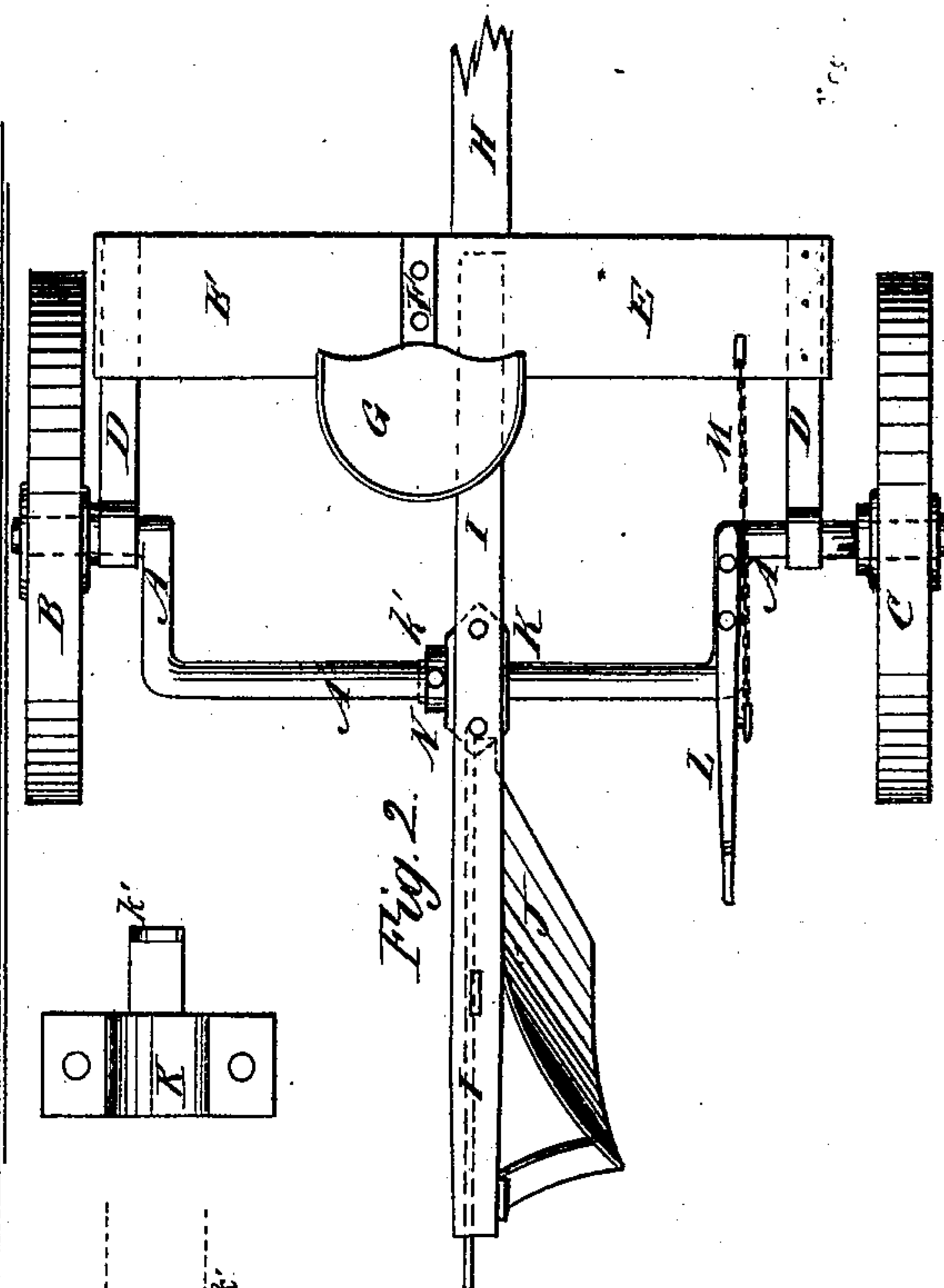
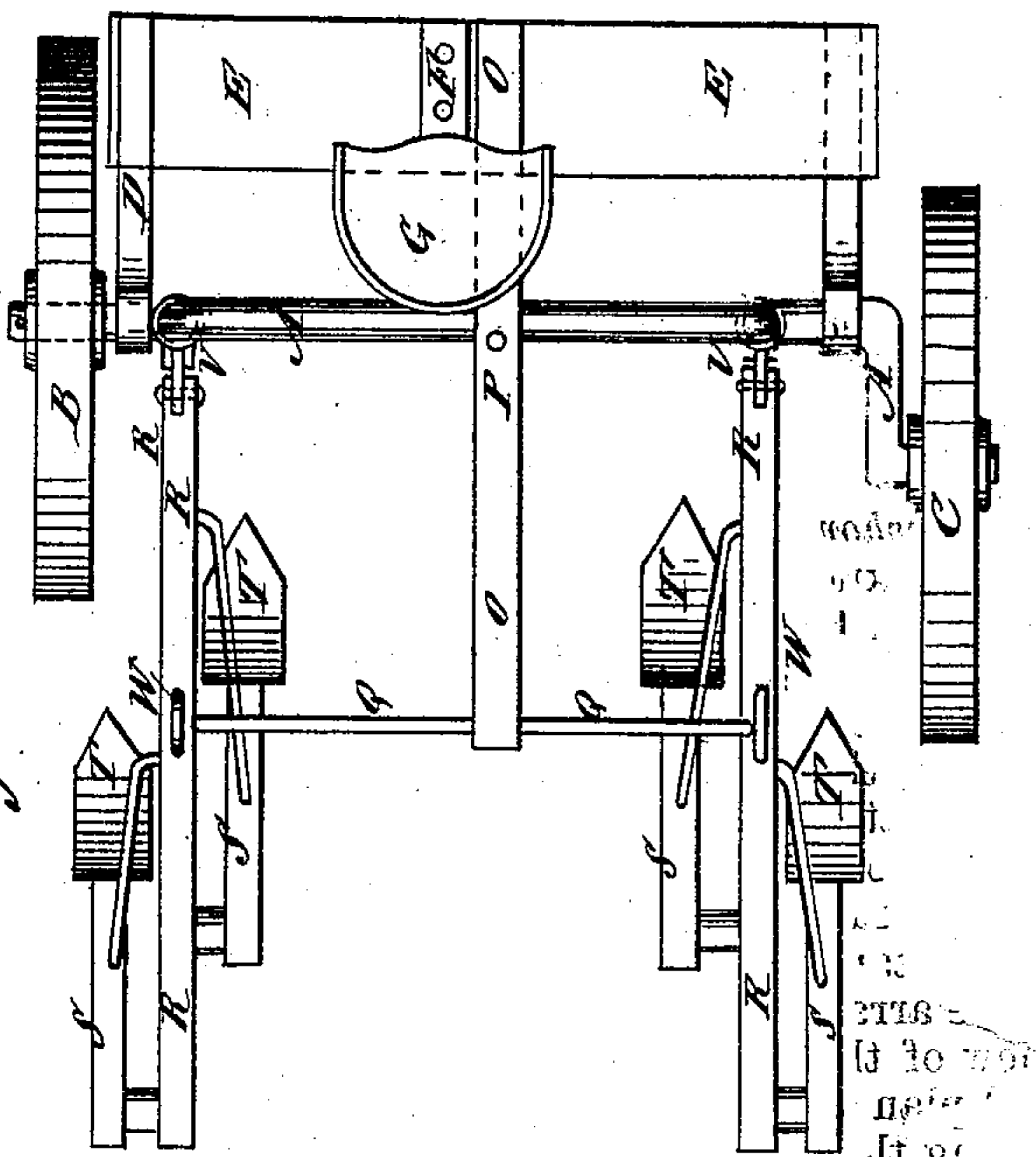
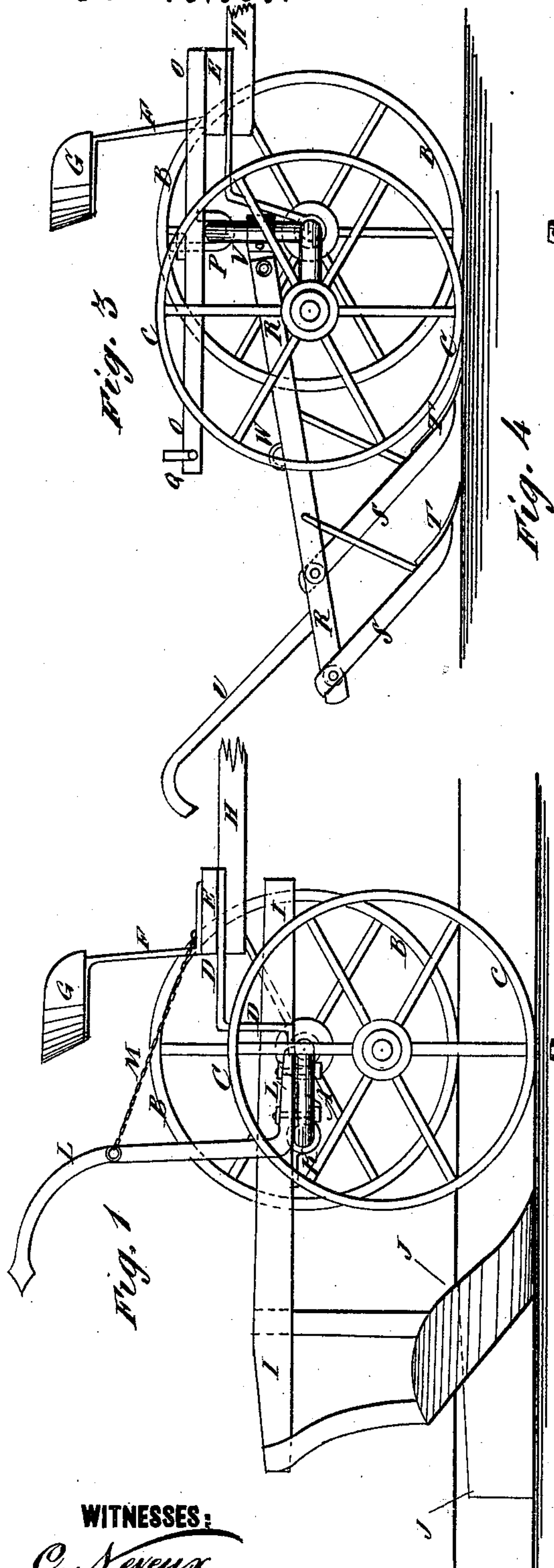


E. W. & J. N. RUSSELL.
SULKY-PLOW AND CULTIVATOR.

No. 178,960.

Patented June 20, 1876.



WITNESSES:
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John Goethals

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UNITED STATES PATENT OFFICE.

ELI W. RUSSELL AND JOHN N. RUSSELL, OF ASHLEY, MISSOURI.

IMPROVEMENT IN SULKY-PLOWS AND CULTIVATORS.

Specification forming part of Letters Patent No. 178,960, dated June 20, 1876; application filed April 10, 1876.

To all whom it may concern:

Be it known that we, ELI W. RUSSELL and JOHN N. RUSSELL, of Ashley, in the county of Pike and State of Missouri, have invented a new and useful Improvement in Sulky-Plow and Cultivator, of which the following is a specification:

Figure 1 is a side view of our improved machine arranged as a plow. Fig. 2 is a top view of the same. Fig. 3 is a side view of the machine arranged as a cultivator. Fig. 4 is a top view of the same. Fig. 5 shows both an end and plan view of the casting or device for securing the plow-beam to the axle.

Similar letters of reference indicate corresponding parts.

The object of this invention is to furnish an improved machine which shall be so constructed that it may be readily adjusted for use as a plow or as a cultivator, and which shall be simple in construction, convenient in use, and effective in operation in either capacity.

The invention consists in the combination of the axle, bent six times at right angles, (twice at one end and four times at the other,) the wheels, the eye-bars, and the board or platform, with each other, to form the frame-work of the machine; in the combination of the casting and the adjustable collar with the bent axle and the plow-beam; in the combination of the lever and the chain or ratchet-catch with the bent axle, the bars, and the board or platform, as hereinafter fully described.

A represents the axle, which is bent twice at right angles at one end, and upon said end revolves the land-wheel B. The axle A at its other end is bent four times at right angles, the two inner bends being in the same plane as the bends at the land end of the axle, and the other two bends being at right angles with said plane, so as to project to the rearward when the inner bends are vertical, and to project downward when the inner bends are turned back into a horizontal position. C is the furrow-wheel, which revolves upon the end of the axle A. Upon the axle A, at the outer side of the second bends, are placed the eyes of two bars, D, which are bent upward and forward, and to the forward ends of which is attached a cross board or platform, E. The board E forms the platform of the machine,

and to it is bolted the standard F of the driver's seat G. H is the tongue, which is bolted to the board E detachably, so that it may be adjusted at the center or toward one side, according as two or three horses are to be used. I represents the beam of the plow J, about the construction of which there is nothing new. To the plow-beam I is attached a casting, K, which is so formed as to pass around the axle A, and thus connect the plow with said axle, in such a way that the forward end of the beam I may project beneath the board E. To the part of the axle A between the first and second bends is detachably bolted the end of the lever L, which is bent upward at right angles, and its free end is curved back, as shown in Fig. 1. To the lever L is attached a hook to receive a link of the chain M, one end of which is attached to the board E, so as to hold the lever L in any position into which it may be adjusted. Upon one side of the casting K is formed a hook-shaped projection, k', to receive a collar, N, placed upon the axle A, and secured in place by a set-screw.

By this construction the plow is free to turn upon the axle A, while the collar N keeps it from lateral movement upon said axle. By adjusting the collar N, the plow may be adjusted to cut a wider or a narrower furrow, as may be desired.

The draft is applied to the end of the beam I, and tends to turn the middle part of the axle A downward, which applies a downward pressure to the plow-beam, and holds it to its work.

By drawing the free end of the lever L forward, the forward end of the plow-beam I will be raised until it strikes the board E, and the rear end of the said plow-beam will then rise, raising the plow J from the ground. The lever L locks itself when the plow is raised from the ground by carrying the upper part of the axle A a little past a vertical position.

When the machine is to be adjusted as a cultivator, the plow I J and the lever L are detached, and the axle A is turned to bring its middle part into a vertical position, which brings the wheels B C upon a level.

To the middle part of the axle A a bar, O, is secured by a hook-bolt, P. The forward end of the bar O is bolted to the board E, and

its rear end projects, and has hooks Q attached to it to receive the cultivator-plows, and support them away from the ground, for convenience in turning and in passing from place to place. R are the beams, S are the standards, T are the plows, and U are the handles, of the cultivators, about the construction of which parts there is nothing new. To the forward ends of the beams R, or to short bars or plates attached to said ends, are pivoted the ends of coupling-straps or wide clevises V, which pass around the vertical parts of the axle A, between the first and second bends. This coupling allows the rear parts of the cultivator to have a free lateral and vertical movement. To the upper sides of the beams R are attached staples or hook W, to receive the hooks or rods Q, to support the plows away from the ground when desired.

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

1. The combination of the axle A, bent six times at right angles, (twice at one end and four times at the other,) the wheels B C, the eye-bars D, and the board E, with each other, to form the frame-work of the machine, substantially as herein shown and described.

2. The combination, with the axle and the plow-beam, of the casting or bearing K, provided with a hook-shaped flange, k' , and the adjustable collar or clamp N, as shown and described.

3. The combination of the lever L and chain M with the bent axle A, the bars D, and the board E, substantially as herein shown and described.

ELI W. RUSSELL.
JOHN N. RUSSELL.

Witnesses:

W. D. ORR,
M. T. GRIGGS.