

C. A. HAGUE.  
Cultivator.

No. 243,123.

Patented June 21, 1881.

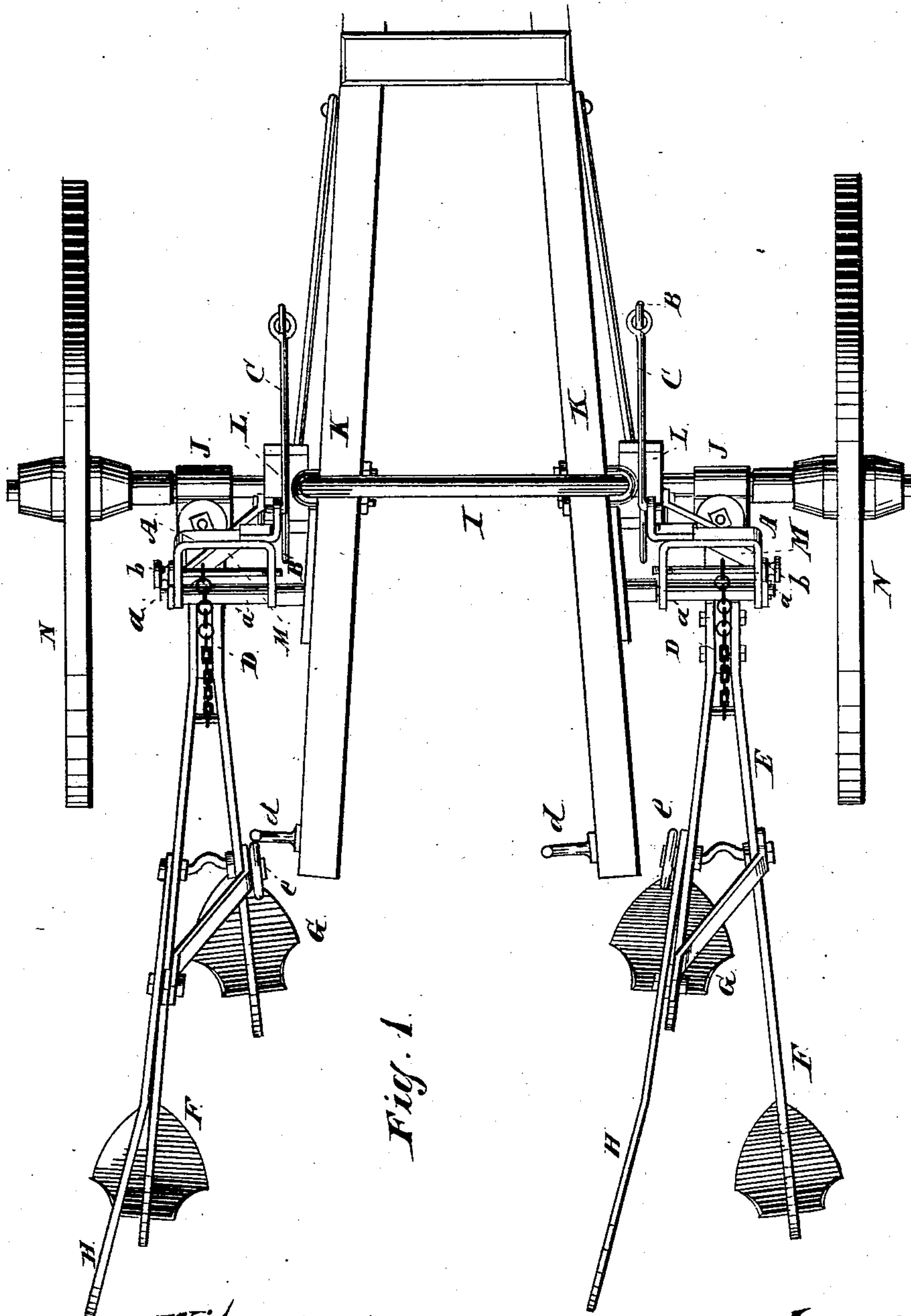


Fig. 1.

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H. H. Murphy.

*Inventor*  
Charles A. Hague.

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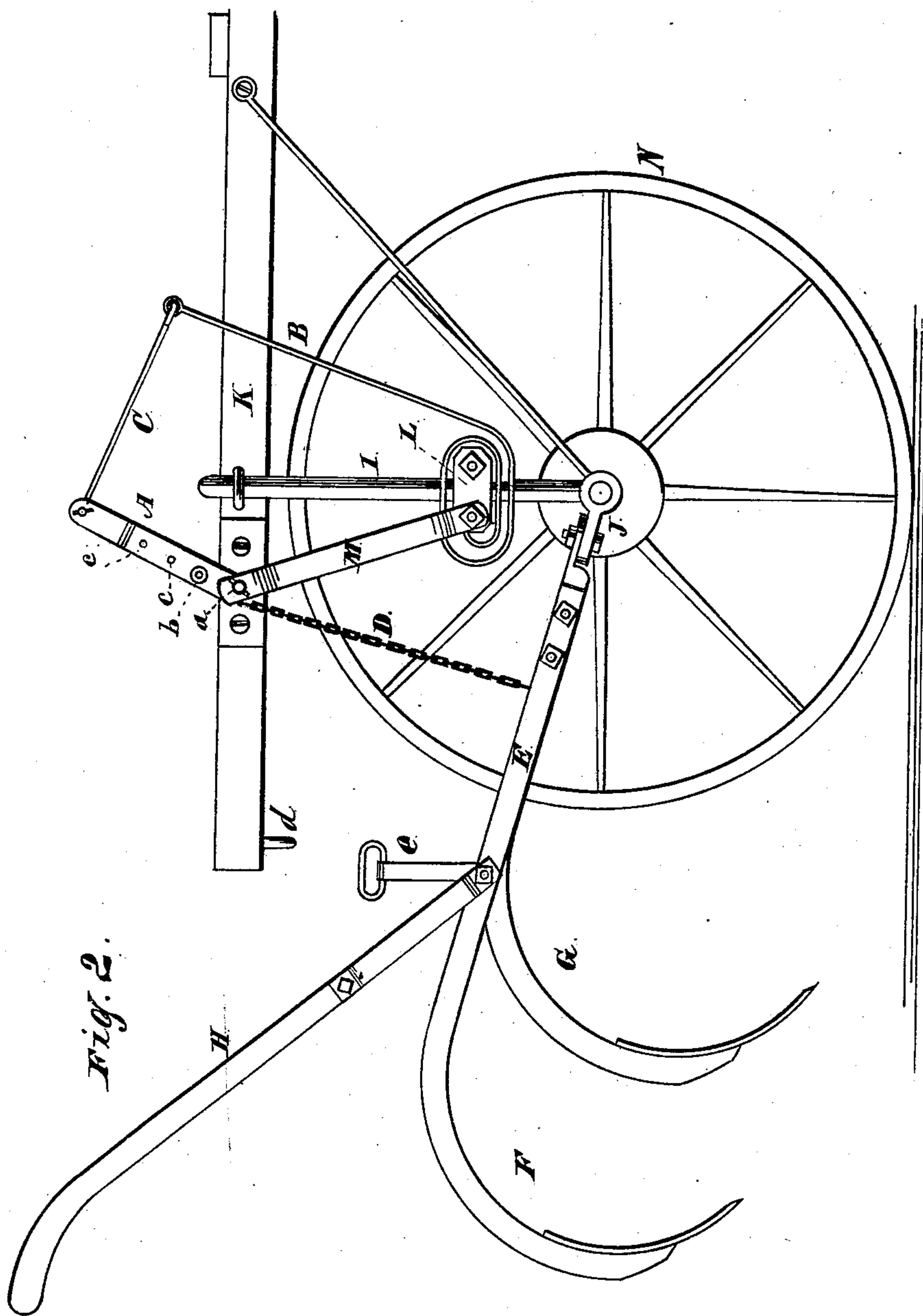


fig. 2.

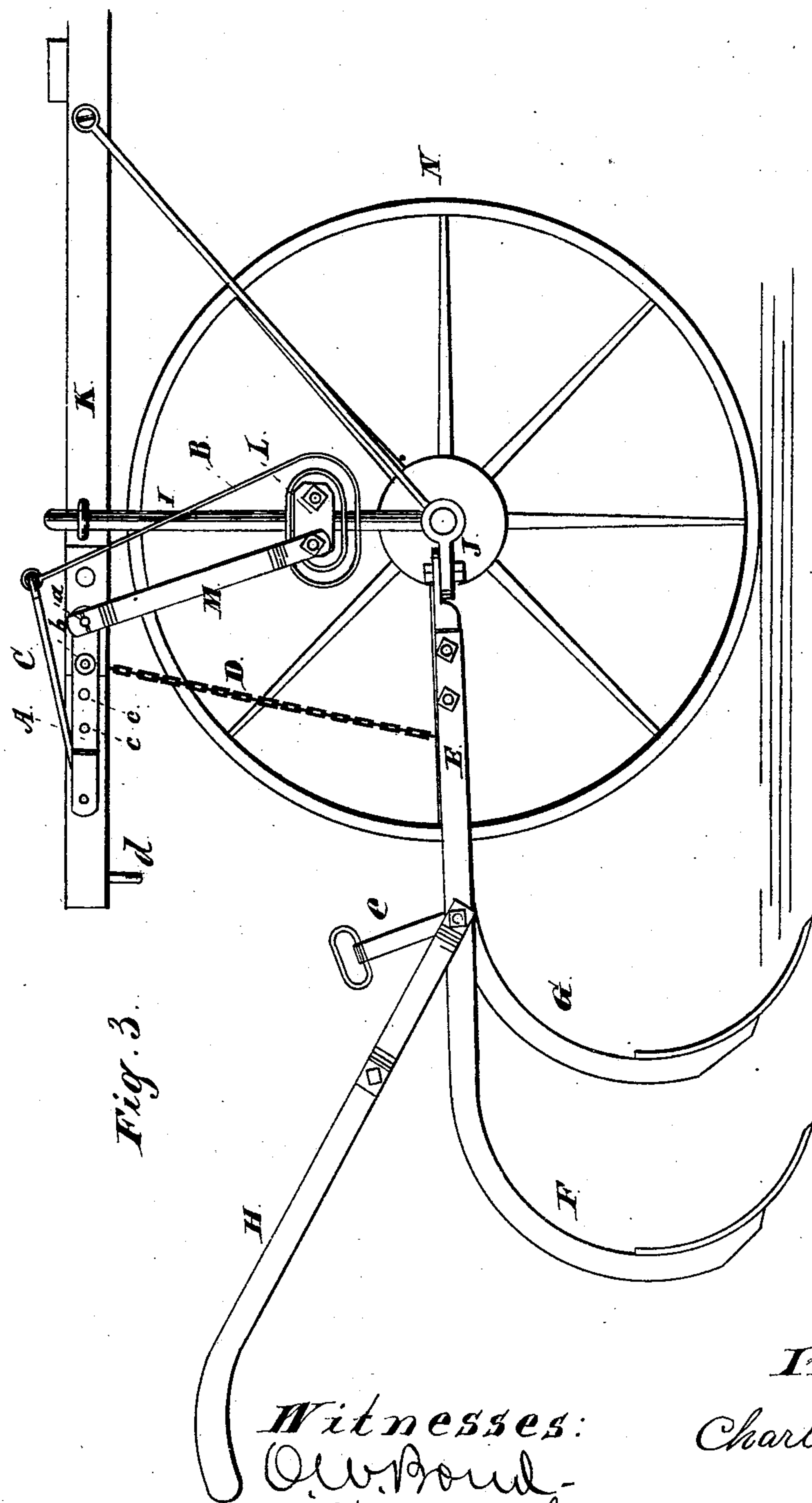
Witnesses:  
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# UNITED STATES PATENT OFFICE.

CHARLES A. HAGUE, OF CHICAGO, ILLINOIS, ASSIGNOR TO FURST & BRADLEY MANUFACTURING COMPANY, OF SAME PLACE.

## CULTIVATOR.

SPECIFICATION forming part of Letters Patent No. 243,123, dated June 21, 1881.

Application filed November 25 1879.

*To all whom it may concern:*

Be it known that I, CHARLES A. HAGUE, residing at Chicago, in the county of Cook and State of Illinois, and a citizen of the United States, have invented new and useful Improvements in Cultivators, of which the following is a full description, reference being had to the accompanying drawings, in which—

Figure 1 is a top or plan view, showing the position of the parts when the plow-beams are elevated; Fig. 2, a side elevation, with the wheel removed, showing the plow-beam elevated; Fig. 3, a side elevation, with the wheel removed, showing the plow-beam and plows in position for work.

The object of this invention is to enable the beams of a cultivator, with their shovels, to be easily raised for turning, and when raised have them held in that position while the machine is being turned, and to increase the ease with which the beams can be handled, both in raising them and in holding them when the shovels are in the ground, and to accomplish both of these results without requiring any great expenditure of strength on the part of the operator; and it consists, essentially, in an arm or support having a pivotal connection at its lower portion with the frame-work of the cultivator, and arranged to rock or swing in a vertical plane, in combination with a cultivator-beam loosely suspended from said arm or support, and a spring loosely connected with the upper portion of the latter, all as will be more fully hereinafter described.

The invention further consists in providing a rock-arm or swinging support, a spring or spring-arm, and a chain or device for the attachment of the plow-beam to the arm or support, each having such relation the one to the other as that the plow-beams and their shovels can be easily moved when in position for work or for elevation above the ground.

In the drawings, A represents the rock-arm or swinging support. As shown, it is formed from a single piece, bent so as to give it a yoke or bow shape, with the two arms parallel and at a sufficient distance apart to furnish a bearing that will prevent side or lateral tipping; but it may be made in any other form or shape that will furnish a means of attachment for a

spring or spring-arm and the beam of a cultivator. This rock-arm or swinging support is located between the spring or spring-arm and the beam, and is supported in such manner as to swing freely in a vertical plane, so as to change the leverage as the center of balance is passed. In the form of construction shown it is mounted on a spindle, *a*, which spindle, as shown, is firmly attached to the side of the tongue at a point in the rear of the axle, the spindle passing through suitable openings in the lower end of the arm or support.

B is the spring or spring-arm, so located with reference to the rocking-arm or swinging support as to act in a direct manner on the upper or outer end thereof, and assist in raising the arm or support, and cause it to pass the center of balance in a forward direction, and when the center of balance is passed act to draw it over and retain it in that position. The lower end of this spring or spring-arm is coiled to furnish the required elasticity.

C is a link connecting the upper end of B with the upper end of A, so that the spring or spring-arm will have the required action on the rock-arm or swinging support.

D is a chain or other suitable means for attaching the plow-beam to the rock-arm or swinging support, a pin or bolt, *b*, which passes through suitable holes *c* in the sides or arms of A, furnishing the means of attachment of the chain at that end, while a suitable bolt or eye attaches the chain at the other end to the plow-beam. The pin *b* passes through a link of the chain and any one of the series of holes *c*, as required for the position of the plow-beam, when so connected to the axle, as to allow of a vertical adjustment.

The arrangement of the rock-arm or swinging support A, and the spring or spring-arm, and the point of attachment of the chain or support D to the plow-beam, and their relation the one to the other are such that when the center of balance is passed in either direction the leverage will be in that direction, so that in one direction the spring or spring-arm will act, and in the other direction the weight of the beam and shovels will act, on the rock-arm or swinging support and retain it in the position which has the advantage of leverage.



The length of the chain D is such as to allow the beam to descend to the proper position for the shovels to enter the ground for work, and to be elevated sufficiently high for the shovels to clear the ground, and, when desired, an anti-friction collar, *a'*, may be provided on the spindle *a* for the chain to run over. When the plow-beam is elevated the rock-arm is not carried over to a horizontal position in that direction; but when the beam is in position for work the arm is in a horizontal or nearly horizontal position, and in this position the spring or spring-arms permit a yielding which allow the shovels to conform to any irregularities or unevenness in the ground, and the rock-arm and the spring or spring-arm furnish a means of suspension for the plow-beam, which enables the beams and shovels to be handled with great ease and facility both in or out of the ground with little or no assistance from the operator.

E are plow-beams; F G, the shovels; H, the handles; I, the bent axle; J, the coupling for attaching the forward ends of the plow-beams to the axle; K, the split tongue having at its rear ends pins or hooks *e*, one on each side of the tongue, to receive a stirrup or loop on the handles or plow-beams, for suspending the plow-beams when the cultivator is traveling from place to place.

The parts represented by the letters E F G H I J K may be of any of the well-known forms of construction for such parts in machines of this character, located, arranged, and operating in the usual manner, and other forms of tongues may be used.

L is a head attached by a staple or eye to the vertical side of the axle, as shown. It furnishes the means for securing the lower end of the spring or spring-arm in place.

M is a brace attached at its lower end to the head L, and extending up and furnishing a support for the outer end of the spindle *a*.

N are the wheels, of the ordinary construction.

In use, when it is desired to raise the beams, with their shovels, for the purpose of turning, it can be easily done by taking hold of the handles H, and when elevated the force of the spring or spring-arm B will be sufficient to sustain them in their elevated position. A slight pressure downward on the handles will overcome the resistance of the spring, so that the beams can be lowered for use.

By interposing the arm or support A between the spring or spring-arm and the beam, and arranging said arm or support to rock or swing in a vertical plane, it will be seen that the beam is suspended so that a slight change in the position of the rock-arm to either side of the center of balance will transfer the leverage to that side, so that the control of the rock-arm or swinging support will be on the side of the leverage.

What I claim as new, and desire to secure by Letters Patent, is—

1. The arm or support A, having a pivotal connection at its lower portion with the framework of the cultivator, and arranged to rock or swing in a vertical plane, in combination with a cultivator-beam loosely suspended from said arm or support, and a spring loosely connected at one end with the upper portion of the latter, substantially as and for the purpose described.

2. The combination of a rocking arm or swinging support, A, a spring or spring-arm, B, and their connecting-link C, with the cultivator-beam E, and the chain D, connecting the latter with the rocking-arm or swinging support, substantially as described.

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Witnesses:

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H. W. MURPHY.