J. UPSTONE.

Metallic-Wheelbarrow.

No. 207,225. Patented Aug. 20, 1878.

Fig. 5.

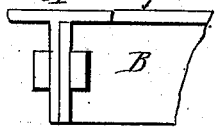


Fig. 4.

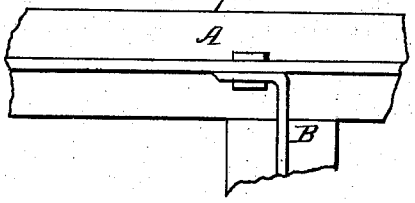


Fig. 1.

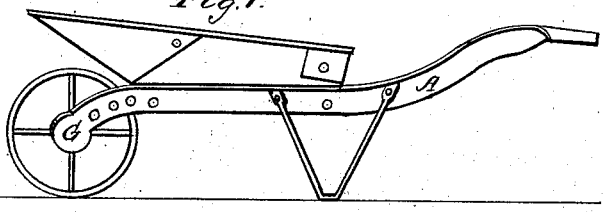


Fig. 2.

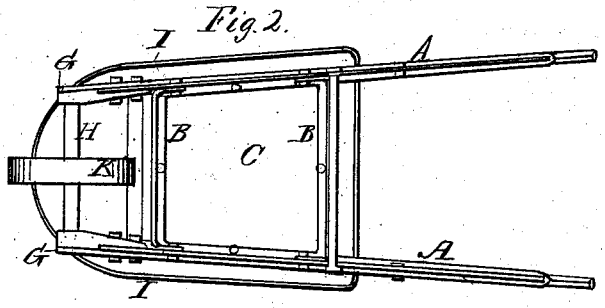
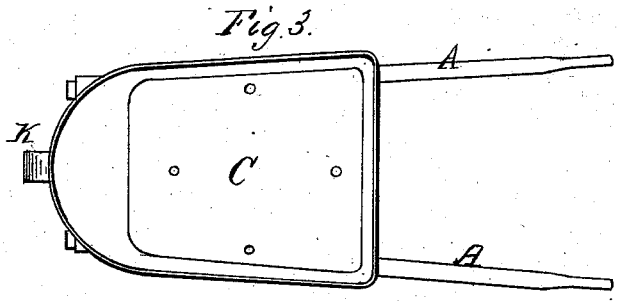


Fig. 3.



Witnesses
W. F. Clark.
J. V. DeVry

Inventor
John Upstone
by Jos L. Borne
his Attorney

UNITED STATES PATENT OFFICE.

JOHN UPSTONE, OF SAN FRANCISCO, CALIFORNIA.

IMPROVEMENT IN METALLIC WHEELBARROWS.

Specification forming part of Letters Patent No. **207,225**, dated August 20, 1878; application filed May 7, 1878.

To all whom it may concern:

Be it known that I, JOHN UPSTONE, of the city and county of San Francisco, in the State of California, have invented certain new and useful Improvements in Metallic Wheelbarrows; and I do hereby declare that the following is a clear, full, and exact description, reference being had to certain drawings accompanying this specification and forming a part thereof.

This invention has relation to metallic wheelbarrows; and the object or purpose thereof is to construct a wheelbarrow of metallic T-shaped straps or T-iron, and connect them together to form a frame and handles that will render the barrow strong and durable, as will be hereinafter described, and subsequently pointed out in the claim.

Metallic wheelbarrows have been adopted almost to the exclusion of wooden ones in mines and other places where rough and heavy work is to be done. It is, therefore, essential that they be made strong and durable, and at the same time as light as possible.

To accomplish this I make the side bars, A, and cross-bars B, which compose the frame of the barrow, of T-iron. This form of iron makes a more rigid and unyielding frame than any other form, because the rib or web of the iron is at right angles to the flat top plate, and extends longitudinally along underneath its middle, thus providing a flat upper surface for the tray C to rest upon, and a wide strengthening rib or flange directly under it. It is important that the strengthening-rib be directly under the middle of the flat upper plate, because it gives greater rigidity against lateral strains, and it is not liable to twist in either direction. Besides this, it enables me to construct the barrow in better form and at less expense than if the rib were under one edge of the flat plate.

The cross-bars B, I also make of T-iron, as follows: I cut off a portion of the upper flat plate of each bar at each end, so that its ends will just come inside of the edges of the flat side bars, leaving the web or rib of the cross-bars extending at each end. I then bend a portion of these extended ends of the rib at right angles, as shown at Figures 4 and 5, so that the bent portions will fit against the ribs of the side bars. I then secure the parts together with rivets or bolts and nuts, as desired. This arrangement makes a bracing-joint, so that the frame is rendered exceedingly strong and unyielding. At the same time the construction is simple and the parts easily put together. In some cases I shall use steel in the T form instead of T-iron.

To form the handles I cut off the web and bend the upper flat bar into a tubular form, as shown.

Each of the boxes or bearings G, in which the ends of the axle H bear, I make in a separate piece, and bolt or rivet it to the inside of the web or rib of the side bars, and to protect the outside of the box or bearing from dirt and dust I secure a plate, I, on the outside of each web or rib, so that it will cover the outside of the box, as shown at Fig. 2. The same rivets or bolts can fasten both the box G and plate I to the rib.

The ends of the axle H, I arrange to rotate in the boxes G when the wheel K is fixed to the axle, and I may provide set-screws for preventing the axle from rotating in the boxes when the wheel is loose. The wheel K may also be placed loose upon the axle, and provided with set-screws for making it tight when desired, thus arranging for converting the loose wheel into a fixed wheel, as preferred.

By these improvements I provide a wheelbarrow that is especially adapted for rough usage, and one that can be made easily and properly fitted together with little labor and expense.

Having described my improvements, what I claim, and desire to secure by Letters Patent, is—

A metallic wheelbarrow having the T-iron side bars, A, connected by T-iron cross-braces B, the upper flat part of which is cut off at each end, so as to fit inside the edges of the flat part of the side bars, while the rib-extensions at each end are bent to fit against the rib portions of the side bars to which they are riveted or bolted, substantially as and for the purpose above described.

In witness whereof I have hereunto set my hand and seal.

JOHN UPSTONE. [L. S.]

Witnesses:
E. J. FRASER,
W. F. CLARK.