

Feb. 26, 1924.

1,484,871

R. J. BURROWS

TOTE BOX

Filed Jan. 8, 1923

2 Sheets-Sheet 1

Fig. 1.

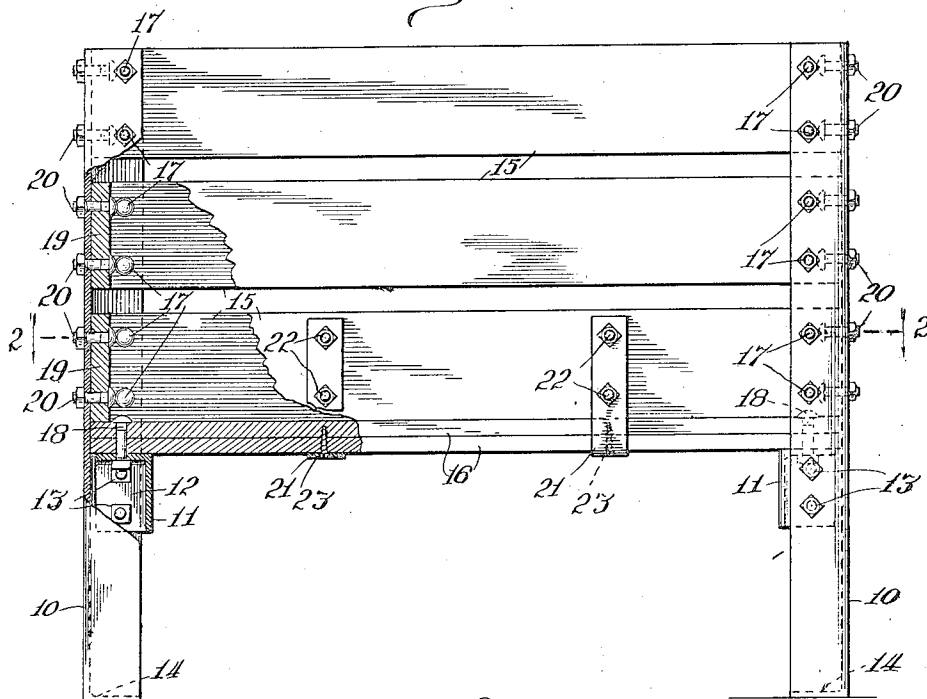


Fig. 2.

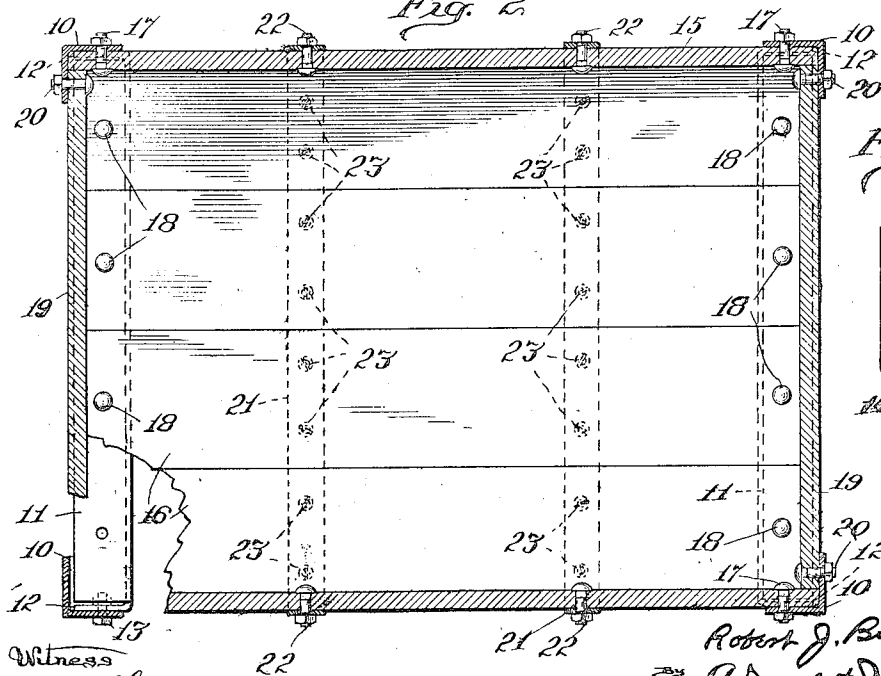
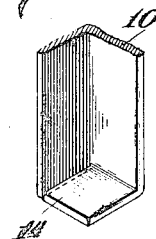


Fig. 3.



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Fig. 4.

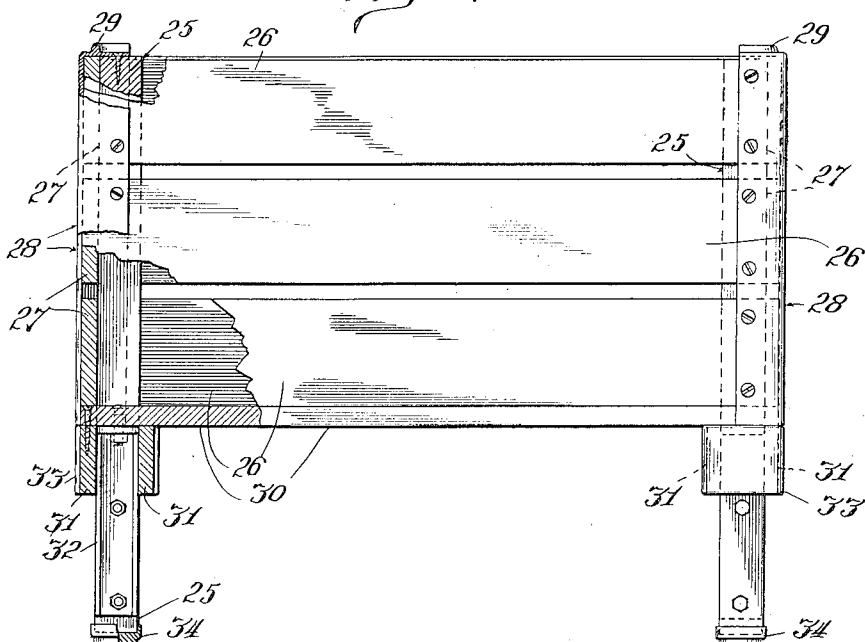
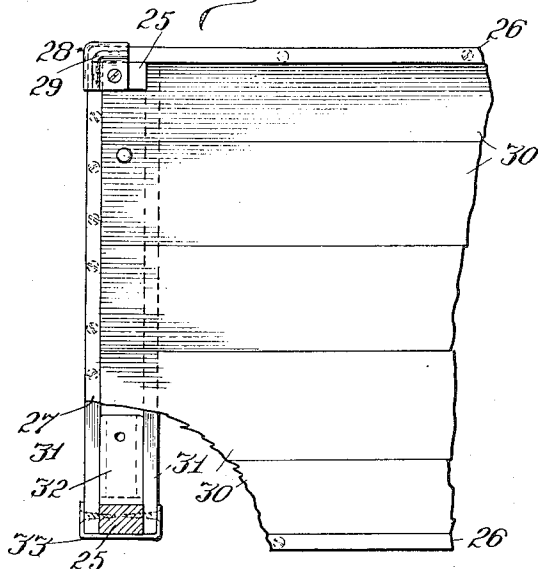
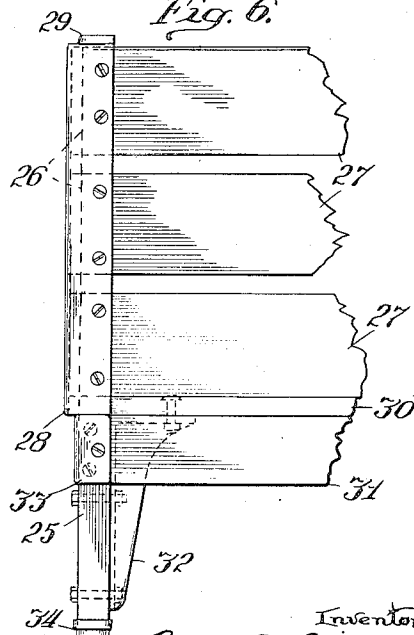


Fig. 5.



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Fig. 6.



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UNITED STATES PATENT OFFICE.

ROBERT J. BURROWS, OF BUCHANAN, MICHIGAN, ASSIGNOR TO CLARK TRUCTRACTOR COMPANY, OF BUCHANAN, MICHIGAN, A CORPORATION OF MICHIGAN.

TOTE BOX.

Application filed January 8, 1923. Serial No. 611,452.

To all whom it may concern:

Be it known that I, ROBERT J. BURROWS, a citizen of the United States, and a resident of Buchanan, in the county of Berrien and State of Michigan, have invented certain new and useful Improvements in Tote Boxes, of which the following is a specification, reference being had to the accompanying drawings.

10 It is common practice in factories and warehouses to provide a comparatively large number of portable receptacles for containing various heavy articles such as finished and unfinished castings, machine parts, etc., 15 which receptacles are used not only for the storage of such articles until they are required for further work upon them or for incorporation in a machine that is being assembled, but are also made use of in moving such articles in bulk from place to place. 20 On account of their use in connection with such moving of their contents they have become known in the trade as "tote-boxes." These tote-boxes are ordinarily moved by 25 trucks having lifting-platforms which are moved beneath the bottoms of such boxes and then elevated to carry the legs of the box off of the floor. Different makes of lift-trucks vary as to the width of their movable supporting platforms and differ also 30 with respect to their minimum and maximum elevation, and therefore it is not uncommon for one type of lift-truck to be found not adapted for handling a certain make or 35 type of tote-box although perfectly adapted for other makes or types. It is the leading object of my invention to provide a construction of tote-box that can be lifted by trucks having varying widths of lifting-platforms 40 and that differ in respect to the extent to which their platforms can be moved toward or from the floor. Briefly stated, I accomplish this object by making the box longer than it is wide which permits the 45 narrower type of truck platform to be entered between the legs of the box from an end of the box and the wider type of truck platform to be entered between the legs of the box from one side of the box, and in 50 each instance have the sides of the platform reasonably close to the legs, which ensures the box being approximately evenly centered or balanced on the platform which might not be the case if the narrow truck that will 55 approximately fit between the legs when

moved in from the end were moved in under the box from the side thereof. To provide for the box being lifted by trucks that differ from each other as to the extent to which they can be raised or lowered I construct the box with parallel cross-pieces located at 60 opposite sides and extending below the bottom of the box, such cross-pieces resting upon the truck platform when the narrower type of truck is used that passes under the box-body at one end thereof, whereas when 65 the platform is entered between the box-legs at one of the sides of the box the bottom of the box will rest on the platform. It is a further object of the invention to provide 70 the box-body at each of its ends with a strong, durable and novel metal frame formed of strips of material that are readily bolted together and to which the end and side walls and bottom, which will ordinarily be 75 made of wood, may be bolted, so as to be readily removable when broken or badly worn. These objects I accomplish by the constructions and arrangements of parts 80 shown in the drawings and hereinafter particularly described. That which I believe to be new will be pointed out in the claims.

In the drawings,—

Fig. 1 is a view partly in side elevation and partly in vertical section of a box embodying my improvements, some of the parts 85 being partly broken away;

Fig. 2 is a horizontal section taken at line 2—2 of Fig. 1;

Fig. 3 is a detail, being a perspective view 90 of the lower portion of one of the corner posts;

Fig. 4 is a view similar to Fig. 1 but illustrating a modified construction;

Fig. 5 is a plan view partly in section of 95 one end portion of the box shown in Fig. 4; and

Fig. 6 is a view in end elevation of the box of Fig. 4, portions thereof being broken 100 away.

Referring to the several figures of the drawings and particularly now to Figs. 1 and 2,—10 indicates the four vertical corner posts of a rectangular framework that carries the end walls, side walls and bottom of 105 the receptacle, the lower portions of such corner posts projecting for a considerable distance below the bottom of the box so as to constitute the supporting legs. Each of these corner posts is, in the construction 110

shown in these figures, formed of heavy angle-iron bars. The two posts at each end are strongly connected together by a horizontally-disposed angle-iron 11, one of the flanges of which is cut off at its ends to permit the other flange—the vertical one as here shown—to be turned at a right angle so that each of such turned ends forms a broad bearing portion 12 that lies against the inner face of one of the flanges of the adjacent angle-iron post 10. The bar 11 is secured to the two end posts that it connects by bolts 13, as shown. These cross-pieces 11, in addition to serving as means for connecting together the corner posts between which they respectively extend, serve another and more important purpose in that they provide means for the platform of a lifting truck to abut against when such lifting truck is inserted beneath the body of the box at one of the ends thereof. At their lower ends the angle-iron corner posts each has one of its flanges cut away so that the other flange may be turned in at right angles, as clearly shown in Fig. 3, to form a flat and comparatively smooth faced end for resting upon a floor. Such turned end is shown at 14.

The two pairs of connected-together corner posts are themselves connected together by side pieces and bottom pieces that are indicated, respectively, by 15 and 16. The side boards lie against one flange of the corner posts and are removably secured thereto by bolts 17. The bottom boards 16 rest at their end portions upon the horizontal flanges of the cross-pieces 11 and are secured thereto by bolts 18. I prefer to construct the bottom of the box of two thicknesses of boards, as shown in Fig. 1, because of the heavy weight that it frequently has to sustain. The end walls of the box are indicated by 19 and, like the side walls, are preferably made of boards, such boards lying against the other flanges of the corner posts and being secured in place by bolts 20.

21 indicates heavy metal bands extending across and against the lower face of the bottom of the box, such bands having their ends turned up to lie for a distance along and against the side walls 15, to which they are secured by bolts 22—screws 23 being preferably employed for fastening the bands to the under face of the bottom boards 16.

As shown clearly by Fig. 2, the length of the box is materially greater than its width, and, therefore, a lifting truck whose platform is too wide to be entered beneath the body of the box at the end thereof may be entered at the side, whereas with a truck having a narrower lifting platform it may be entered between the legs at one end of the box. Where a lifting truck is used that is large enough to be shoved beneath the

body of the box from the side thereof and also fit reasonably close to the legs of the box, it will generally be found that such truck has a vertical range of movement that will readily enable it to lift the box off the floor by direct contact of the platform with the bottom of the box. On the other hand, many trucks that are of a size that will permit them to be entered beneath the box at the end thereof are not so constructed as to enable their platforms to so contact the bottom of the box. Because of that fact I have provided the cross-pieces 11 which, as clearly shown in Fig. 1, project for a considerable distance below the bottom of the box, and by reason of this location such last-named character of trucks by bearing against the lower edges of these cross-pieces are able to elevate and carry the boxes. This provision of means for accommodating a single box to trucks whose platforms vary as to the length of their vertical movement is of very considerable importance, as it does away with the necessity of constructing these boxes to fit the requirements of a particular type or make of truck.

Referring now to the modified form of construction shown in Figs. 4, 5 and 6, 25 indicates corner posts of a tote-box, which posts, however, are in this construction made of wood and have screwed to their outer faces boards 26 constituting the side walls of the box and boards 27 constituting the end walls of the box. The corners of the box are protected by malleable iron angle strips 28 that may be secured in place by the same screws that serve to connect the walls of the box to the posts. Each protecting piece 28 is preferably provided at its upper end with a turned thickened member or knob 29 to aid in preventing damage to the box. The bottom of the box is indicated by 30, and it is formed of boards that rest upon cross strips 31 extending between each pair of end posts. Two of such cross-pieces 31 are employed in connection with each pair of corner posts, one being secured against the outer faces of such posts and the other against the inner faces thereof, as shown in Fig. 4, and as shown in Fig. 6 these strips 31 are preferably secured by screws to such corner posts. As shown, there is provided against the inner face of the lower or supporting-leg part of each post a bracket 32, the horizontal portion of which lies under and helps support the bottom of the box, such bracket being bolted in place to both the bottom and the legs. 33 indicates a metal band of the same width as the strips 31, such a band being arranged to lie across the outer face of each supporting leg and extending across the exposed ends of the cross strips 31 secured to such leg, the turned ends of the band being secured by screws as shown in Fig. 5. Such

a band protects the strips against injury, as will be understood. To the lower end of each of the supporting legs is fastened a cup-shaped head for contact with the floor, which heads act to protect the wooden legs from splitting or other injury.

While the corner posts 25 and cross-pieces 31 in this modified construction are formed of wood instead of metal as in the first described construction, it will be seen that by reason of the protection given by the metal parts 28, 29, 33 and 34 such modified construction is very fully protected against the rough usage to which receptacles of this character are subjected. Like the construction described in connection with Figs. 1 and 2, it is adapted for being lifted by trucks having platforms of varying widths and varying in the amount of vertical movement, and hence in those respects is very similar to such first described construction. Also, it is to be noted that in either construction the parts that are most apt to become broken or damaged are the walls and the bottom of the box, and that these parts are so connected with the framework that they can be readily replaced when required.

What I claim as my invention and desire to secure by Letters Patent, is—

1. A device adapted to be lifted bodily from a floor by a lift-truck for transporting it and articles carried thereon, comprising in combination a member for receiving and supporting such articles, legs at the corners of such member for maintaining it at a distance above the floor that such legs rest upon, and means below said member and adjacent to two opposite margins thereof

for providing for operative engagement of a lift-truck with said device in a lower plane than at the other margins of said member.

2. A tote-box comprising in combination side and end walls, a bottom, four vertical corner posts to which said walls are attached, said corner posts projecting past the bottom of the box to form supporting legs that hold the box-body at a considerable distance above the floor that said legs rest upon, and two parallel cross-pieces each connecting two of said legs together and upon the upper portions of which said bottom is supported, the lower edges of said cross-pieces serving to support the box as a whole upon the platform of a lift-truck that is moved thereunder.

3. A tote-box comprising in combination side and end walls, a bottom, four vertical angle-iron corner posts, to one flange of each of which said side walls are bolted and to the other flange of each of which said end walls are bolted, said corner posts projecting past the bottom of the box to form supporting legs that hold the box-body at a considerable distance above the floor that said legs rest upon, and two parallel angle-iron cross-pieces each connecting two of said legs together and upon the horizontal flanges of which said bottom is supported, the vertical flanges of said cross-pieces projecting below said bottom and serving to support the box as a whole upon the platform of a lift-truck when such truck is moved under the box-body between the legs that said cross-pieces connect together.

ROBERT J. BURROWS.