Nov. 3, 1925. 1,559,646

R. R. ROEMER

WHEELBARROW

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FIG. 1.

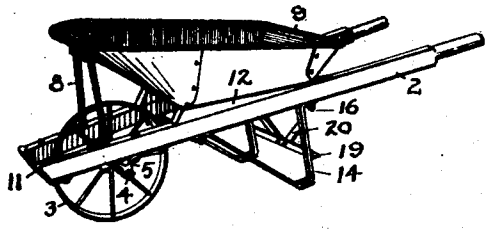


FIG. 2

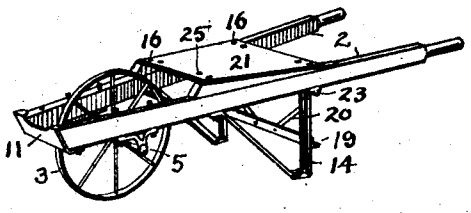


FIG. 3

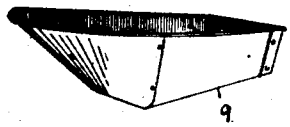


FIG. 4

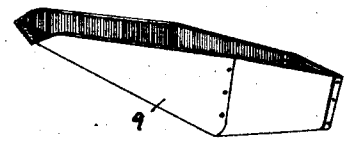
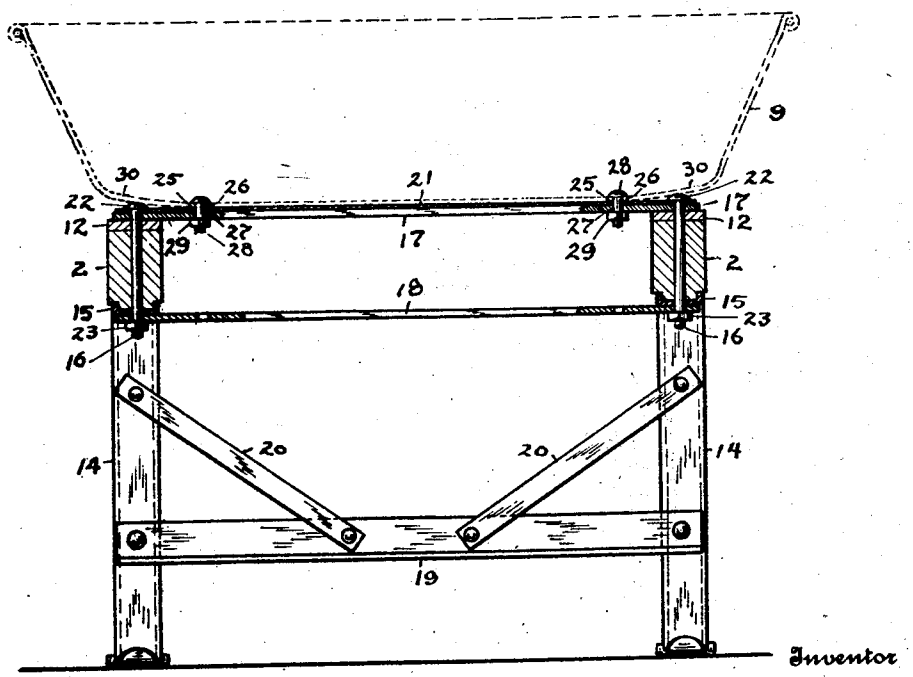


FIG. 5



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Fig. 6

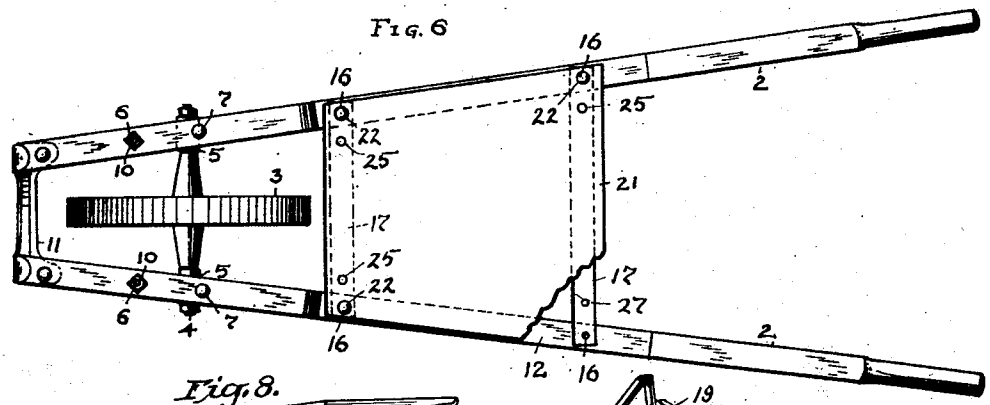
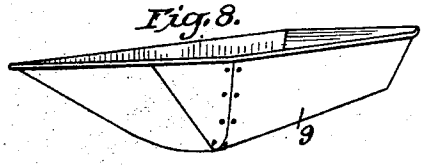


Fig. 8.



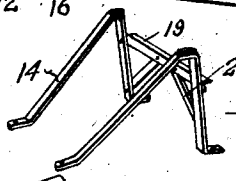


Fig. 9.

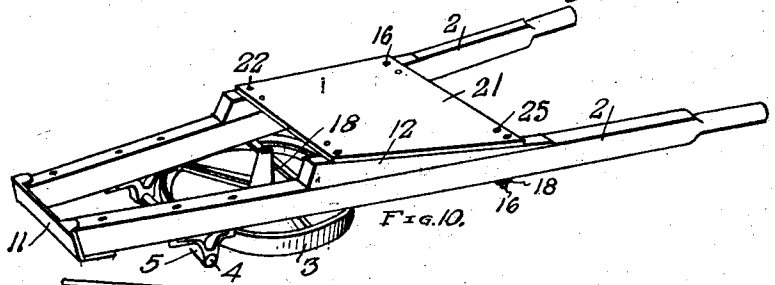


Fig. 10.

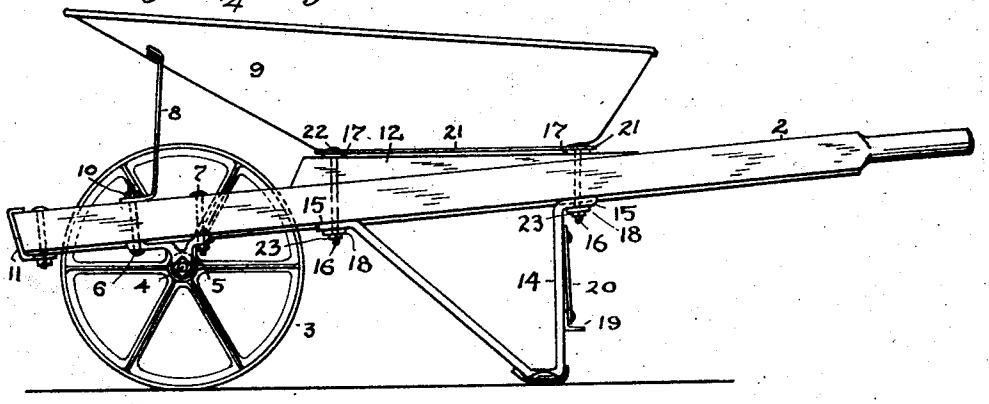


Fig. 7.

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UNITED STATES PATENT OFFICE.

RALPH R. ROEMER, OF CLEVELAND, OHIO, ASSIGNOR TO THE CLEVELAND WHEELBARROW AND MANUFACTURING COMPANY, OF CLEVELAND, OHIO, A CORPORATION OF OHIO.

WHEELBARROW.

Application filed May 14, 1923. Serial No. 638,866.

To all whom it may concern:

Be it known that I, RALPH R. ROEMER, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in a Wheelbarrow, of which the following is a specification.

My invention relates to an improvement in wheelbarrows, and my primary object is to provide a wheelbarrow in which the parts are particularly constructed and arranged to facilitate their shipment and storage, to expedite their assembly; and to promote inter-changeability of parts. A further general object is to effect absolute rigidity of union between the parts when the parts are assembled, and to produce a wheelbarrow of extremely rugged construction although of a knock-down type and easily separable. More specifically stated my conception involves the making of a wheelbarrow in such a way that the manufacturer may assemble some of the parts and ship these as units capable of being conveniently handled and compactly nested or packed, and which units when received by the consignee will be in such form that separation and disassembly thereof will not be again required in order to set up and make a complete wheelbarrow. On the contrary the idea is to provide the consignee with a minimum number of pre-assembled units to enable him to quickly and conveniently put these pre-assembled units together without the service of trained or skilled persons, thereby effecting a saving in shipping charges and time and labor and expense in assembling a complete wheelbarrow at points remote from the place of manufacture. This makes the present wheelbarrow especially attractive and of value for foreign or export trade and in meeting world competition in this common class of goods, and in this connection it should be understood that wheelbarrows in general are constructed on old and accepted lines, the present one included, except as hereinafter shown and described and more concisely pointed out in the claims.

In the annexed drawings, Fig. 1 is a perspective view of my improved wheelbarrow. Fig. 2 is a perspective view of the wheelbarrow with the tray removed. Figs. 3 and 4 are perspective views of two different forms of trays. Fig. 5 is an enlarged cross section of the wheelbarrow, showing a tray in dotted lines seated on a supplemental tray bottom. Fig. 6 is a plan view of the wheelbarrow without the tray, and Fig. 7 is a side elevation of the same wheelbarrow with a tray. Figs. 8 to 10, inclusive, are perspective views, illustrating the shipping units which enter into the making of a complete wheelbarrow.

Structurally considered, the wheelbarrow comprises either wood or metal handles 2 which are spread apart wider at their hand-grip ends than at the wheel 3 which is supported on an axle 4 held in bearings 5. These bearings have channeled flanges which are adapted to fit and seat snugly upon the rabbeted underside of the handles and separate bolts 6 and 7 of different length extend upwardly through the handles to secure the bearings in place. The longer front bolt 6 in each handle is also used to anchor a metal brace 8 to the handle for the sloping front end of the sheet-metal tray 9, the nut 10 for the bolt being at the upper end of the bolt to facilitate attachment and detachment of this brace. In an end dump barrow the handles are extended in front of the wheel and united together, and where wood handles are used, a cast-metal member 11 extends across and connects the front ends thereof, see Fig. 6. Separate wood tapering pieces 12 are also superposed upon the handles to level the tray horizontally, the normal slant of the handles being upwardly from the wheel to the hand-grips when the barrow is at rest on the legs 14. These legs are preferably made of channel iron having angularly-bent extremities 15 adapted to fit the rabbeted underside of the handles opposite the tapering pieces 12. Four bolts 16 extend through registering holes in the handles and their superposed pieces 12, and also through registering holes in the angular extremities 15 of the legs as well through two pairs of strap iron bracing members 17 and 18, respectively, extending transversely of the handles above and below the same as clearly shown in Fig. 5. The rear vertical portion of the legs are rigidly braced and connected by an angle iron 19 and inclined struts 20 riveted to the legs and to the angle iron.

I also prefer to span the space between the handles and to unite them more rigidly together by using a supplemental tray bottom 21 consisting of a flat quadrangular plate of

about sixteen gauge sheet metal, the four bolts 16 passing through round bolt holes in the four corners of this plate. The semi-round heads 22 of these four bolts seat upon the plate, and the nuts 23 for the bolts are detachably secured to the lower ends of the bolts against the bottom connecting straps 18. The wheelbarrow can be used in this form as a flat top barrow, but the primary purpose of the plate is to re-inforce the bottom of tray 9 when snugly seated and fastened thereon. Trays of different shape are used for different classes of work as partly exemplified in Figs. 3 and 4, but in nearly every instance the inclined sides of the tray overhangs the handles, and the trays are bulky and large, and subject to hard knocks and strains in dumping operations. Therefore, the tray must be securely fastened in place, and to accomplish that end and also permit the tray to be readily attached and detached, I provide the false bottom or flat plate 21 and the bottom of the tray itself with registering bolt openings 25 and 26, respectively, relatively near the corners thereof and spaced a short distance inward from the corner holes for the four bolts 16. The iron straps 17 and 18 are also provided with bolt openings 27 a short distance inwardly from the bolt holes in their ends so that four short bolts 28 may be inserted through the bottom of the tray, the false bottom plate 21, and thence through the openings 27 in the upper straps 17 where nuts 29 may be used to clamp the parts tightly together, as shown in Fig. 5.

However, a longer bolt may be used instead of a short bolt 28 to also engage the lower straps 18, thereby even more effectively clamping all the parts together. It should be noted in this connection that the bolts 28 and the openings therefor are vertically aligned contiguous or in close relation to the inner side faces of the handle bars 2 whereby a rigid and strong union is assured and the spreading strains and lateral blows may be favorably resisted. Furthermore, the nuts 29 for bolts 28 are accessible to permit the tray to be quickly and conveniently attached and detached without detaching the legs or disturbing their fastening bolts or the bracing straps or the false bottom plate 21. The tray may also be clamped tight and flat upon this bottom plate 21 because the tray is rounded or slants upwardly at 30 at each side of its bottom to clear the round heads of the leg bolts 16 which project above plate 21 and the handle bars, see Fig. 5.

A wheelbarrow constructed as herein described permits the manufacturer of the wheelbarrow to assemble and securely unite the following parts together as a single shipping unit, to wit, the handle bars 2, the tapering pieces 12, the straps 17 and 18, and the false tray bottom 19, using bolts 16; and these parts need not be separated when the consignee receives them but instead be used intact as pre-assembled to complete the wheelbarrow. In brief, this unit composed of the handle parts simplifies and expedites the putting together of the remaining wheelbarrow parts which are shipped separately because the trays are bulky and can be nested and shipped in quantities more compactly and satisfactorily in that way, and the leg units in the same way. The handle shipping unit also includes the bearings and shaft for the wheel, and by wiring the wheel separately to the handles and front cross straps as shown in Fig. 10, a very compact shipping package is obtained and valuable shipping space saved. Also, inasmuch as the trays are readily attached and detached from the handle assembly without separating the parts it is a simple matter to effect an interchange of different kinds of trays. Inter-changeability of the parts also permits a contractor to salvage and reconstruct old and worn wheelbarrows, of this kind, and especially to replace old trays with new ones.

Now, referring to Figs. 8 to 10, inclusive, the manufacturer fabricates and ships the handle assembly as a flat unit substantially as shown in Fig. 10. These flat units are capable of being piled compactly. The leg units shown in Fig. 9 and trays such as shown in Fig. 8 form separate shipping units capable of being nested compactly. Upon receipt of such units, the consignee may as a first step attach the tray to the handles upon the false tray bottom by means of the four bolts 28. This is easily accomplished without in any way separating, changing or displacing any of the parts in the handle shipping unit. The next step is to unwire the wheel and attach the front braces 8 to the tray and the handles. The tray and handle units are now rigidly tied together, and the whole structure is inverted to elevate the handles and bring their bottom sides into view and to an accessible working plane. The nuts 23 on the exposed ends of the bolts 16 are then removed, but these bolts con not drop nor be displaced because their heads rest upon the tray. The leg unit is now sleeved over the exposed ends of bolts 16 at the rabbeted sides of the handles and straps 18 slipped in place and fastened by the nuts 23. The wheel is then placed on its axle in the bearings or journals, and the wheelbarrow is now completed and ready for use. Manifestly, the operation is simple and may be accomplished very quickly with the aid of a single wrench.

What I claim, is:

1. A wheelbarrow, comprising spaced handles having a pair of legs and bracing straps at their bottom sides, separate connecting straps and a plate seated on said connecting straps at the upper side of said

handles, bolts extending through said plate, straps, legs and handles uniting them together, a tray removably seated upon said plate, and a separate set of bolts detachably securing said tray to said plate and straps at points relatively near said handles.

2. A wheelbarrow, comprising a pair of handles having tapering pieces superposed thereon, a pair of legs at the bottom of said handles below said pieces, cross connecting straps overlapping said legs and pieces and having bolt openings at their ends, bolts extending through all of said parts and uniting them rigidly together, a tray having bolt openings in its bottom, said straps having additional bolt-openings therein inwardly of the inner sides of and closely adjacent said handles and registering with the bolt openings in said tray, and bolts and nuts adapted to detachably clamp said tray to said straps.

In testimony whereof I affix my signature hereto.

RALPH R. ROEMER.