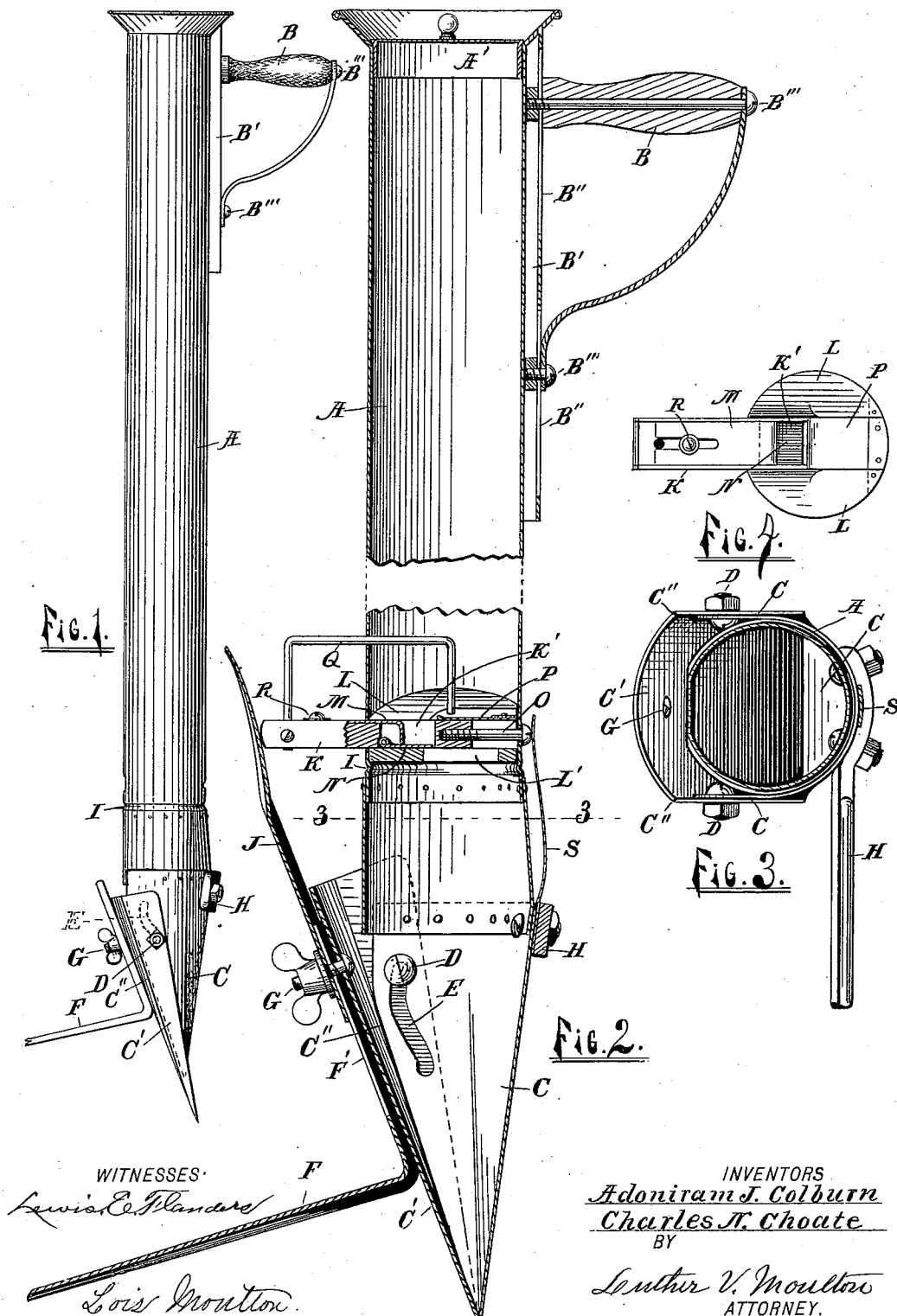


(No Model.)

A. J. COLBURN & C. N. CHOATE.
COMBINED CORN AND POTATO PLANTER.

No. 532,767.

Patented Jan. 22, 1895.



UNITED STATES PATENT OFFICE.

ADONIRAM J. COLBURN AND CHARLES N. CHOATE, OF GREENVILLE,
MICHIGAN.

COMBINED CORN AND POTATO PLANTER.

SPECIFICATION forming part of Letters Patent No. 532,767, dated January 22, 1895.

Application filed September 4, 1894. Serial No. 522,020. (No model.)

To all whom it may concern:

Be it known that we, ADONIRAM J. COLBURN and CHARLES N. CHOATE, citizens of the United States, residing at Greenville, in the county of Montcalm and State of Michigan, have invented certain new and useful Improvements in a Combined Corn and Potato Planter; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

Our invention relates to improvements in a combined corn and potato planter, and its object is to provide the same with certain new and useful features, hereinafter more fully described and particularly pointed out in the claims, reference being had to the accompanying drawings, in which—

Figure 1 is a side elevation of a device embodying our invention with the corn planting attachment removed; Fig. 2, an enlarged central vertical section of the same, complete; Fig. 3, a transverse section of the same on the line 3—3 of Fig. 2, and Fig. 4, a plan view of the corn dropping attachment.

Like letters refer to like parts in all of the figures.

A represents any suitable tube, having near its upper end a longitudinal external chamber B', having slotted openings B'' through which openings pass bolts B''' to secure and vertically adjust the handle B. Said tube may also be closed at the top by any suitable removable cap A'. To the lower end of the tube A is attached a beak, having a transversely flattened lower end for entering the soil, and composed of a jaw C, rigidly secured to the tube A, and a movable jaw C'. These jaws have parallel overlapping sides and are connected to each other by pivot-bolts D, D, which bolts traverse curved slots E in the sides of the fixed jaw C, whereby the movable jaw C' may be opened and closed, and also moved vertically a distance about equal to the length of said slot. Said slot is curved outward, at its middle portion to permit the jaws of the beak to separate somewhat to insure free movement of the movable jaw and the ends of said slot are so located as

to bring the edges of the parallel sides of the fixed jaw closely within the angles C'' of the movable jaw, whereby the latter is stopped, or held firmly closed when the bolts D are in the lower ends of the slots E, and to prevent the movable jaw from striking the tube when opened. An arm F is attached to the movable jaw by means of a bolt G passing through a slot F' in said arm to vertically adjust the same. An upwardly projecting and detachable arm J is also attached by said bolt to operate the corn dropper, which latter consists of a horizontally movable slide K, having an opening or chamber K' to receive the charge of corn, and having a downwardly opening gravity flap N closing the bottom thereof. An adjustable stop M, secured by a screw R, forms one side of the chamber K', whereby its capacity is adjusted to hold the proper quantity of corn. Said slide K moves in a channel in a circular block L, which block forms a horizontal partition in the tube A, and rests on an inwardly turned bead I. In the wall of said tube L' is an opening through said block L, through which the corn passes.

O is a stud attached to the slide K, which extends through the side of the tube A and engages a spring S, which spring presses the slide K toward the arm J.

P is a flexible plate above the opening L', which separates the corn in the opening K' from that above and prevents the latter from passing through. An agitator Q consisting of a suitable wire bent twice at right angles, and attached to the slide K and moving therewith insures proper flow of the corn into the chamber K'.

H is a foot rest, reversibly attached by bolts to the upper part of the fixed jaw C.

The operation of the corn planter is as follows: When the beak has been thrust into the soil as far as the arm F will permit, a forward movement of the upper part of the device causes the said arm to operate as a lever, which will open the beak by turning the movable jaw C' on the pivots D. This moves the slide K inward and the flexible plate P yields if any grains of corn are caught between its end and the angle of the stop M, thus saving the corn from breakage. The flap N drops

into the opening L' discharging the contents of the chamber K', which passes into the soil opened by the beak. As the upper part of the device is moved farther forward the arm F lifts the beak out of the soil and as the whole is lifted and moved forward to the next place, the beak closes and the slide K is moved back to place and is re-charged. It will be obvious that this retrograde movement of the slide K in conjunction with the angle of the unyielding wall of the opening L' causes the flap N to rise into horizontal position simultaneously with its other movement, and the relative position of the parts is such that the flap is closed before the chamber K' passes far enough from under the plate P to start the flow of corn, and is held closed, in the discharge movement, until the plate P cuts off the flow of corn, thus securing accurate work. By removing the arm J, and the block L with the parts attached, and also the cap A', the device is converted into a potato planter. When thus used the potatoes for each hill are dropped by hand into the tube A, and passing down there-through are held within the closed beak, which after insertion in the soil, is first fully opened as before described, and then as it is lifted from the soil the fixed jaw rises first, the bolts D traversing the slots E, thus effectually releasing the potatoes from the beak and allowing the earth to contact and hold them, while the movable jaw is finally being withdrawn from the soil.

What we claim is—

1. In a planter, a beak having a fixed jaw, and a movable jaw pivoted to said fixed jaw, and also longitudinally movable relative thereto, substantially as described.

2. In a planter, the combination of a tube, a fixed jaw secured to the same, having parallel sides, and slots in the said sides, a movable jaw engaging said fixed jaw, and having pivot bolts engaging and traversing said slots, substantially as described.

3. In a planter, a beak consisting of a fixed jaw, having parallel sides, having curved slotted openings, a movable jaw having parallel sides embracing the parallel sides of said fixed jaw, and angles engaging the edges thereof; and pivot bolts connecting said fixed and movable jaws, and traversing said slots, substantially as described.

4. In a planter, the combination of a tube, a fixed jaw attached to the same having parallel sides, having slots, a movable jaw, having parallel sides and angles engaging the sides and edges of said fixed jaw, and pivot bolts connecting said fixed and movable jaws and traversing said slots, and an adjustable

arm attached to said movable jaw and projecting therefrom, substantially as described.

5. In a planter, a beak having a fixed and a movable jaw, said movable jaw being movable outward from and longitudinally with respect to said fixed jaw, and an arm attached to said movable jaw and engaging the ground, substantially as described.

6. In a planter, the combination with the casing, a beak having a fixed jaw and a jaw movable longitudinally with respect to said fixed jaw, of an arm attached to said movable jaw, and a seed dropping mechanism engaged by said arm, substantially as described and for the purpose specified.

7. A planter, consisting of a casing, a diaphragm therein having an opening, a chambered slide, a flap pivoted at one end to said slide, said flap being opened by gravity when the chamber of the slide registers with the opening in the diaphragm and closed during the retrograde movement of said slide, a stop plate arranged above said slide and over said opening so as to close said chamber when the flap is open, a beak having a fixed jaw and a jaw movable longitudinally and outwardly with respect to said fixed jaw, arms upon said movable jaw, one engaging the ground and the other engaging an end of the slide, and a spring engaging the other end of said slide, substantially as described.

8. A combined corn and potato planter, embodying the casing, a beak having a fixed jaw and a movable jaw opening outward from said fixed jaw and also movable longitudinally with respect thereto, a removable arm movable with said movable jaw, and a removable seed dropping mechanism operated by said arm, substantially as described.

9. A combined corn and potato planter, consisting of the casing, a beak having a fixed jaw and a movable jaw pivoted to said fixed jaw and also movable longitudinally with respect thereto, an arm attached to said movable jaw and engaging the soil, an arm detachably secured to said movable jaw, a spring, a removable diaphragm within the casing, and a removable slide above the diaphragm, said slide being forced in one direction by said detachable arm and in the other direction by said spring, substantially as described.

In testimony whereof we affix our signatures in presence of two witnesses.

ADONIRAM J. COLBURN.
CHARLES N. CHOATE.

Witnesses:

JOHN LEWIS,
NELLIE HAIGHT.