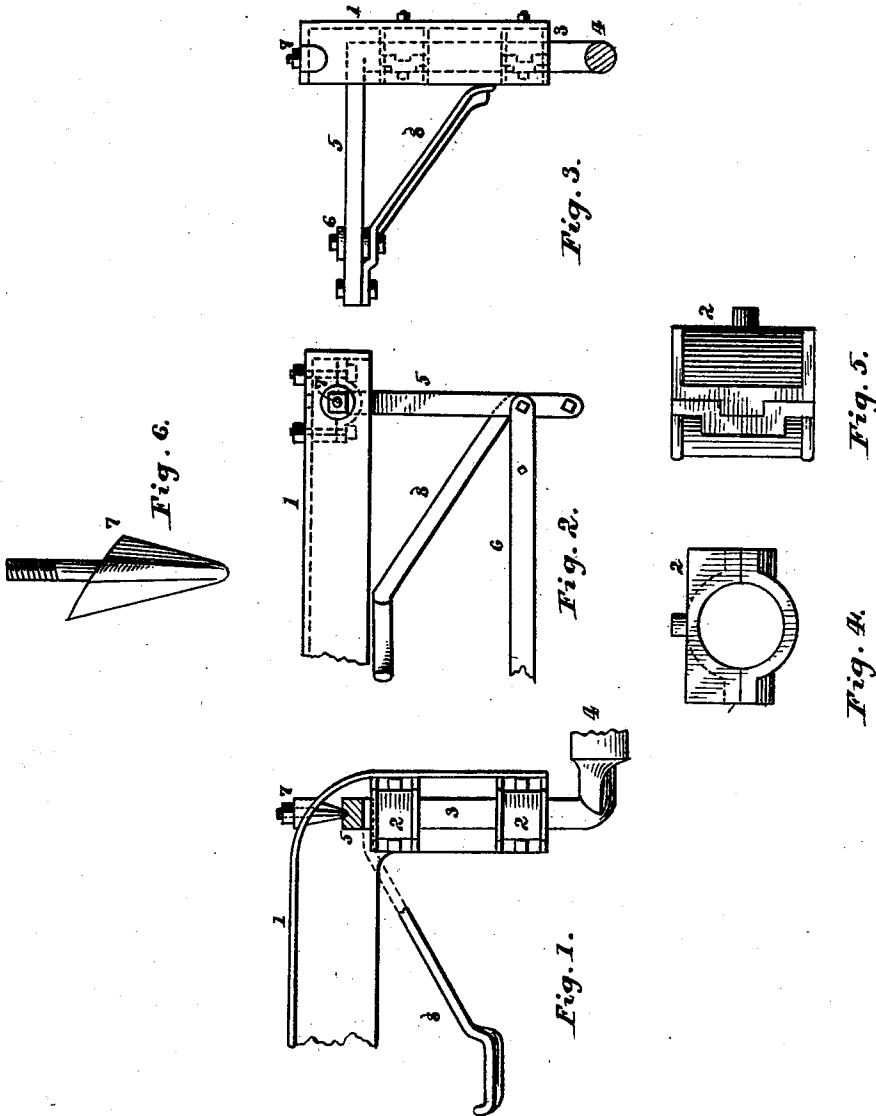


(No Model.)

C. A. BOWEN.
PIVOTAL AXLE, &c.

No. 508,499.

Patented Nov. 14, 1893.



Witnesses
Tom C. Peterson
Geo. Mc. Wright

Attorney
Butler

Inventor
Charles A. Bowen:

C. Humphrey

UNITED STATES PATENT OFFICE.

CHARLES A. BOWEN, OF AKRON, OHIO, ASSIGNOR TO THE AKRON TOOL COMPANY, OF SAME PLACE.

PIVOTAL AXLE, &c.

SPECIFICATION forming part of Letters Patent No. 508,499, dated November 14, 1893.

Application filed October 4, 1892. Serial No. 447,813. (No model.)

To all whom it may concern:

Be it known that I, CHARLES A. BOWEN, a citizen of the United States, residing at Akron, in the county of Summit and State of Ohio, have invented a certain new and useful Improvement in Pivotal Axles for Agricultural Implements, of which the following is a specification.

My invention has relation to improvements in that class of pivotal axles used on wheel cultivators.

Ordinarily the foot-lever by which the axles are rocked is attached by a collar to the bottom of the vertical member of the axle, and the cross-beam of the carriage rests on this. This construction is objectionable for two reasons; first because the weight of the carriage rests on a broad annular base, and thus causes a great amount of friction, requiring great force to be exerted by the rider in rocking the axles; second the low location of the foot-levers prevents the proper elevation of the gangs.

The object of my invention is to overcome these objections by sustaining the carriage upon a pivotal point so as to reduce the frictional surface to a minimum, and by connecting the foot-levers by a peculiar arrangement of parts, at the upper ends of vertical members of the axle; and my further object is to provide self centering boxes for said vertical members.

I attain these objects by my improvement, which consists in the peculiar and novel construction, arrangement and combination of parts hereinafter described and then specifically pointed out in the claims, reference being had to the accompanying drawings, forming a part of this specification.

In the accompanying drawings, in which similar reference numerals indicate like parts in the different figures, Figure 1, is a front elevation of one end of the cross beam of the carriage, and a part of the axle, with the rocking bar in section, illustrating my invention; Fig. 2, a plan of the same, the rocking bar and foot-lever unbroken; Fig. 3, an end elevation, looking toward the center of the carriage; Figs. 4 and 5, a plan and side elevation of the box for the vertical member of the axle; and Fig. 6, an elevation of the pivot bolt.

Referring to the drawings, 1 is a part of the cross beam of the carriage, which is preferably of I form in section, and has its ends curved downward as shown.

In boxes 2, attached to the dependent end of the beam 1, is journaled the vertical member 3, of the pivotal axle, its other member 4, extending horizontally to receive the vehicle wheel. The boxes 2, each embody a base having a projecting lug arranged to enter a corresponding orifice in the beam 1, and a cap arranged to fit on the base, and be retained by bolts, the contiguous faces of the parts being provided with tongue and groove respectively.

Attached to the upper portion of the vertical member 3, of the axle, is a rocking bar 5, by which the axle may be rocked in its boxes, the outer end of which bar extends forward and is connected with a cross-bar 6, the opposite end of which is pivotally attached to the end of the rocking bar of the other axle, to enable both axles to be rocked in unison.

Through a suitable opening in the cross beam 1, and vertically above the member 3, of the axle, is inserted a bolt 7, retained by nuts, and having a lower conical point, which rests in a corresponding conical seat in the upper end of the vertical member 3; and sustains the weight of the cross beam and the parts of the carriage that rest thereon.

Attached to the forward end of the rocking bar 5, by a bolt, and also by a pivotal bolt by which said bar is attached to the cross-bar 6, is the foot-lever 8, which is bent diagonally toward the center of the vehicle, and downward, and terminates in a suitable foot rest. By this arrangement, the weight of the carriage rests on two pivots, whereby a minimum of friction is secured; and the foot lever being attached to the forward end of the rocking lever leaves a greater amount of space for the elevation of the gangs than if attached directly to the lower end of the vertical member of the axle.

I claim as my invention—

1. The combination with the cross-beam, and the axle having its vertical member journaled in the depending end of said beam, of a bolt fastened in said beam, and having its end pointed and resting in a corresponding

seat in the upper end of the vertical member of the axle, as set forth.

2. The cross-beam and the pivotal axle jour-
naled in the depending end thereof, and the
5 pointed bolt fastened in said beam and hav-
ing its end resting on the end of the vertical
member of said axle, and the rocking lever
attached to the upper end of said axle, com-
bined with the foot-lever connected with the
10 outer end of said rocking lever, and extend-
ing backward and downward, substantially
as shown and described.

3. The cross-bar, I-shaped in cross-section,
with downward-turned ends and apertures to

receive the box-lugs; and the pivotal axles ar- 15
ranged to be journaled in the boxes, of boxes
adapted to fit between the flanges of said bar,
and having on one member a lug to enter and
rest in one of said apertures, substantially as
shown and described and for the purpose 20
specified.

In testimony that I claim the above I here-
unto set my hand.

CHAS. A. BOWEN.

In presence of—

C. P. HUMPHREY,
GEO. M. WRIGHT.