(No Model.) 2 Sheets—Sheet 1.

F. TAYLOR.

WHEELBARROW.

No. 594,766. Patented Nov. 30, 1897.

Fig. 1.

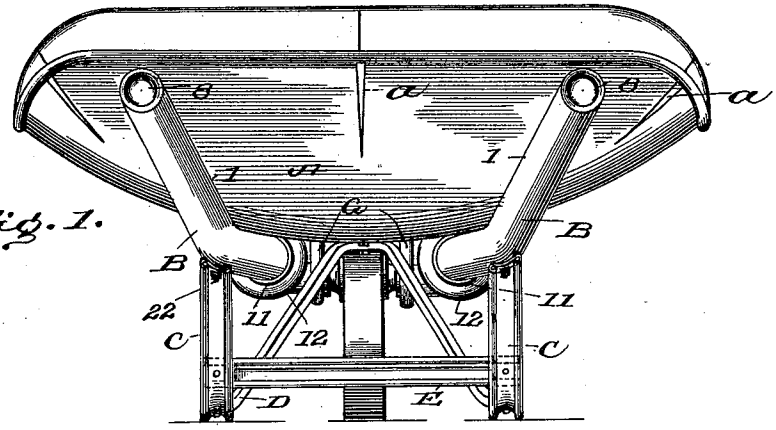


Fig. 2.

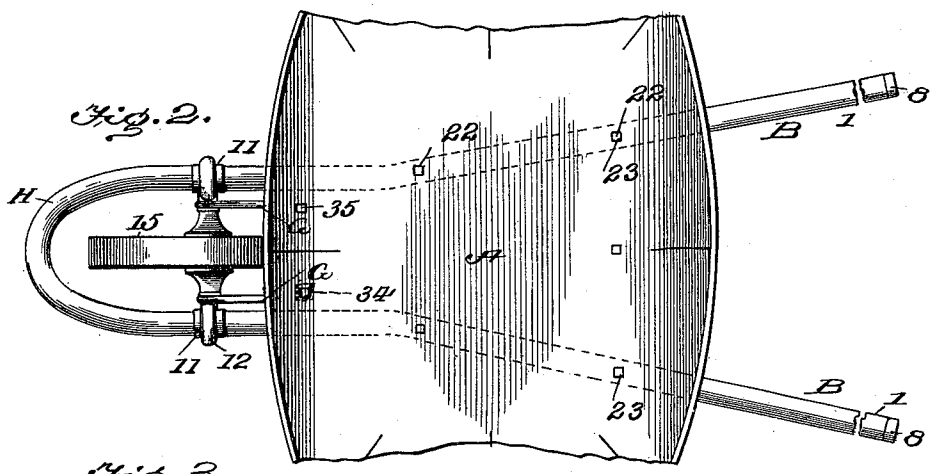


Fig. 3.

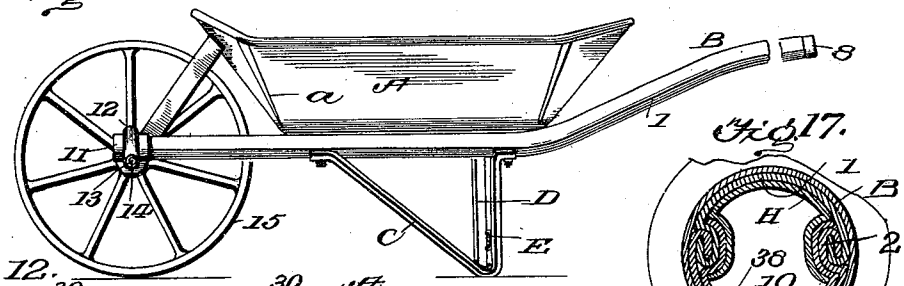


Fig. 12.

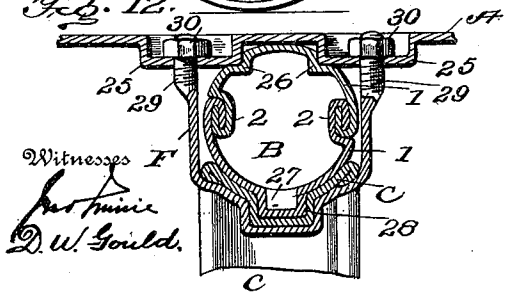


Fig. 13.

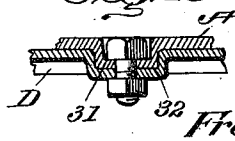


Fig. 17.

Witnesses
F. [illegible]
D. W. Gould.

Inventor
Frederick Taylor
By Wm Hunter Myers
His Attorney

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

(No Model.) 2 Sheets—Sheet 2.

F. TAYLOR.

WHEELBARROW.

No. 594,766. Patented Nov. 30, 1897.

Fig. 14.

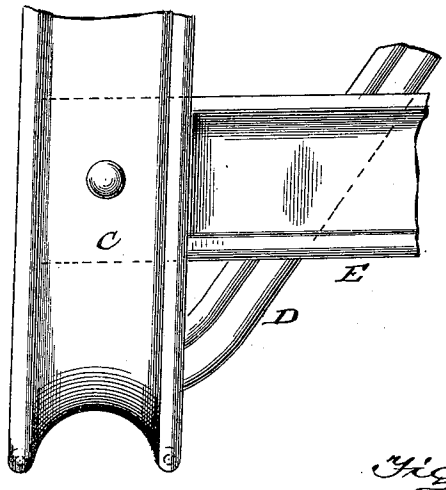


Fig. 11.

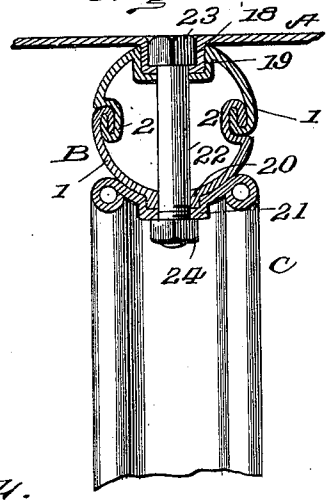


Fig. 4.

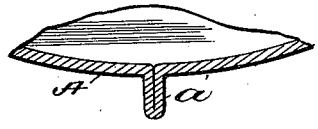


Fig. 15

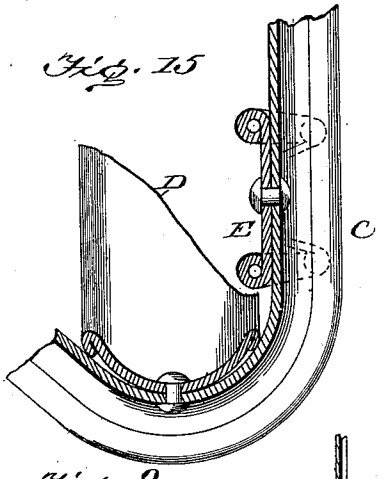


Fig. 5.

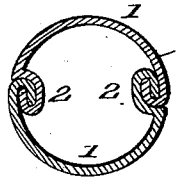


Fig. 8.

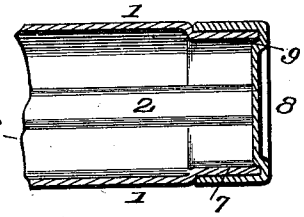


Fig. 10.

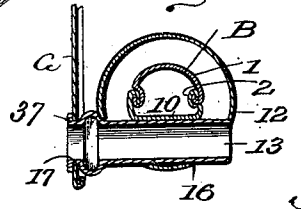


Fig. 16.

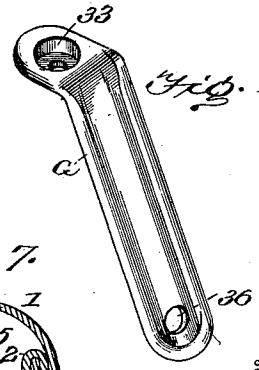


Fig. 9.

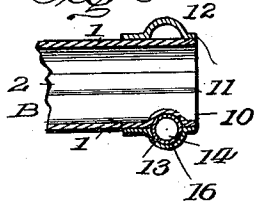


Fig. 6.

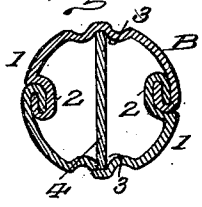
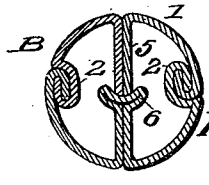


Fig. 7.



Witnesses.

D. W. Gould.

Inventor

Frederick Taylor

By Wm. Hunter Myers,

his Attorney

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

FREDERICK TAYLOR, OF SIDNEY, OHIO, ASSIGNOR OF ONE-HALF TO THE AMERICAN STEEL SCRAPER CO., OF SAME PLACE.

WHEELBARROW.

SPECIFICATION forming part of Letters Patent No. 594,766, dated November 30, 1897.

Application filed June 9, 1897. Serial No. 640,037. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK TAYLOR, a citizen of the United States, residing at Sidney, in the county of Shelby and State of Ohio, have invented certain new and useful Improvements in Wheelbarrows, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to an improved wheelbarrow, the novel characteristics of which are, first, the formation of the tray with integral strengthening-ribs; secondly, the formation of tubular handles smooth on the outer surface and strengthened and braced longitudinally on the inner side; thirdly, the construction of the legs and braces with a view to lightness and strength; fourthly, the manner of interlocking and securing various parts together, and, fifthly, the construction of a hollow wheel-guard separate from and adapted to be removably secured directly to the hollow handles.

Other novel features will be hereinafter described in connection with the accompanying drawings, and then pointed out in the claims.

Figure 1 of the drawings is a rear elevation of my improved wheelbarrow. Fig. 2 is a plan view of the same. Fig. 3 is a side elevation of the wheelbarrow, omitting the wheel-guard. Fig. 4 is a sectional elevation of a portion of the tray, illustrating one of the integral strengthening-ribs on its outer surface. Fig. 5 is a transverse vertical section of one of the handles, illustrating its construction and the manner of forming the longitudinal ribs. Fig. 6 is a view similar to Fig. 5, the handle being provided with an interior brace. Fig. 7 is a modification of Fig. 6, showing the brace formed integral with the handle-sections. Fig. 8 is a longitudinal vertical section of the rear portion of the handle, illustrating the manner of closing the end. Fig. 9 is a broken longitudinal vertical section of the front or wheel end of one of the handles, showing the manner of constructing the bearing for the wheel-axle. Fig. 10 is an enlarged transverse vertical section of the same, showing the manner of securing the lower ends of the forward braces. Fig. 11 is a vertical sectional view showing the manner of interlocking the tray, the handles, and the legs together and the preferable means for securing them. Fig. 12 is a modification of the construction shown in Fig. 11, a clip being substituted for the bolt. Fig. 13 is a detail sectional view illustrating the manner of securing the braces to the tray. Fig. 14 is a broken rear elevation showing the manner of securing the cross and diagonal braces to the legs. Fig. 15 is a vertical longitudinal section of the same. Fig. 16 is a perspective view of one of the forward braces. Fig. 17 is a sectional view showing the wheel-guard telescoped in the end of the handle.

In the construction of wheelbarrows it is desirable that all the parts be made as light as possible consistent with requisite strength, this being the dominant idea in respect to the tray, the handles, the legs, and the braces of my improved wheelbarrow.

In the drawings, A represents the tray, stamped up from a thin blank of sheet-steel or other suitable material in such manner as to produce on the outer surface small integral ribs *a*, these ribs being positioned at the corners or other desired portions of the tray and stamped up so as to avoid any depressions in the inner surface of the tray, leaving this surface practically smooth, all as clearly shown in Fig. 4.

B represents the handles, which are made of two segmental sections 1 of sheet metal, the edges of which are curved inward and interlocked, thus forming longitudinal seams or ribs 2, as seen in Fig. 5. These ribs, it will be evident, materially strengthen the handles, rendering them suitable for very heavy work; but I may still further strengthen them by shaping the sections so as to form vertical grooves 3 on the interior and inserting therein a vertical brace 4. In Fig. 7 I have shown a modification of this feature, in which the brace 5 is formed integral with the sections, half on each, the lower portion of the brace being formed with a head 6, upon which the lower edge of the upper portion rests. The rear ends of the handles are reduced in diameter, as at 7, Fig. 8, and are each covered by a cap 8, which is shouldered at 9, so as to enter the end of the handle, thus preventing collapsing of the end.

In the under side of the front end of each

handle is formed a depression 10, and on this end of the handle I shrink a band 11, having a circular bead 12 on its outer surface, the bead being positioned to register with the depression 10, forming a bearing for the reception of a steel bushing 13, in which the axle 14 of the wheel 15 is journaled, it being understood that the bead 12 is provided with openings 16 to permit the introduction of the bushing, as seen in Figs. 9 and 10. The inner end of each bushing is formed with a circumferential groove 17, serving to secure the lower ends of the forward braces, as hereinafter described.

C represents the legs, D a continuous brace connecting the legs and tray, and E a cross-brace connecting the legs, all these parts being preferably formed of U-shaped metal and having their edges beaded, as shown.

In securing the tray, handles, and legs together I construct the parts so that they will interlock with each other and prevent lateral movement, thus giving rigidity to the structure and providing against shearing strain on the bolts. This interlocking of the parts I accomplish in a manner following: In the bottom of the tray, directly over the handles, I stamp down dowel-shaped projections 18, and in the upper portion of each handle I form a corresponding depression 19, adapted to receive the extension 18. In the lower portion of the handle I also form a short extension 20, which enters a depression 21 in the leg. When thus formed, the parts are secured together by a headed bolt 22 passing through them, the head 23 of the bolt being located in the dowel extension 18 in the tray, the lower screw-threaded end of the bolt being provided with a nut 24, all as clearly seen in Fig. 11.

In Fig. 12 I have shown a modified manner of securing the tray, handles, and legs together without the use of a bolt passing through the handles or legs. In this construction I form in the bottom of the tray, at points on each side of each handle, dowel-shaped extensions 25, the inner corners of which abut against squared shoulders 26, formed in the upper portion of the handle. In the lower portion of the handle I form a dowel-shaped projection 27, which fits into a corresponding depression 28 in the leg C, and around the leg and handle, for securing the tray, handle, and leg together, I place a clip F, having screw-threaded ends 29, which pass through the tray and are secured by nuts 30, located in the dowel-shaped extensions 25 in the tray, it being understood that the bottom of the clip is shaped to conform to the under side of the leg.

The brace D is interlocked with the tray by a dowel extension 31 in the tray entering a corresponding depression 32 in the upper side of the brace, the parts being bolted together, as seen in Fig. 13. The ends of the brace D and also the cross-brace E are riveted to the legs C, as seen in Figs. 14 and 15.

G represents the forward braces, in each of which, near the upper end, is formed a depression 33, into which fits a dowel extension 34 on the tray, a bolt 35 securing the upper end of the brace to the tray. In the lower end of the brace is formed a hole 36, adapted to take over the end of bushing 13 and rest in the groove 17 therein, the end of the bushing being then upset, as shown at 37, Fig. 10, to secure the lower end of the brace.

The depressions made in the tray in the formation of the dowel extensions while serving the useful purpose of permitting the above-described interlocking of the parts also serve as housings for the bolt-heads, whereby said bolt-heads, being below the plane of the inner side of the tray, present no obstruction in the use of a shovel.

H represents the wheel-guard, adapted to be removably secured to the forward ends of the handles. The guard is formed of sections similar to the handle-sections, its ends being telescoped into the ends of the handles, the lower part of the telescoping portion of each end of the wheel-guard being flattened, as at 38, to permit the ends of the guard to pass the depressions 10, formed in the handles, all as clearly shown in Fig. 17. By having the wheel-guard removable I am enabled to save considerable space in the shipment of the parts over the ordinary construction in which the wheel-guard is formed integral with the handles. Again, by telescoping the ends of the wheel-guard into the handles I gain additional strength just where the bearings for the wheel-axle are located, thus permitting this part of the handle to be made as light as any other part.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a wheelbarrow, a tray stamped up from sheet metal and formed with integral outwardly-projecting stiffening-ribs in such manner as to leave the inner surface of the tray practically smooth.

2. In a wheelbarrow, hollow handles, each constructed of sheet-metal sections interlocked together on the inner side in such manner as to form longitudinal strengthening-ribs at the junction of said sections.

3. In a wheelbarrow, hollow handles, each constructed of sheet-metal sections interlocked together on the inner side in such manner as to form longitudinal strengthening-ribs at the junction of said sections, and provided with a longitudinal vertical brace.

4. In a wheelbarrow, legs and braces formed of sheet metal approximately U-shaped in cross-section and having beaded edges.

5. A wheelbarrow having hollow metal handles, with which the metal tray and legs are adapted to interlock, and provided with means for securing these parts in the interlocked condition.

6. In a wheelbarrow, hollow metal handles each having a rectangular depression in its upper side and a dowel extension on its lower

side, a metal tray having dowel extensions adapted to fit in the depressions in the handles, metal legs having depressions in their upper surfaces adapted to receive the dowel extensions on the handles, and means for securing the tray, the handles, and the legs together.

7. In a wheelbarrow, the combination, with the metal tray and legs, of a transverse metal brace suitably secured at its ends to the legs, its middle portion being interlocked with and secured to the tray.

8. In a wheelbarrow, the combination, with the wheel and its axle, of hollow metal handles each having a transverse semicircular depression in its under surface, near the front end, a metal band encircling the front end of each handle and formed with a bead having openings in register with said depression in the handle, said depressions in the handles and the beads on the bands together forming journal-bearings for the wheel-axle, and suitable bushings for said bearings.

9. In a wheelbarrow, the combination, with the tray, handles having journal-bearings for the wheel-axle, and bushings in said bearings, the bushings being each formed with an annular groove, of braces for the front end of the tray, the lower ends of said braces resting in the grooves in the bushings, while their upper ends are interlocked with and bolted to the tray.

10. In a wheelbarrow, the combination, with hollow handles, of a hollow wheel-guard adapted to be detachably secured directly to the handles.

11. In a wheelbarrow, the combination, with hollow handles, of a hollow wheel-guard the ends of which are adapted to telescope in the ends of the handles.

12. In a wheelbarrow, the combination, with the hollow handles formed with depressions in their forward ends and the wheel, the axle of which is mounted in said depressions, of a hollow wheel-guard adapted to partially telescope in the ends of the handles, the ends of the wheel-guard passing inward beyond said depressions, whereby the handles are strengthened at the bearing-points of the wheel-axle.

In testimony whereof I affix my signature in presence of two witnesses.

FREDERICK TAYLOR.

Witnesses:

CHAS. E. BETTS,

WILBER E. KILBORN.