(No Model.) 2 Sheets—Sheet 1.

C. J. BROWN.

CORN PLANTER.

No. 456,548. Patented July 28, 1891.

Fig. 1.

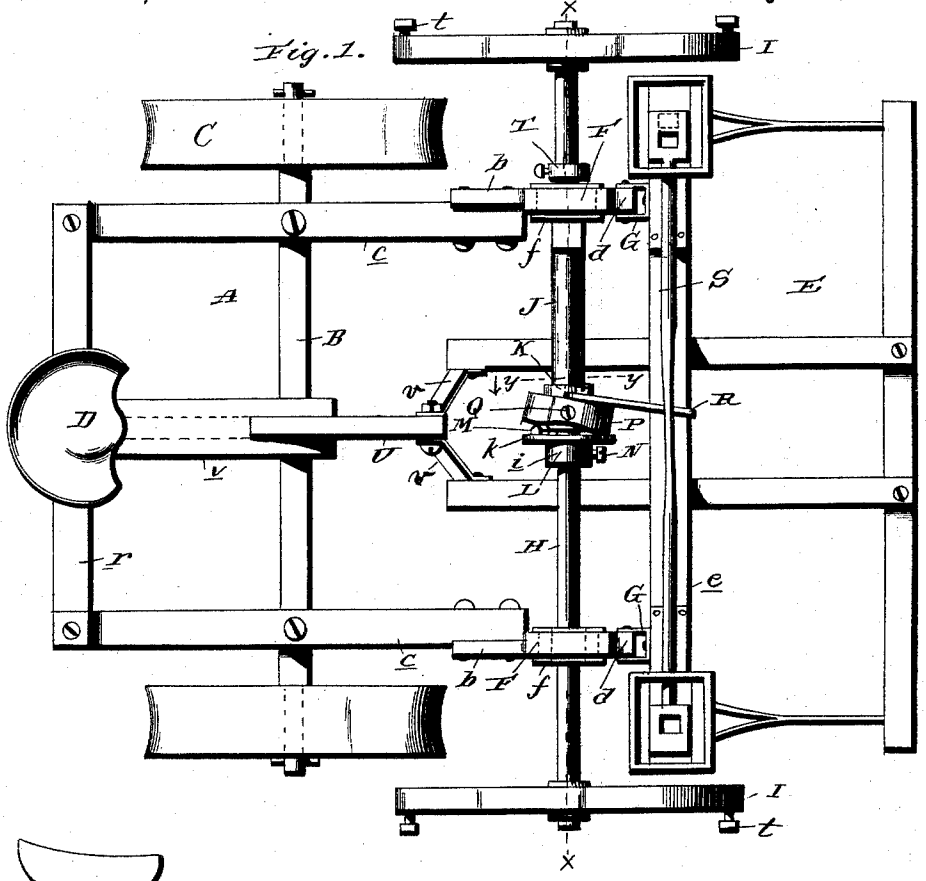
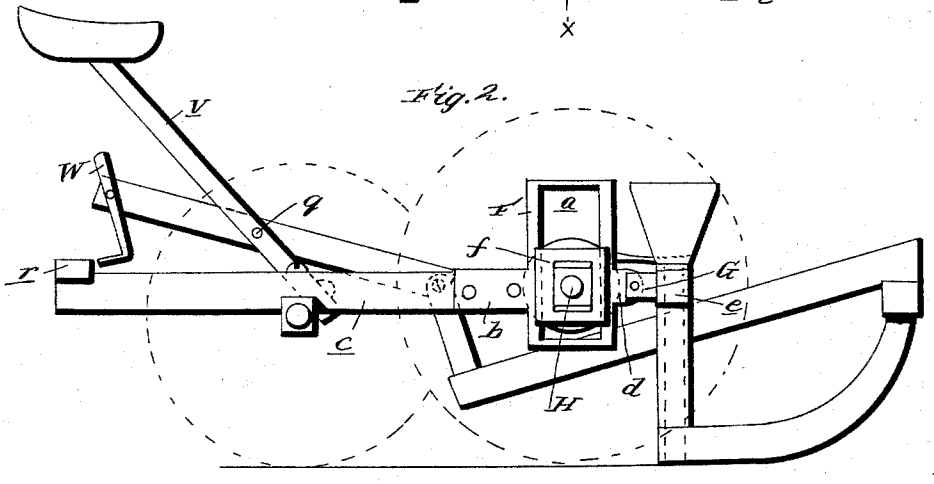


Fig. 2.



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(No Model.) 2 Sheets—Sheet 2.

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Fig. 3.

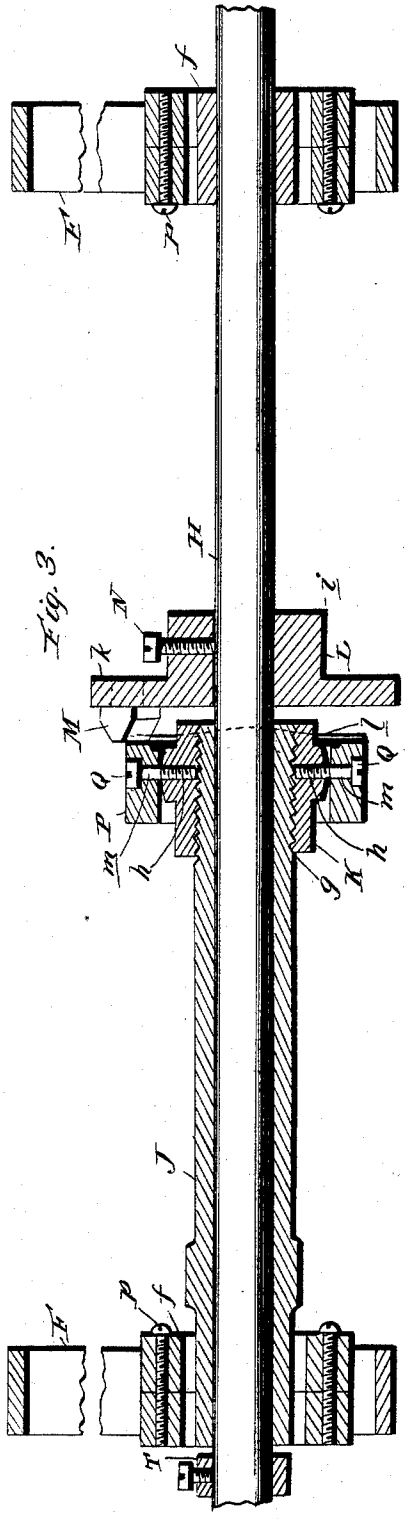
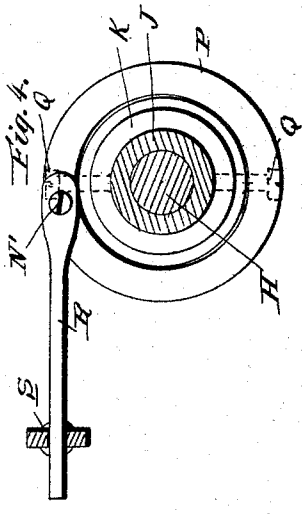


Fig. 4.



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UNITED STATES PATENT OFFICE.

CLIFFORD J. BROWN, OF LA GRANGE, INDIANA.

CORN-PLANTER.

SPECIFICATION forming part of Letters Patent No. 456,548, dated July 28, 1891.

Application filed March 21, 1891. Serial No. 385,845. (No model.)

To all whom it may concern:

Be it known that I, CLIFFORD J. BROWN, a citizen of the United States, residing at La Grange, in the county of La Grange and State of Indiana, have invented certain new and useful Improvements in Corn-Planters; and I do 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.

This invention has relation to an improvement in corn-planters, and the novelty will be fully understood from the following description and claims, when taken in connection with the accompanying drawings, in which—

Figure 1 is a plan view of my improved machine. Fig. 2 is a side elevation of the same. Fig. 3 is a transverse sectional view taken in the plane indicated by the dotted line *x x* of Fig. 1; and Fig. 4 is a cross-sectional view of the shaft and reciprocating arm, taken at the point indicated by the dotted line *y y* on Fig. 1.

Referring by letter to said drawings, A indicates the rear main frame of my improved machine. This frame is preferably of a rectangular form and is mounted upon an axle B, carrying supporting-wheels C, and said frame also carries the driver's seat D, all of which may be of any ordinary or approved construction.

E indicates the front section of the main frame. This front section carries the usual furrow-openers and seed-boxes, as shown, and is connected with the forward end of the rear section A in a hinged manner, as will be presently described.

F indicates castings, which are provided with a vertically-disposed rectangular loop or opening *a* and are secured by a branch *b* to the forward ends of the lateral beams *c* of the rear frame A, and said castings have a hinge or pivot-lug *d*, through the medium of which and by a screw-bolt or the like and the employment of a shackle or clip G said castings are flexibly connected or hinged to the transverse beam *e* of the forward frame or section E. It will thus be seen that the forward section of the main frame is connected with the forward portion of the rear section of said frame, so that said sections may be allowed to move in a hinged manner and vertically with respect to each other.

Arranged in the vertical loops or openings *a* of the castings F are boxes *f*, which furnish bearings for the rod or shaft H, which carries at its opposite ends in a fixed manner the driving-wheels I. These boxes are provided with suitable guide-flanges, which partly embrace the vertical branches of the loops *a* and are designed to move vertically therein.

J indicates a hollow shaft placed over the solid shaft or rod H. This hollow shaft J has one end terminating at a point about the center of the main frame, and its opposite end is suitably fixed in one of the vertically-movable bearings for the wheel-shaft, and said hollow shaft, while being allowed a vertical movement with the shaft H, is prevented from rotating therewith by reason of it being fixed with respect to one of the bearings in the looped castings. This hollow shaft J is provided at its inner end with external screw-threads *g* to receive an internally-threaded sleeve or ring K, and this latter sleeve or ring K is provided at diametrically-opposite points with screw-tapped holes *h* to receive pivot-screws for a cam-ring, as will be presently explained. The outer end of this hollow shaft may be squared or made flat-sided to enter the bearing or box of one of the looped castings, although said shaft may be constructed in any suitable manner to prevent it from rotating with the shaft H, the object of which will presently appear.

L indicates a disk, which may have a collar *i* and a vertically-disposed peripheral flange *k*. This disk is secured to the shaft H at a point adjacent to the inner end of the hollow shaft J and carries on one side of the flange *k* a beveled and laterally-disposed lug M, the disk L being fixed to the shaft H by means of a set-screw N or other suitable device and is designed to rotate therewith.

P indicates a ring. This ring is provided on one side with a cam-face, as shown at *l*, and is designed to engage with the lug M on the disk L. This ring P is also provided at diametrically-opposite points with holes *m* to receive the pivot-screws Q, which take into the screw-tapped holes in the ring K, thus allowing said ring Q to vibrate upon the ring or collar K when operated upon by the lug M of the disk L.

R indicates a reciprocating arm. This arm

is connected at one end to one side of the cam-ring P by means of a screw N′ or other suitable device, and its opposite end passes through a loop or eye in the seed-slide S, so that when reciprocated by the movement of the cam-ring it will impart a similar motion to the seed-slide, and consequently drop the seed from the seed-boxes at regulated intervals.

The shaft H may be prevented from lateral displacement in the bearings by means of a collar T and a suitable set-screw at one point and the disk L at another point. The bearing-boxes *f* for the shaft H are preferably made in sections and held together by means of screws *p*, although it is obvious that boxes of any desired form may be employed.

U indicates a lever. This lever is pivoted about midway of its length in the seat-beam, as shown at *q*, and one end of said lever is pivotally connected by means of a bracket *v* with the rear end of the frame-section E, while the opposite end of said lever carries a pivoted depending hook W, designed to engage the under side of the cross-beam *r* of the frame A, the object being to prevent the forward section of the frame E from being raised beyond a certain point, when desired, and to hold the furrow-openers down.

The wheels I on the shaft H are provided with markers *t*.

With a machine of this construction it will be seen that the dropping of the seed is automatic and dispenses with the service of a man to operate it, and it will also be seen that the seed is dropped at regular intervals without the aid of a check-row wire.

In operation it will be seen that as the machine is driven the shaft H, being fixed to the wheels I, will rotate, and with it the disk L. This movement will cause the lug M to engage the cam-face of the ring P, and, vibrating the same in its bearings, will impart a similar movement to the arm R, pivoted thereto, and this arm will in turn impart a reciprocating movement to the seed-slide, thereby alternately dropping seed from the respective seed-boxes and at intervals proportionate to the pitch of the cam or cam projection in the face of the ring P, and it is obvious that in some cases a ring having a cam of greater or less pitch might be used, according to the quantity of seed it is desired to plant.

Having described my invention, what I claim is—

1. In a corn-planter, the combination, with the main frame, of the shaft having the driving-wheels fixed thereto, the disk carrying the beveled lug and also fixed to said shaft, the hollow shaft or sleeve arranged loosely on the drive-shaft and prevented from rotating therewith, the vibratory cam-ring pivoted on the hollow shaft and adapted to be engaged by the lug of the disk fixed to the rotatable shaft, and the reciprocating arm secured at one end to the cam-ring and at its opposite end engaging a reciprocating seed-slide, substantially as specified.

2. In a corn-planter, the combination, with the rotatable drive-shaft carrying fixed wheels, of the hollow shaft or sleeve arranged on said drive-shaft, said sleeve being fixed at one end and prevented from rotation with the drive-shaft and having its opposite end threaded, the ring or bearing screwed on the threaded end of said sleeve and having diametrically-arranged screw-tapped holes, the cam-ring having corresponding holes, the screws pivotally connecting the cam-ring to the bearing-ring and the disk secured to the rotatable shaft and carrying a lug to engage the cam-ring, and an arm connected with said ring at one end and connected at its opposite end with a reciprocating seed-slide, substantially as specified.

3. In a corn-planter, the combination, with the rear main frame, of the forward frame, the castings having vertical loops and connecting the respective frames in a hinged manner, the lever pivoted in the seat-beam and connected at one end with the forward frame and carrying at its opposite end a depending hook, the axle-bearing arranged in the vertical loops of the castings and movable therein, the rotatable shaft journaled in said bearings and carrying fixed drive-wheels, the hollow shaft or sleeve receiving the rotatable shaft and fixed at one end to one of the axle-bearings, the pivoted cam-ring on the opposite end of said sleeve, the disk carrying a lateral lug and secured to the rotatable shaft, and an arm pivoted or connected at one end to the cam-ring and its opposite end adapted to engage a reciprocating seed-slide, substantially as specified.

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

CLIFFORD J. BROWN.

Witnesses:
E. W. HULBERT,
Z. A. HORNADAY.