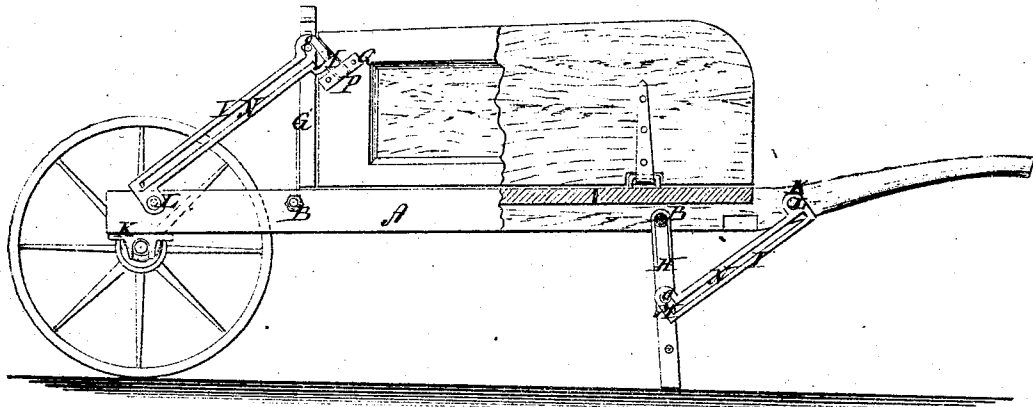


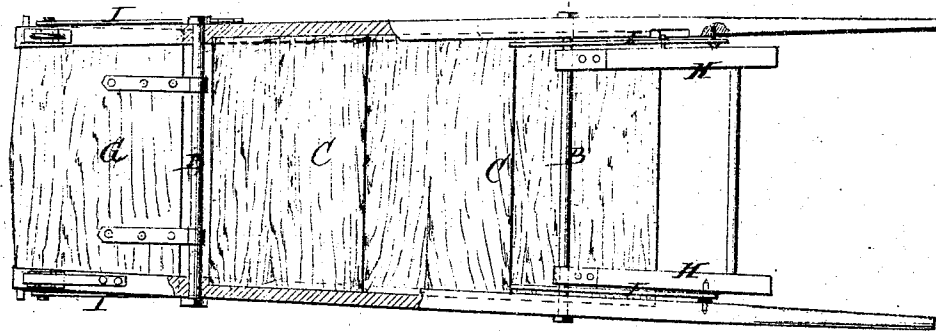
*H. Lawrence, Wheel Barrows.*

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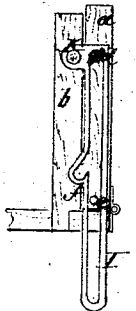
*Fig. 1* PATENTED JUL 18 1871



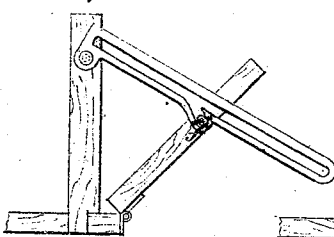
*Fig. 2*



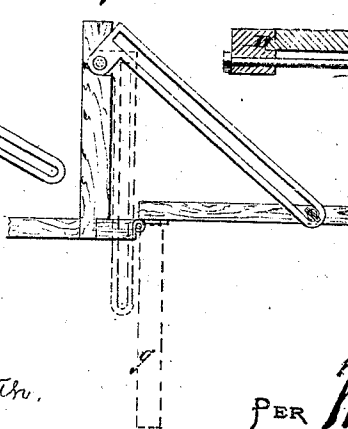
*Fig. 4*



*Fig. 5*



*Fig. 6*



*Fig. 3*



Witnesses:

*G. Raettig.*  
*Wm H. C. Smith.*

Inventor:

*H. Lawrence.*

PER

*Mumford*  
Attorneys.

# UNITED STATES PATENT OFFICE.

HARRY LAWRENCE, OF NEW YORK, N. Y.

## IMPROVEMENT IN WHEELBARROWS.

Specification forming part of Letters Patent No. 117,086, dated July 18, 1871.

*To all whom it may concern:*

Be it known that I, HARRY LAWRENCE, of New York city, in the county and State of New York, have invented a new and useful Improvement in Wheelbarrows; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing forming part of this specification.

This invention relates to improvements in wheelbarrows; and it consists in a mode of uniting the bottom boards with the frame, calculated to economize in material and labor, and in an arrangement of braces for supporting the folding end board and legs, by which they may be locked in the folded condition, which braces are also applicable to the hinged ends of wagon-boxes, to sustain them when swung downward to open the box, and to lock them when closed up.

Figure 1 is a side view of my improved wheelbarrow partly sectioned. Fig. 2 is a plan of the bottom. Fig. 3 is a transverse section of the frame; and Figs. 4, 5, and 6 are side views of part of a wagon-box, showing the application of my improved brace thereto.

The side pieces A of the frame are commonly connected together by two or more cross-pieces framed into them, and the bottom boards are placed on them lengthwise with the said pieces. Now, in making wheelbarrows with folding sides, ends, and legs, such as described in an application for a patent filed by me and now pending, and such as here shown, I propose to make use of transverse rods B for pivoting the said ends and legs upon, and in order to utilize these rods for the purpose of the said cross-pieces—also so that I may dispense with the cross-pieces—I propose to arrange the bottom boards C crosswise and frame the ends into grooves in the side pieces, as shown at D, and clamp them in between the side pieces by a head, E, on one end of the bolts, and nut f screwed on the other end. The braces which I use to support the end boards G and legs H, which are made to fold down upon the frame to economize space for loading and storage, consist of slotted bars I, with a right-angled projection, K, on one end for the pivot L, by which to pivot them to the frame, and another projection, M, on the other end, in which is a right-angled exten-

sion of the slot N for receiving the pin O on the legs or the end board for holding them in the positions shown in Fig. 1. In cases where the braces are pivoted at the end which is highest this extension M will be on the same side that the extension K is; but when the brace is pivoted at the lowest end the extension is on the opposite side of the brace, so that the gravity of the braces will cause it to lock self-actingly, and in this example, wherein the brace for the end board G is also provided with a hooked end, P, for connecting with a clip, Q, on the side board of the box, for holding it up also, the said extension is formed on both sides, the part on the lower side being to provide a notch to make room for the pin O in raising the hook high enough to engage and disengage with the clip. The holes for the pivots L are made as far from the centers of the slots as the distance between the centers of the pins O and L when the end board or legs are folded against the frame, and the said pins O and L are designed to be placed equidistant from the rods B on which the boards or legs oscillate, so that when folded against the frame the braces will be parallel with the frame and the end board or legs. The braces, so arranged and pivoted at the lower end, as in the case of the brace for the end board, will lock the board in the folded position, so that it cannot be raised again except the free ends of the braces be lifted first, for any lifting force applied to the board will be expended in a direct vertical line between the pins O and L; but when arranged as the one connected to the legs is the gravity of the free end will hold it so low that a downward force applied to the legs would force them and the legs down. It is therefore necessary to support the free ends of the braces, when arranged in this way, parallel with the frame, by a pin temporarily applied or a hook. This form of brace, without the slotted lateral extension at one end, is admirably adapted for holding the hinged tail-board of a wagon or cart up against the sides, as indicated in Fig. 4, the part K being pivoted to the end b of the side board and the slot receiving the pin d in the end of the tail-board, so that it will hang parallel with the said tail-board when the latter is closed up. To insure the brace from being thrown backward so that a backward pressure on the end board would raise the braces and thereby let the tail-board fall open, a hook or pin

may be applied at *e* in any way to engage and hold the braces when in this position. The said end boards will be held in the horizontal position, as indicated in Fig. 6, when they are turned down to the ends of the slots *N*, or they may be arrested when part way down by notches *f* in the lower part of the brace, which notches will be purposely placed in the said lower parts to admit of the end boards turning wholly down without holding the braces up, as would have to be the case if in the upper parts. To arrest the said boards by the notches *f* the braces will be held up against the pins by hand. Provision may be made for entirely disengaging the braces from the tail-boards when it may be required to let them swing down vertically, as indicated by the dotted lines *g*, by so shaping the heads of the pins *d* that when the boards are at the lower ends of the braces or nearly so they will allow the braces to be slipped off readily.

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

1. The combination of the side pieces *A*, bottom boards *C*, and rods *B*, all substantially as specified.

2. The improved brace for supporting the hinged end of a wheelbarrow or wagon-box, or the hinged legs of the wheelbarrow, having the lateral projection *K* and the slot *N*, and either having the lateral slotted projection *M* or not pivoted to the frame or box, and connected to the hinged boards or legs to be supported or locked, all substantially as specified.

3. The said brace, constructed as above described, and provided with one or more notches, *f*, substantially as specified.

The above specification of my invention signed by me this 18th day of January, 1871.

HARRY LAWRENCE.

Witnesses:

GEO. W. MABEE,

ALEX. F. ROBERTS.