

V. HARWELL.

Cultivator.

No. 28,576

Patented June 5, 1860.

Fig. 2.

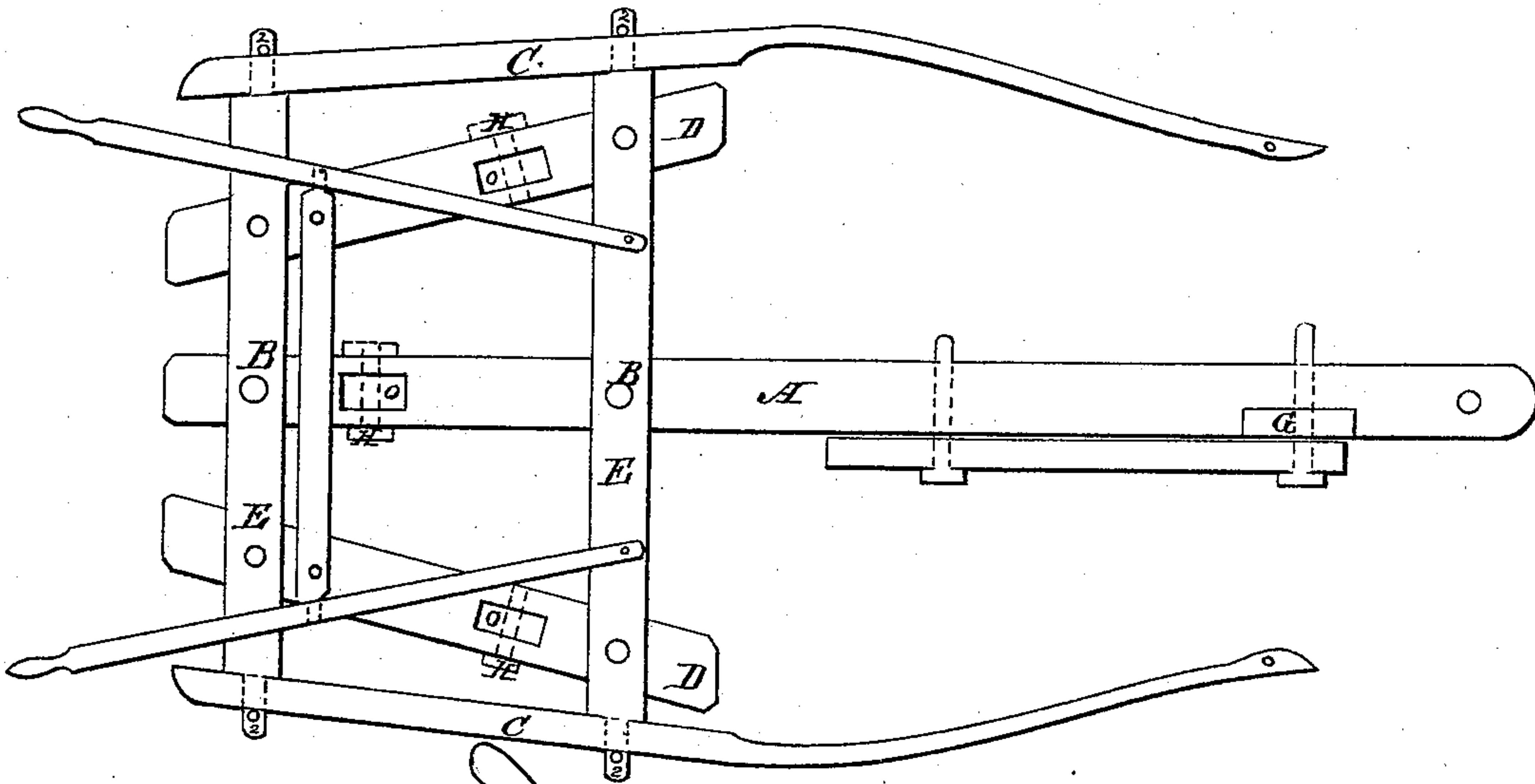
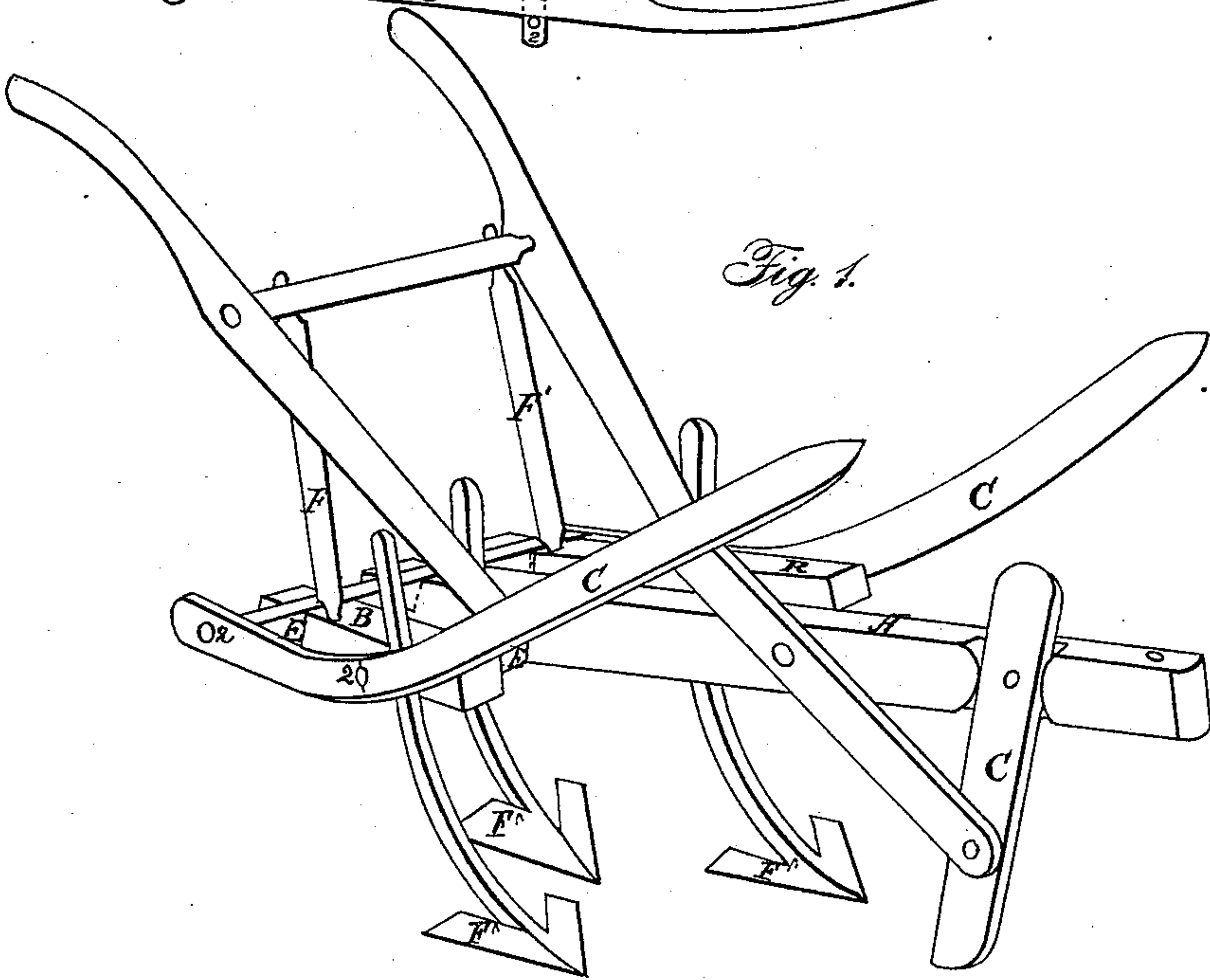


Fig. 1.



Witnesses:

G. S. Manning
Daniel Breed

Inventor:

Vincent Harwell

UNITED STATES PATENT OFFICE.

VINES HARWELL, OF WALKER COUNTY, GEORGIA.

IMPROVEMENT IN CULTIVATORS.

Specification forming part of Letters Patent No. **28,576**, dated June 5, 1860.

To all whom it may concern:

Be it known that I, VINES HARWELL, of the county of Walker and State of Georgia, have invented a new and useful Improvement in Cultivators, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 represents a view in perspective of a machine having my improvement applied thereto, and Fig. 2 a plan of the same.

My invention relates to a new and improved arrangement and construction of the different parts of a cultivator, whereby it may be readily adapted either for one or two horses, and when for one either with or without shafts.

To enable others skilled in the art to make, construct, and use my improvement, I will now proceed to describe it in detail, omitting a particular description of such parts as are not essential to a full understanding of my improvement.

In the accompanying drawings, the framework of the machine is represented as consisting of side beams, D, connected together by means of cross-beams E. On the ends of these cross-beams are formed tenons for the purpose of taking into corresponding mortises made in shafts C, a pin, 2, being passed through the tenon on the outside of the shaft to retain them in place.

To the cross-beams E, and at or near their center, is secured, by means of bolts B, a removable center beam, A, which is removed from the machine, and a shorter one, similar to the side beams, D, attached, when it is desired to use the shafts C instead of the center beam, A. To these side and center beams are secured cultivator-teeth F' or double mold-boards, as the case may be, bolts H passing through them and the beams to keep them in place a wedge, where deemed necessary, being also driven in, either in front or behind, to steady them and at the same time give them the proper set, the cultivator-shanks for these purposes being passed through mortises in the

beams. On the front cross-beam, E, are erected and secured the handles that guide the machine, they being supported and steadied by braces F, erected on the rear cross-beam, E.

When it is desired to use a center drag-beam instead of the shafts the latter may be removed by taking out the pins 2 and withdrawing them from the tenons of the cross-beams E, in which event the short center beam, like the side beams, D, is detached from the machine, and the long center beam, A, as represented in the drawings, applied thereto, and firmly secured to the cross-beams E by the bolts B, in which event an adjustable guide, G, is attached to the center beam by means of a pin passing through it and the beam, there being a beam, P, pivoted to the lower end of the adjustable guide G, and having several openings pierced in its sides, through which and an opening in the center beam some distance in the rear of the guide is passed a bolt, by means of which and the series of openings in the beam P the angle of the guide to the center beam may be varied at will, so as to regulate the depth at which it is required the teeth or mold-boards should penetrate the soil, the guide G also serving the purpose of steadying the machine and preventing lateral deflection.

Through the forward end of the center beam is arranged a bolt-hole, by means of which and suitable single-trees either one or two horses may be attached for the operation of the machine.

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

The peculiar arrangement and combination of the removable shafts C, center beam, A, and guide G with a cultivator, the whole being constructed and operated in the manner and for the purposes set forth.

VINES HARWELL.

Witnesses:

CHAS. H. MAULL,
CHAS. WILSON.