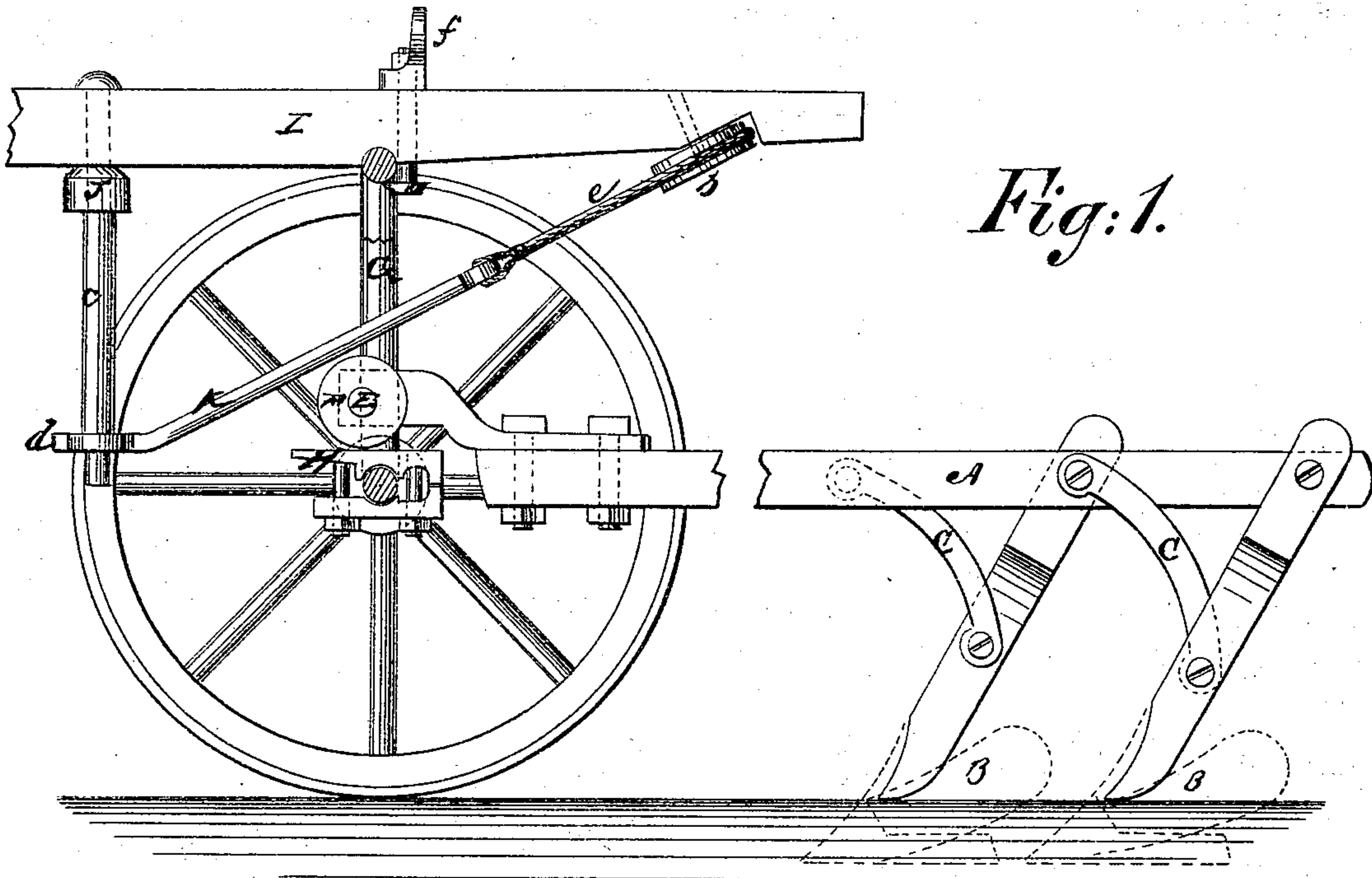


G. W. VAN SICKLE & C. McCONAUGHY.

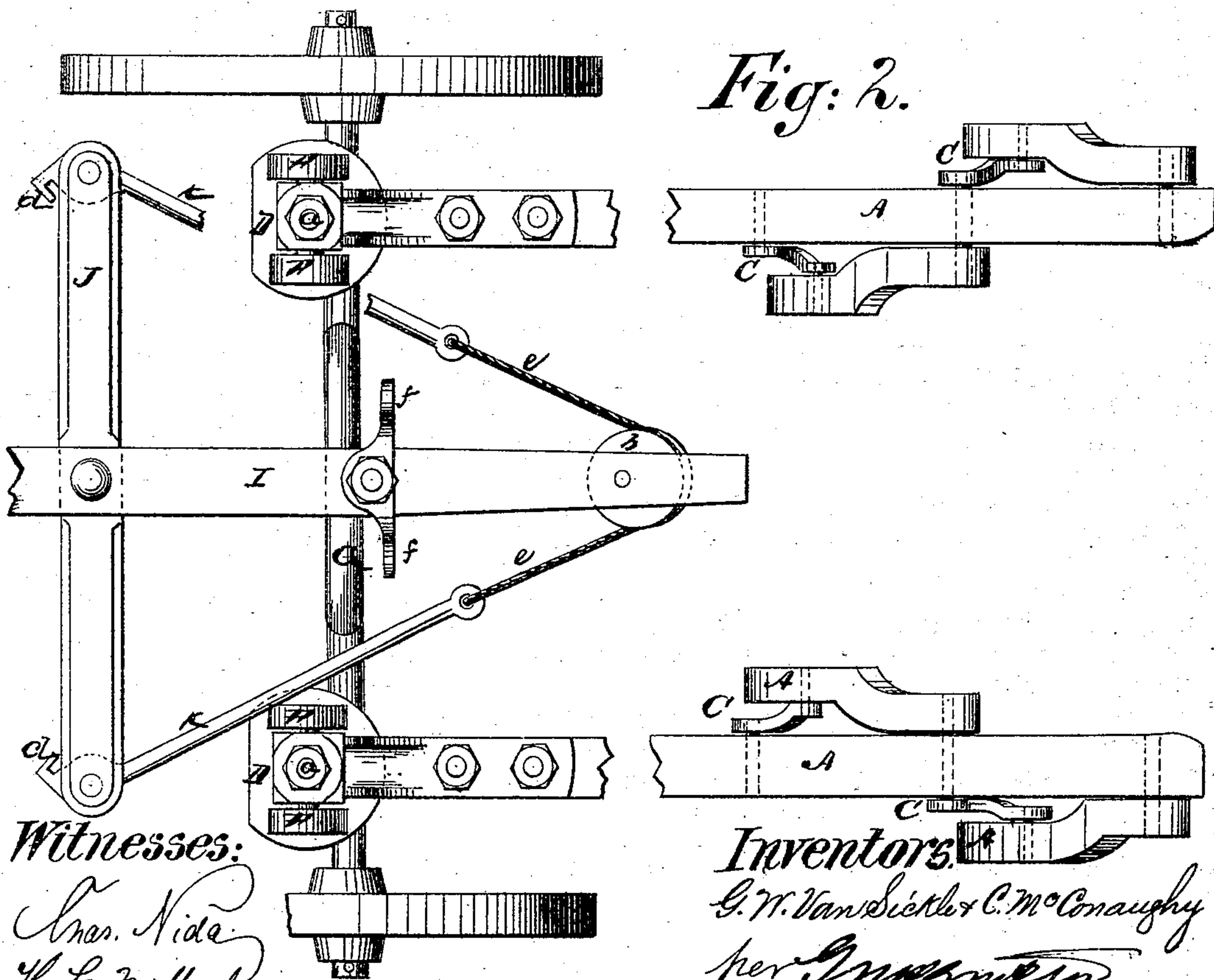
Cultivators.

No. 153,404.

Patented July 21, 1874.



*Fig: 1.*



*Fig: 2.*

Witnesses:

*Chas. Nida*  
*He. L. Mattenberg*

Inventors:

*G. W. Van Sickle & C. McConaughy*  
*per J. M. [Signature] Atty.*



# UNITED STATES PATENT OFFICE.

GEORGE W. VAN SICKLE AND CALVIN McCONAUGHY, OF BURLINGTON, IOWA.

## IMPROVEMENT IN CULTIVATORS.

Specification forming part of Letters Patent No. **153,404**, dated July 21, 1874; application filed March 17, 1874.

*To all whom it may concern:*

Be it known that we, GEORGE W. VAN SICKLE and CALVIN McCONAUGHY, of Burlington, in the county of Des Moines and State of Iowa, have invented a new and Improved Cultivator; and that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification.

The invention consists in a cultivator provided with an anti-friction coupling for securing the beams to the axle, and also the combination, in a cultivator, of the friction-couplings, beams, and arched axle.

In the accompanying sheet of drawings, Figure 1 is a side elevation of our invention, and Fig. 2 a plan or top view of same.

Similar letters of reference indicate like parts in the several figures.

A A represent the beams of a cultivator, to the under sides of which are affixed the plows B B. These plows are secured to the beams by bolts at their upper ends, and they are braced by curved braces C C extending from the shank of the plows to the beam. Affixed to the front end of each beam is a plate, D. Passing through the center of the plate D is a pivotal bolt, *a*. The lower part of this bolt passes into and is secured to a shaft, E. Onto the shaft E are fitted two rollers, F F, in such manner that as said shaft E turns on the bolt *a* the rollers F F will freely turn against the upper side of the plate D. Firmly bolted or otherwise secured to the axle G are two plates, H H, these plates, bearing upon the under side of the rollers F F. The axle G between the plates H H is bent upward in the shape of an inverted U. Affixed to the upper side of this axle is the tongue I. This tongue is so attached as to readily oscillate thereon. At or near the end of that part of the tongue I which extends back of the bent part of the axle, is affixed or secured a pulley-wheel, *b*, and to the front end of the tongue or pole I is bolted an evener, J. Projecting below the under side of the evener, at its ends, are two projections, *c*. These projections are firmly secured to the evener by braces or otherwise. Pivoted or otherwise secured, so

as to turn freely on the lower ends of the projections *c*, are two connecting-rods, K, having hooks *d* on their lower ends, the upper ends of these rods being attached to a cord or chain, *e*, which passes around the pulley-wheel *b*. On the upper surface or top of the tongue I are secured two line-holders, *f*, form-guides for the reins.

Our cultivator being constructed substantially as above described, its operation is as follows: Horses being attached to the end of the pole or tongue I, the cultivator is drawn over the surface of the ground in the ordinary way, the beams A being allowed to freely adjust themselves to every change of direction without permitting the beams to rock or the plows to vibrate, and the change of direction of the beams is effected with the utmost ease, and no amount of use or wear can cause the beams to work loose at the point or joint which attaches them to the axle, for the reason that the weight of the beams and strain is borne by the friction-rollers F F, in the manner before described. The single-trees are hooked into the hooks *d* at the end of the connecting-rods K, so that if one horse of the team shall pull ahead of the other the pulley *b* will yield to the action of the cord *e*, preventing one plow from being pulled ahead of the other or out of line, and will also prevent the end of the tongue from being forced against the other horse. The construction of the evener J, in connection with the projecting-rods *c* and connecting-rods K, is of very great value, for the reason that as the team is pulling there is a downward draft in the rear of the axle, and an upward draft in front of it, keeping the tongue I at all times in a balanced position—the result being that all or nearly all the weight is taken from the necks of the horses, and it is borne by the inverted-U support of the tongue. The braces C C are curvilinear in form, so that as sticks, reeds, and other material shall meet them, as the cultivator progresses, they will not remain in front of the plows to obstruct their action, for, the braces being curved, no sharp angle is formed to act as a catch, but whatever refuse shall come in contact with the curved braces will quickly be displaced therefrom, leaving the plows free from obstruction.

Upon the top of the tongue I are fixed, in any suitable manner, rein-holders or guides *f*, thus keeping the reins clear without liability of entanglement.

We do not wish to confine ourselves to any particular arrangement of the friction-wheels hereinbefore described, since such arrangement is subject to many modifications, nor do we wish to confine ourselves to any particular form or arrangement of eveners, but—

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

1. In a cultivator, friction-couplings for se-

curing the beams to the axle, composed of the plates for embracing the axle and the friction-rollers attached to the beams and working on said plates, substantially as shown and described.

2. In a cultivator, the combination of friction-couplings D F H, beams A, and arched axle G, substantially as and for the purpose described.

GEORGE W. VANSICKLE.  
CALVIN McCONAUGHY.

Witnesses:

C. H. WILSON,  
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