Dec. 18, 1923. 1,477,723

A. H. SMITH

INTERCHANGEABLE CAR UNIT

Filed Nov. 5, 1920 3 Sheets-Sheet 1

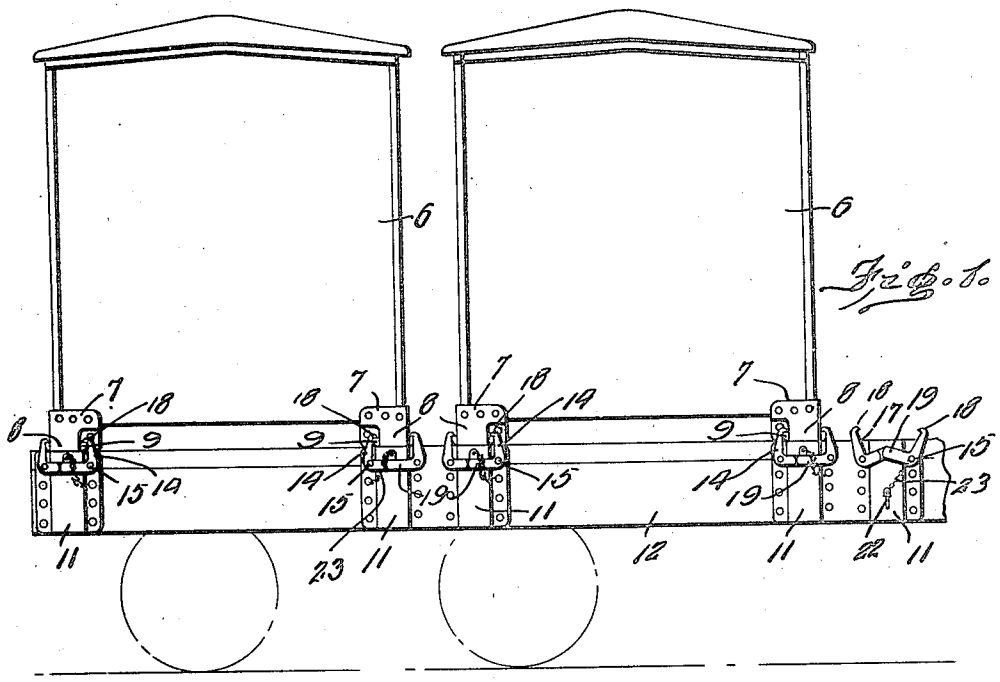


Fig. 1.

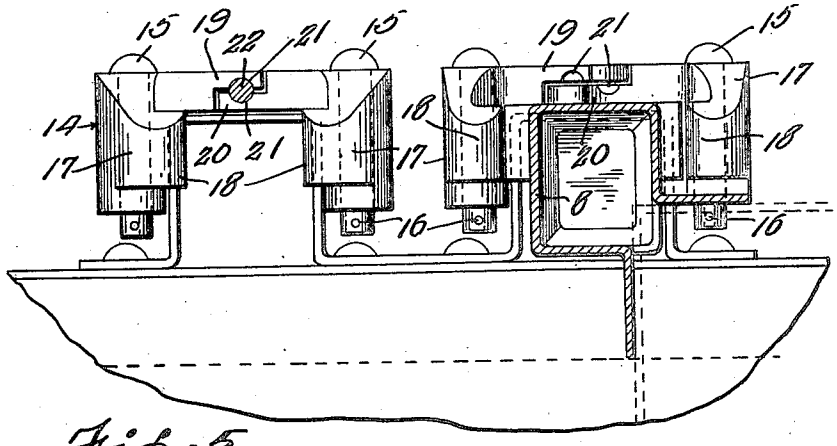


Fig. 5.

Alfred H. Smith INVENTOR.

Witness

BY

Edwin S. Clarkson ATTORNEY.

Dec. 18, 1923. 1,477,723

A. H. SMITH

INTERCHANGEABLE CAR UNIT

Filed Nov. 5, 1920 3 Sheets-Sheet 2

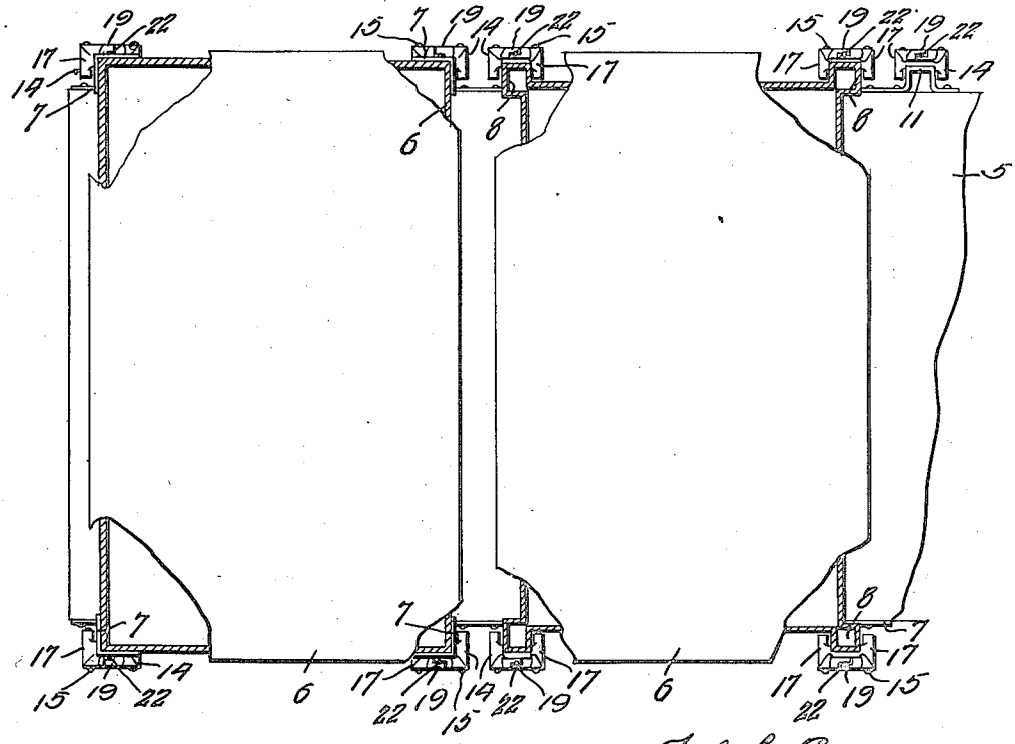


Fig. 2.

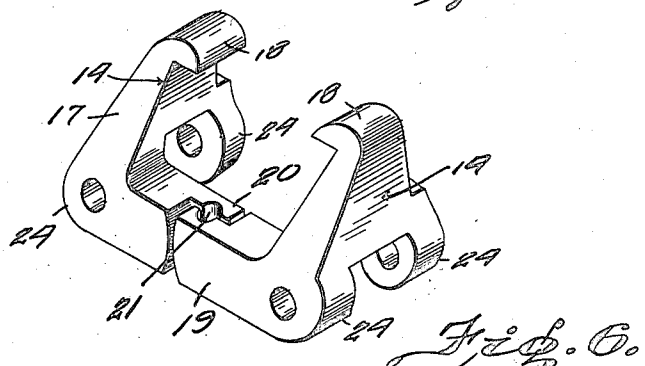


Fig. 6.

Alfred H. Smith INVENTOR.

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Dec. 18, 1923. 1,477,723

A. H. SMITH

INTERCHANGEABLE CAR UNIT

Filed Nov. 5, 1920 3 Sheets-Sheet 3

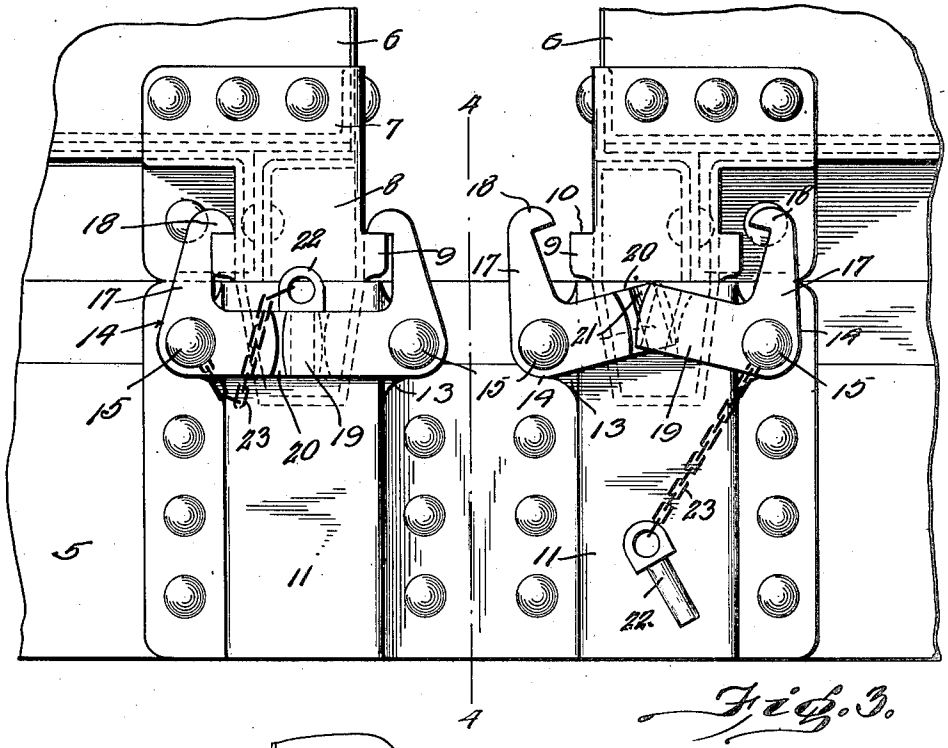


Fig. 3.

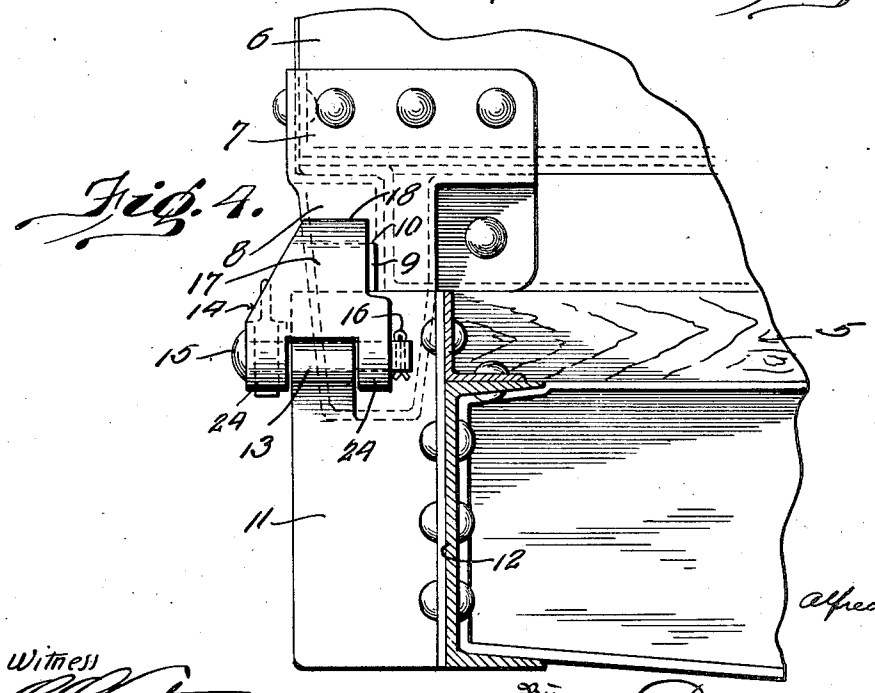


Fig. 4.

Witness

Inventor
Alfred H. Smith

By

Attorney

Patented Dec. 18, 1923. 1,477,723

UNITED STATES PATENT OFFICE.

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

INTERCHANGEABLE CAR UNIT.

Application filed November 5, 1920. Serial No. 422,083.

To all whom it may concern:

Be it known that I, ALFRED H. SMITH, a citizen of the United States, residing at the city of New York, 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.

My invention relates to means for transporting and handling less than car load lots of freight, express and the like, by railroad car, truck, barge or other carrier.

According to my invention a carrier, such as a railroad car, truck, barge or the like, is adapted to receive and carry a plurality of containers each of suitable capacity for handling less than carload lots, which are removably and interchangeably positioned on the carrier frame, and may be readily shifted to and from the carrier at receiving and destination stations.

According to my invention the containers may be loaded by the shipper at his factory then carried by truck to the railroad car and loaded thereon and at the point of destination lifted from the railroad car onto a truck and delivered at the place of business of the consignee who may remove the contents therefrom whereupon the container is returned to and loaded on the railroad car either empty or loaded.

One of the objects of my invention is to provide the railroad car, truck, barge or the like, with means to lock the container thereon and provide the container with cooperating locking means whereby the two locking means interlock when the container is lowered into position on the carrier.

For brevity I shall use the term "carrier" to include railroad cars, motive or horse drawn trucks, barges, etc.

With the above and other objects in view my invention consists of the novel features of construction and arrangement of parts, hereinafter more fully described and claimed.

In the drawings:

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

Figure 2 is a top plan view of the same.

Figure 3 is an enlarged detail view showing the locking means for the containers.

Figure 4 is a detail sectional view on the line 4—4 of Figure 3.

Figure 5 is a detail top plan view of the locking means, the car or carrier being broken away.

Figure 6 is a perspective view of the locking dogs detached.

The reference numeral 5 designates a carrier and 6 a container which may be of any suitable construction, the containers being designed preferably to hold less than car load lots, there being a plurality of containers for the carrier which containers may be billed to different destinations on the route laid out for the carrier.

At the lower corners of the containers I secure suitable castings or forgings 7 by rivets or otherwise, said castings being provided with depending members which may function as legs 8, which legs are provided with outwardly projecting lugs 9 each of which have an upper flat face 10 positioned substantially midway the length of the legs, the sides of the legs below the lugs preferably converging as shown in the drawing.

Stake pockets 11 are secured to the side sills 12 and are adapted to receive the depending legs 8 of the containers when the containers are loaded on the car. These stake pockets are provided with perforated lugs or ears 13 to which the locking dogs 14 are pivotally secured by means of the bolts or pintles 15, which pintles are locked in position by means of cotter pin 16. The locking dogs are substantially bell crank in shape, one arm 17 being provided with a hook 18 adapted to interlock over the lug 9 on the flat shoulder 10, while the other arm 19 is provided at its free end with a recess or cut out 20 having a half bolt opening 21 in one of its walls so that when the two locking dogs are moved to locked position (Figures 1, 3 and 4) the openings 21 register and form a complete bolt opening which is adapted to receive the locking bolt 22 which is secured to the carrier by means of a chain 23 to prevent its being lost.

It will be noted from Figure 4 that one of the ears 24 of the locking dog is spaced from the other whereby the arm 19 of the dog is spaced from the side of the carrier and is free to swing outside the outer face of the pocket 11. The ends of the arms 19 are rounded for sake of clearance to prevent any binding action between them as the dogs are moved into and out of locking position. When the key 22 is in the bolt opening between the arms 19 it is impossible

to move the dogs and consequently the container is securely locked on the carrier.

Similar locking means are provided on the truck whereby the container is securely locked thereon while it is being transported to and from the carrier or car.

What I claim is:

1. In a freight car the combination with a series of compartments removably mounted thereon, legs depending from said compartments, lugs on said legs and dogs pivotally secured to the car and adapted to interlock with said lugs and lock the compartments on the car.

2. In a freight car, the combination with a series of compartments removably mounted thereon, legs depending from said compartments, lugs on said legs, a series of pairs of dogs pivotally mounted on the car, each pair of dogs being adapted to engage the lugs on each of said legs, whereby the compartments are locked to the car.

3. In a freight car, a series of pockets secured to the car, a pair of locking dogs mounted on each pocket, a series of compartments removably mounted on the car, legs depending from said compartments, and adapted to enter the said pockets, said locking dogs engaging said legs thereby locking the compartments on the car.

4. In a freight car a series of pockets secured to the car, a pair of bell crank shaped locking dogs secured to each pocket, one of the arms of each lever overlapping the other and means locking said overlapped arms when the dogs are in operative position.

5. In a freight car, a series of pockets secured to said car, a pair of bell crank shaped dogs pivotally mounted on each pocket so that one arm of each dog will overlap a corresponding arm of the other dog when the dogs are in operative position, a recess in each overlapped arm and a bolt adapted to enter said recesses when the dogs are in operative position, thereby locking the dogs in their operative position.

6. In a freight car, a series of pockets secured to the car, a series of freight compartments removably mounted on the car, legs on said compartments adapted to enter said pockets, lugs on said legs, a pair of bell crank shaped dogs pivotally mounted on each pocket so that one arm of each dog will overlap a corresponding arm of the other dog when the dogs are in operative position in which position the dogs engage the lugs on the said legs and lock the compartments to the car, a recess in each overlapped arm and a pin adapted to enter said recesses when the dogs are in operative position, thereby locking the dogs in their operative position.

In testimony whereof I affix my signature.

ALFRED H. SMITH.