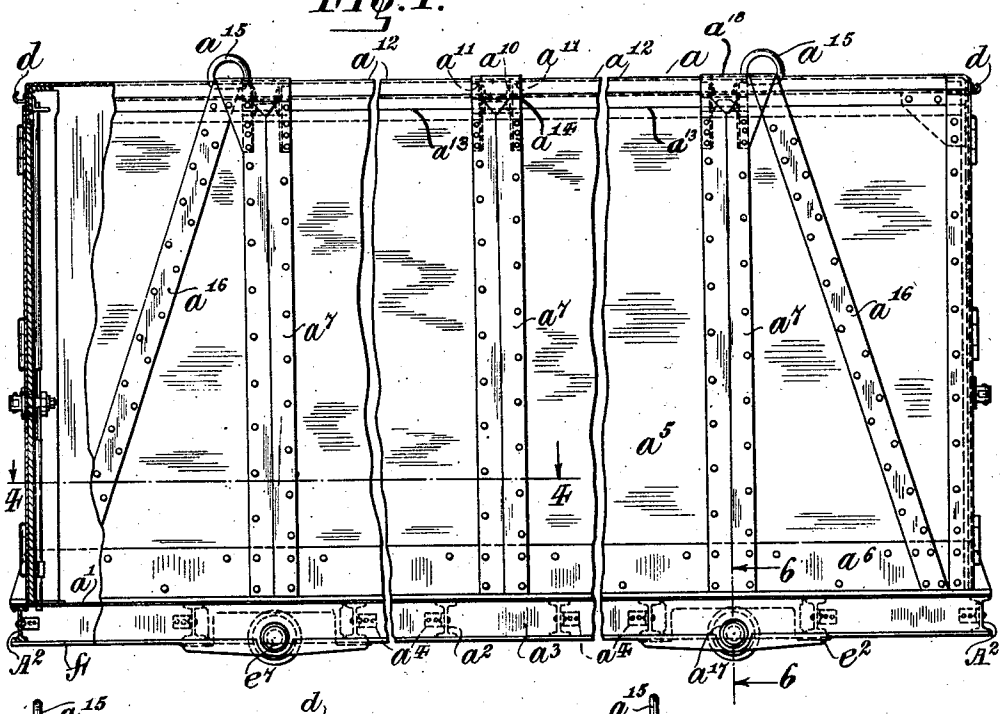
Jan. 28, 1930. A. F. CALLISON 1,744,824

MERCHANDISE CONTAINER

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Fig. 1.



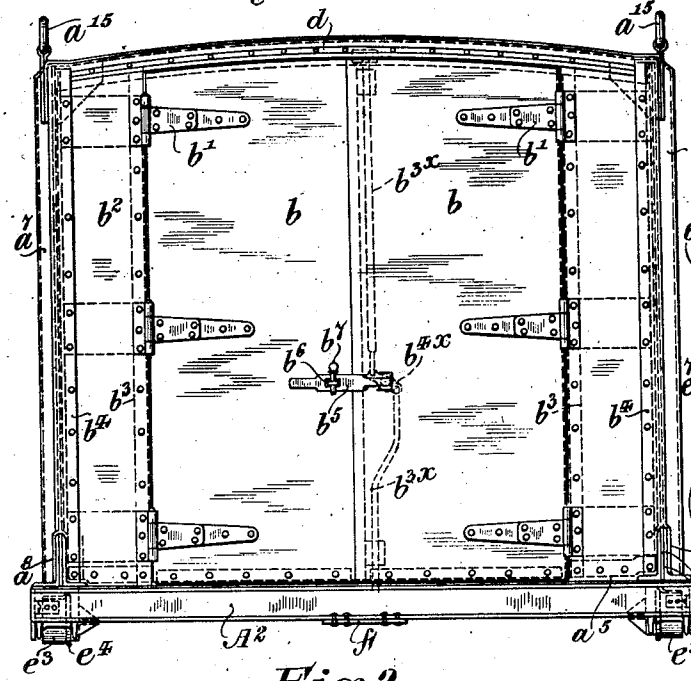
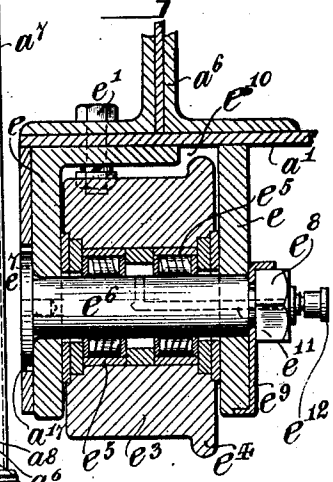


Fig. 2.

Fig. 6.



Inventor
Abner F. Callison

By his Attorneys
Redding, Greeley, Olsen & Campbell

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Fig. 3.

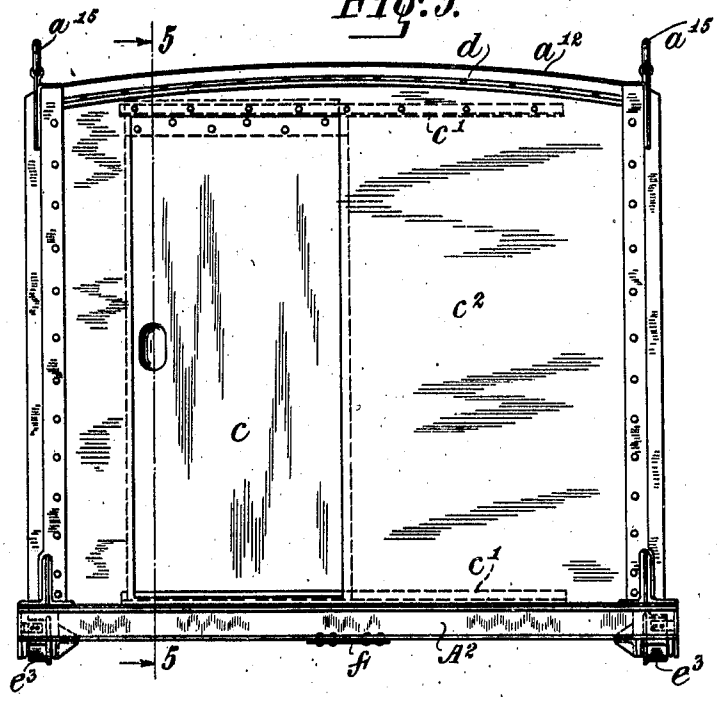


Fig. 5.

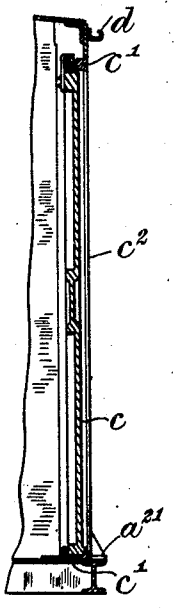
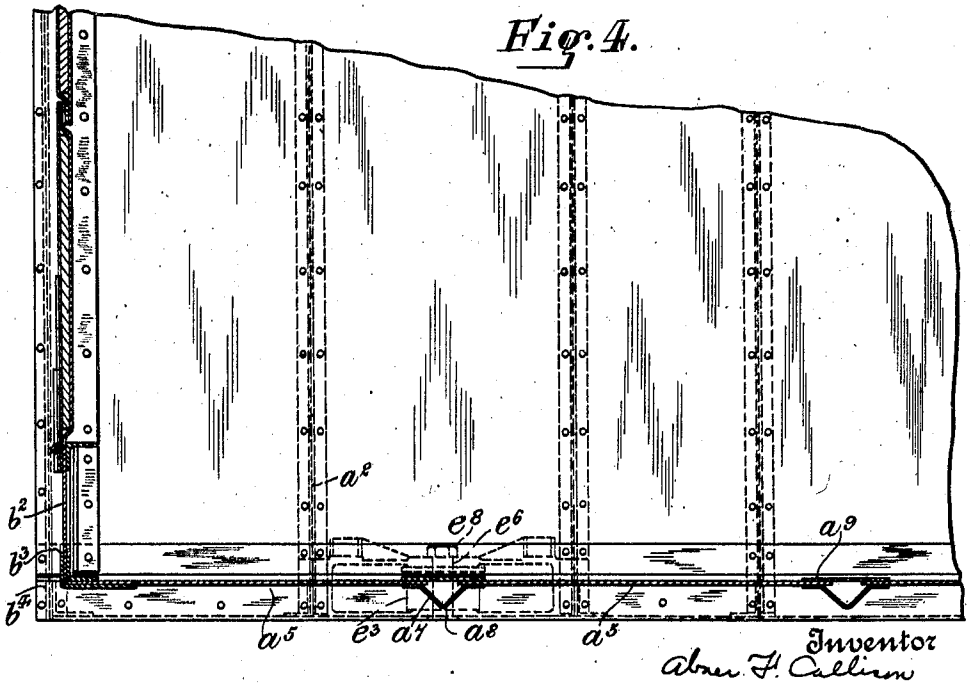


Fig. 4.



Inventor
Abner F. Callison

By his Attorneys
Redding, Feeley, O'Shea & Campbell

Patented Jan. 28, 1930

1,744,824

UNITED STATES PATENT OFFICE

ABNER F. CALLISON, OF NEW YORK, N. Y.

MERCHANDISE CONTAINER

Application filed November 11, 1925. Serial No. 68,271.

This invention relates in general to a system of freight or mail transportation involving the use of merchandise containers of relatively large size. Formerly it was necessary in the transportation of freight between two points to load the freight into a motor truck, unload it therefrom on to a freight terminal platform and reload the freight into a railroad car or into any other type of conveyance and reverse the process on the arrival of the conveyance at its destination, the procedure in each instance involving the holding of the truck or conveyance for a material length of time while the loading or unloading took place.

One object of the present invention is to provide a container for merchandise or the like which will eliminate all unnecessary handling of the freight or delay in the operation of conveyances. The container can be loaded at the plant, for instance, during the absence of the truck, loaded thereon when convenient and, on arrival at the freight terminal, the transfer of the container from truck to other conveyance or ramp can be accomplished quickly and easily by ramp track or crane. The invention is not to be deemed limited to use with a highway, railway or waterway conveyance but it is within the contemplation of the present invention to provide a container which is equally applicable to transportation by aircraft, either of the heavier than air type or the lighter than air type. In connection with this latter use the invention may be found advantageous in the transportation of mail or express matter. In this instance the container may be adapted for access during transportation whereby sacks or packages may be added to or removed therefrom enroute. One aspect of the invention contemplates the provision of a container formed of metal of great strength commensurate with requisite lightness in weight which may be readily handled and afford ample facility for access therewithin. To this end the container may be constructed of a size to be carried by the larger sizes of trucks, such as to constitute a load for a seven and one-half ton truck, while three such containers constitute a load for a forty foot flat car. Obviously for the convenience of users requiring a smaller container they may be made, for instance, in half sizes. According to the preferred embodiment of the invention the container is provided with doors at either end. A pair of doors may be formed at one end which are hinged adjacent the sides of the containers and open outwardly for facility in the removal of the contents. The means of access at the other end of the container may be similar or may be of the sliding type so that access may be had to the interior of the container during transportation upon a truck or in an aeroplane. To facilitate the transfer of the container, lifting bails may be provided, suitably re-enforced, whereby a distribution of the weight of the container is had. By means of the bails the container may be readily shifted by an overhead crane or the like. The container may also be provided with wheels upon which it may travel over ramps, for instance, as when being transferred from one carrier to another.

One use to which the container is particularly applicable is the transportation of mail or express matter. For instance, such a container loaded upon a truck may be moved from point to point while packages are being collected or delivered. In this instance, the end of the container formed with the sliding door may be disposed adjacent the driver of the vehicle and ready access may be had to the interior of the container from the driver's seat whereby additional packages may be placed therein or individual pieces of mail sorted while the means of access to the container is always within view of the operator of the vehicle. The container may be transported to a flying field, for instance, and there loaded into an aeroplane or airship for transportation to a distant point where it may be again loaded upon a truck for distribution.

Other objects and advantages of the invention and the means for their attainment will be apparent from the following detailed description of the invention taken in connection with the accompanying drawings in which:

Figure 1 is a view in side elevation and partly in section showing the container according to the present invention.

Figure 2 is a view in end elevation showing the container and one type of door and locking means therefor.

Figure 3 is a view in end elevation showing the container and the means for gaining access to the interior involving a sliding door.

Figure 4 is a fragmentary detail view, partly in section, showing various features of construction of the container taken in the plane indicated by the line 4—4 in Figure 1 and looking in the direction of the arrows.

Figure 5 is a fragmentary view taken in the plane indicated by the line 5—5 in Figure 3 and looking in the direction of the arrows and illustrating the construction of the sliding door.

Figure 6 is a detail sectional view on an enlarged scale showing one of the wheels or rollers upon which the container may travel, taken in the plane indicated by the line 6—6 in Figure 1 and looking in the direction of the arrows.

Containers have heretofore been proposed which were capable of transfer between motor trucks and railway flat cars, for instance, but it is the object of the present invention to provide a container embodying certain advantageous features of construction which result in extreme lightness with minimum weight and which is particularly adapted to the purpose in hand. The container, indicated as a whole at a in Figure 1, may be of a high grade aluminum alloy which combines lightness with great strength. The floor a' is supported upon a plurality of transversely extending I-beams a^2 the ends of which are closed by a face plate a^3 secured as by the angles a^4 to the I-beams a^2. The side walls are formed of sheets of metal a^5 secured at their lower ends between opposed angle irons a^6 running longitudinally of the container adjacent the ends of the I-beams a^2 as indicated in Figure 2 and secured rigidly, respectively, either by welding or riveting, to the floor and I-beams and to the side members a^7 therebetween. Securing the adjacent sheets a^5 of the side walls to one another are vertically disposed re-enforcing elements a^7 offset at their lower end over the outer angle iron a^6 and riveted or welded to adjacent plates a^5. The tension members a^7 are preferably formed with an angular portion as at a^8 extending outwardly considerably beyond the plane of the side walls to serve not only as strengthening elements for the walls but also as buffers or guards to protect, in a measure, the relatively thin side plates a^5. In the interest of lightness of construction the proximate edges of adjacent plates a^5 are spaced from one another and an inner vertically extending re-enforcing plate a^9 is adapted to close the space therebetween. The roof of the container is formed with a slight curvature to shed rain and is supported upon compression members shown as I-beams a^{10} disposed with their web portions parallel with the floor of the container and suitably secured by angle pieces or brackets a^{14} to the plates a^9. To afford a curvature to the roof there are secured to opposed flanges of the I-beams a^{10} angles pieces a^{11} shaped to provide the necessary curvature of the roof. Upon the horizontal arms of the angle pieces are carried the top plates a^{12} forming the roof. These plates are also formed of metal and extend downwardly over the plates a^5 as indicated at a^{13} to be secured as by welding or riveting. The proximate edges of the top plates a^{12} terminate substantially evenly with the vertical edges of the angle irons a^{11} and overlying the proximate edges is a plate a^{18} secured as by rivets or welding to the angle pieces a^{11}. Suitable sealing means such as tarred felt or the like may be interposed between the plates a^{12} and a^{18} and the rivets may pass through the plates a^{12} and a^{18} and a^{11} to secure all three together. To facilitate the lifting of the container, bails a^{15} may be provided which are secured by means of straps a^{16} extending throughout the height of the container in a slanting direction to distribute the stresses.

Doors are provided at both ends of the container to facilitate access therein. At one end (Figure 2) a pair of doors b, b open outwardly and are supported as by the hinges b' upon end wall portions b^2, suitably re-enforced by uprights b^3 which may be angle pieces riveted to the end walls of the container. Corner pieces b^4 are also provided outwardly of the corner to serve as re-enforcements which are split at their lower ends to extend downwardly over the angle a^6. The angle bar a^6 projects beyond the ends of the container to act as buffers as when two or more containers are pushed together.

Suitable locking means are provided for the doors b. In the preferred embodiment vertically extending bolts b^{3x}, b^{3x} are carried with the overlapping door and adapted to extend into recesses formed in the top and floor, respectively. The bolts b^{3x} are connected to the ends of a pivoted lever b^{4x} adapted to be rotated about its fulcrum by means of the hasp b^5 to withdraw or insert the bolts within the recesses. When the bolts are in locking position with respect to the door the hasp is in such position that it may overlie the staple b^6 in the other door for engagement by a pin b^7, padlock or the like.

In order to provide access from one container to the next or from the front seat of a truck or from within the fuselage of an aeroplane, for instance, the door at the other end of the container may be of the sliding type, as shown in Figure 3. A door c is adapted to slide upon tracks c' carried with the end wall c^2 of the container. Any convenient type of fastening means may be provided for the door c as will be understood. Above the door at either end of the container there may be disposed what may be termed

a gutter d to entrap rain flowing off the roof and prevent it from flowing downwardly across the doorway.

To facilitate transfer of the container over a ramp or other support, for instance, wheels or rollers may be provided upon which it can travel. One type of wheel applicable to the present invention is illustrated in Figure 6. Secured to the underside of the floor a' is a bearing box e of substantially inverted U-shape in cross section adapted to be secured to the floor a' by bolts e' passing through the carrier e, the floor a' and angle bars a^6. The carrier e may also be provided with extended portions e^2 adapted to engage adjacent I-beams a^2, in the interest of adequateness of support for the containers. Within each bearing e there is disposed a wheel e^3, flanged, if desired, as at e^4, to facilitate transportation over ramps and mounted by means, say of roller bearings e^5 upon an axle e^6 carried in the opposed vertical walls of the carrier e. Axle e^6 may be formed at one end with a flange e^7 for engagement with the external face of the carrier e, a suitable aperture a^{17} being provided in the face plate a^3 for that purpose and the axle may be threaded at its other end for engagement by a nut e^8 which may be secured against rotation by a stop e^9 engaging the carrier e. In the interest of compactness a recess e^{10} may be formed in the top or transverse surface of the container e for the reception of the flange e^4. A suitable grease channel e^{11} may be formed in the axle e^6 to conduct grease or oil from the grease cup e^{12} to the roller bearings e^5. In the illustrated embodiment there are four such wheels disposed beneath the container two upon each side but it will be obvious that the container may be mounted upon any desired number of wheels as necessitated by the weight and size of the container.

Locking means are provided upon the truck, flat car or the like for securing the container thereupon. To permit a coupler operating between, say, flat cars and container to slide beneath I-beams a^2, plates may be secured beneath the floor thereof. In the illustrated embodiment one such plate f is illustrated which is centrally disposed beneath the I-beams and extends longitudinally for the length of the container.

It will thus be seen that a container has been provided for merchandise, mail, etc., which eliminates, by its use, all unnecessary handling of mail to be transferred. The container is applicable, as a transporting medium in connection with rail or road vehicles, boats and airships or planes. Access is afforded within the interior of the container during transfer and facilities are also provided in connection with its transfer by airship to transfer the contents between airships in flight.

Various modifications may be made in the particular configuration of the container and arrangement of the means of access therein as well as the supporting means for the container within aircraft and no limitation is intended by the foregoing description or illustration except as indicated in the accompanying claims.

What I claim is:

1. In a merchandise container, in combination, bottom frame members, a floor supported thereon, opposed side walls carried with the floor, tension members carried with each of the opposed side walls and secured to the frame members, top compression members extending between opposed tension members and supported on the opposed side walls, a roof and end walls carried with the compression and frame members, and means to lift the container disposed adjacent the ends of the top compression members, whereby horizontal components of the lifting strains will be removed from the side walls, end walls and roof.

2. In a merchandise container, in combination, frame members, a floor supported thereon, side walls carried with the floor, tension members carried with the side walls and secured to the frame members, said side walls comprising sheet metal sections connected together by overlapping vertically extending reenforcing members, top transverse compression members disposed between the ends of said reenforcing members, brackets securing the compression members to the side walls, a sectional roof and end walls carried with the compression and frame members, and means to lift the container disposed adjacent the ends of the compression members, whereby the lifting strains will be removed from the side walls, end walls and roof.

3. In a merchandise container, in combination, oppositely disposed longitudinally extending angle irons disposed upon either side of said container, transverse weight supporting members secured to the longitudinal members, means to support the floor upon said transverse members, side walls disposed between and secured to said oppositely disposed angle irons, transverse top spacing members, and lifting straps secured between the longitudinal and top members.

4. In a merchandise container, in combination, longitudinally extending frame members, transverse weight supporting members secured to the bottom of said frame members in spaced relation and forming a unitary weight supporting base, an inverted U-shaped housing member disposed between and directly supporting adjacent pairs of said transverse members and secured to said weight supporting base, and a roller disposed within the housing.

This specification signed this 21st day of October A. D. 1925.

ABNER F. CALLISON.