C. R. HIGHT.

Improvement in Wheel-Barrows.

No. 130,129. Patented Aug. 6, 1872.

Fig. 1

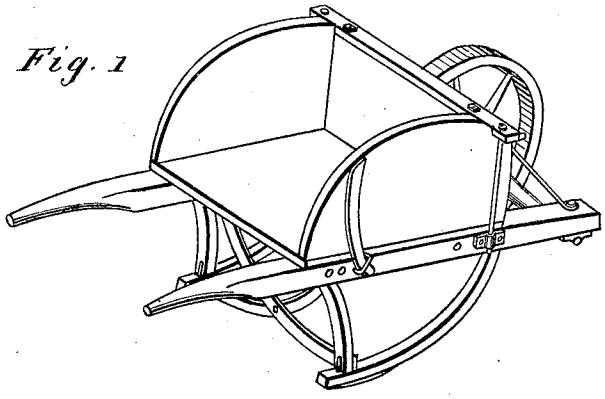


Fig. 2

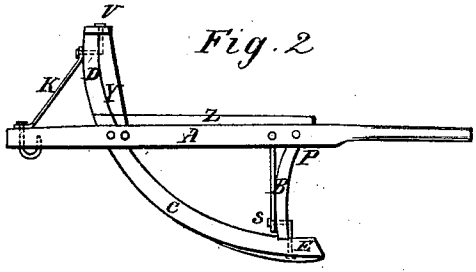


Fig. 3

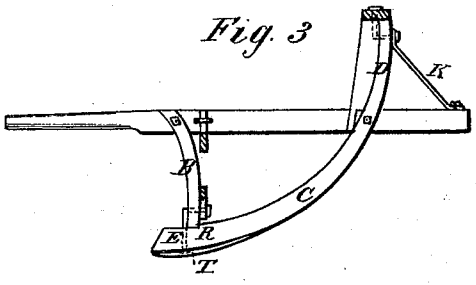


Fig. 4

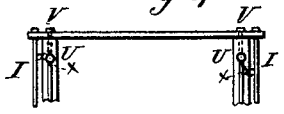


Fig. 5

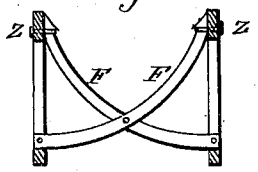


Fig. 6

Fig. 7

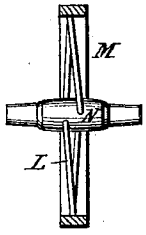


Fig. 8

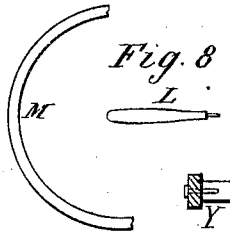
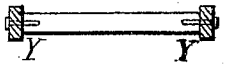


Fig. 9

Fig. 10



Witnesses

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UNITED STATES PATENT OFFICE.

CORNELIUS R. HIGHT, OF GENEVA, ILLINOIS.

IMPROVEMENT IN WHEELBARROWS.

Specification forming part of Letters Patent No. **130,129**, dated August 6, 1872.

SPECIFICATION.

To all whom it may concern:

Be it known that I, CORNELIUS R. HIGHT, of Geneva, county of Kane and State of Illinois, have invented new and useful Improvements in Wheelbarrows; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawing and letters marked thereon making a part of this specification.

The nature of my invention consists in the construction of wheelbarrow-frames so arranged as to dispense with the use of mortises and tenons, frequently combining in one, two, or more parts, usually made separate, a simple constructed wheel and foot-protecting arrangement, which greatly facilitates the manufacturing process and secures greater simplicity and strength, and adapted to any style of box or service required; of which—

Figure 1 is a perspective view of the wheelbarrow complete. Fig. 2 is a side sectional view of the frame. Fig. 3 is a view of extension side brace and leg, showing their connection. Fig. 4 is the front cap as resting on the uprights. Fig. 5 is a cross-coupling brace in position. Fig. 6 is a cast-iron shoe. Fig. 7 is a sectional view of the wheel, showing manner of setting the spokes. Fig. 8 is a section of bent stock and spoke used in construction of the wheel. Fig. 9 is a form of a hook and angle-bolt used in coupling the parts together. Fig. 10 is a cross-bar used to couple the side sections of the frame.

Letter A, Fig. 2, the ordinary side rail; letter B, Fig. 2, the leg made of bent stock; letter C, Fig. 2, the extension side brace of bent stock; letter D, Fig. 2, the front upright; letter E, Fig. 2, the foot; letters F F, Fig. 5, two similar cross-braces of bent stock; letter G, Fig. 9, angle-coupling bolt; letter H, Fig. 9, hook; letters I I, Fig. 4, section of side rods to hold side boards; letter J, Fig. 4, the ordinary cross-cap; letter K, Fig. 2, the iron brace to front upright; letter L, Fig. 8, a spoke of the wheel; letter M, Fig. 8, a section of rim of the wheel; letter N, Fig. 7, hub of the wheel; letter O, Fig. 6, cavity in cast-iron shoe to cover nut under foot E, Fig. 2.

To enable others skilled in the art to make and use my invention, I proceed to describe its construction and operation.

I construct my wheelbarrow-frames principally of bent stock, substantially the same as used for buggy-fellies, combined with the ordinary side-rail cap, &c. For the common-sized frame I use one and three-fourths-inch bent stock, describing circles of three feet eight inches and four feet two inches, respectively. I cut the leg of the smaller circle of bent stock, connect it to the side rail by cutting away the outer half of the upper end as low as the rail is deep, thus forming a bearing against the inside and under edge of the rail, and secure to each other with common bolt at point P, Fig. 2. I attach, also, with common bolt, the extension side brace to the side rail by slightly notching each, leaving a projection of the side rail outwardly to form a bearing for the side board. The convexed edge of the side brace is set downward and passes back beneath and beyond the leg, forming the foot E, on the upper side of which, at point R, Fig. 3, I form a bearing for the leg by cutting in three-eighths of an inch deep and running to feather-edge one and a half inch back. I cut the end of the leg to correspond with this notch in the foot and secure them to each other with an angle-bolt by passing the shortest end of the bolt forward through the leg two inches above the end, which also receives the end of the cross-brace, as at S, Fig. 2. The body of the bolt passes down, is slightly bedded into the leg, and extends through the foot E, with nut below. (See letter T, Fig. 3.) The front uprights are formed by the extension of the side braces above the side rail and connect with the cross-cap above, as shown in Fig. 4. The cap is made to cover the upper edge of the front board, and rests on and is attached to the ends of the uprights by angle-bolts, the short end of the bolt passing forward through the upright, two inches below the end, to receive the iron brace K in Fig. 2, the body of the bolt passing up between the front board and upright, and is equally bedded into each, extends through the cap with nut above. (See letters V V, Figs. 4 and 2.) From the uprights the cap projects outward two and one-fourth inches to receive the side rods I I, Fig. 4, forming the spaces X X between the rods and uprights, to admit the side boards. To couple the side sections of the frame together I use a cross-bar cut to fit between the side rails at point Y, Fig. 2, secured to the rails by hook-bolts with

nuts on the outside. (See letters Y Y in Fig. 10.) I use, also, in coupling the frames together, and to prevent them from rocking, the two cross-braces F F, Fig. 5. The lower ends are secured to the legs by the angle-bolts at point S, Fig. 2, as described above. The upper ends are secured by hook-bolts H, Fig. 9, locked into the hooks formed on the braces and passing through the side rails, with nut on the outside at point Z, Figs. 2 and 5. The convexed edges of the braces being downward, they cross and are bolted together nearly in a line with the end bolts, and serve as a coupling across the lower end of the legs. In the construction of my wheel I secure the greatest simplicity and strength. I use bent stock and have but two joints in the rim. I set the spokes, eight in number, in a zigzag position, diverging seven-eighths of an inch sidewise each way from the center. I use round tapering holes to admit the spokes in the hub, so arranged as to give proper direction to the spokes, so as to enter centrally into the inner edge of the rim, where shoulders are formed on the spokes by cutting round tenons on the outer ends to connect with the rim. I use small spokes tapering from the hub to the rim. I form the rim of two half sections of bent stock, describing a circle of twenty inches, secured to the spokes as indicated above and to each other by dowels at the connections. I use any suitable material for the box to my wheelbarrow, and construct it in the usual form, with flat bottom and adjustable sides, as most convenient for general use. The front board rests against and is attached to the front uprights. The bottom extends across and rests on the side rails, and connected to the same with nails or screws. The adjustable sides are of the ordinary form and are held in position by the usual fixtures of side rods and cleat. (See rods I I, Fig. 4, and cleat, Fig. 1.) For special services, as for removing of stones, dirt, &c., I construct a corresponding style of box.

What I claim is—

1. The combination and peculiar arrangement of the parts composing the frame and wheel, as set forth in the accompanying specification and drawing.

2. I claim, specifically, the method, as set forth and described, of connecting the extension side brace to the leg and cap by the use of angle-bolts.

3. I claim the use of cross-coupling braces made of bent stock, uniting the two sides of the frame together, substantially as set forth in the above specification and drawing.

C. R. HIGHT.

Witnesses:
W. D. BARRY,
J. W. PANNYTON.