No. 872,926. PATENTED DEC. 3, 1907.

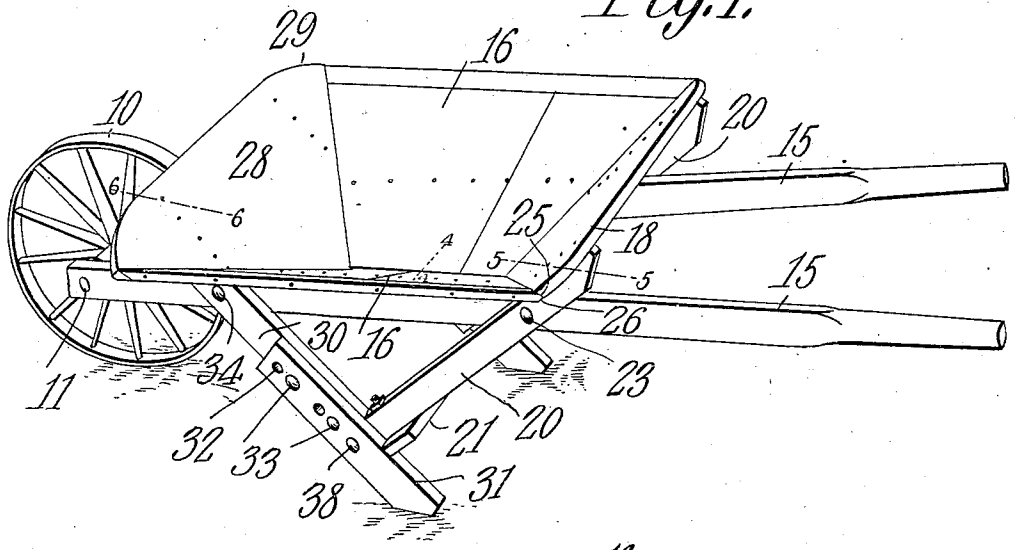
V. A. GATES.

WHEELBARROW.

APPLICATION FILED MAR. 25, 1907.

2 SHEETS—SHEET 1.

Fig. 1.



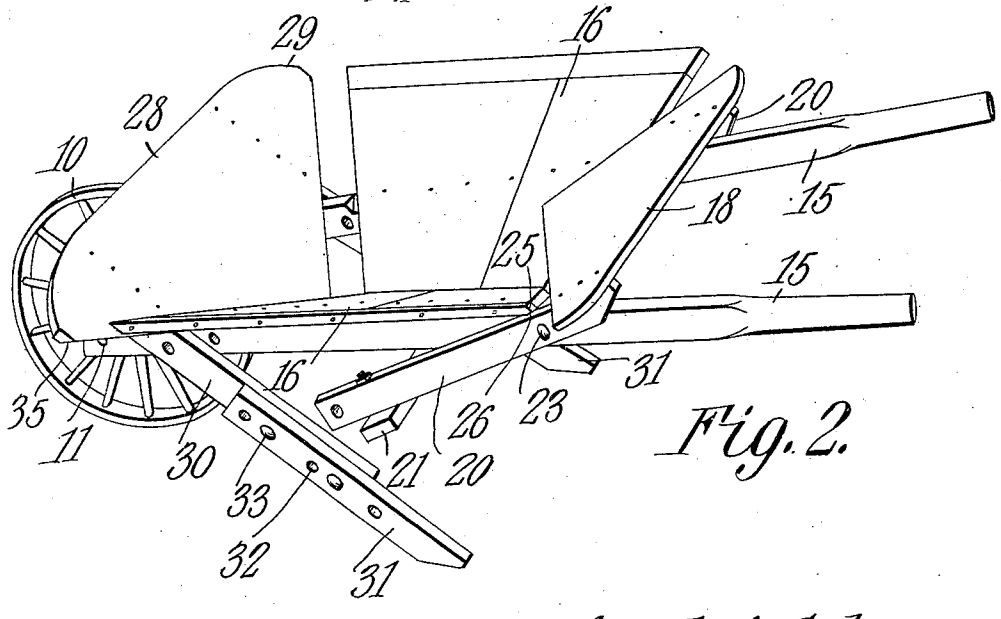


Fig. 2.

Virgil A. Gates,
INVENTOR

By C. A. Snow & Co.
ATTORNEYS

WITNESSES:

E. G. Steinmetz

Jno. E. Parker

THE NORRIS PETERS CO., WASHINGTON, D. C.

No. 872,926. PATENTED DEC. 3, 1907.

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2 SHEETS—SHEET 2.

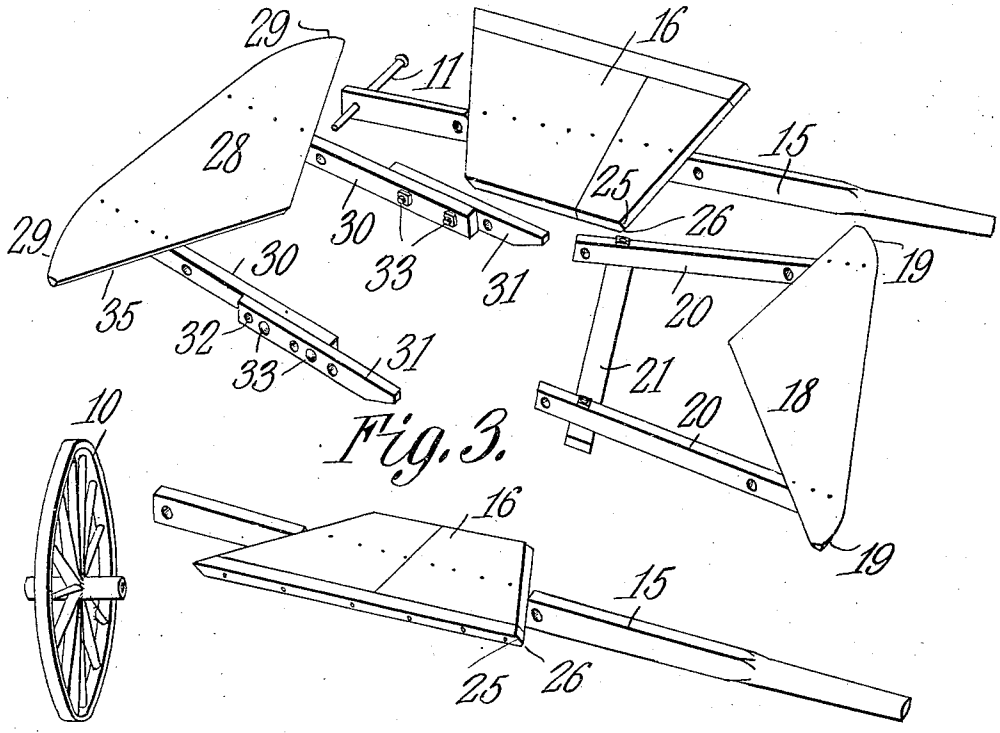


Fig. 3.

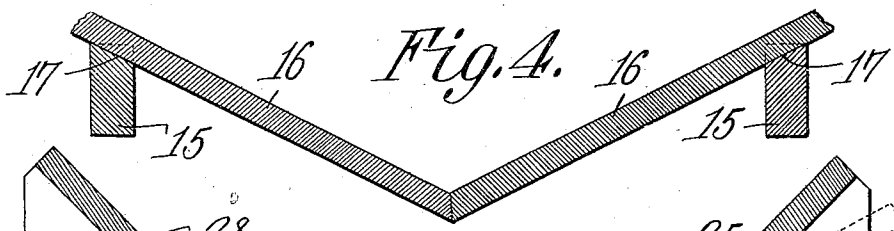


Fig. 4.

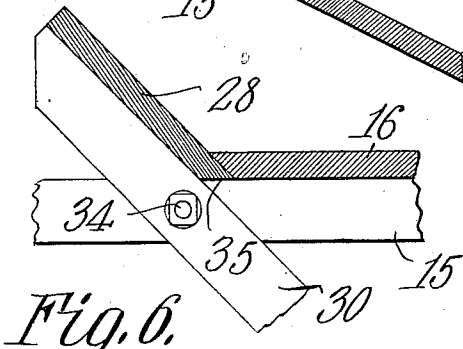


Fig. 6.

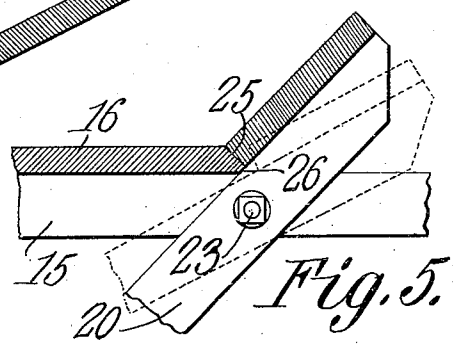


Fig. 5.

Virgil A. Gates,

INVENTOR.

WITNESSES:

E. F. Stewart

Jno. C. Parker

By C. A. Snow & Co.

ATTORNEYS

THE NORRIS PETERS CO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

VIRGIL A. GATES, OF CHARLESTON, WEST VIRGINIA.

WHEELBARROW.

No. 872,926. Specification of Letters Patent. Patented Dec. 3, 1907.

Application filed March 25, 1907. Serial No. 364,398.

To all whom it may concern:

Be it known that I, VIRGIL A. GATES, a citizen of the United States, residing at Charleston, in the county of Kanawha and State of West Virginia, have invented a new and useful Wheelbarrow, of which the following is a specification.

This invention relates to wheel barrows of that class in which the barrow is made in sections of such character as to permit ready nesting or packing in small space for shipment, the parts being usually made in large quantities and a number of similar parts being packaged for shipment.

One object of the invention is to provide a wheelbarrow in which the tray or bowl is made of sections that are carried by frame members, and are so related as to insure thoroughly tight joints between the sections, and in which the several sections mutually brace each other, and when the parts of the frame are connected, are forced very firmly together.

A further object of the invention is to provide a wheel barrow of this type in which the leg members are made in sections for the purpose of more firmly engaging the auxiliary legs or brace members, and for the further purpose of permitting adjustment in order to compensate for wear, or to permit renewal of the foot portions when necessary.

A still further object of the invention is to provide a barrow of this type in which the tray sections are so secured to the frame structure that the latter in being moved to proper position will serve as levers to firmly force the tray sections together.

With these and other objects in view, as will more fully hereinafter appear, the invention consists in certain novel features of construction and arrangement of parts, hereinafter fully described, illustrated in the accompanying drawings, and particularly pointed out in the appended claims, it being understood that various changes in the form, proportions, size and minor details of the structure may be made without departing from the spirit or sacrificing any of the advantages of the invention.

In the accompanying drawings:—Figure 1 is a perspective view of a wheelbarrow constructed in accordance with the invention. Fig. 2 is a similar view showing the position of the parts during assembling. Fig. 3 is a detail perspective view showing the various parts of the barrow detached. Fig. 4 is a transverse sectional view through the tray and a portion of the frame of the barrow on the line 4—4 of Fig. 1. Fig. 5 is a sectional view on the line 5—5 of Fig. 1. Fig. 6 is a similar view on the line 6—6 of Fig. 1.

Similar numerals of reference are employed to indicate corresponding parts throughout the several figures of the drawings.

The wheel 10 may be of any ordinary construction, and is mounted on a spindle 11 that is adapted to bearing openings at the front ends of a pair of handles 15 which preferably are of rectangular form in cross section throughout the greater portions of their length. Each of the handle members carries a side section 16 of the tray, and each of these sections is provided with parallel inner and outer edges and tapered front and rear edges, the sections gradually increasing in width from the center of the tray outward and at the meeting point at the center of the tray the edges are beveled, said edges being disposed in a vertical plane, so that they will fit closely together.

The side sections 16 are secured to the handle 15, and for this purpose the upper edges of said handle members are slightly tapered, as indicated at 17, Fig. 4, in order to form a flat seat for such side sections. It will be observed that the distance between the handle members gradually increases from the wheel 10 rearward, and as the outer edges of the tray are in parallel relation, the handle members will cross the tray sections at a slight angle to both edges, so that it will serve not only as a carrier for the side section, but, also, as an inclined brace therefor, the connection being much more secure than if the handle member were parallel with the edges of the section. Each handle member 15 carries a section 16, and a large quantity of these sections may be conveniently assembled in very small space for shipment.

The rear section 18 of the tray is approximately triangular in form, the end portions of its rear edge being slightly rounded, as indicated at 19, in order to be flush with the outer edges of the sections 16. This tray section is carried by a brace member of the barrow, said brace member including a pair of struts 20 which are nailed or otherwise secured to the section 18, at their upper ends, and which are arranged on slightly convergent lines toward their lower ends, and near the lower ends are united by a cross bar 21 which is nailed or otherwise secured in place.

The angular relation of the struts 20 is the same, or approximately the same, as the angular relation of the members 16, and when struts are placed outside the handle members in assembling the parts of the barrow, as shown in Fig. 2, the struts and the handles will be substantially in parallel relation with each other.

The struts are united to the handles by bolts 23 which are passed through the previously formed openings in the struts and handles, while the members are in the position shown in Fig. 2, that is to say, while the struts are at a very slight angle to the length of the handles, and on further manipulation these bolts 23 act as pivots on which the struts will turn, the lower ends of the struts being forced downward and rearward to the position shown in Fig. 1, and thus turning the upper ends of the struts, and the end sections 18 of the tray forwardly into the final position, the angularly related edges of the section 18 fitting against the inclined rear edges of the side sections 16.

In order to form a tight joint between the rear and side sections, the rear edges of said side sections are beveled, as indicated at 25, and at 26, in Fig. 5, and the manner in which the members come together is, also, shown in this figure. When the bolts are placed in position, the strut members and the back section are approximately in the position indicated by dotted lines, and then by using the pivot bolts as fulcrums, the brace or strut is turned to the full line position, and the rear section is thus carried over the beveled edge 25 and firmly locked thereagainst, so that the bevel edges 25 will serve as a support for the angularly related forward edges of such rear section, and owing to the leverage force exerted a very tight joint will be formed.

The front section 28 of the tray is of the same general contour as the section 18, the opposite ends of the forward edge of such section 28 being slightly rounded as indicated at 29, in order to be flush with the side edges of the sections 16. Such forward section is carried by the leg members 30, and said leg members are provided at their lower ends with foot pieces 31, the latter having a plurality of bolt receiving openings 32 for the passage of bolts 33, so that the foot piece may be adjusted in order to compensate for wear, or may be removed in case new foot pieces are required.

The leg members slightly taper from the top downward, and are connected to the handle members by suitable bolts 34, and the lower edges of the section 28 are beveled, being disposed on approximately horizontal lines, as indicated at 35 in Fig. 6, in order to conform to the lower surface of the sections 16, and these beveled edges are in part supported by contact with the beveled faces 17 of the handle members at the points where said section crosses the handle members, as shown in Fig. 2. The forward edges of the side sections 16 are tapered on lines corresponding to the upper face of the section 28, so that the latter may fit snugly thereagainst and form a support for the entire lengths of the front edges of both sections 16.

In assembling the parts of the barrow, the lower ends of the strut members 20 pass beneath the lower ends of the leg sections 30 and the parts are secured in this position by bolts 38 that extend through openings in the foot pieces and the struts, so that at each side of the barrow there is a triangular truss formed of the handle, the leg, and the strut, a structure that presents the greatest possible strength and in which the strain is evenly distributed.

The cross bar 21 which unites the strut members is arranged at such a distance from the lower ends of the struts that it will bear on top of the foot pieces 31, thus adding materially to the rigidity of the structure, inasmuch as said cross bar is held down tightly in place by the bolts 38. The foot pieces project somewhat to the rear of the center of the truss in order to render the barrow more stable during loading, and in order to form a convenient fulcrum point in case of dumping with one of the foot pieces on the ground.

The construction of the barrow is such that it may be shipped knock down to the purchaser and during shipment may be packed in much smaller compass than barrows of the ordinary type. As each section includes a tray member and a frame member, and all are interchangeable, barrows may be readily erected and it becomes impossible to place the parts in wrong position, while skilled labor is not essential.

I claim:—

1. In a wheelbarrow, a tray formed of side and end sections, the edges of which are beveled and interfit for mutual support, the rear edges of the side sections presenting a beveled seat for the lowest edge of the rear end section whereby the latter may exert downward pressure on the side sections, frame members detachable from each other, and each permanently secured to one of the tray sections, the securing means of the frame section which carries the rear end section of the tray serving as a fulcrum during assembling of the parts to force the tray sections tightly together.

2. In wheelbarrow construction, a tray formed of side and end sections, the rear edges of the side sections being beveled to present a seat for the lower edge of the rear end section whereby the latter may exert downward pressure on the side sections, detachable frame members each permanently secured to one of the sections, and frame securing means including a bolt con-

necting the frame member of the rear end section to the frame members of the side sections, whereby the rear end section may be forcibly swung against the beveled rear edges of the side sections in order to force the latter forward and downward and thus firmly lock the sections of the tray together.

3. In a wheelbarrow, a tray comprising a pair of side members having beveled meeting edges, front and rear sections, the meeting edges between the front and rear sections and the side sections being arranged to interfit for mutual support, handles disposed at an angle to the side edges of the side sections, and permanently secured to said sections, thereby forming a diagonal brace or reinforce for each of such side sections, a wheel journaled at the forward ends of the handles, a pair of legs permanently secured to the front section and to the handle members, a pair of struts permanently secured to the rear section and to the handle sections, and means for securing the lower ends of the struts and legs to each other.

4. In a wheelbarrow, a tray including a pair of side sections having tapered meeting edges, handles forming a part of the frame and permanently secured to the side sections, an approximately triangular tray section arranged to form the rear of the tray, a pair of struts permanently secured to said rear section, a pair of securing bolts connecting the struts to the handles and serving as fulcrums on which said struts may turn in assembling the parts, a cross bar connecting the lower portions of the struts, a front tray section, a pair of legs permanently secured thereto, and to the handles, the lower ends of the struts fitting under the lower ends of the legs, a pair of detachable foot pieces carried by the legs, and bearing against the lower face of the cross piece of the struts and securing bolts connecting said foot pieces to said struts.

5. In wheelbarrow construction, a wheel, handle members arranged on divergent lines from the wheel rearwardly, a pair of struts connected to the handles at a point intermediate the ends of the latter, and located outside of such handles, the angle of the struts with relation to each other being similar to that of the handles, and a sectional tray including a rear section that is rigidly secured to the struts, and side members that are rigidly secured to the handles, the rear edges of the side sections, and the forward edge of the rear section being provided with interfitting bevel edges which may be brought into close relation by turning the pair of struts with relation to the handles as the parts of the frame are assembled.

6. In wheelbarrow construction, a sectional tray including side members, the rear edges of which are provided with a double bevel, a pair of handle members carrying the side members, a pair of struts movable into a position against one of the beveled surfaces, and a rear tray section carried by the struts and movable thereby into a position against the other beveled surface of such side section.

7. In wheelbarrow construction, a pair of handle members arranged at an angle to each other, gradually converging from the handle ends toward the forward ends and provided at the forward ends with means for supporting a wheel, a leg member and a strut member, a tray formed of a plurality of sections, each of which is permanently secured to one of said members, the handle members which carry the side sections of the tray extending under such side sections at an angle to the plane of the inner and outer edges thereof and serving as an inclined brace to reinforce such side sections.

8. In wheel barrow construction, a frame including legs and struts, and detachable endwise adjustable foot pieces connected to both the legs and the struts.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

VIRGIL A. GATES.

Witnesses:

ALFRED B. DENT,

C. E. DOYLE.