No. 779,925. PATENTED JAN. 10, 1905.

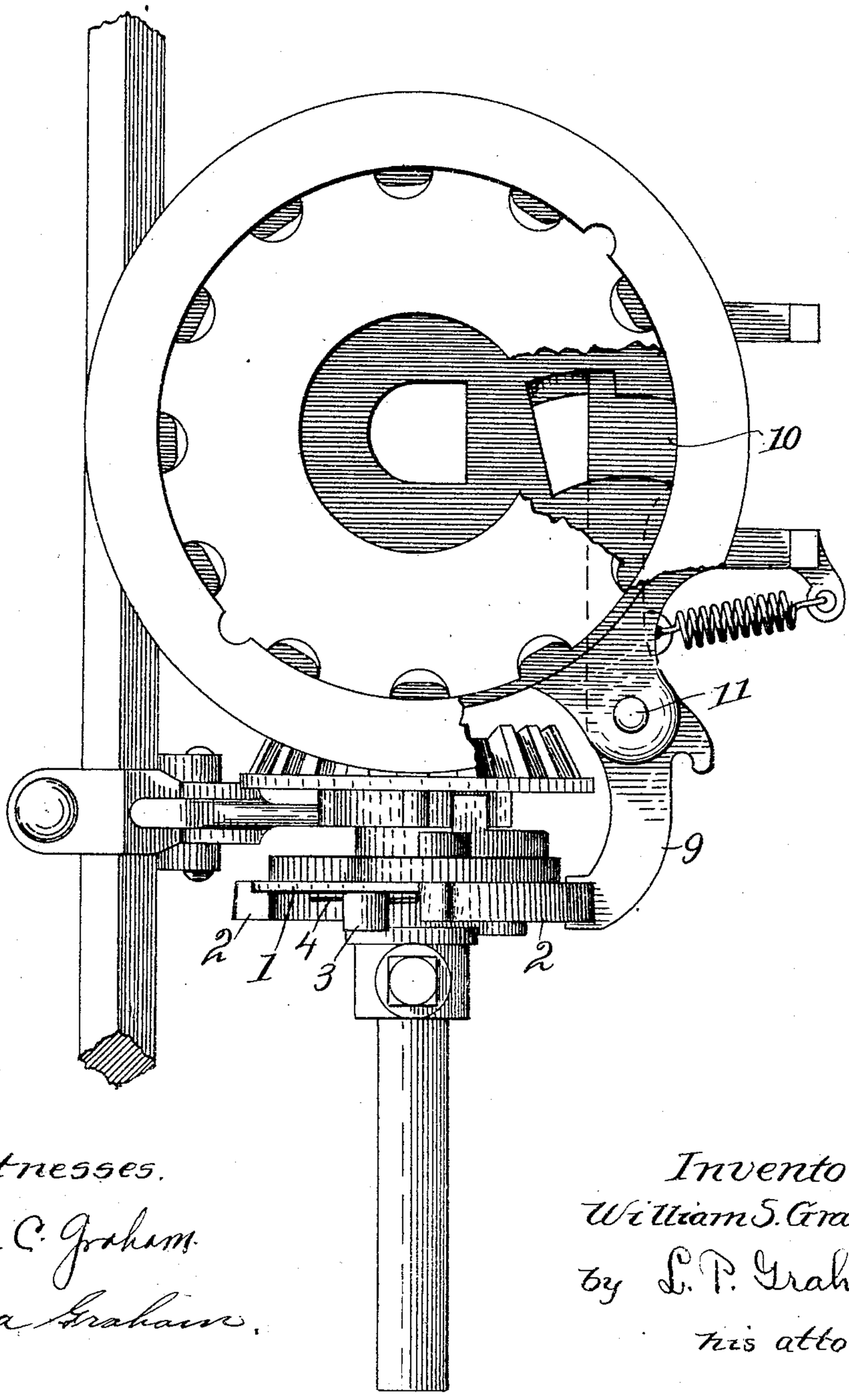
W. S. GRAHAM.

CORN PLANTER.

APPLICATION FILED MAY 11, 1904.

2 SHEETS—SHEET 1.

Fig. 1.



Witnesses.

Ira C. Graham.

Nora Graham.

Inventor.

William S. Graham.

by L. P. Graham

his attorney.

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2 SHEETS—SHEET 2.

Fig. 2.

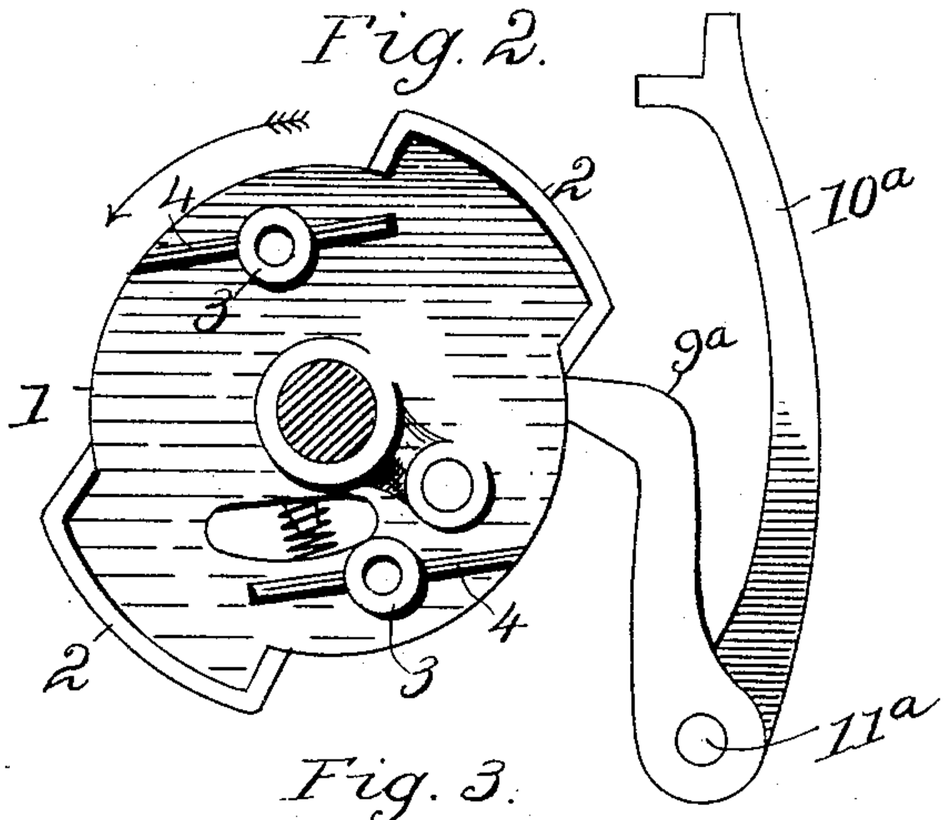


Fig. 6.

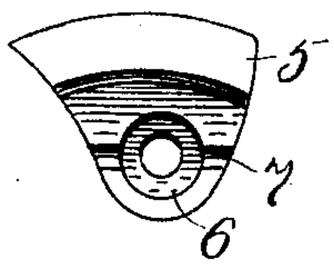
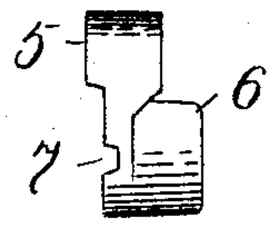


Fig. 3.

Fig. 7.



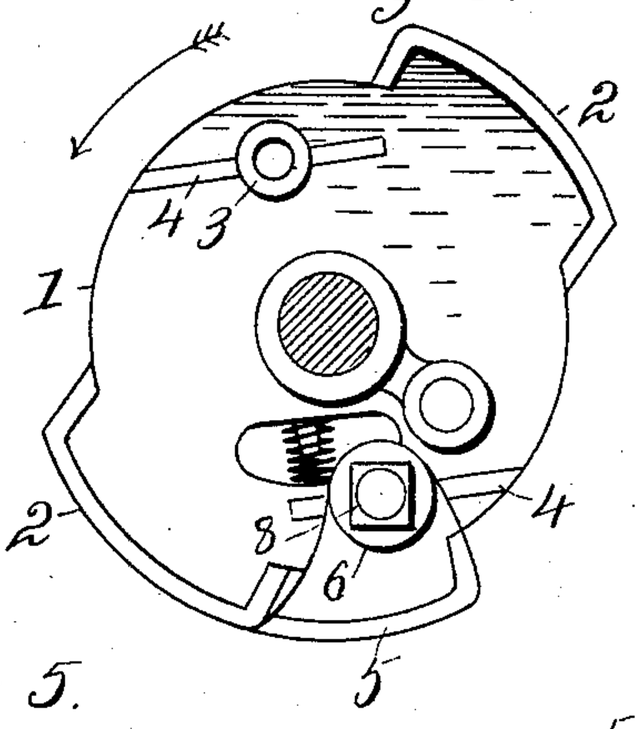


Fig. 8.

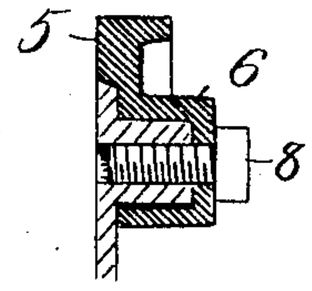


Fig. 5.

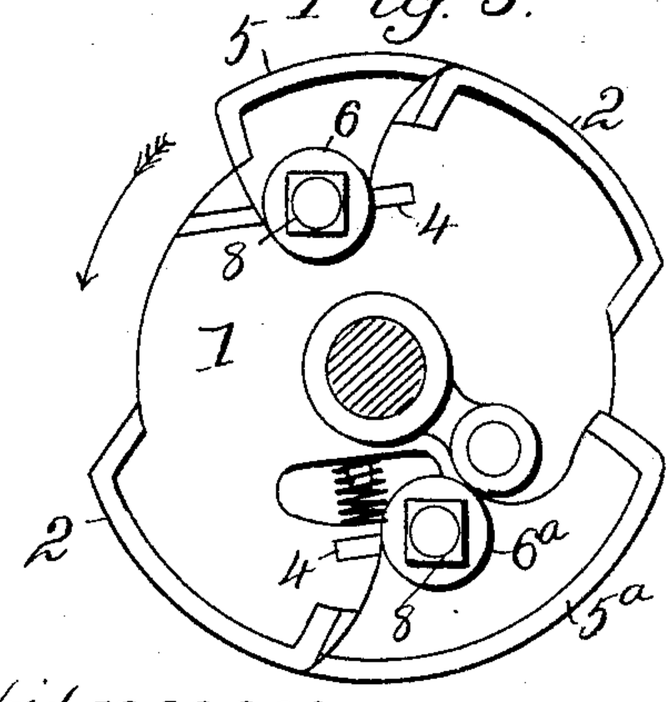
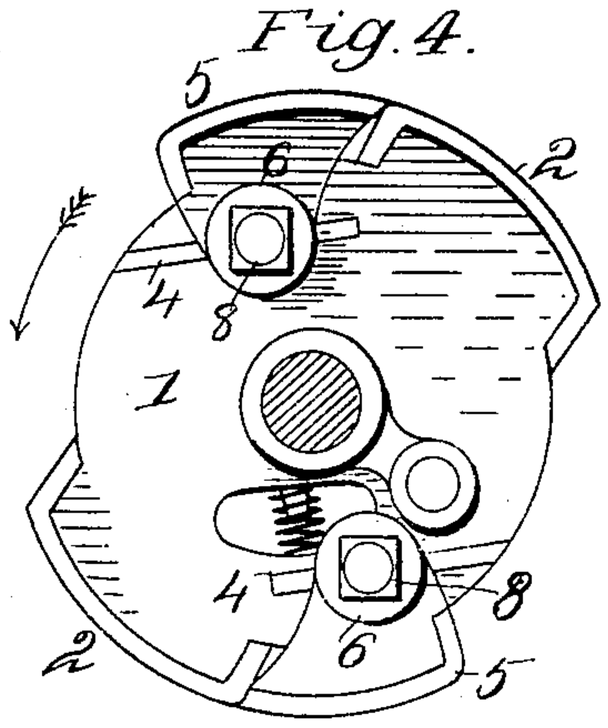


Fig. 4.



Witnesses.

Ina C. Graham.

Nora Graham

Inventor.

William S. Graham.

by Dr. P. Graham

his attorney.

PHOTO-LITHOGRAPHED BY SACKETT & WILHELMS LITHO. & PTG. CO. NEW YORK.

No. 779,925. Patented January 10, 1905.

UNITED STATES PATENT OFFICE.

WILLIAM S. GRAHAM, OF CANTON, ILLINOIS, ASSIGNOR TO PARLIN & ORENDORFF COMPANY, OF CANTON, ILLINOIS, A CORPORATION OF ILLINOIS.

CORN-PLANTER.

SPECIFICATION forming part of Letters Patent No. 779,925, dated January 10, 1905.

Application filed May 11, 1904. Serial No. 207,468.

To all whom it may concern:

Be it known that I, WILLIAM S. GRAHAM, of the city of Canton, county of Fulton, and State of Illinois, have invented certain new and useful Improvements in Corn-Planters, of which the following is a specification.

This invention is in the nature of an improvement on the planter-movement patented to me June 16, 1903; and the object of the invention is to adapt that movement to the planting of hills containing various numbers of grains without interchanging seed-plates in the planter-boxes.

In the movement described in the above-mentioned patent, which is numbered 731,355, the seed-plates are rotated continuously in closed seedboxes and the boxes are opened at intervals to discharge the number of grains required in a hill. With the construction shown in the patent it was necessary to change the seed-plates to vary the drop, using one plate to drop threes, and so on, but in the use of this invention twos, threes, fours, twos and threes alternately, or threes and fours alternately may be dropped continuously from a single plate.

In the drawings forming part of this specification, Figure 1 is a plan of a structure embodying my invention, the box-opening arm being shown in a horizontal position. Fig. 2 is a side elevation of the box-opening mechanism, showing the closure-arm modified in form and in a vertical position. Figs. 3, 4, and 5 are each side elevations of the box-opening wheel, showing different adjustments for the purpose of varying the hills. Fig. 6 is an inside elevation of one of the hill-changing cams. Fig. 7 is an end elevation of the cam-block shown in Fig. 6; and Fig. 8 is a section through the cam-block and a fragment of the box-opening wheel, showing how the cam is detachably connected with the wheel.

The wheel 1 is given a one-half rotation at intervals, determined by the check-row mechanism and through force derived by travel of the planter. This motion is preferably accomplished in the manner described in the aforesaid patent, No. 731,355; but it is a matter of indifference to the present invention how the semirotation of the box-opening wheel is obtained. The wheel 1 has two fixed or integral cam extensions, which are placed on opposite sides of the perimeter of the wheel, are designated by reference-numerals 2, and are each long enough to hold the box open while the seed-plate drops two grains. A pair of bored and threaded bosses 3 project outward from the face of wheel 1 at opposite points, and ribs 4 extend radially from the bosses. Removable cam-blocks 5 are shaped to form continuations of the perimeters of the fixed cam extensions 2. They have caps or sockets 6, which fit over bosses 3, and they also have grooves 7, which engage ribs 4 when the cam-block is attached to wheel 1. Set-screws, as 8, are used to secure the cam-blocks to the cam-wheel. The cam-blocks 5 are long enough to hold the box-closure open while the seed-plate is dropping one grain, and I also provide cam-blocks, as 5^a in Fig. 5, which are long enough to hold the box-closure open while the seed-plate is dropping two grains.

In Fig. 2 the integral or permanent cam extensions 2 are adapted to drop two grains at each semirotation of the seed-wheel or at each dropping operation. In Fig. 3 a cam-block 5 is added to the fixed cam extensions, and the wheel is made capable of dropping twos and threes alternately from the seed-plate as wheel 1 is intermittently rotated. In Fig. 4 two cam-blocks 5 are added to the wheel, and provision is thus made for dropping threes successively. In Fig. 5 a one-grain cam-block and a two-grain cam-block are secured to the wheel, with the result that threes and fours are dropped alternately, and it is obvious that fours may be dropped successively by providing the wheel with two of the long cam-blocks 5^a.

The cams act on the seedbox-closure through an end of an arm or lever which approaches the smaller or normal perimeter of the wheel when the cam extensions are passed, thereby closing the box, and which is forced outward

by the cams to open the box. In Fig. 1 the box-closure is shown at 10, the cam-engaging end of the box-closure lever is shown at 9, and the pivot of the arm is shown at 11. In Fig. 2 the box-closure is shown at 10^a, the cam-engaging element at 9^a, and the pivot at 11^a. The mechanical idea involved is the same in both cases, and the differences in detail illustrate means for swinging the box-closure either horizontally or vertically.

I claim—

1. In a planter, the combination with a seed-box-closure, of a cam-wheel and a set of cam-blocks of different lengths attachable to the cam-wheel, substantially as set forth.

2. In a planter, the combination with a seed-box-closure, of a cam-wheel having a pair of fixed cam extensions on opposite sides of the perimeter of the wheel and a set of cam-blocks attachable to the perimeter of the cam-wheel, as set forth.

3. In a planter, the combination with a seed-box-closure, of a cam-wheel having fixed cam extensions on its perimeter and laterally-extending bosses, and a set of cam-blocks attachable to the wheel through the bosses thereon, as set forth.

4. In a planter, the combination of a box-closure, a cam-wheel having a pair of fixed cam extensions on opposite sides of its perimeter, bored and threaded bosses projecting laterally from the wheel, cam-blocks shaped to fit over the bosses and form continuations of the fixed cam extensions and screws to secure the cam-blocks to the bosses, as set forth.

In testimony whereof I sign my name in the presence of two subscribing witnesses.

WM. S. GRAHAM.

Witnesses:
WALTER B. BARNEY,
C. B. CHANDLER.