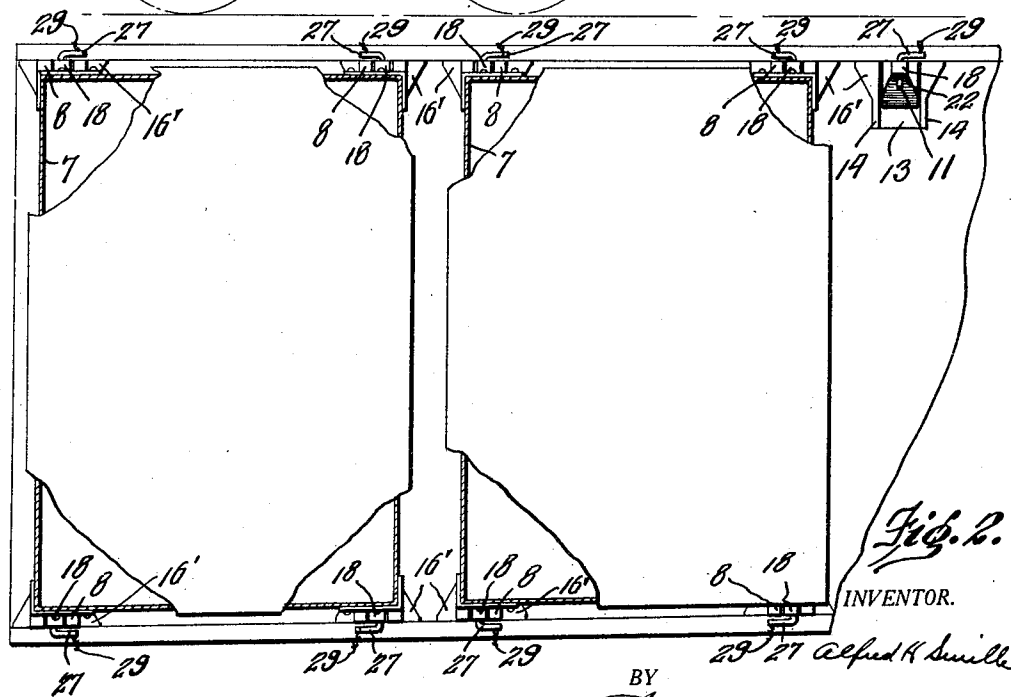
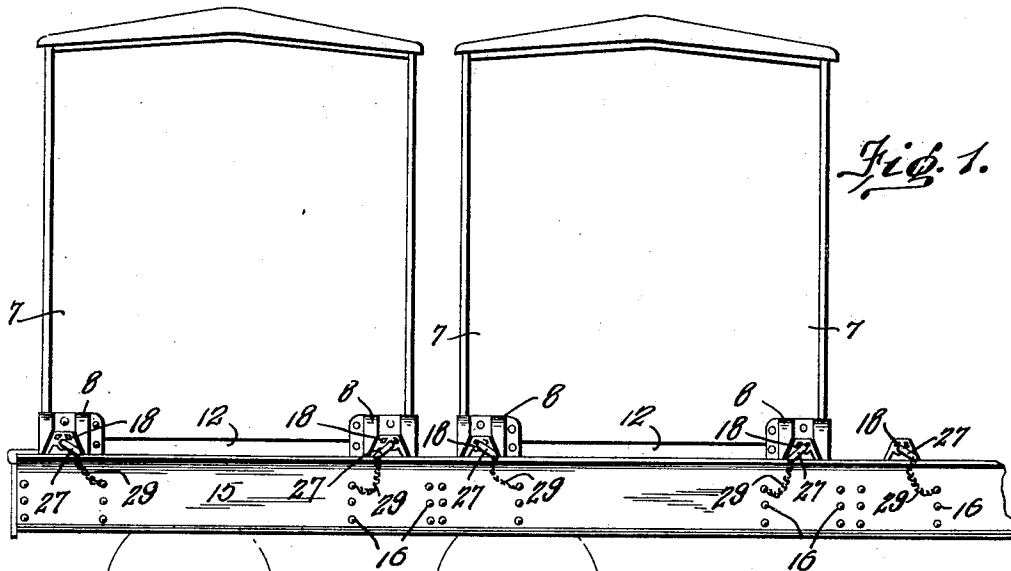


A. H. SMITH.
INTERCHANGEABLE CAR UNIT.
APPLICATION FILED NOV. 5, 1920.

1,408,413.

Patented Feb. 28, 1922.
3 SHEETS—SHEET 1.



INVENTOR.

BY

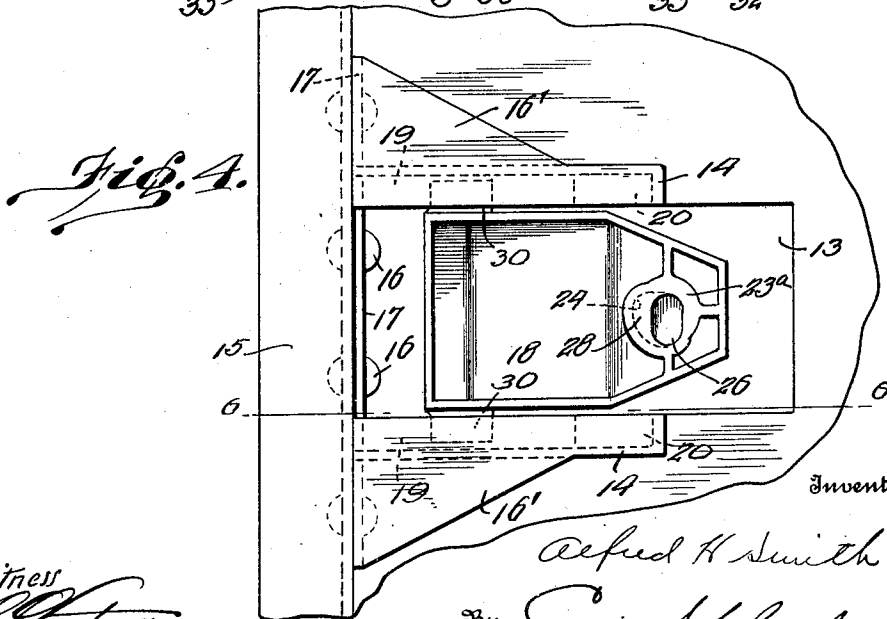
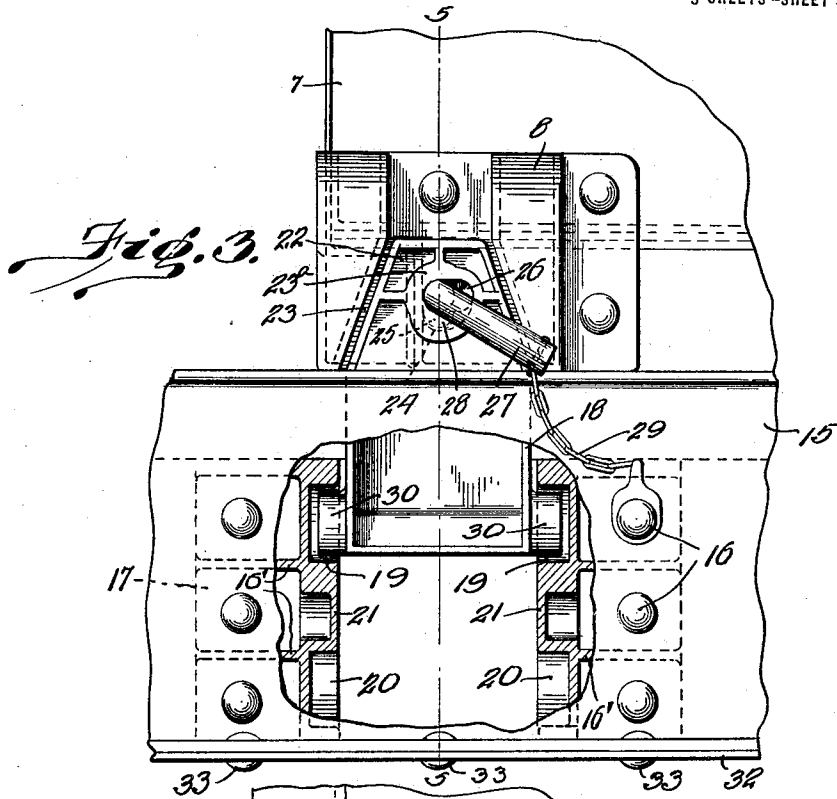
Alfred H. Smith
ATTORNEY.

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Inventor

A. H. Smith

By Edwin S. Clarkson
 Attorney

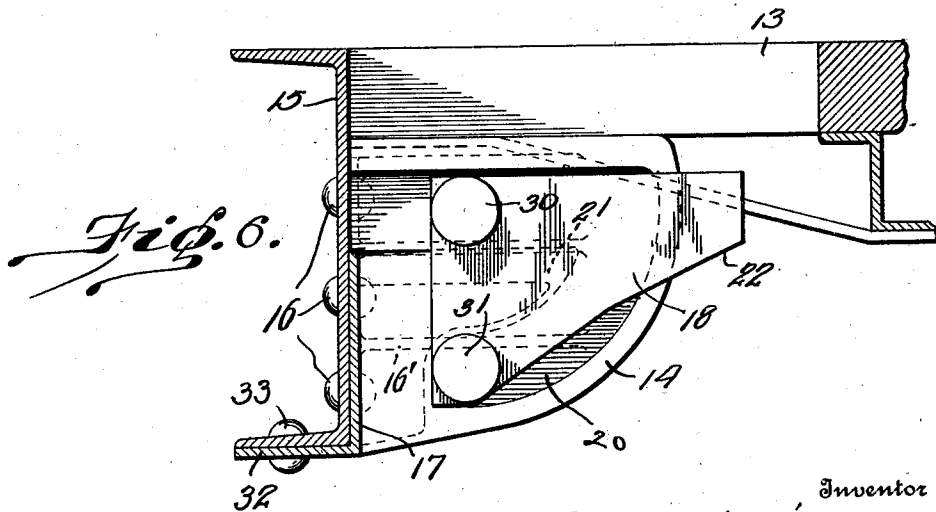
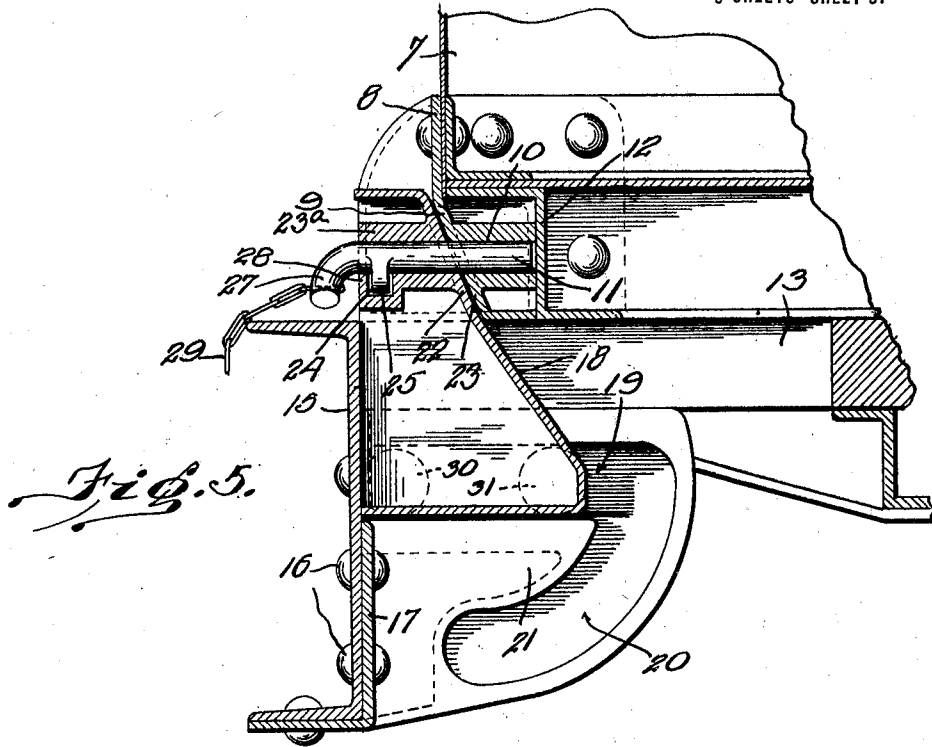
Witness
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3 SHEETS—SHEET 3.



Witness
[Signature]

Inventor
 Alfred H. Smith
 By *[Signature]* Edwin S. Clarkson
 Attorney

UNITED STATES PATENT OFFICE.

ALFRED H. SMITH, OF NEW YORK, N. Y.

INTERCHANGEABLE CAR UNIT.

1,408,413.

Specification of Letters Patent. Patented Feb. 28, 1922.

Application filed November 5, 1920. Serial No. 422,081.

To all whom it may concern:

Be it known that I, ALFRED H. SMITH, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Interchangeable Car Units, of which the following is a description.

In handling freight and the like by railroads it has been found that the way billing expense incident to less than car load lots is about eighty per cent of the total way billing, therefore efforts are being made to eliminate the expense of way billing of less than car load lots. It has also been found that the majority of losses by reason of theft, etc., is in connection with less than car load lots, therefore means have been provided whereby the goods to be shipped may be packed in containers by the shipper at his factory or store, sealed by him and delivered to the railroad who places its seal on the container and loads the container on a car and delivers the sealed container to the place of business of the consignee by truck and the consignee empties the container and returns it to the railroad.

After the container is loaded on the car, truck, barge and the like, means must be provided to securely anchor it on the car, truck, barge or the like to hold it against shifting or accidentally moving off of the car, and it is the purpose of my invention to provide such an anchoring means.

A further object of my invention is to provide an anchoring means which is adapted to be utilized with any standard car whereby cars now in use may be utilized in shipping goods by the new system; my invention may also be used with a car of special design because it is universal in its application to cars, trucks, barges and the like; and with these and other objects in view my invention consists in certain novel features of construction and arrangement of parts hereinafter more fully specified and claimed.

In the drawings:

Figure 1 is a side elevation of the end portion of a car and the containers mounted thereon.

Figure 2 is a top plan view of the same.

Figure 3 is an enlarged detail side elevation of a portion of a car with the container thereon, a portion of the car being broken away.

Figure 4 is an enlarged detail plan view of

a car showing the locking or anchoring stake or post in its lowered or non-functioning position.

Figure 5 is a vertical sectional detail view on the line 5—5 Figure 3, the bolt being in elevation.

Figure 6 is a vertical transverse sectional view on the line 6—6 Figure 4 with the trunnion in elevation.

The reference numeral 7 designates a container of approved construction adapted to receive less than car load lots of freight and the like, said container having secured to each lower corner a casting 8 provided with a depending leg 9 which is provided with a bore 10 adapted to receive a bolt 11. A Z bar 12 is secured to the bottom of the car at each side thereof and the rear wall of the leg 9 abuts against the vertical web of said bar as shown in Figure 5.

The floor of the car is provided at intervals throughout its length, on each side, with slots 13 extending from the sides of the car toward the center sills as clearly shown in Figures 5 and 6.

A casting is secured to the side sills 15 of the car below each slot 13 by means of rivets 16. This casting comprises two side arms 14 spaced apart to provide a passageway between them in which the body of the anchoring post or stake is adapted to move or swing as will be hereinafter pointed out, and extending from the outer face of the arms 14 are strengthening webs 16' and base plate 17.

In the inner face of the walls or arms 14 of the casting I form runways 19 and 20 which are in communication with each other as clearly shown in Figure 5, the runway 19 extending in a horizontal plane while the runway 20 is formed on an arc, said arc being disposed downwardly and outwardly toward the side sill 15 of the car, there being a strengthening web 21 between the two runways of each arm extending inwardly from the side sill of the car toward the longitudinal center of the car as shown in the drawings.

The anchoring post or stake 18 is preferably hollow with its inner face formed on a bevel as at 22 on the same angle as the bevel face 23 of the leg 9 which faces abut when the container is on the car.

At the upper end of the post or stake there is a lug 23^a through which is formed a bore which is adapted to align with the

bore 10 in the leg 9 of the container when the parts are in position shown in Figure 5, the bolt 11 extending in both of said bores.

A recess 24 is formed in the lug 23^a and communicates with the bore of the lug and is adapted to receive the locking lug 25 which is integral with the bolt 11, the outer end of the bore having a sidewise elongation 26 (see Figure 3) which permits the insertion of the bolt or the withdrawal of the bolt from the bores in the leg 9 and lug 23^a only when the lug 24 of the bolt is in alinement with said elongation, therefore after the bolt is inserted to locking position the weight of the operating handle 27 revolves the bolt and positions the lug 25 in the recess 24 and the front wall 28 of the recess prevents the accidental withdrawal of the bolt. The bolt is secured to the car by means of a chain 29.

The base portion of the post 18 is widened at its lower portion from front toward the rear thereof and its base is substantially commensurate with the length of the rib 21 of the casting. On each side of the post near its bottom I form trunnions or lugs 30 and 31 which extend outwardly and into the runways 19 and 20, as more clearly shown in Figure 3, so that when the stake 30 or post is in its upright or operative position, as shown in Figures 3 and 5, the trunnions 30 and 31 are positioned in the runway 19 and rest on the top of the rib 21 thereby giving a wide base support for the post or stake 18. Now when it desired to use the car as a flat car the post or stake 18 is pushed bodily toward the center sills of the car until the trunnions 31 drop off of the top of the rib 21 whereupon they enter the runways 20 and the post is now free to be swung downwardly through the slots 13 in the floor of the car to a position below the floor of the car, as shown in Figures 4 and 6, leaving the floor of the car flat and free from vertical obstructions and free to be used as a flat car. In this downward movement of the post 18 the trunnions 30 function as pivots. To elevate the posts 18 the free end is pulled upward until the trunnions 31 are in alinement with the runways 19 when the post is pushed bodily toward the side sill of the car to its operative position shown in Figure 5.

The casting having the walls 14 is provided with a bottom flange 32 which is secured to the bottom flange of the side sill by means of rivets 33.

Anchoring posts or stakes embodying my invention may be used on trucks, barges, railway and electric cars for the purpose of securing containers on them in the transpor-

tation of such containers from consignor to consignee, therefore whenever the term "carrier" is used it will be understood as including any vehicle used in such transportation.

It will of course be understood that changes may be made in the construction and relative arrangement of parts within the scope of the appended claims.

What I claim is:

1. The combination with a flat car having a series of elongated openings through the floor thereof; of a series of compartments detachably mounted thereon, legs depending from said compartments, and a series of disappearing stakes secured to said car with a shiftable bearing and means locking said legs to said stakes, whereby the compartments are locked to the car; said stakes being adapted to swing in an arc toward the longitudinal center of the car through said openings to a point below the plane of the car floor.

2. The combination with a car having a series of elongated openings through its floor, of a series of stakes secured to said car with shiftable bearings to adapt them to swing in an arc toward the longitudinal center line of the car and through said openings to a point below the plane of the car floor.

3. The combination with a car having side sills, and a series of elongated openings through the floor of the car, of a casting secured to the side sills below each of said openings, and provided with runways in a horizontal plane and arcuate runways extending from the inner ends of the horizontal runways toward the said side sills, a series of stakes shiftable mounted in said castings and having bearings in said runways whereby the stakes are adapted to swing bodily in an arc toward the longitudinal center line of the car and through said openings to a point below the car floor.

4. The combination with a car having a series of openings, a series of stakes mounted on the car and adapted to move through said openings into and out of operative position, a series of combined guides and supports for said stakes, mounted on the car, a series of shipping compartments mounted on the car means on said compartments adapted to engage said stakes when they are in operative position and a locking means securing the stake to said means on the compartments whereby the compartments are securely anchored to the car.

In testimony whereof I affix my signature.

ALFRED H. SMITH.