J. WAGNER, Jr.

Wheel-Cultivator.

No. 217,914. Patented July 29, 1879.

Fig. 1.

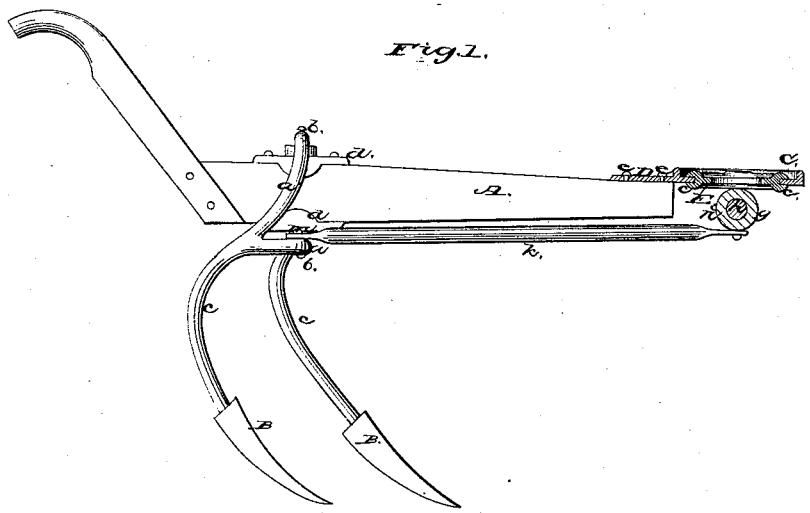


Fig. 2.

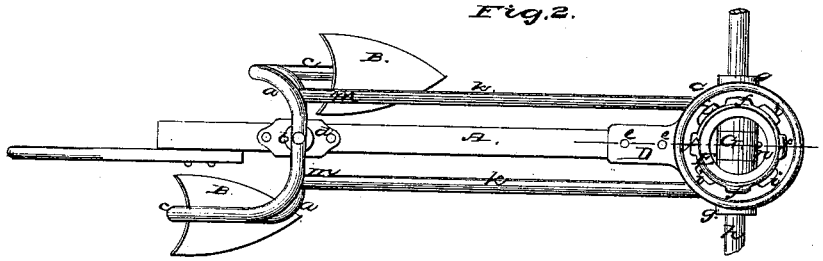
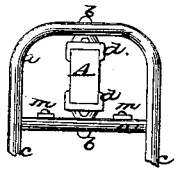


Fig. 3.



Witnesses:

William Hoadley

W. H. Murray

Inventor:

Jacob Wagner Jr

By G. B. Burke Atty.

UNITED STATES PATENT OFFICE.

JACOB WAGNER, JR., OF CHICAGO, ILLINOIS.

IMPROVEMENT IN WHEEL-CULTIVATORS.

Specification forming part of Letters Patent No. **217,914**, dated July 29, 1879; application filed January 23, 1879.

To all whom it may concern:

Be it known that I, JACOB WAGNER, Jr., of Chicago, in the county of Cook and State of Illinois, have invented a new and valuable Improvement in Wheel-Cultivators; and do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a side elevation, and Fig. 2 is a plan view, of a sufficient portion of a cultivator to show my improvement. Fig. 3 is an end elevation, showing the connections of the vibrating yoke-frame to the beam.

The object of my invention is to improve and simplify the mechanism for holding the shovels of a wheel-cultivator in a parallel relation to the axle, and to construct a coupling for connecting the beam to the axle in such a manner that the beam will be prevented from twisting, substantially as hereinafter more fully described.

A, Fig. 1, is the beam, to which a vibrating yoke-frame, *a a*, is pivoted at *b b*, said yoke-frame having curved legs *c c*, to which the shovels B B are attached. *d d* are two clips, which embrace the beam at its upper and under edge, the bolt *b b* extending entirely through the members *a a* of the vibrating frame, clips *d d*, and beam A. Thus the entire strength of the beam to resist the torsional strain of the shovels is transmitted through the yoke-frame and clips *d d*.

A circular ribbed plate, C, having an extension, D, is bolted to the front end of the beam, as shown at *e e*. A corresponding circular plate, E, with lugs *f f* and sleeves *g g*, is attached loosely to the axle *h*. The ribbed plate C is provided on its inner edge with openings or recesses *i i i i*, which correspond with the lugs of the axle-plate E, said lugs being grooved to receive the projecting portions of the circular ribbed plate C, as shown in the sectional part of Fig. 1 at *c c*. Two parallel rods, *k k*, (shown in Fig. 2,) are used to connect the vibrating frame to the axle, they being bolted, as shown at *m m*, to the vibrating yoke-frame *a*, and to the under side of the sleeves *g g* of the axle-plate E. A collar, G, is placed on the axle *h*, between the sleeves *g g*, and made fast to the axle by means of the set-screw *n*, for the purpose of preventing the sleeves *g g* from having lateral motion on the axle. The collar and sleeves by this arrangement may be secured to any desired point on the axle. The vibrating frame *a*, through which the beam passes, may be forged or cast of malleable iron or other metal, the object of its having one bearing above and one below the beam is to resist the strain of the shovels and do away with the friction-wheels and circular plates shown in my application for Letters Patent filed October 23, 1876.

It is evident that two beams may be used in place of the rods *k k*, dispensing with the beam A; or the vibrating frame may extend from the beam A to another similar beam and be connected to it in the same manner, and thus do away with the parallel rods *k k;* but I prefer the plan I have shown.

It will be understood that the cultivator, of which I have only shown a part, has two beams, each of which supports two shovels, and is intended to straddle or work on both sides of the row to be cultivated. The coupling-plates C and E are intended to be cast to fit each other without machine-work, in such a manner that they may be put together or taken apart at an angle of forty-five degrees to each other, the lugs of the plate E corresponding to the opening or recesses of the plate C at that angle.

Having thus described my invention, what I claim as improved parts of a cultivator, and desire to secure by Letters Patent of the United States, is—

1. The circular coupling-plates C and E, sleeves *g g*, and collar G, in combination with the beam A and axle *h*, substantially as described, and for the purpose specified.

2. The coupling-plates C and E, sleeves *g g*, collar G, and axle *h*, in combination with the beam A, parallel rods *k k*, and vibrating yoke-frame *a a*, substantially as and for the purpose herein described.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

JACOB WAGNER, JR.

Witnesses:
W. E. TRAVER,
ISAAC H. PRICE.