

J. H. FRANK.
Cultivators.

No. 143,338.

Patented September 30, 1873.

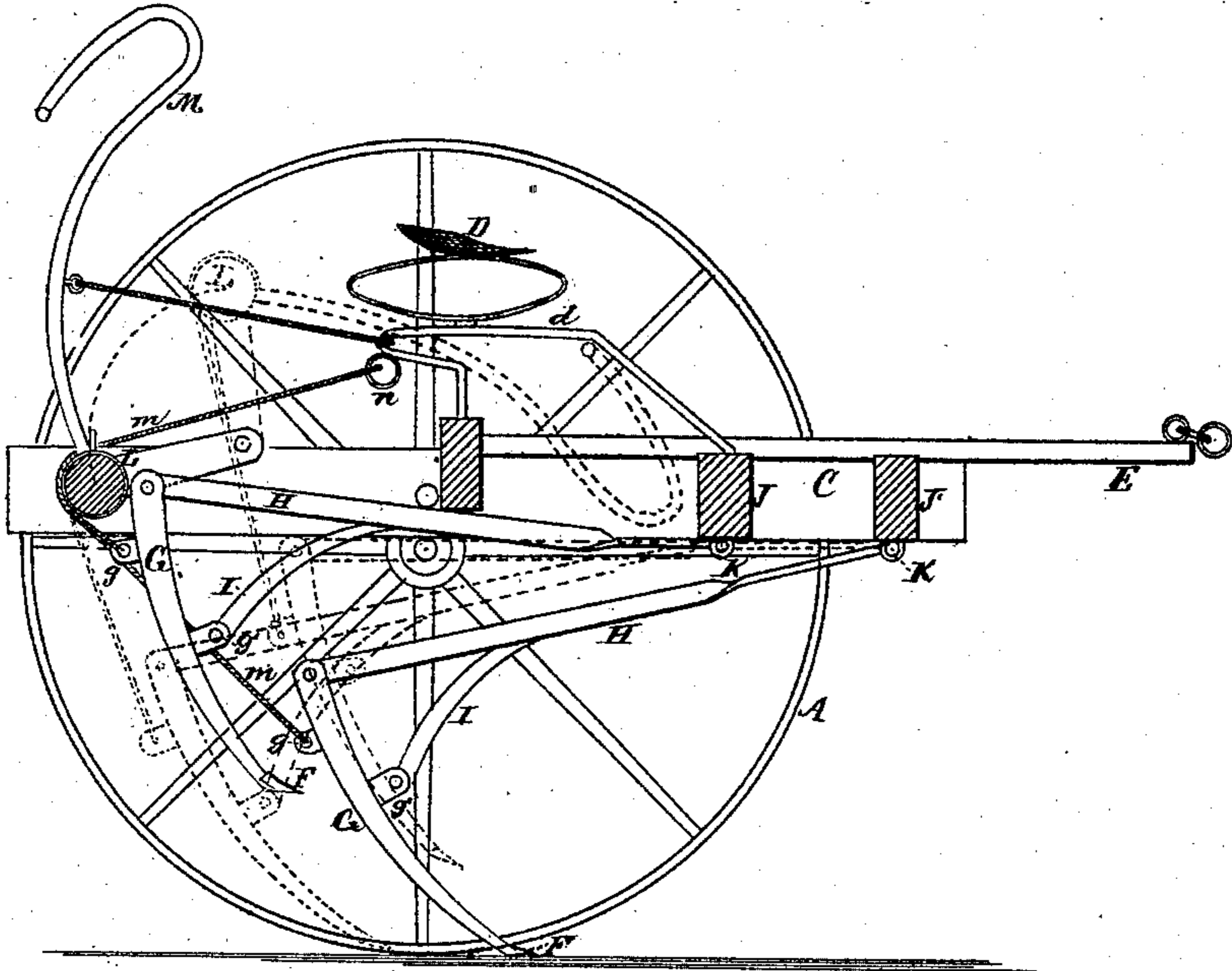


fig. 1.

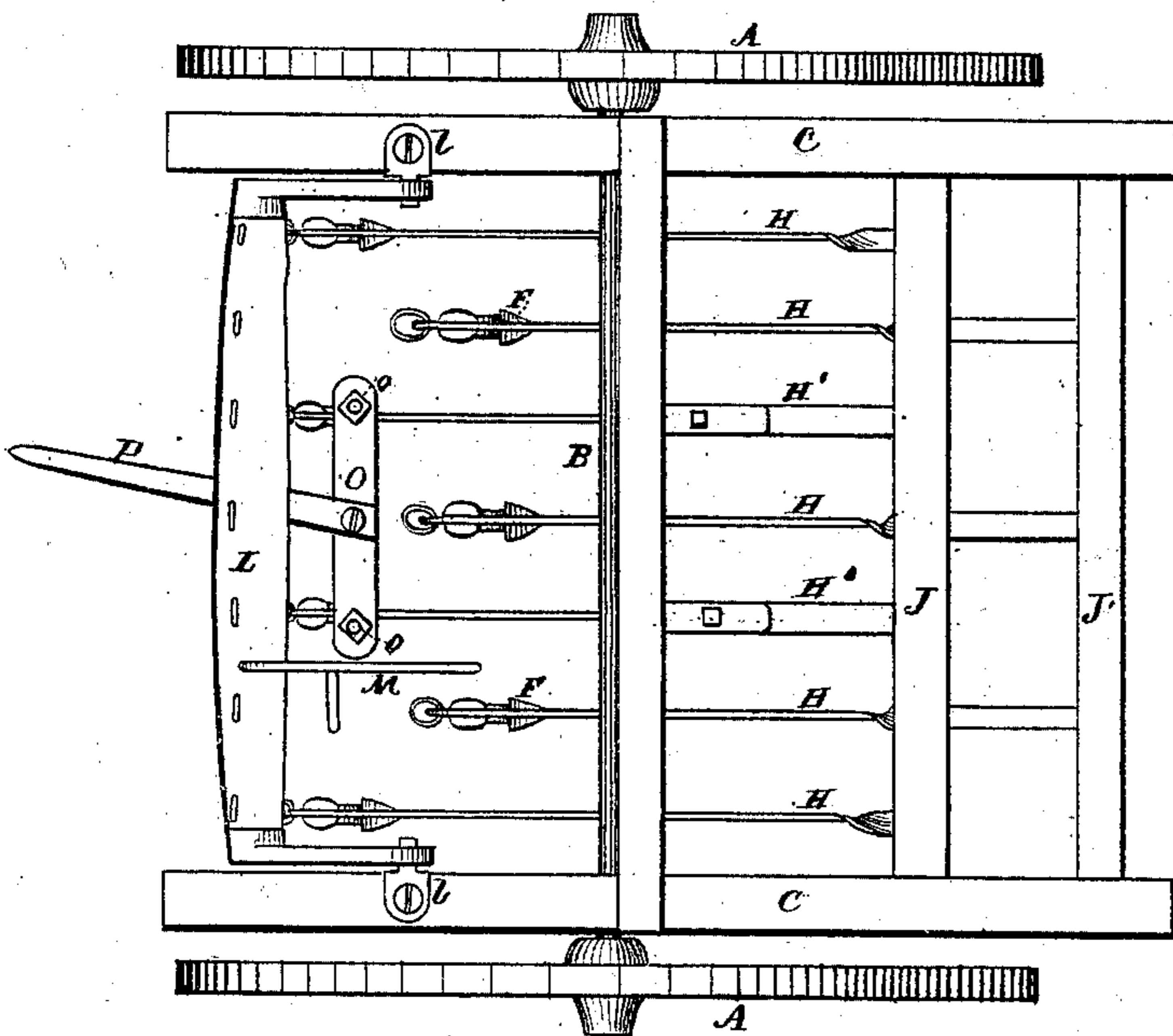


fig. 2.

Attest
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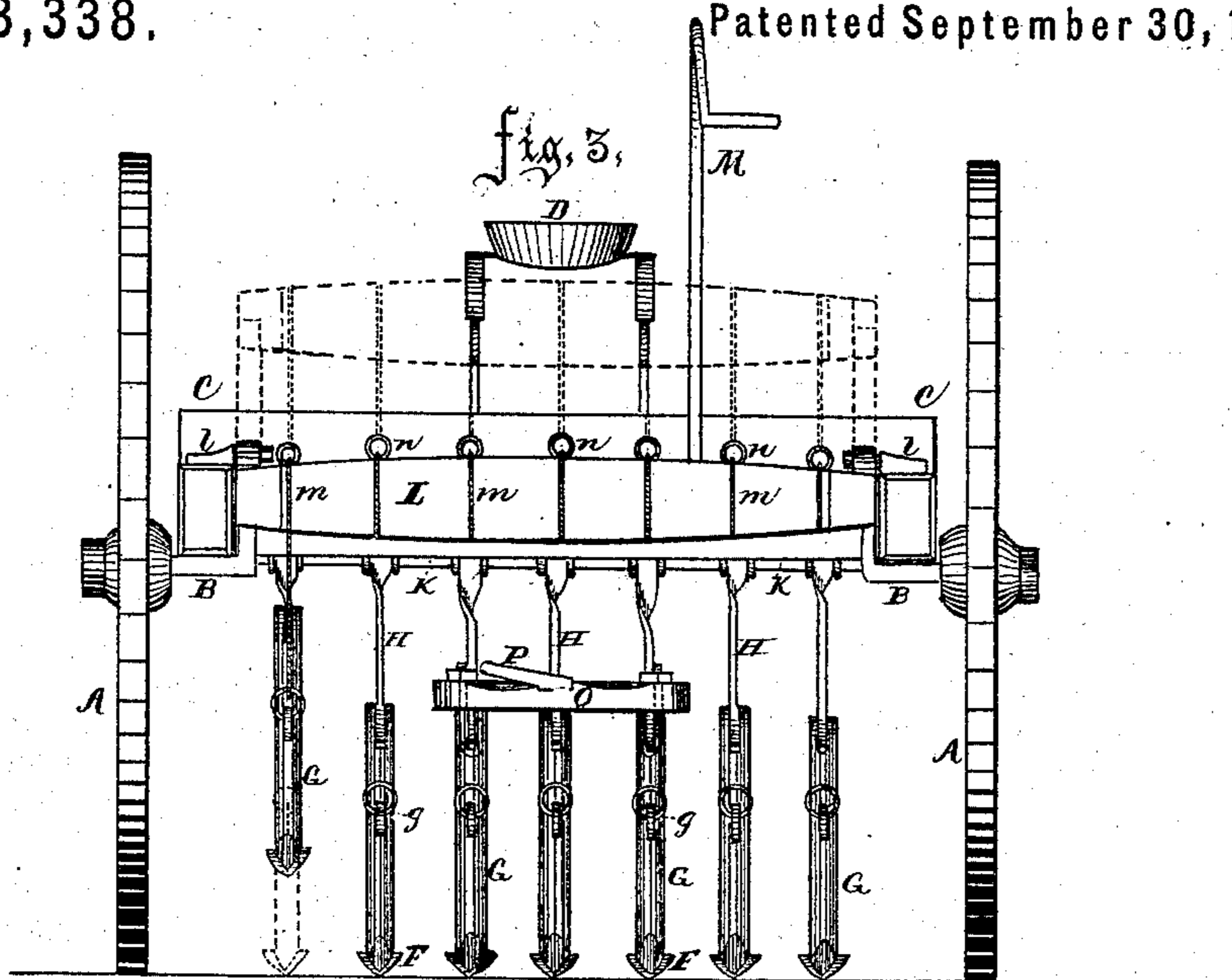
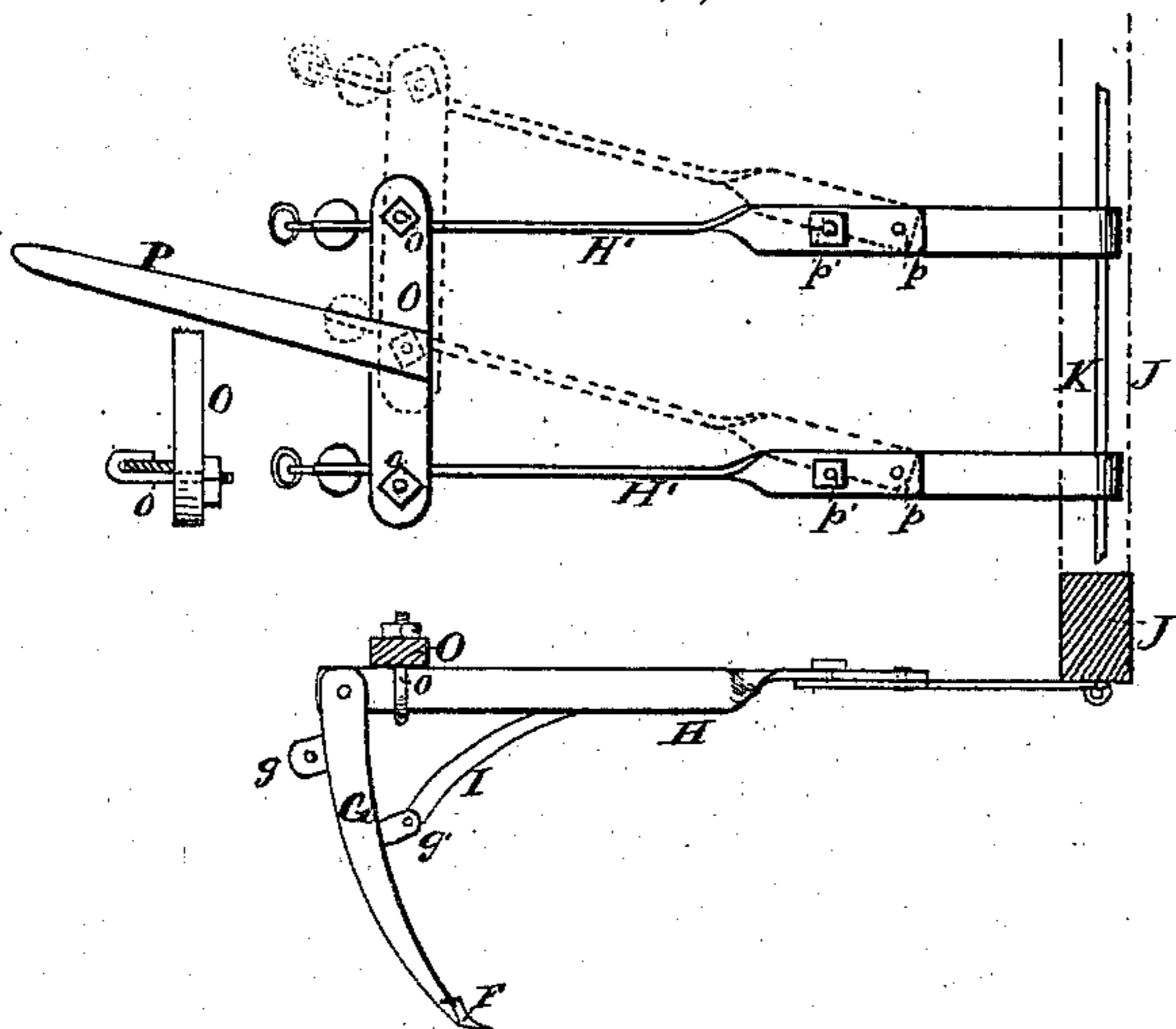


fig. 4.



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UNITED STATES PATENT OFFICE

JOHN H. FRANK, OF MILLHEIM, PENNSYLVANIA.

IMPROVEMENT IN CULTIVATORS.

Specification forming part of Letters Patent No. **143,338**, dated September 30, 1873 ; application filed August 9, 1873.

To all whom it may concern:

Be it known that I, JOHN H. FRANK, of Millheim, in the county of Centre and State of Pennsylvania, have invented certain new and useful Improvements in Cultivators, of which the following is a specification:

This invention relates to an improvement on cultivators; the object of which is to render the drag-bars rigid when desired, as will be hereinafter described.

In the drawings, Figure 1 is a side elevation of my improved cultivator with one of the wheels removed and one tooth raised; Fig. 2, a plan or top view; Fig. 3, a rear view; and Fig. 4, a detail view, showing the teeth, drag-bars, &c., used when the machine is employed as a straddle-row cultivator.

Two wheels, A A, are mounted upon a crank-axle, B, sustaining the frame C, upon which is mounted the driver's seat D, provided with suitable springs secured upon rails *d*. The tongue E projects centrally from the machine. The teeth or shovels F are secured to their standards G by rivets or screws, or in any of the usual ways. These standards are each made in one piece, having a lip, *g*, provided with an eye at the back and a short split or divided arm or projection, *g'*, in front, having a transverse hole therein. Each standard is perforated at the top, and is provided with a recess or groove. A drag-bar, H, (one for each standard,) enters the groove in the top of the standard, and is secured by a pin or rivet, so that the standard may swing on the bar. A downwardly-projecting brace, I, (one from each drag-bar,) enters the split arm *g'*, and is jointed therein by a wooden pin, for a well-known purpose. The drag-bars H are secured at their front ends alternately beneath the cross-bars J J' of the frame by means of rods K, which pass through staples on the under side of the cross-bars and through eyes or loops in the ends of the drag-bars. The drag-bars are thus allowed a rocking or swinging movement.

To enable the driver quickly to raise or lower the teeth, either simultaneously or independently, I mount a crank-roller, L, on brackets *l l*, near the rear ends of the side pieces of the frame, so as to turn freely. A lever, M, within reach of the driver, serves to rock this roller. Each standard G is connected to the roller L by a cord or chain, *m*, secured to the lip *g* on the standard at one end,

and to the roller at the other. It will be observed that the cords pass through eyes or staples N on the roller, and are prevented from withdrawing by rings *n*, or any other suitable stops. By this means the driver can raise all the teeth at once by using the lever, or, when desired, can raise any one of the teeth independently of the rest by pulling on the ring *n*. A cross-piece, O, is removably secured to two of the central drag-bars, H' H', (in this instance by means of looped bolts and nuts *o o*,) and is provided with a rearwardly-projecting guiding-handle, P. The drag-bars so connected are jointed, as shown at *p*, Fig. 4, and are ordinarily rendered rigid by means of screw-bolts *p'*.

When it is desired to use the machine as a "straddle-row" cultivator, all except the two jointed drag-bars are removed with their shovels, (which is easily done by taking out the pins which secured the drag-bars beneath the front cross-pieces of the frame,) and the screws *p' p'* are removed, so as to leave the drag-bars free to be moved sidewise, and allow the operator to move the shovels laterally as well as vertically by means of the guiding-handle P.

It will be seen from the foregoing description that the implement can be readily changed from a straddle-row walking cultivator to a many-toothed riding field-cultivator; that, when going from field to field, the driver can elevate all the teeth by using the lever; and when an obstacle is met with while at work, any one of the teeth may be raised, instead of throwing them all out of work unnecessarily.

Having thus described my invention, what I claim is—

1. The combination of the frame-bars J J', the single and double pivoted joints, and the screw-bolts *p'* for rendering the drag-bars laterally rigid, thereby adapting the machine to be used as a field-cultivator, as described.

2. The combination of the frame-bars J J', the double and single pivoted joints, screw-bolts *p'*, drag-bars H H', and shovel-standards G, as and for the purpose described.

In testimony that I claim the foregoing I have hereunto set my hand this 30th day of July, 1873.

JOHN H. FRANK.

Witnesses:

A. H. NORRIS, P. B.,
WILLIAM J. PEYTON.