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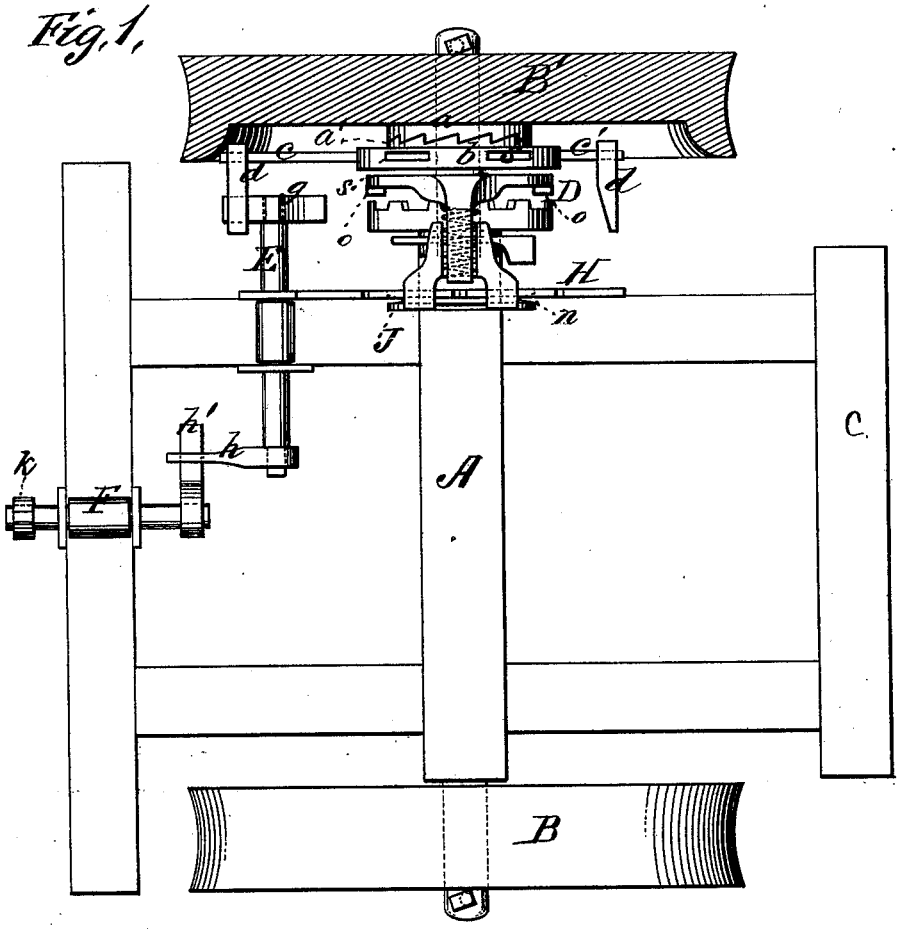
J. NEILL.

Corn-Planter Attachment.

No. 205,973. **Patented July 16, 1878.**

Fig. 1.



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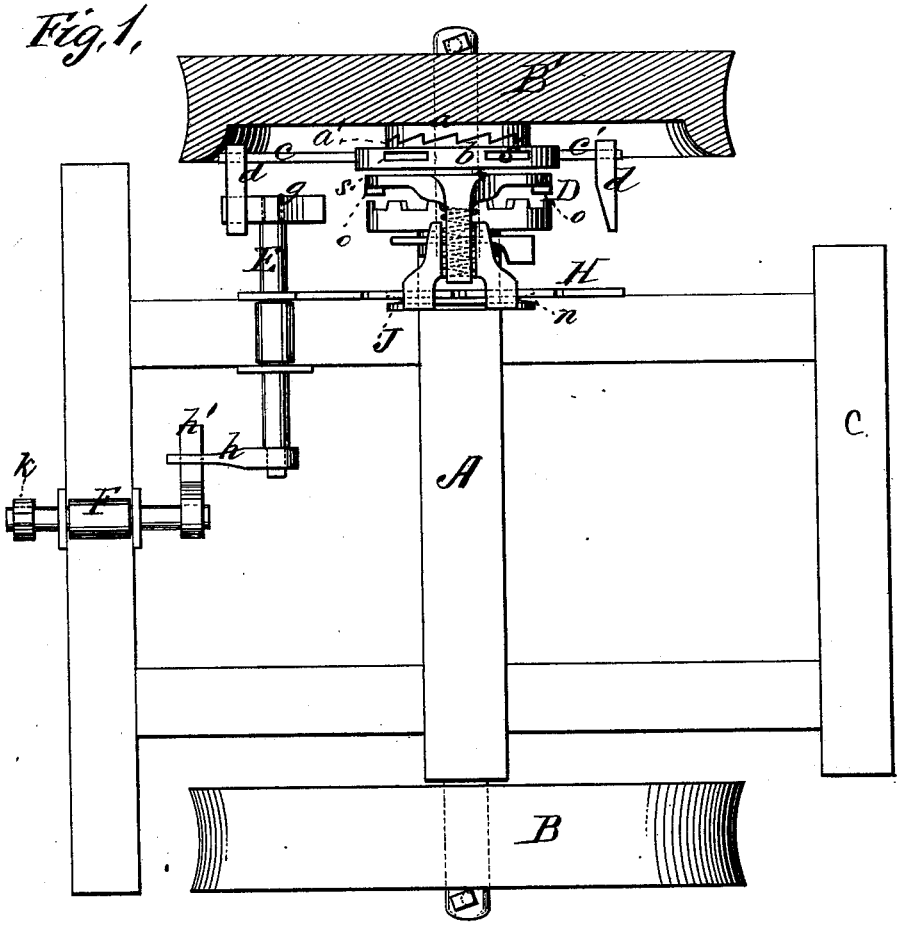

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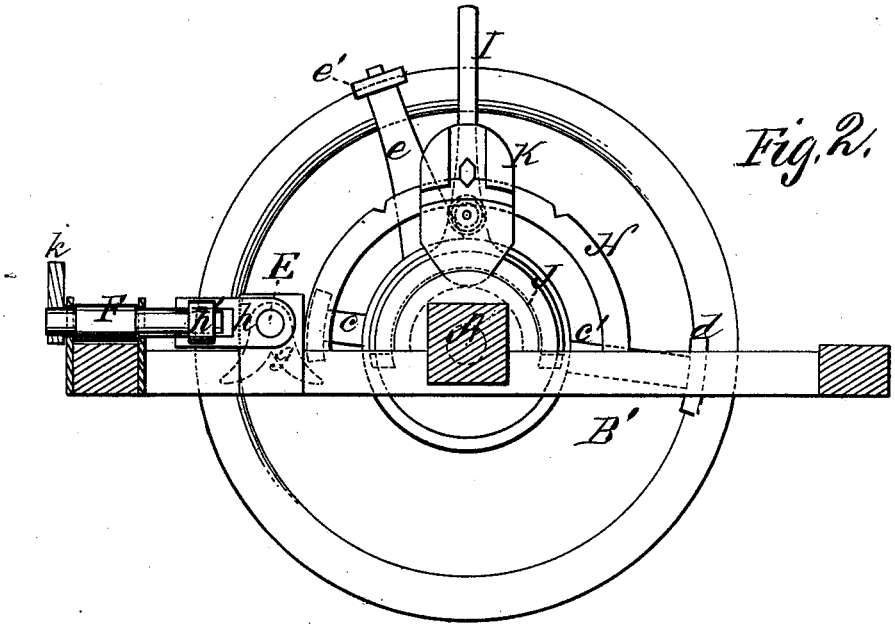

Fig. 2.

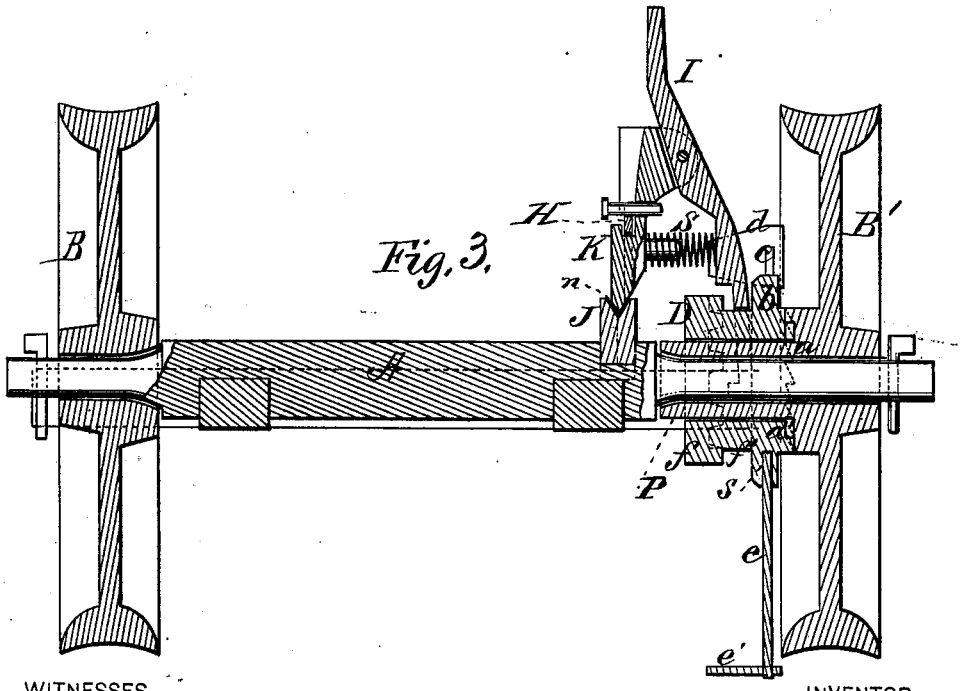

Fig. 3.

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UNITED STATES PATENT OFFICE.

JOHN NEILL, OF ST. JOSEPH, MISSOURI.

IMPROVEMENT IN CORN-PLANTER ATTACHMENTS.

Specification forming part of Letters Patent No. **205,973,** dated July 16, 1878; application filed December 15, 1877.

To all whom it may concern:

Be it known that I, JOHN NEILL, of St. Joseph, in the county of Buchanan and State of Missouri, have invented a new and valuable Improvement in Attachments to Corn-Planters for Regulating the Drop; and do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a top view of my invention. Fig. 2 is a longitudinal section thereof, and Fig. 3 is a vertical cross-section of the same.

This invention has relation to improvements in attachments for corn-planters for the purpose of regulating the drop.

The nature of the invention will be readily perceived from the following description and claims appended thereto.

In the annexed drawings, the letter A designates the axle of two transporting-wheels, B B′, upon which is secured a rectangular frame, C, the side bars of which are preferably let into the axle, and secured thereto by means of bolts. The hub of wheel B′ is ratcheted, as shown at *a*, and engages a corresponding ratchet, *a′*, upon an annular clutch, D, sliding upon the spindle of the wheel B′. Upon the side of this clutch adjacent to the ratchet *a* is an annular flange, *b*, in the perimeter of which sockets *s* are formed at suitable distance apart, in which are placed spokes *c c′*, the former being the longer, having each a tappet, *d*, upon its end, and a staff, *e*, carrying on its free end a shoe, *e′*. The combined staff and shoe reach down to or slightly below the tread of wheel B′, and at each revolution of the latter the said shoe makes a distinct impression in the soil, thus constituting a very effective marker. The clutch D is provided upon its inner end with an annular ratcheted flange, *f*, forming between it and the flange *b* a circumferential groove, *f′*, the object of which will hereinafter appear.

E represents a shaft arranged at right angles to the length of the frame, and having its bearings in the side bars of the said frame. Shaft E has upon its end next to wheel B′ an inverted V-shaped metallic plate, *g*, the branches of which are alternately struck by the tappets of the spokes *c c′* aforesaid, thus imparting a rocking movement to the said shaft. *h* represents a forked arm, rigidly secured to the inner end of the shaft E at right angles thereto, and to the plane of plate *g*, the former being in a state of rest in a vertical and the latter in a horizontal position. The arm *h* receives in its forked end an arm, *h′*, secured upon the front end of a shaft, F, having its bearings upon the rear bar of the frame, and provided upon its rear end with a second arm, *k*, at right angles to the shaft and to the plane of arm *h′*, which engages the dropper-slide of a corn-planter, reciprocating across the frame, and opening the dropping device of the hopper at alternate sides.

The rocking of the shaft E through its connections, as above set forth, imparts a rocking motion to the shaft F and a vertically-vibrating or rather oscillating motion of the arm *k*, thus producing the reciprocating movement of the dropper-slide. By fitting additional spokes and tappets into the sockets of the clutch the number of droppings may be increased at pleasure, and by removing the marker-standard and substituting a spoke and tappet the apparatus is converted into a drill.

H represents a semi-annular metallic guide, rigidly secured to the side rail next to the wheel, below which, and in the same plane therewith, is a concentric guide, J, having in its perimeter a groove, *n*, which receives the lower end of a slide, K, the upper portion of which embraces the guide H. This slide moves freely in its guides H J, and affords upon its side next the wheel B′ a fulcrum for a bifurcated lever, I, which straddles the clutch-sleeve between the flanges *f b* and engages the cogs of the latter, being provided with arms *o* for the purpose. This lever is adjusted to the front or rear, as may be most convenient, by means of the slide K and the guides H J, and when thrust outward toward the wheel B′ disengages the clutch from the wheel-hub, allowing the said wheel to turn upon its spindle without actuating the tappets and marker. Between the slide K and the lower portion of the clutch-lever is a coiled spring, S, which forces the said lever against the

flange *b* of the clutch and the clutch into engagement with the ratchet on the wheel-hub. By engaging the arms *o* of the lever with the ratchet *f* of the hub, which is accomplished by thrusting the lever I outward in the act of disengaging the clutch and wheel B, the clutch-sleeve may be turned around upon the hub-sleeve P, so as to adjust the tappets and shoe *e'* at starting in a proper position.

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

1. The combination, with the wheel B' and sliding clutch D, having sockets *s*, of the spokes *c c'*, of different lengths, the V-shaped plate *g*, the transverse rock-shaft E, having forked arm *h*, the longitudinal shaft F, having arm *h'* engaging the arm *h*, and the arm *k* engaging the dropper-slide of a corn-planter, substantially as specified.

2. The combination, with the rock-shaft E, having V-shaped plate *g*, of a transporting-wheel having a clutch device provided with tappets of different lengths, striking the said plate upon opposite sides in alternation, whereby a rocking motion is imparted to said shaft, as and for the purpose specified.

3. The combination, with the wheel of a corn-planter, having a projecting hub-sleeve and a ratchet, *a*, of a sliding clutch fitting on the said sleeve, having a ratchet, *a'*, the socket-flange *b*, and an inner ratchet, *f*, the con centric guides H J, the slide K, the forked lever F, having arms *o*, and the spring S, between the slide and lever, substantially as specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

JOHN NEILL.

Witnesses:
R. W. MUSSER,
JNO. A. READ.