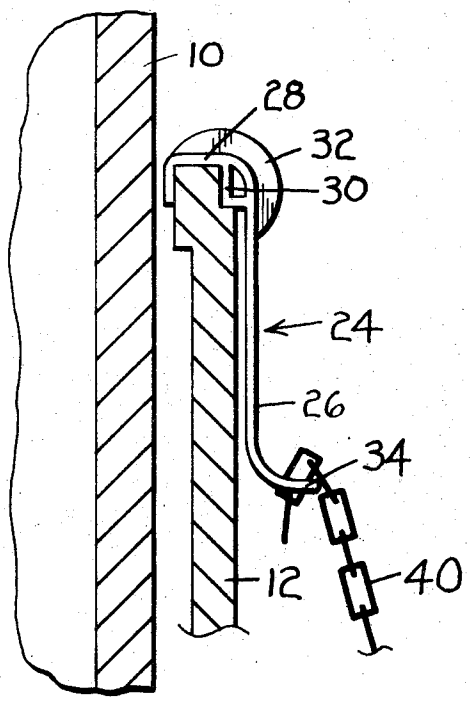


FIG. 1

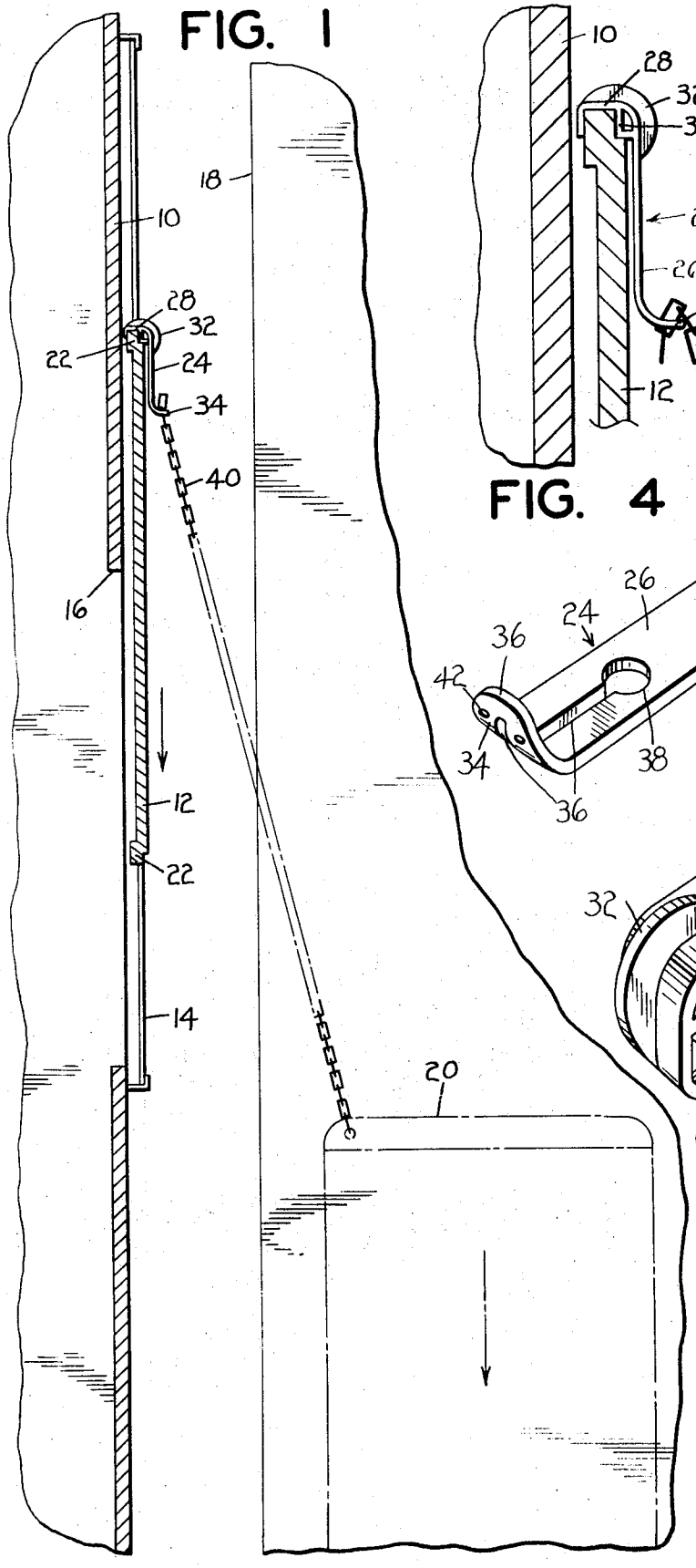


FIG. 4

FIG. 5

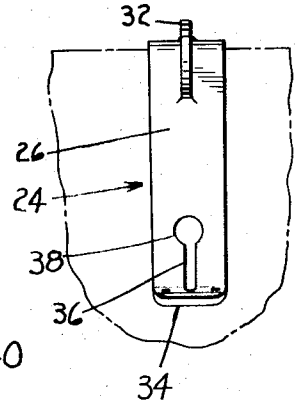
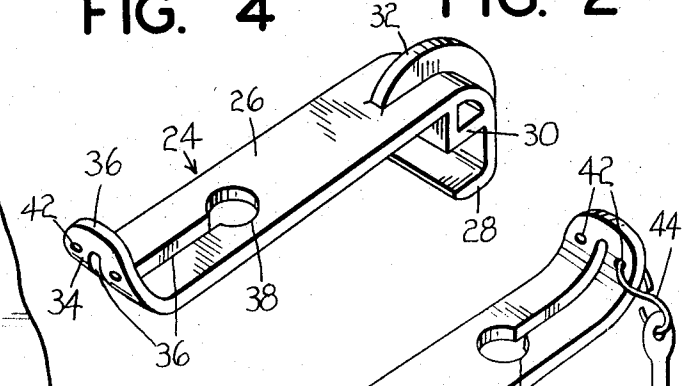


FIG. 2



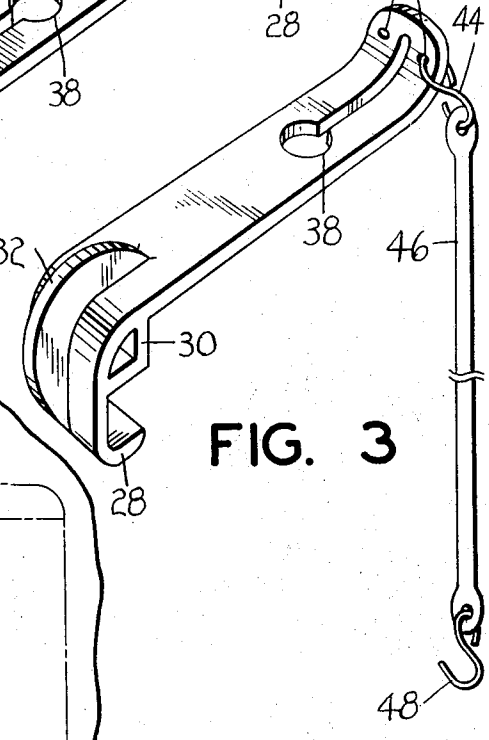


FIG. 3

HOOK FOR OPENING BOXCAR DOORS

BACKGROUND OF THE INVENTION

This invention relates to a new and novel hook for opening boxcar doors.

Presently used boxcar doors are constructed of heavy gauge metal and have longitudinal sliding engagement on a track supported on the boxcar. Frequently, these doors are accidentally damaged by lift trucks or other means and are very difficult to open. In present practice, when the doors are stuck, they must be pried open manually. Such practice consumes valuable work time.

SUMMARY OF THE INVENTION

According to the present invention and forming a primary objective thereof, a hook is provided which is arranged for engagement with a side edge of a boxcar door and which has means for connection to a pulling line from a lift truck or the like which operates on the ground or an adjoining platform.

A more particular object is to provide a hook of the type described having a plate-like body with a reversely turned end which forms the hook portion, the body of the hook also having an outwardly turned tongue portion at its other end to which the pulling line is arranged to be connected.

Another object is to provide a hook of the type described having an outwardly turned tongue for connection to a pulling line, the tongue having a slot therein which extends partly into a body portion of the hook and arranged for receiving the line over either the front or back side of the tongue depending upon the leverage to be imparted to the door from the pulling line.

The invention will be better understood and additional objects and advantages will become apparent from the following description taken in connection with the accompanying drawings which illustrate a preferred form of the device.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a fragmentary plan view of a boxcar and loading dock, partly in section, and showing the present hook engaged with a boxcar door and operating with a pulling vehicle for moving a boxcar door on its track;

FIG. 2 is a perspective view of the present hook taken from one end thereof;

FIG. 3 is also a perspective view of the hook but taken from the other end thereof;

FIG. 4 is a fragmentary sectional view showing engagement of the hook with the boxcar door and also showing a modified manner of engagement of the hook by a pulling line; and

FIG. 5 is an elevational view of the present hook.

DETAILED DESCRIPTION OF A PREFERRED EMBODIMENT

Referring first to FIG. 1, the numeral 10 designates a boxcar of conventional construction. Such a boxcar has a side door 12 operating longitudinally on a track 14 extending along the side of the boxcar door for supporting the door 12 in open and closed positions relative to an opening 16. The numeral 18 represents a platform on which a lift truck 20 may operate, although as to be understood in connection with the present invention, a lift truck 20 or other loading vehicle may operate directly on the ground adjacent to the boxcar rather than on a loading platform 18.

Boxcar doors presently employed have a solid body portion provided with inwardly offset edge portions 22 which provide for reinforcement of the door.

The present hook is designated generally by the numeral 24 and is best seen in FIGS. 2, 3 and 5. This hook has a plate-like body portion 26 with a reversely turned end 28 which forms the hook portion thereof for engaging an edge portion of the boxcar door. Enclosed within the reversely turned portion 28 is a box-like filler or projection 30 forming a contour of the hook which corresponds to the contour of the edge of the door to provide a contoured fitting of the hook with the offset portion 22, FIGS. 1 and 4. The box-like filler 30 also provides reinforcement for the hook end. In addition, reinforcement of the hook end is provided by a rib 32 which extends around the exterior of the hook portion 28.

The opposite end of the body member 26 from the hook end has a curved tongue 34 turned outwardly in a direction opposite from the turned direction of the hook portion 28. Tongue 34 has a rounded end and also has a longitudinally extending slot 36 which extends partly into the body portion 26 and terminates in an enlarged opening 38. The slot 36 terminates short of the outer end of the tongue 34 and is arranged to receive a chain 40, FIGS. 1 and 4, by first inserting the end of the chain through the enlarged opening 38 and then moving the chain into the slot with a link thereof extending parallel with the slot, whereby an adjacent link will be crosswise of the slot and provide a connection with the hook.

In the use of the present hook, it is connected to one end of a chain as just described and the hook portion 28 engaged over the edge of a boxcar door 12. The other end of the chain is attached to a pulling vehicle 20 which can be operated to pull the boxcar door open or closed. FIG. 1 shows the pulling vehicle operating in a direction to close the boxcar door and it is obvious that the vehicle could operate in the other direction with the hook applied to the other edge of the door for opening the door.

The outwardly turned tongue portion 34 of the hook can serve as a lever in combination with the chain 40 for applying a twisting force to the door in order to pry out slightly a bent portion of the door which may have been pushed up against the side of the boxcar so that the latter will open more easily. In this regard, reference is first made to FIG. 1 wherein the chain leads into the slot 36 at the convex side of the tongue 34. It is apparent that upon a pull being applied to the chain as thusly connected to the hook, a leverage will be applied to the door which acts to buckle the door outward. Thus, if a portion of the door inward from the end is bent toward the boxcar, the chain 40 is connected to the hook as just mentioned so that the hook will tend to buckle the door outwardly to provide a free running operation of the door. On the other hand, if the edge portion of the door is bent inwardly or the door is buckled outwardly the chain would be connected to the hook 24 in the manner shown in FIG. 4, namely, it would be inserted into the slot at the concave side of the tongue portion 34. When there is a pull on the chain 40 as thus connected, it is apparent that the leverage applied will cause the door to buckle inwardly and bring out the edge of the door to allow the door to have free running engagement on its track.

Tongue portion **34** has a pair of apertures **42** on opposite sides of the slot **36,** and these apertures are adapted to receive a hook **44** attached to one end of an elastic shock cord **46** having a hook **48** on its opposite end. The purpose of the elastic cord **46** is to hold the hook **24** in place until the time that the slack in line **40** is taken up by the vehicle **20.** For this purpose, the shock cord **46** may be connected to any projection on the boxcar door such as hooks, handles or the like.

It is to be understood that the forms of my invention herein shown and described are to be taken as preferred examples of the same and that various changes in the shape, size and arrangement of parts may be resorted to without departing from the spirit of my invention or the scope of the subjoined claims.

Having thus described my invention, I claim:

1. A hook for opening boxcar doors comprising

a. a body,

b. a hook portion on one end of said body arranged for engagement with an edge of a boxcar door,

c. a curved portion on the other end of said body extending outwardly in a direction opposite from the hook portion,

d. means defining a slot extending longitudinally through a portion of said outwardly curved portion and into said body portion,

e. and a pull line arranged for removable attachment in said slot from either side of said body,

f. said pull line, when attached in said slot from one side of said body and when a pulling force is exerted thereto in a direction to open the boxcar door, being arranged to cause the hook portion to apply a twisting leverage in one direction to the edge of the door and when attached in said slot from the other side of said body being arranged to cause said hook portion to apply a twisting leverage in the other direction to the edge of the door.

2. The hook of claim **1** wherein said hook portion has a right angle projection therein making the inner area of said hook portion correspond to the contour of a boxcar door edge, and a reinforcing rib extending exteriorly over said hook for reinforcing the latter.

3. The hook of claim **1** including an elastic connecting line having one end connected to the curved end portion of said hook, and means on the other end of said elastic connecting line arranged to connect the line to a projection on the boxcar door for holding the hook in place on the door.

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