

(No Model.)

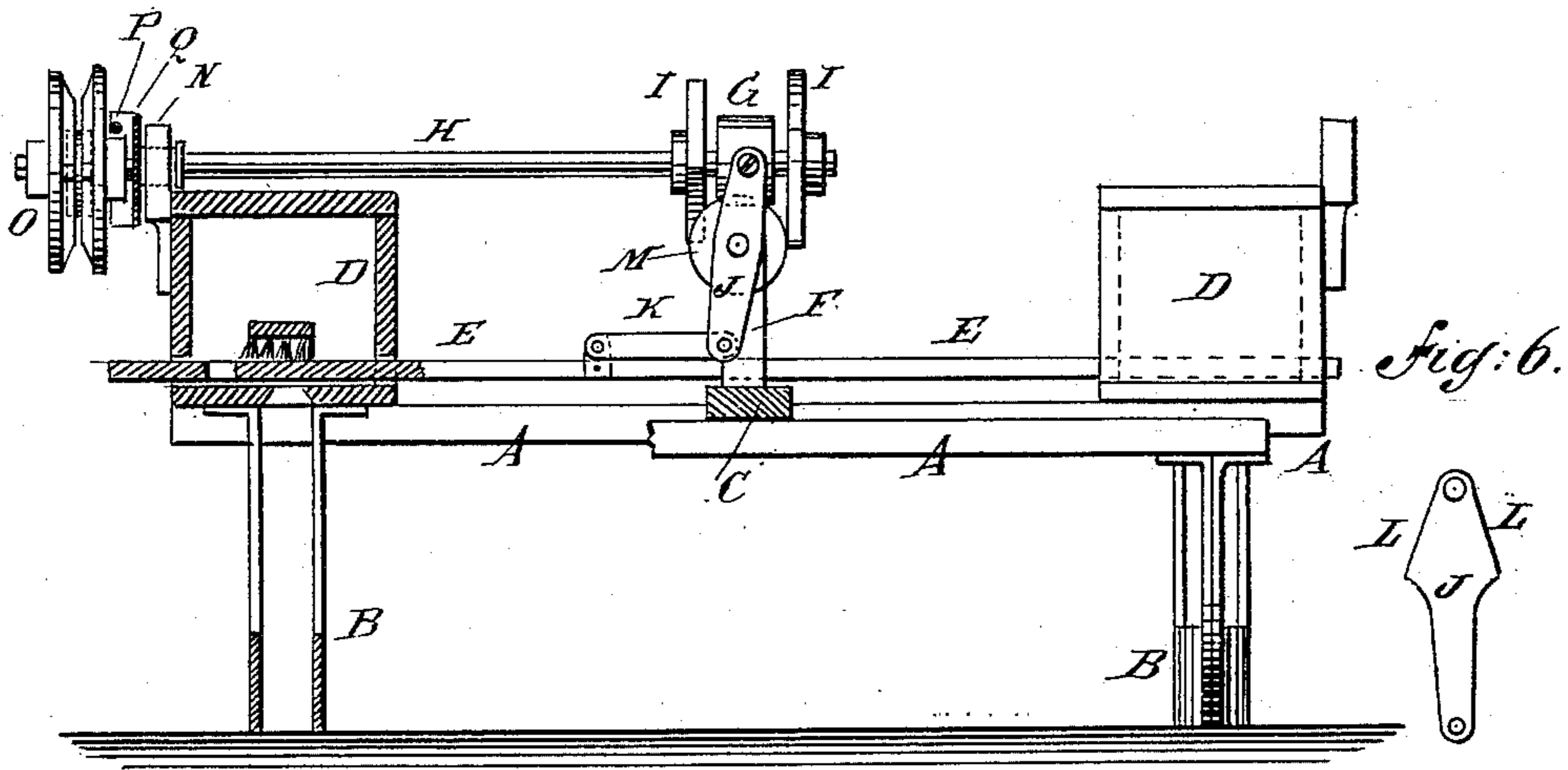
E. F. CRAWFORD.

CHECK ROWING ATTACHMENT FOR CORN PLANTERS.

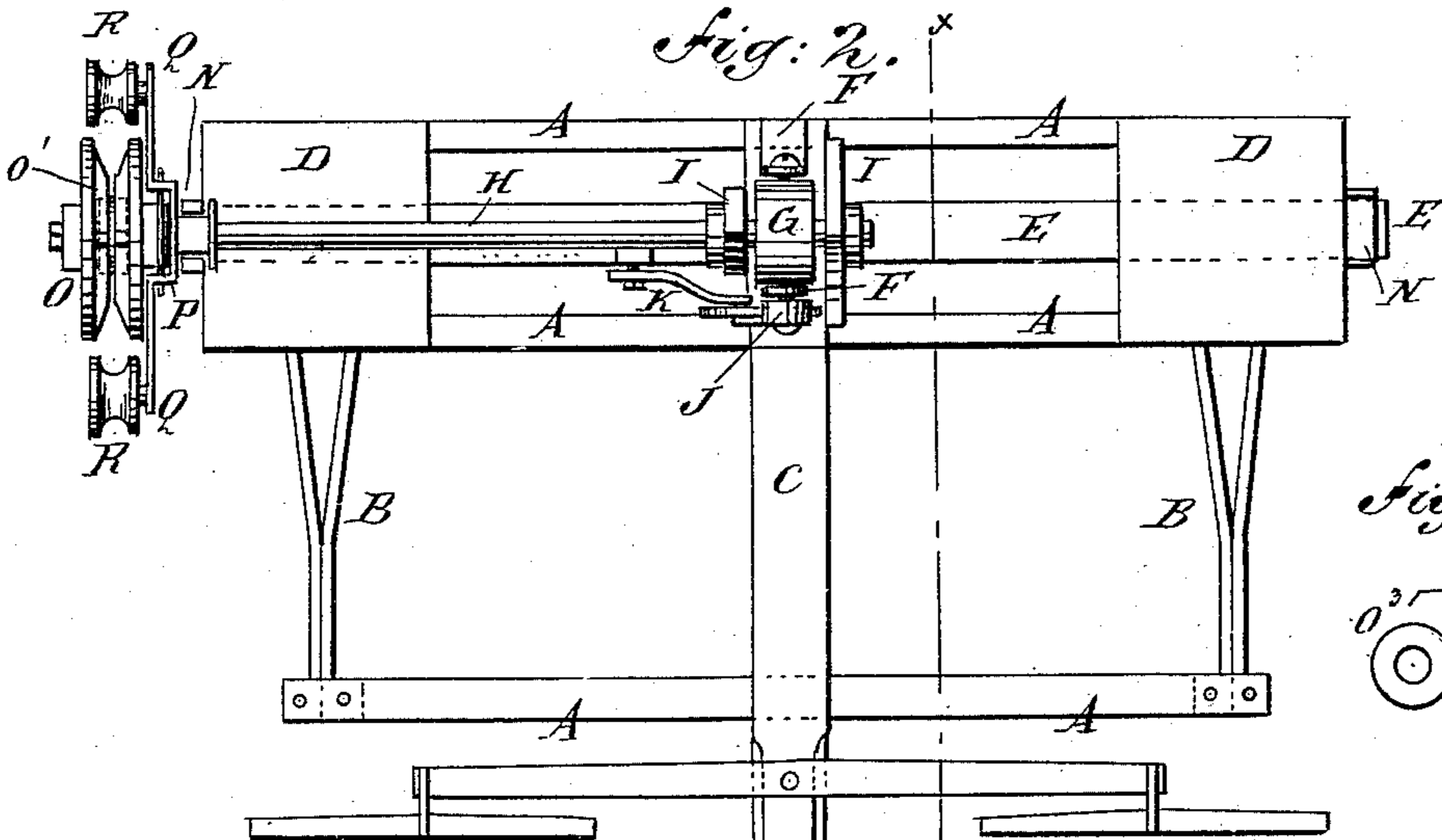
No. 338,339.

Patented Mar. 23, 1886.

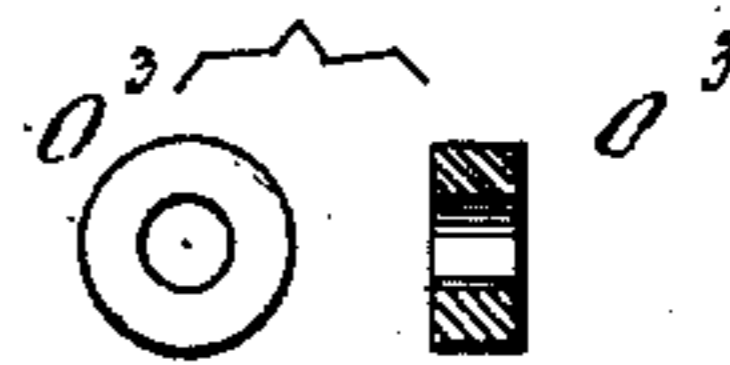
*Fig: 1.*



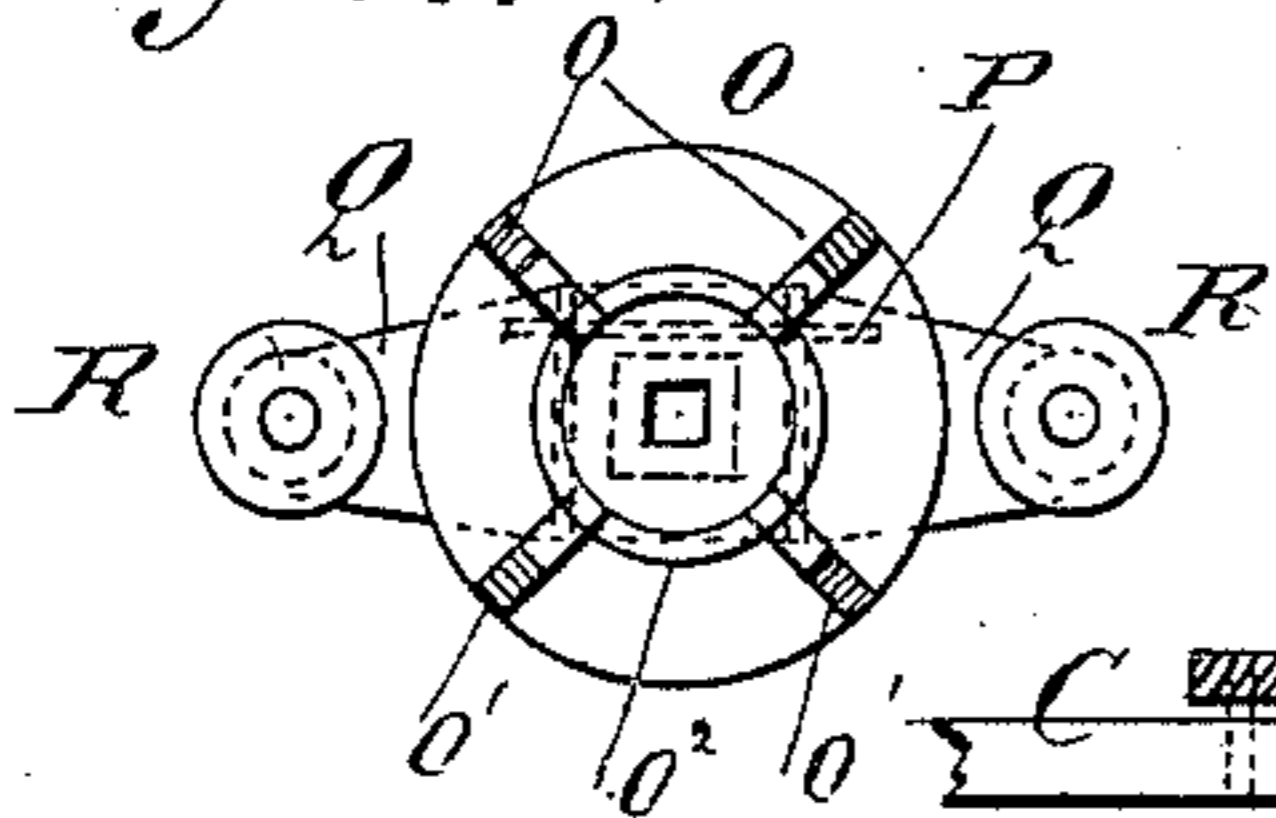
*Fig: 2.*



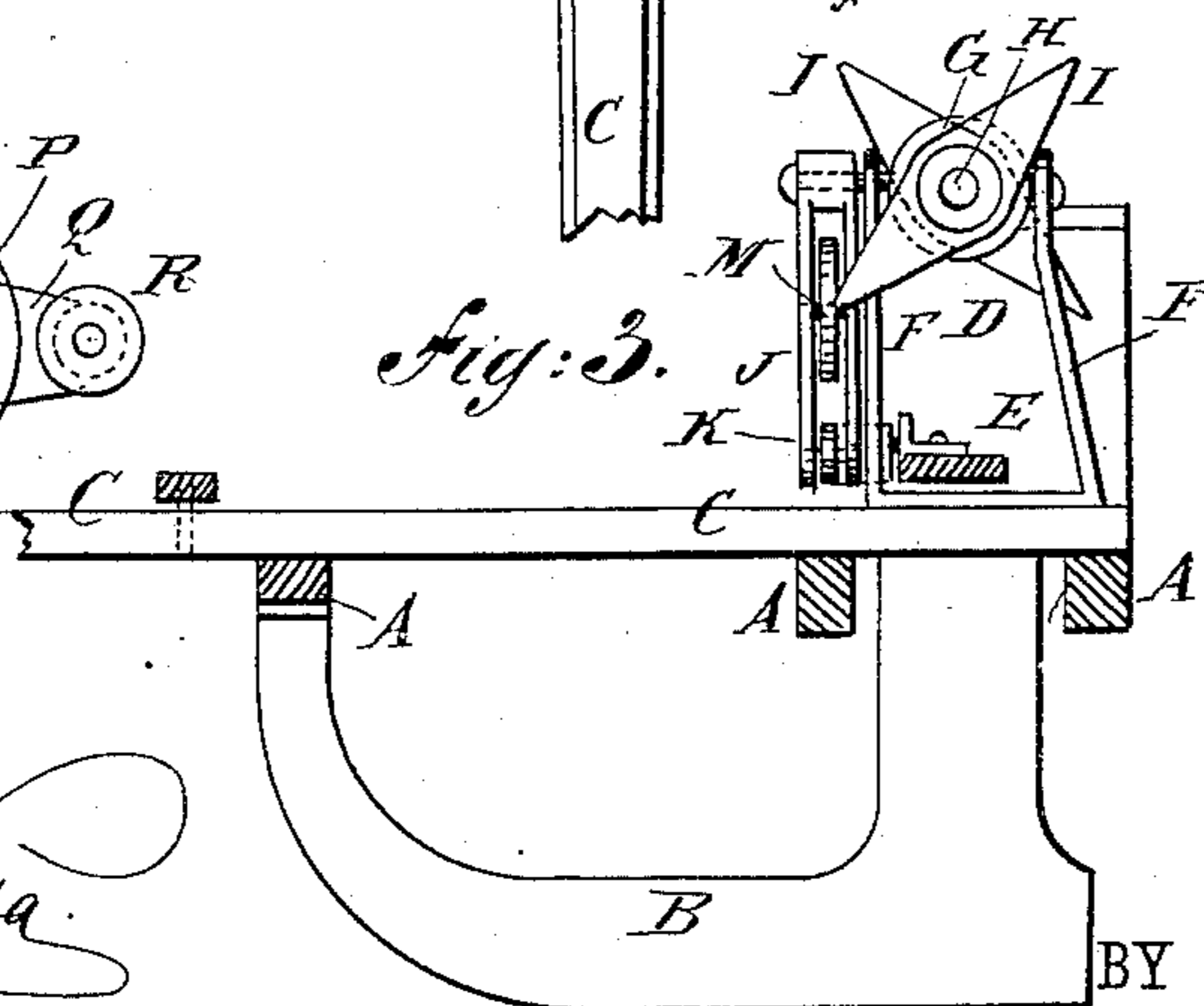
*Fig: 7.*



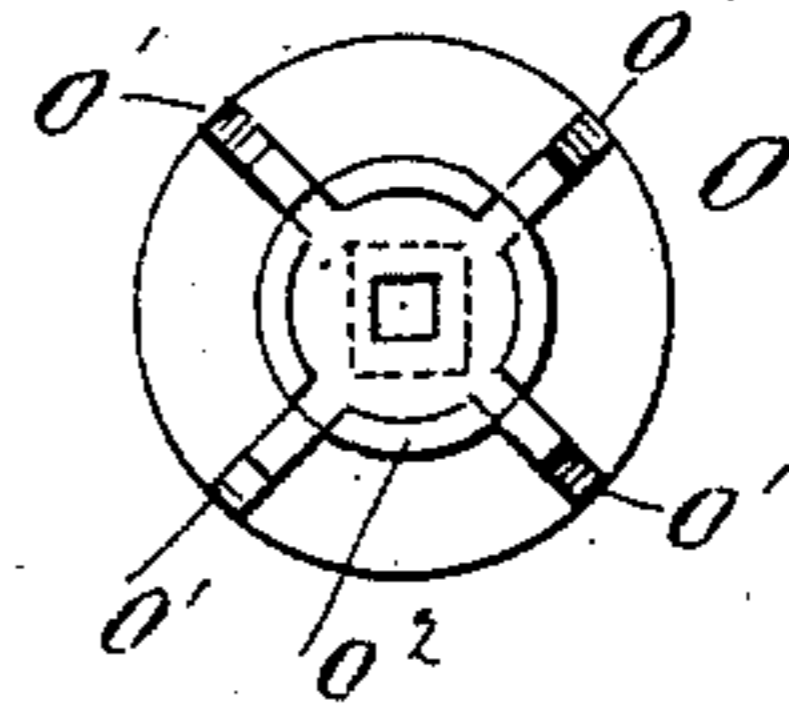
*Fig: 4.*



*Fig: 3.*



*Fig:5.*



WITNESSES:

WITNESSES:  
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# UNITED STATES PATENT OFFICE.

EDWARD FRANCIS CRAWFORD, OF HONEY BEND, ILLINOIS.

## CHECK-ROWING ATTACHMENT FOR CORN-PLANTERS.

SPECIFICATION forming part of Letters Patent No. 338,339, dated March 23, 1886.

Application filed November 23, 1885. Serial No. 183,672. (No model.)

*To all whom it may concern:*

Be it known that I, EDWARD FRANCIS CRAWFORD, of Honey Bend, in the county of Montgomery and State of Illinois, have invented a new and useful Improvement in Check-Rowing Attachments for Corn-Planters, of which the following is a full, clear, and exact description.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a front elevation, partly in section, of a part of a corn-planter to which my improvement has been applied. Fig. 2 is a plan view of the same. Fig. 3 is a sectional side elevation of the same, taken through the line *x x*, Fig. 2. Fig. 4 is an elevation of the inner side of a part of the wire-wheel, and showing the guide-pulleys and their supporting-bar. Fig. 5 is an elevation of the inner side of the other part of the wire-wheel. Fig. 6 is an elevation of the vibrating bar, showing the inclined projections. Fig. 7 is a side and a sectional elevation of the central pulley of the wire-wheel.

The object of this invention is to provide check-rowing attachments for corn-planters, constructed in such a manner that the planting can be done in accurate check-row, and which will be simple in construction and reliable in operation.

The invention consists in the construction and combination of various parts of the attachment, as will be hereinafter fully described.

A represents the frame, B the runners, C the tongue, D the seed-boxes, and E the seed-dropping slide, of an ordinary corn-planter.

To the rear part of the tongue C, or to some other suitable support midway between the seed-boxes D, is secured a slotted or U-shaped standard, F, to which is secured, by pivot-screws or other suitable means, a bearing, G. In the bearing G revolves the inner part of the shaft H, to which, upon the opposite sides of the bearing G, and at right angles with each other, are attached two cross-bars, I. To the upper end of one of the arms of the standard F is pivoted the upper end of a bar, J, the lower end of which is connected by a pitman, K, with the seed-dropping slide E. Upon the opposite edges of the upper part of the bar J are formed inclined projections L, as shown

in Fig. 6, or to the said upper part is pivoted a small wheel, M, of a greater diameter than the width of the said bar, as shown in Figs. 1 and 3, so that the said projections or wheel will be struck successively by the arms of the bars I, and the bar J will be vibrated, to operate the sliding bar E and drop the seed.

The outer part of the shaft H revolves in a slot-bearing, N, attached to the seed-box D, or other suitable support. To the outer end of the shaft H is attached a grooved wheel, O, to receive the check-wire, and which has four equidistant ribs or projections, O', upon the inner surface of its grooved outer part for the knobs of the said check-wire to engage with, so that the said wire-wheel will be turned through a quarter of a revolution by the passage of each knob.

For convenience, the wire-wheel O can be made in two parts, as shown in Figs. 4 and 5, and with annular ribs O<sup>2</sup> upon the inner surfaces of the said parts, at the inner ends of its radial ribs, O', to overlap the ends of the pulley or roller O<sup>3</sup>, placed upon the shaft H between the two parts of the wire-wheel O for the check-wire to rest upon while passing over the said wire-wheel, and thus lessen the friction when the said parts of the said wire-wheel are held stationary.

The inner end of the hub of the wire-wheel O is made square, and upon it rests a spring, P, attached to a bar, Q, which is secured to the bearing N, the seed-box D, or other suitable support, so that the said wire-wheel O will be stopped when it has completed a quarter-revolution, and in proper position for it to be again operated by the next knob of the check-wire.

The ends of the bar Q project, and to them are pivoted pulleys R, to guide the check-wire as it passes to and from the wire-wheel O.

With this construction, when the machine is turned at the ends of the rows the shaft H, by bringing the end cross-bar I into a vertical position, so that it can pass through the standard F, can be reversed to bring the wire-wheel O to the other side of the said machine and into proper position to receive the wire for the return passage. If desired, the shaft H can be extended across the machine, and a wire-wheel, O, attached to each end.

Having thus fully described my invention,

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

1. In a check-rowing attachment, the combination, with the frame and the seed-slide, of  
5 a rotary shaft for operating the slide and carrying the wire-wheel, a central standard having a pivoted bearing mounted between its arms and supporting the inner end of the rotary shaft, and bearings at opposite sides of  
10 the frame for the outer end of the shaft, whereby the position of the rotary shaft and its wire-wheel may be changed to be operated from either side of the machine, substantially as set forth.

15 2. In a check-rowing attachment, the combination of a rotary shaft mounted in pivoted bearings at its inner end and provided with a wire-wheel on its outer end, with the seed-slide and a connection between the  
20 shaft and the slide, whereby the wire-wheel may be thrown to either side of the machine.

3. The combination, with the seed-slide, the standards F, the bar J, pivoted at its upper end to a standard F, and connected with the  
25 seed-slide at its lower end, of the shaft H, having a wire-wheel on its outer end and mounted at its inner end in a bearing in the standards F, and the cross-bars I on the shaft, at opposite sides of the said bearing, and parts projecting  
30 from the bar J into the path of the bars I, substantially as set forth.

4. The combination, with the frame having the seed-boxes, the seed-slide, the bearings on the seed-boxes, the central standards, F, and the bearing G, pivoted between the standards, 35 of the rotary shaft H, mounted at its inner end in the bearing E and resting near its outer end in one bearing on the seed-box, the wire-wheel on the outer end of the shaft H, the cross-pieces I I on the inner end of the shaft, at opposite sides of the bearing E, the bar J, pivoted 40 at its upper end to the standard F, connected at its lower end to seed-slide, and adapted to be vibrated from the shaft by the cross-bars I, substantially as set forth. 45

5. In a check-rower, the wire-wheel O formed in two sections, having central shaft-openings and radial ribs or projections O' on their inner faces, and a pulley or roller, O<sup>3</sup>, between 50 said sections, having a round central aperture in alignment with the apertures of the two sections, substantially as set forth.

6. In a check-rower, the wire-wheel O, formed in two sections, each having radial ribs O' on their inner surfaces, and annular ribs O<sup>2</sup> at the 55 inner ends of the ribs, and the pulley or roller O<sup>3</sup> within the bearing formed by the annular ribs O<sup>2</sup>, substantially as set forth.

EDWARD FRANCIS CRAWFORD.

Witnesses:

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WILLIAM S. CASS.