

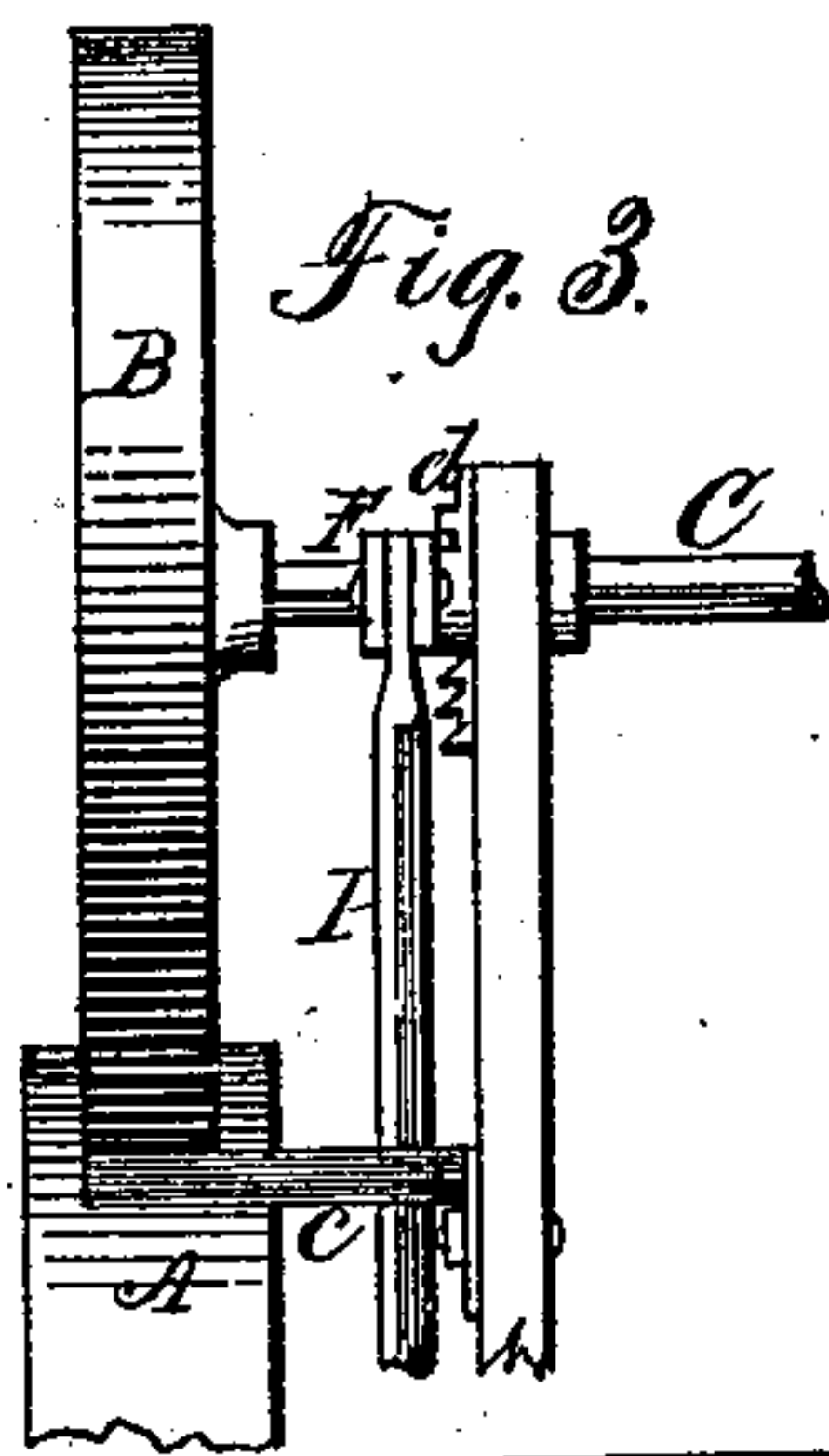
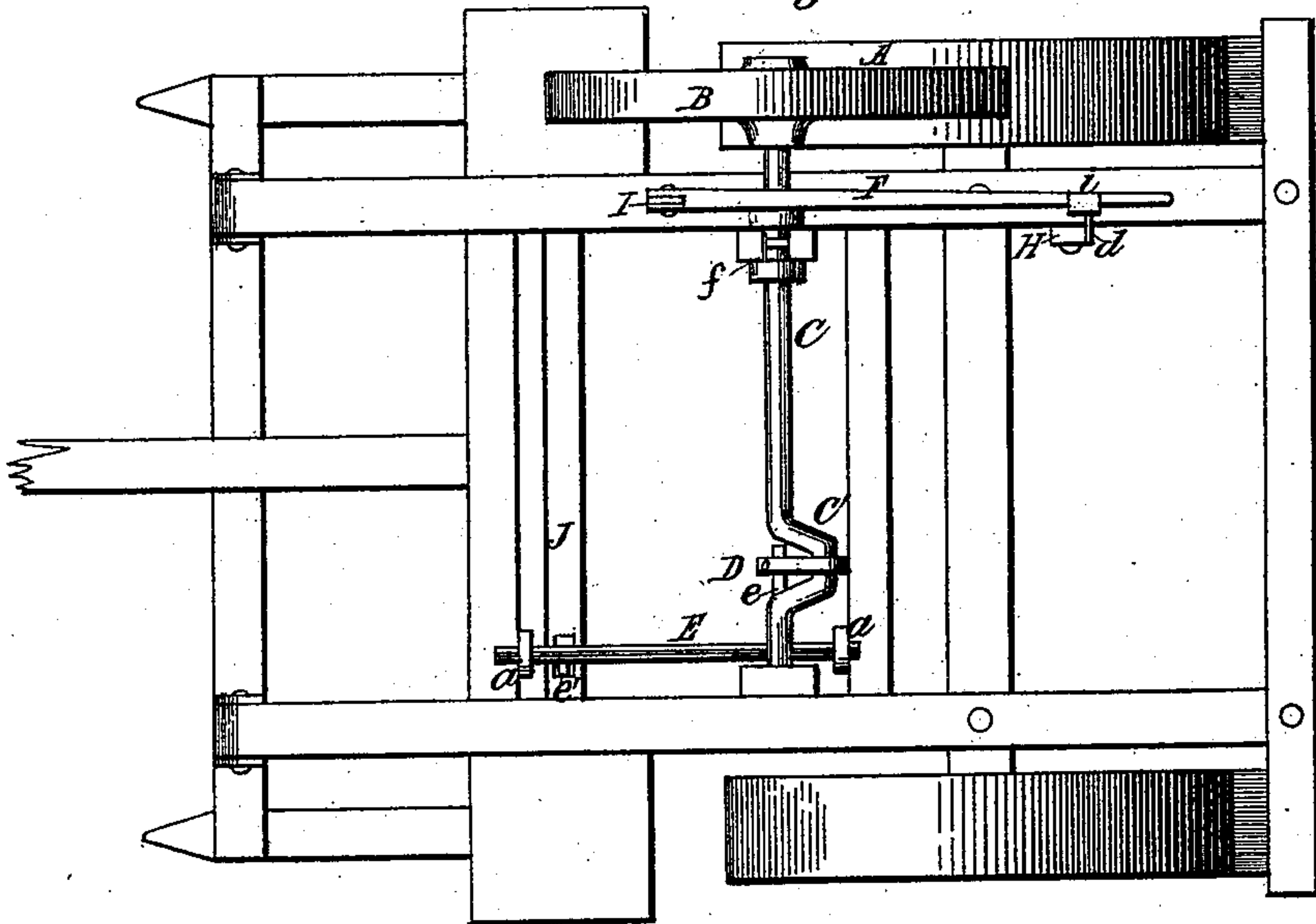
(No Model.)

A. WINSTON.  
CORN PLANTER.

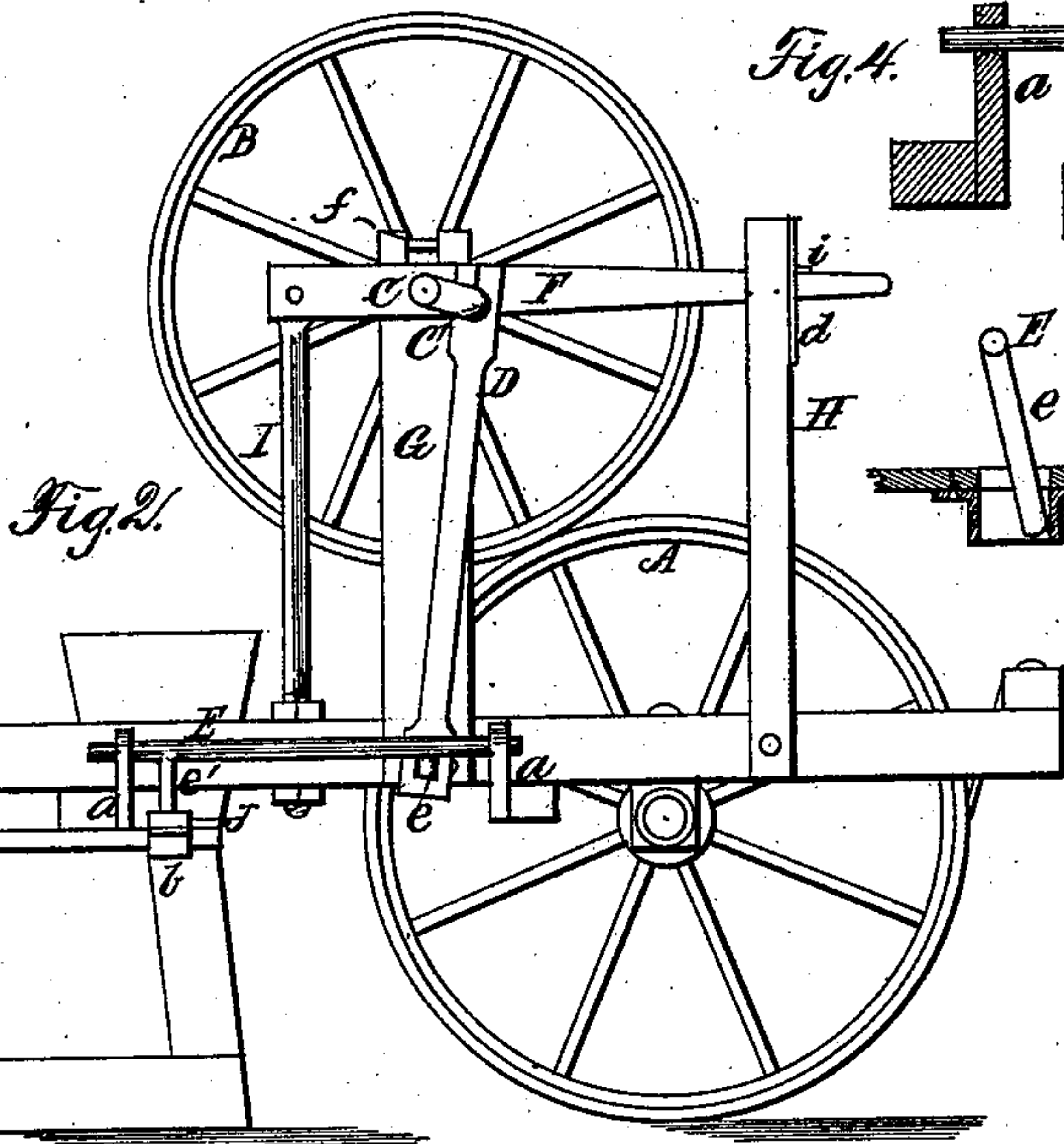
No. 364,155.

Patented May 31, 1887.

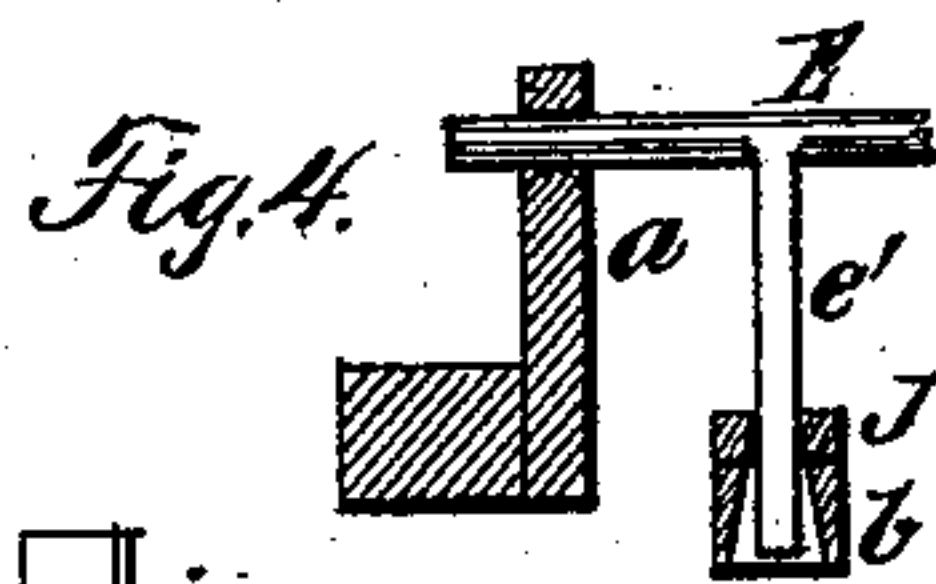
*Fig. 1.*



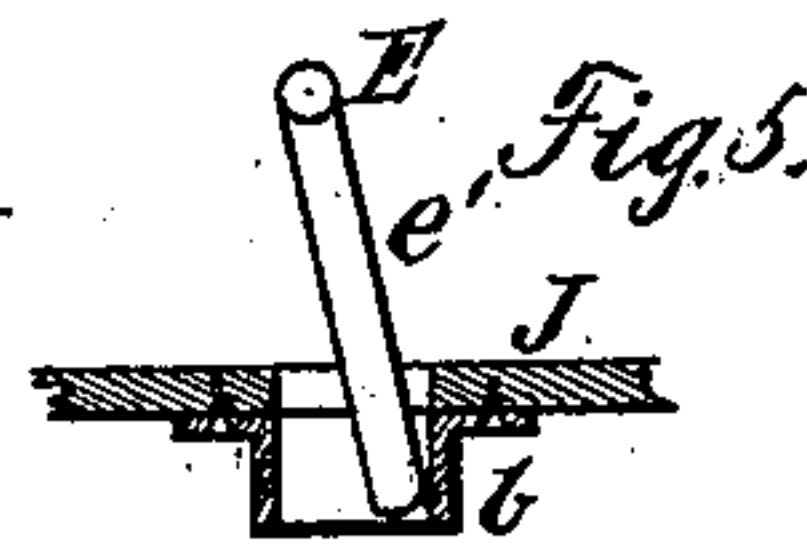
*Fig. 3.*



*Fig. 2.*



*Fig. 4.*



*Fig. 5.*

*Witnesses.*  
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# UNITED STATES PATENT OFFICE.

ALEXANDER WINSTON, OF FAYETTE, IOWA, ASSIGNOR OF ONE-HALF TO  
D. M. FERGUSON, OF SAME PLACE.

## CORN-PLANTER.

SPECIFICATION forming part of Letters Patent No. 364,155, dated May 31, 1887.

Application filed December 2, 1886. Serial No. 220,454. (No model.)

*To all whom it may concern:*

Be it known that I, ALEXANDER WINSTON, a citizen of the United States, residing at Fayette, in the county of Fayette and State of Iowa, have invented certain new and useful Improvements in Corn-Planters, of which the following is a specification.

The object of my invention is to render automatic the operation of a corn-planter without the use of check-wire or like apparatus; and the invention consists in the adaptation of means to this end, as will be hereinafter fully set forth and described.

In the accompany drawings, forming a part of this specification, Figure 1 represents a plan view of the invention; Fig. 2, a sectional side elevation of the same; Fig. 3, a front elevation of the spacing-wheel and its immediate connections, and Figs. 4 and 5 a detail of the drop-per-slide and its connections.

Similar letters of reference indicate corresponding parts.

The nature of the invention is such as to admit of its being applied to any ordinary corn-planter without change of wheels, regardless of their size, and this constitutes one of its important features. It is quite simple, as will be seen by reference to the drawings, and may be described as follows:

Over one of the covering-wheels of the planter A is mounted a wheel, B, so that its face bears upon the face of the former, and is revolved by such contact as the planter moves forward. The diameter of the wheel B should be about two-thirds of the distance it is desired to separate the rows of corn, so that a complete revolution of the wheel covers the space between three rows. The wheel carries a cranked axle, C C', mounted in suitable standards, G G, attached to the frame of the planter. The bearing *f* of one of these standards should be slotted somewhat vertically, so as to admit of the wheel being raised and depressed in throwing in and out of gear. Connected loosely with the axle is a lever, F, pivoted to a suitable support, I, and adapted to engage with a notched standard at the other end, H. A short rack, *d*, on this standard, in connection with a lateral lug, *i*, on the lever, holds the same at any desired point, in or out of gear, and admits

of the wheel B being pressed against the other as tightly as may be requisite.

From the crank C' a connecting-rod or pitman passes to the arm *e* of a rocker-shaft, E, having the arm *e'* at its other extremity adapted to engage with the seed-slide J. It will be seen that the rocker-shaft is in the nature of a bell-crank, the respective arms *e* and *e'* being set at about a right angle to each other, so that a vertical movement of the pitman D produces a horizontal movement of the arm *e'* and of the connective parts.

It is desirable to provide the arm *e* with a number of holes for the pin by which it is connected with the pitman D, so as to secure a variable adjustment of the stroke, and thus adapt it to the requirements of different machines. It will now be seen that the revolution of the covering-wheels will cause the spacing-wheel to revolve, and thus actuate the dropping mechanism, making the planter automatic.

It will also be observed that the size of the covering-wheels will in no manner affect the operation of the machine, the separation of the rows of corn depending altogether upon the size of the spacing-wheel. This constitutes an important advantage, as the size of the covering-wheels varies not only in different machines but in any one machine, unless great care is exercised in keeping the face free from dirt.

To provide against the possibility of any variation in the diameter of the spacing-wheel, it is supplied with a scraper, *c*, attached to some convenient part of the frame and adapted to remove any dirt that might gather from contact with the covering-wheel.

It is necessary to allow for the change in the position of parts due to the lifting of the heel of the runners in turning and otherwise. To prevent this from binding the rocker-shaft, I make the holes which receive the journals of the shaft oblong vertically, or but slightly oblong, and somewhat flaring from both sides, as shown in Fig. 4. This allows sufficient vertical vibration of the shaft to compensate for the change in position of the parts before referred to. Similarly, and for the same purpose, the slot in the seed-slide through which the arm *e'* passes is flared, as shown in Fig. 5. As the change in the position of the frame would necessarily



tend to move the arm *e'* in and out of the slot, and, unless provided for, either throw the arm out of engagement therewith or else vary the stroke, I make the bearing at each end of the slot quite deep, as shown in Fig. 5, so that though the altitude of the slide should vary considerably the end on the arm will still be in engagement with the end of the slot, and the stroke will continue uniform. In practice I do this with a simple casting attached to the under side of the seed-slide, the construction of which is clearly indicated by the drawings.

In order to secure the quick stroke required for dropping corn, I make the arm *e'* comparatively long, and provide the slide with a slot instead of a hole to receive the arm, as shown in Fig. 5.

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

1. In a corn-planter, the combination of the wheel A, wheel B, crank-shaft C C', pitman D, rocker-shaft E, having arms *e e'*, and seed-slide

J, all substantially as and for the purpose specified.

2. In a corn-planter, the combination of the arm *e'* and the slotted bearing therefor in the seed slide, said bearing being deep, as shown, whereby the parts are kept in engagement regardless of the flexure of the frame, and having parallel terminal faces with which the end of the arm *e'* is adapted to engage, and whereby the stroke of the seed-slide is kept uniform, substantially as specified.

3. In a corn-planter, the combination of the rock-shaft E, having arms *e* and *e'*, the bearings *aa*, oblong vertically, as specified, and the seed-slide J, having a bell-mouthed seat for the arm *e'*, substantially as and for the purpose set forth.

In testimony whereof I affix my signature in presence of two witnesses.

ALEXANDER WINSTON.

Witnesses:

FRANK G. CLARK,  
JAMES T. BARCUS.