(No Model.)

2 Sheets—Sheet 1.

A. WINSTON.

CORN PLANTER.

No. 376,422. Patented Jan. 10, 1888.

Fig. 1.

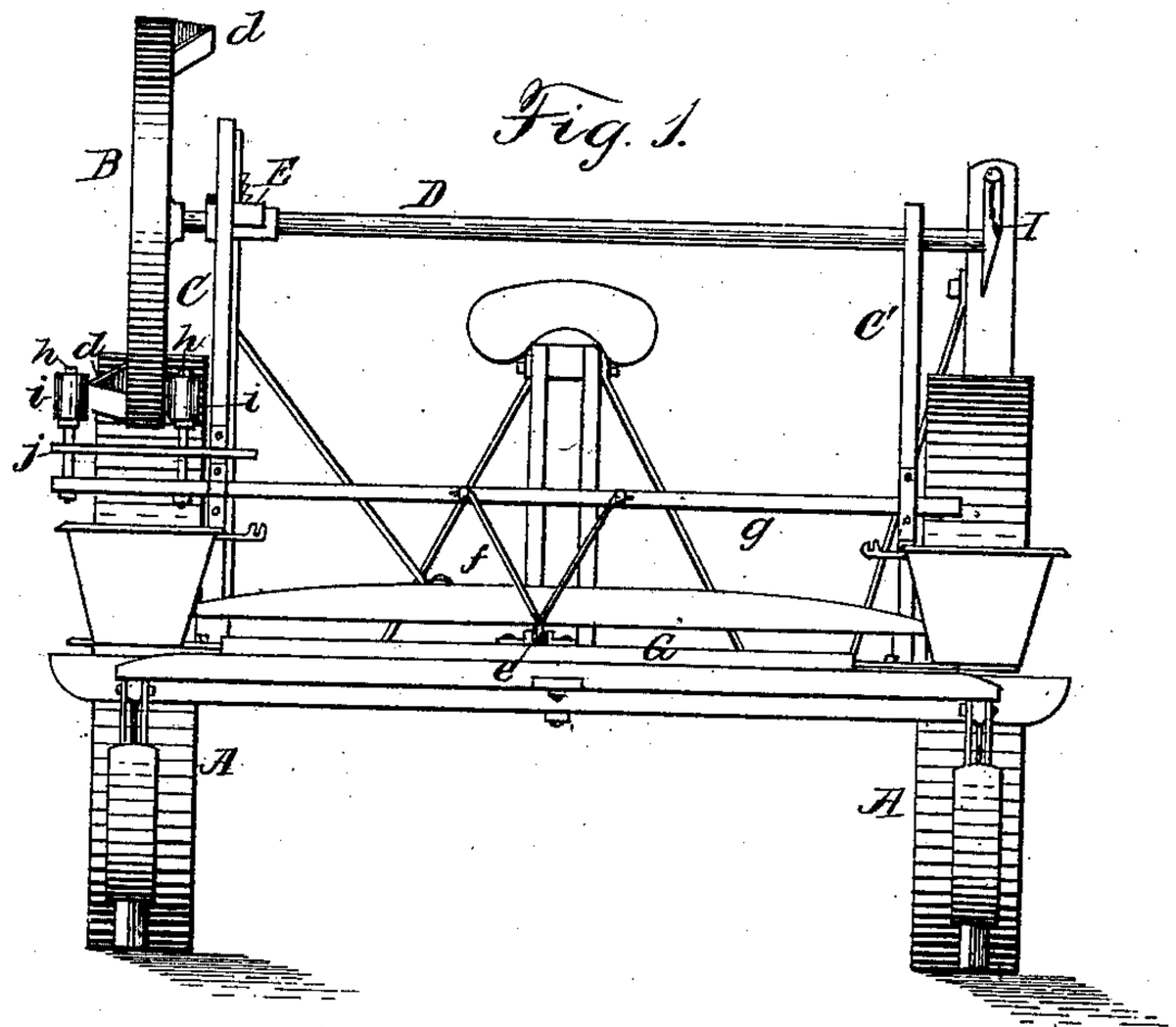

Fig. 3.

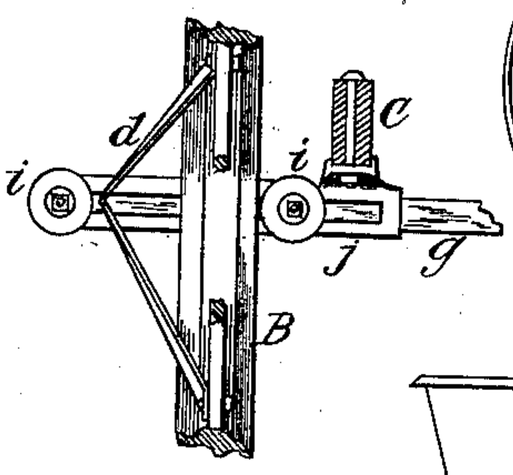

Fig. 2.

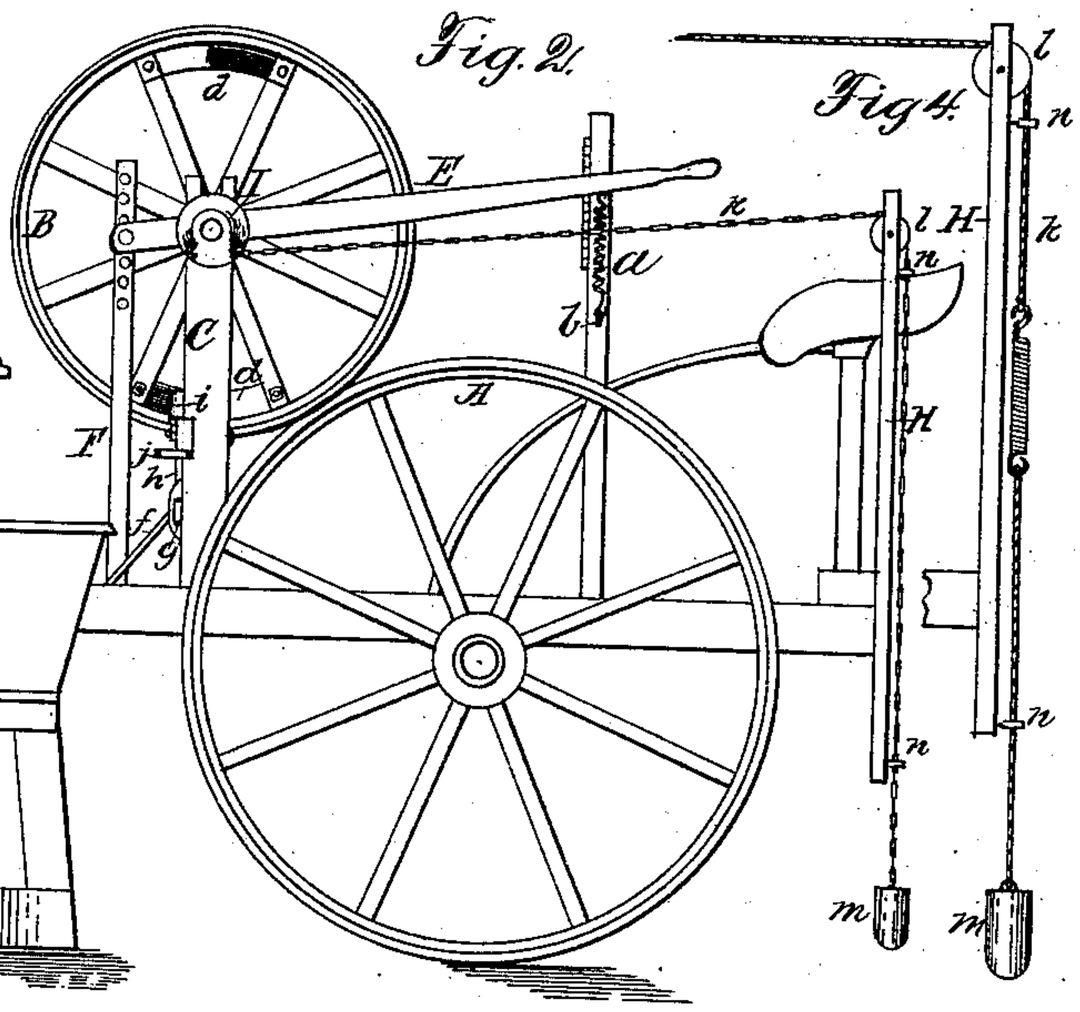

Fig. 4.

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Atty.

(No Model.)

2 Sheets—Sheet 2.

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Fig. 5.

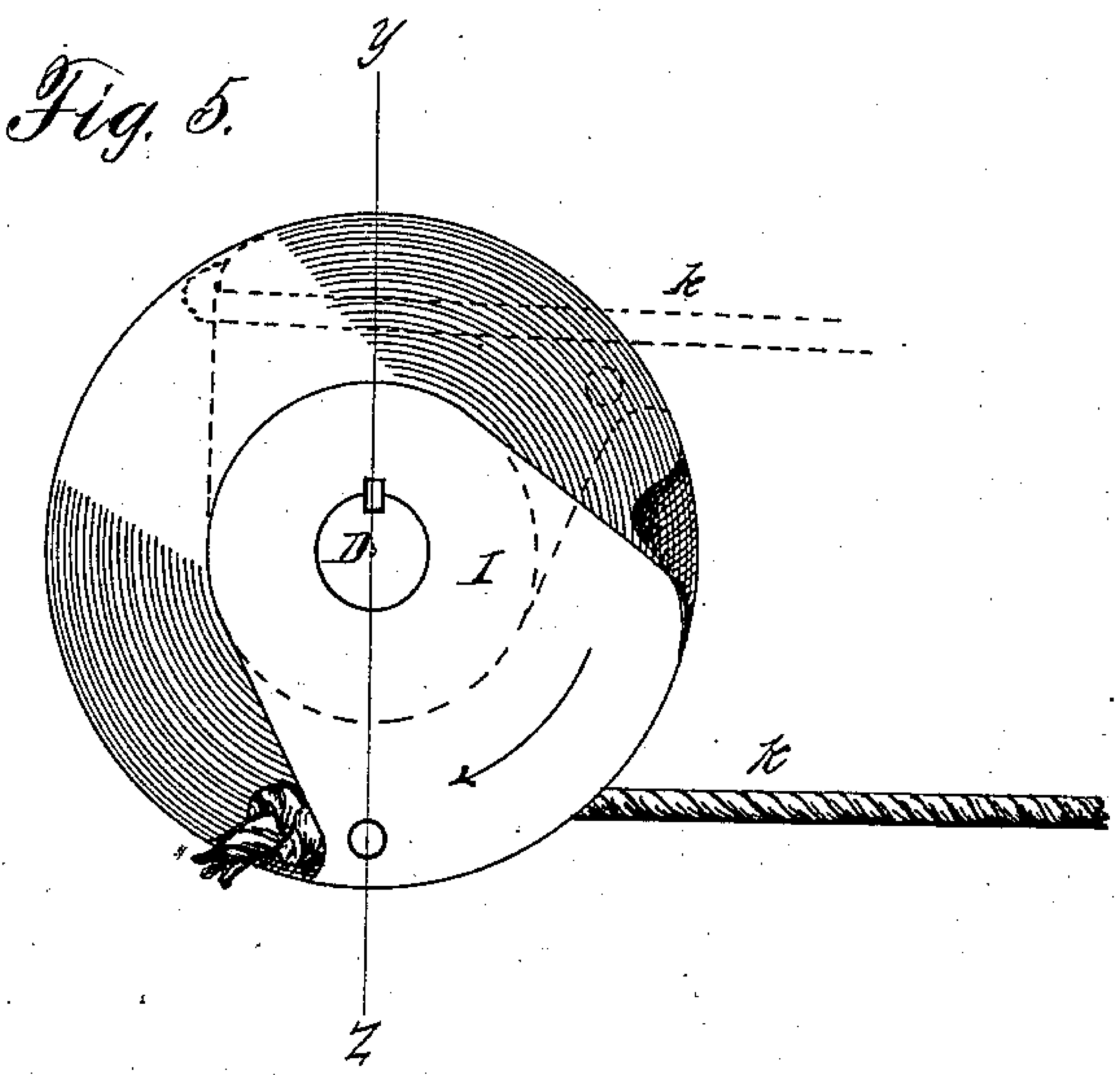
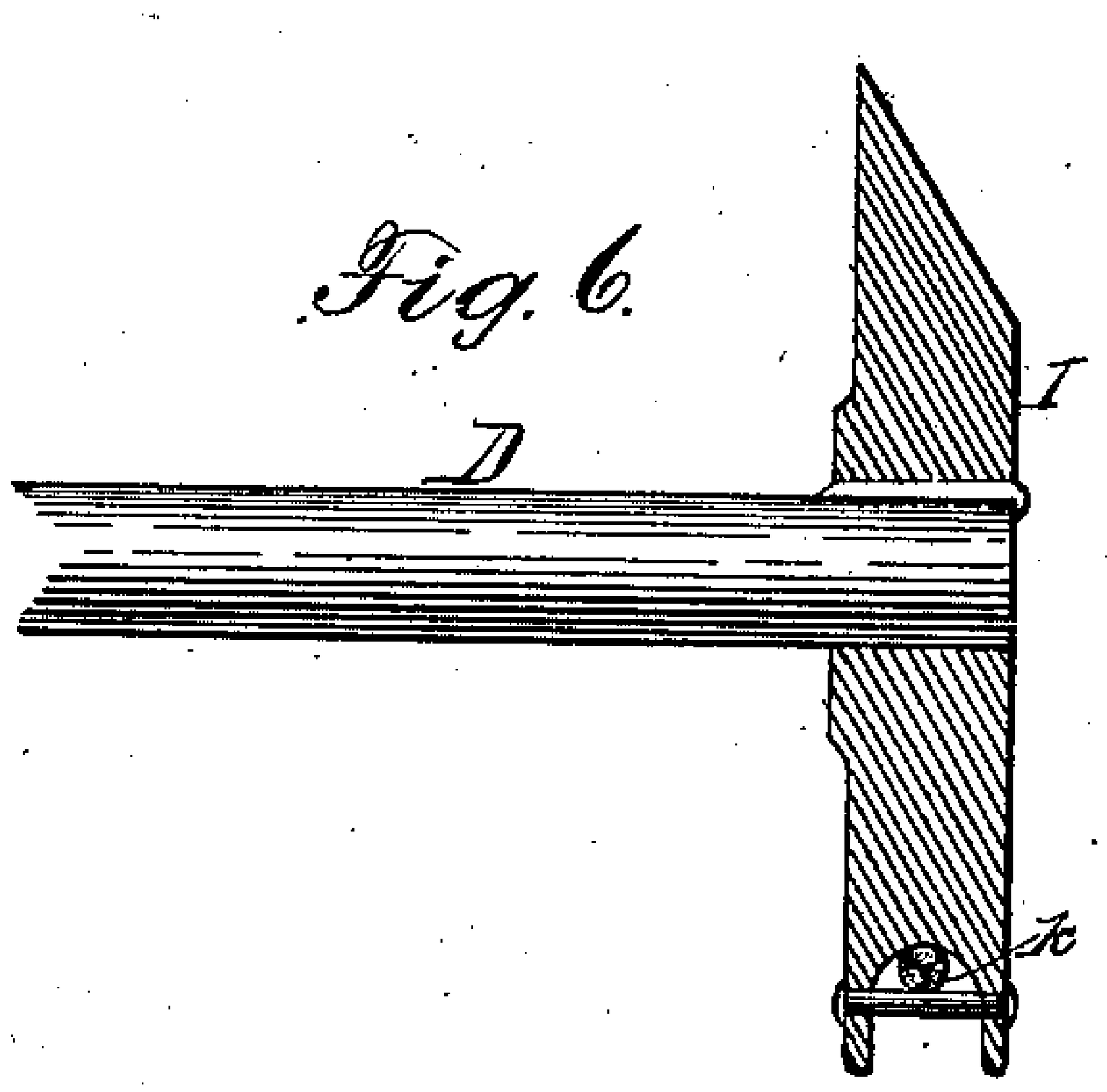


Fig. 6.



Attest.
S. W. Brainerd.
[illegible] Clark

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N. PETERS, Photo-Lithographer, Washington, D. C.

UNITED STATES PATENT OFFICE.

ALEXANDER WINSTON, OF FAYETTE, IOWA.

CORN-PLANTER.

SPECIFICATION forming part of Letters Patent No. 376,422, dated January 10, 1888.

Application filed September 2, 1887. Serial No. 248,563. (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.

This invention relates to corn-planters in which the dropping of the grain is made automatic through the operation of a spacing-wheel actuated by the covering-wheel; and the object of the invention is to improve the dropping device and to provide the planter with a novel apparatus for indicating the location of the hills of corn.

The invention consists in providing the spacing-wheel with lateral cams, mounting on the frame of the planter a transversely-sliding rod having a fork engaging with the cams of the spacing-wheel, and an arm engaging with the slide-rod of the planter.

It further consists in the application to the rear of the machine of a weight attached to a chain or cord adapted to be automatically raised by the forward movement of the machine and at the proper place to be disengaged and drop on the planted hill, marking the place thereof. The particular mechanism through which these objects are attained will be hereinafter more fully set forth and claimed.

In the accompanying drawings, forming a part of this specification, Figure 1 represents a front elevation of a common corn-planter with my improvements attached; Fig. 2, a side elevation thereof; Fig. 3, a partial plan view showing the detail of the secondary slide-rod and its connections at the end engaging with the cam-wheel; Fig. 4, a detail of the marker mechanism, showing a modification in its construction; Fig. 5, an enlarged view of the outer face of the trip-wheel, and Fig. 6 a vertical section of the same in the line *y z*.

Similar letters of reference indicate corresponding parts.

This invention is in the nature of an improvement on my former invention relating to the same subject-matter, Letters Patent for which were issued to me jointly with D. M. Ferguson on the 31st day of May, 1887, and are numbered 364,155. In the construction of a planter operating on this principle I mount over the main covering-wheel A a spacing-wheel, B, the circumference of which measures the space between three hills. The face of this spacing-wheel bears upon the face of the covering-wheel when in operation. The standards C, in which the spacing-wheel end of the shaft D is mounted, is slotted to allow for vertical movement of the shaft, and by means of a lever, E, fulcrumed on the standard F and connected with the shaft the spacing-wheel may be shifted into and out of connection with the other at will.

In practice I provide the lever with a spring, *a*, having a hook at the lower end to connect with an eye, *b*, on the standard, by means of which the pressure of the spacing-wheel on the covering-wheel is increased and any danger of slipping is avoided. This admits of the spacing-wheel being made quite light, and also allows for any slight variations in the face of the covering-wheel due to the accumulation of dirt or otherwise.

The spacing-wheel is provided with lateral cams *d d*, arranged on alternate sides, as shown. The primary slide-rod G has a fork, *e*, adapted to receive the end of an arm, *f*, extending forward from the secondary slide-rod *g*, mounted in suitable bearings on the standards C C′. At the spacing-wheel end of this slide-rod *g* is an upwardly-extending fork, *h*, the members of which are far enough apart to allow the cam to pass between them. They are also preferably provided with rollers *i i*, to decrease friction; and to prevent undue twisting of the slide-rod through the action of the cam-wheel B the members of the fork *h* slide in a slotted guide, *j*. The arm *f* is preferably bifurcated, as shown, and the upper ends are hinged to the slide-rod *g*, so that it may be readily lifted out of engagement with the slide-rod G when desired, and so that the parts may be always in engagement during the operation of the machine, notwithstanding the necessary rocking of the parts of the planter to which the slide-rods are respectively attached. The gravity of the arm alone keeps it in position.

On the opposite end of the shaft from the spacing-wheel is mounted a partial sheave, I. The grooved portion of this sheave extends about one-third of the way around the periphery, and for the remainder of the distance one side of the flange is removed and the side of

the wheel beveled somewhat, as indicated. At one terminus of the groove a chain or cord, *k*, is attached, and extends to the rear of the planter, where it passes over a common sheave, *l*, mounted on the standard H.

The operation of this device will now be readily understood. As the planter moves forward, the chain or cord is drawn forward in the grooved portion of the partial sheave, raising the weight *m* at the end. On reaching the terminus of the grooved portion of the sheave the chain slips by, as indicated, and as the sheave continues to revolve finally and with a sudden movement slips entirely out of the groove, dropping the weight to the ground just behind the wheel A. The chain is made long enough so that the weight reaches and makes a hole in the ground, which may be seen at a considerable distance. It is evident that by a suitable adjustment of the tripping-sheave on the shaft the weight may be made to drop exactly upon the hill of corn, and thus enable the operator to determine at all times the alignment of the rows of corn transverse to the movement of the machine. Suitable eyes, *n n*, on the standard H retain the chain or cord in position and prevent the weight from swinging out of place. By making a part of the weight's connection elastic, as shown in Fig. 4, the weight may be caused to drop suddenly and spring upward clear from the ground, whereas without some such arrangement the weight must necessarily drag a short distance until the sheave shall have wound up the slack in the chain; but in either case the weight makes a distinct impression in the ground and serves to show precisely the position of the hill.

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

1. In an automatic corn-planter, the combination of a covering-wheel, a spacing-wheel mounted with its face adapted to bear upon that of the covering-wheel and having lateral cams, as described, a slide-rod having two upwardly-extending arms near one end and on either side of the cam-wheel, and having rollers, as specified, bearings adapted to allow reciprocal movement of the slide-rod, a slotted guide for the roller-arms set higher than the bearings for the slide-rod, and a hinged arm adapted to engage with a fork on the dropper-slide, substantially as and for the purpose set forth.

2. In an automatic corn-planter, in combination with the spacing-wheel and its shaft, a weight suspended contiguous to the path of the covering-wheel by a chain or cord, and a device, substantially as described, mounted on said shaft and adapted to intermittently raise and drop said weight by alternately drawing forward and releasing said chain or cord, substantially as described, and for the purpose set forth.

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

ALEXANDER WINSTON.

Witnesses:

F. L. MONTGOMERY,

LYDIA BURCH.