

E. BLANEY.
CORN PLANTER.
APPLICATION FILED MAR. 27, 1908.

906,769.

Patented Dec. 15, 1908.

2 SHEETS—SHEET 1.

FIG. 1

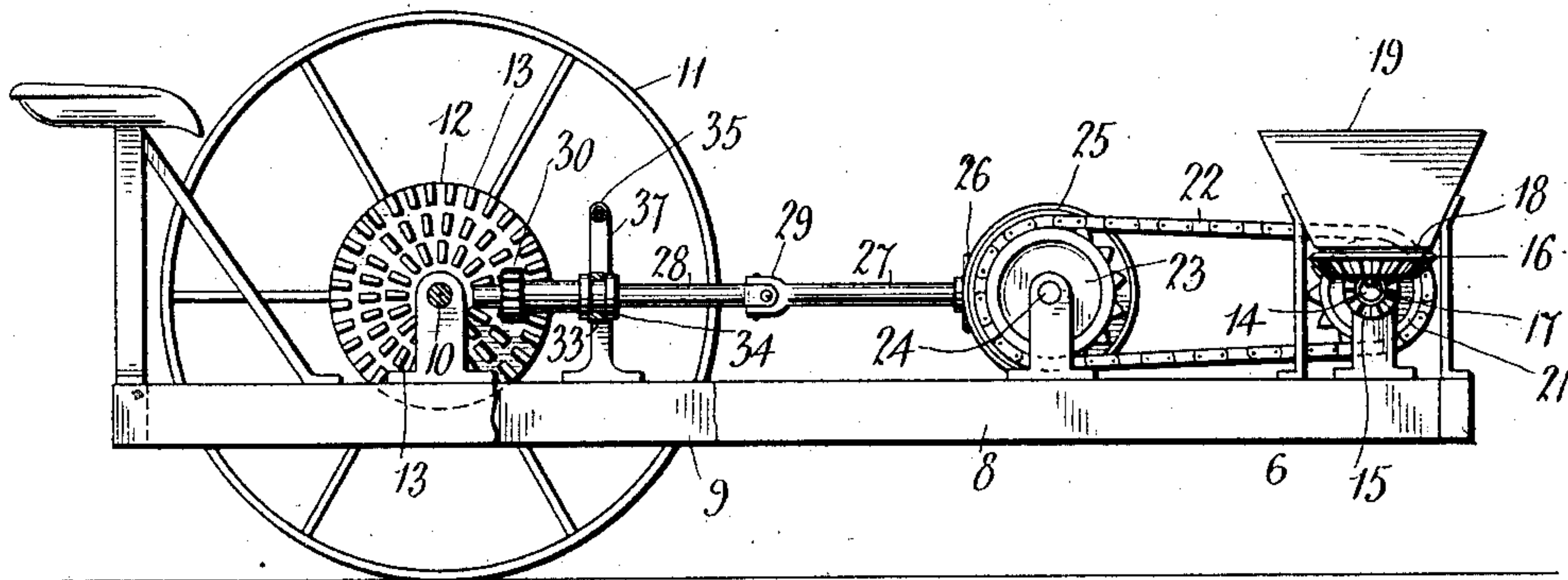
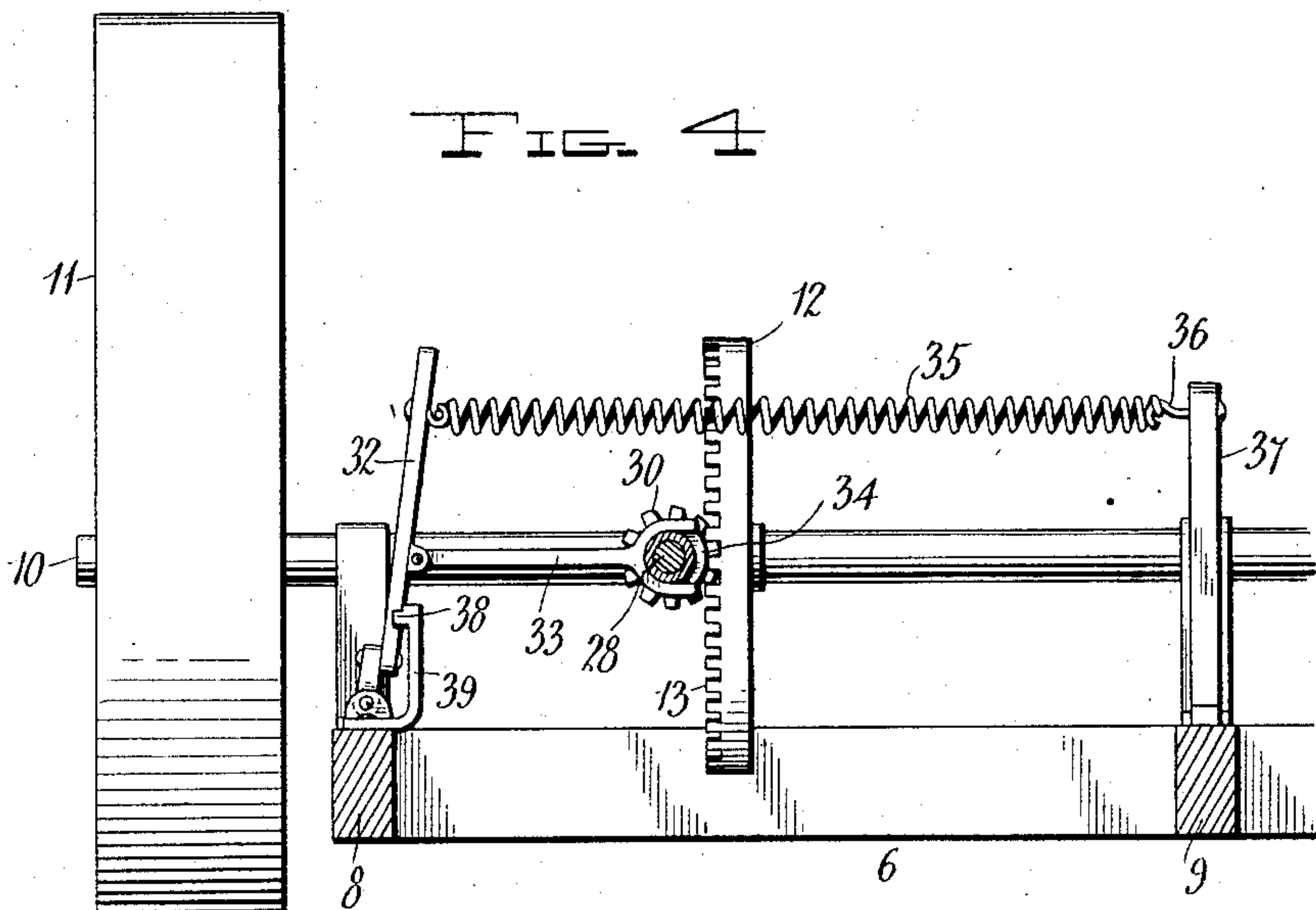


FIG. 4



Inventor

Edgar Blaney

Witnesses

J. J. Morris
A. C. McIntire

By

Charles C. Randall

Attorneys

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2 SHEETS—SHEET 2.

FIG. 2

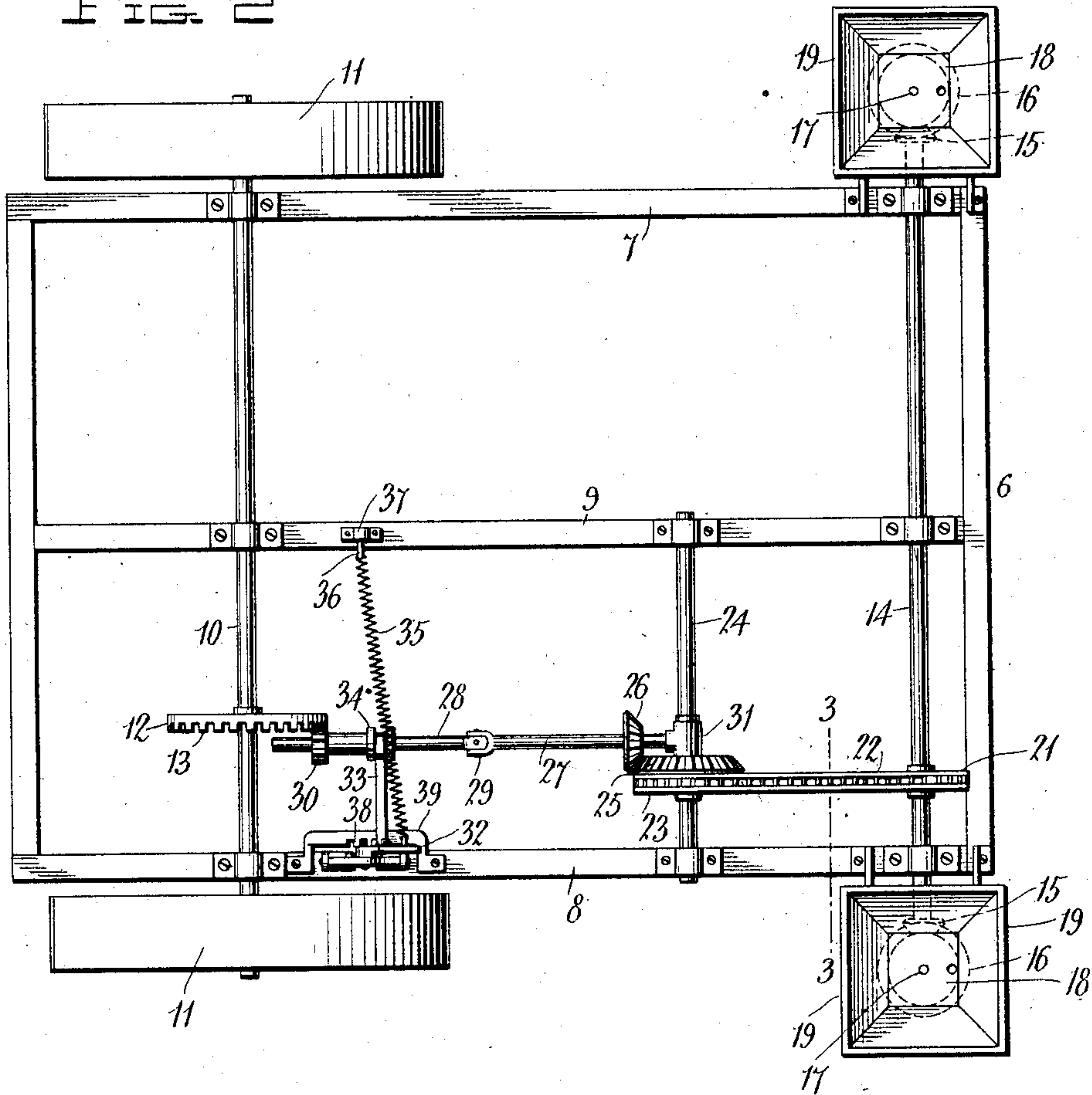
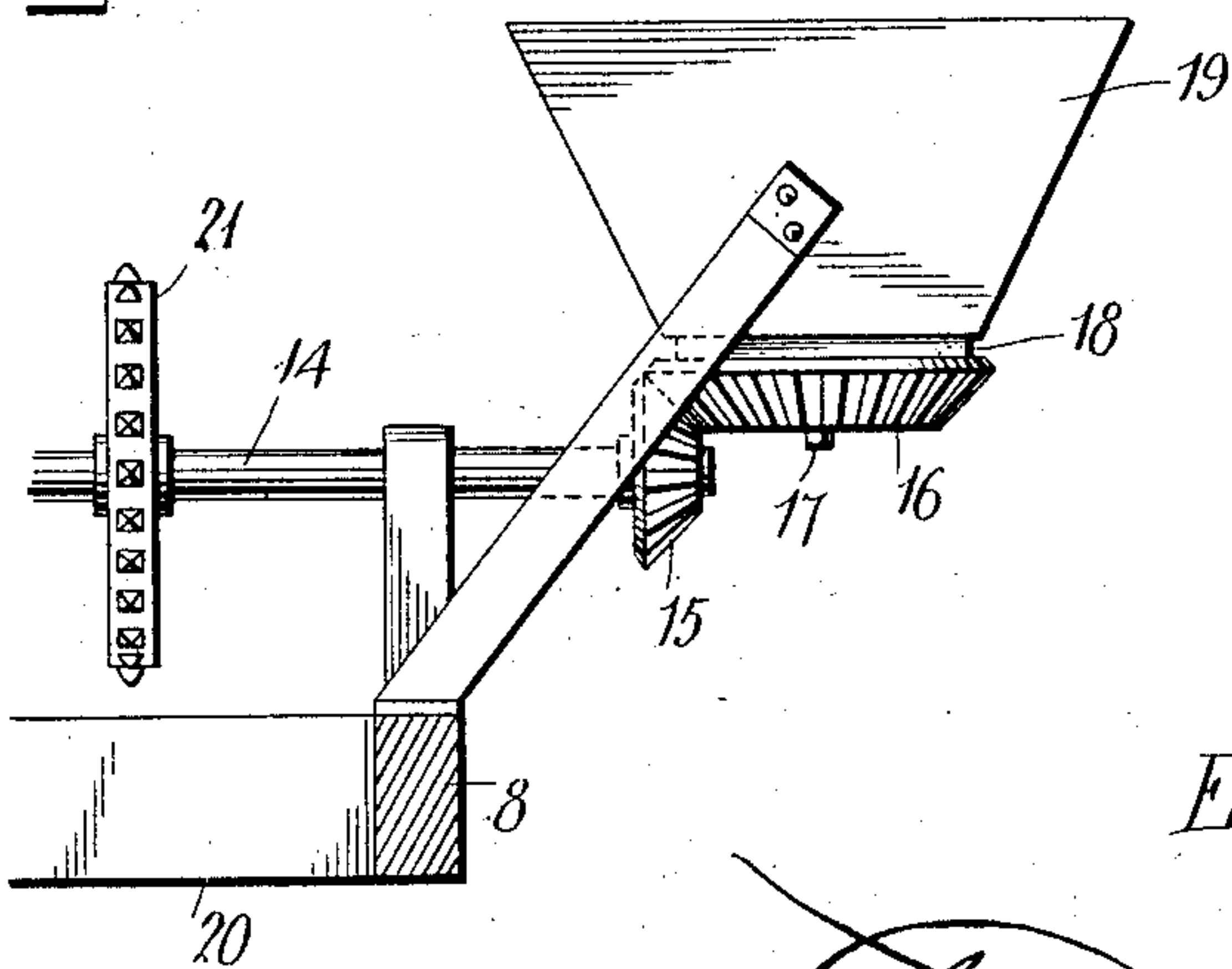


FIG. 3



Witnesses

J. B. B. B.
H. C. McQuarney

Inventor

Edgar Blaney

By

Charles H. H.

Attorneys

UNITED STATES PATENT OFFICE.

EDGAR BLANEY, OF WHITE CITY, KANSAS.

CORN-PLANTER.

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Patented Dec. 15, 1908.

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To all whom it may concern:

Be it known that I, EDGAR BLANEY, a citizen of the United States, residing at White City, in the county of Morris, State of Kansas, have invented certain new and useful Improvements in Corn-Planters; and I 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.

The present invention has reference to corn-planters, and it resides, primarily, in the provision of an exceedingly simple and efficient mechanism for changing the speed of the shaft which operates the droppers, whereby the speed at which the dropper plates rotate, and in consequence, the duration of the intervals between successive discharges therefrom, may be varied to suit the ground over which the machine is traveling, the various changes being effected during the time that the machine is in actual operation.

To this end, the invention comprises an axle-carried pinion having a series of concentric sets of teeth formed thereon and a shaft provided at each end with a pinion, one of which meshes interchangeably with the sets of teeth formed on said axle pinion and is slidable upon the shaft, while the other, which is stationary, meshes constantly with a pinion carried by a shaft disposed in advance of and parallel with the axle and having a driving connection with a third transverse shaft which in turn, operates the dropper mechanism.

More especially, the invention resides in the particular construction of the shaft which carries the sliding and fast pinions above referred to; in the particular devices employed for locking the sliding pinion against displacement when engaged with one of the sets of teeth formed on the master or axle pinion; and in the particular mounting of the lever for shifting the sliding pinion when released from engagement with the locking devices.

The invention will be readily understood from a consideration of the following detailed description, and its preferred embodiment is illustrated in the accompanying drawings, in which corresponding parts or features, as the case may be, are designated by similar reference numerals in the several views.

Of the said drawings: Figure 1 is a fragmental side elevation of the improved ma-

chine. Fig. 2 is a top plan view. Fig. 3 is an enlarged detail section on the line 3—3 of Fig. 2. Fig. 4 is an enlarged detail view of the operating lever and the sliding pinion secured thereto.

Referring more particularly to the drawings, 6 designates generally, the frame of the planter which, as shown, includes left and right hand side sills 7 and 8, and an intermediate sill 9 disposed parallel therewith. The several sills are provided with bearings for the axle 10 upon whose ends are mounted the traction wheels 11. Adjacent the right hand sill 8, the axle carries a pinion 12, upon which is formed a plurality of concentric sets of teeth 13, three sets being shown in the present instance.

Located at the front end of the frame and disposed parallel with the axle, is a shaft 14 provided at opposite ends with pinions 15 which mesh with pinions 16 mounted on the shafts 17 which carry the feed plates or disks 18, said plates being disposed within the seed boxes 19 which are supported in any preferred manner upon the front ends of the side sills of the frame. The shaft 14, hereinafter termed the operator shaft, is further provided with a sprocket wheel 21 connected by a chain 22 with the sprocket member 23 of a combined gear and sprocket wheel mounted upon a shaft 24 located intermediate the operator shaft and the axle and disposed parallel with the same. The rotation of this last mentioned shaft is effected by means of the beveled gear or pinion member 25 of the combined gear and sprocket wheel above referred to, the rotation of said member being caused by the engagement therewith of a pinion 26 secured to the front, or relatively stationary section 27 of a longitudinal shaft whose rear section 28, which is connected with said front section by a universal joint 29, carries a sliding pinion adapted for interchangeable engagement with the sets of teeth 13 formed on the master pinion 12. The front end of the shaft section 27 has a bearing in a collar 31 loosely mounted upon the shaft 24.

The sliding movement of the pinion 30 is effected by means of a lever 32 pivotally mounted upon the sill 8 in such a manner as to be capable of both a forward and backward, as well as a sidewise swinging movement, said lever being provided with a yoked lateral finger 33 which engages a sleeve 34 formed upon said pinion 30, the sleeve hav-

ing preferably formed therein a circumscribing groove in which the yoke portion of said finger loosely fits. By reason of this construction, it will be seen that the lever may
 5 be swung to one side, to disengage the pinion 30 from the particular set of teeth 13 with which it happens to be engaged, and then swung forward or backward, to bring the pinion into alinement with one or the other
 10 of the remaining sets of teeth, after which the lever is returned to its original position, engaging the pinion with said set. This return movement of the lever is effected automatically by means of a retractile coil spring 35
 15 secured at one end to said lever, and at the other end to a hook 36 carried by a vertical rod 37 secured to the beam 9 the lever being thus drawn inwardly into engagement with the teeth 38 which project laterally inward
 20 from the bight portion of an inverted U-shaped rack 39, the free ends of whose arms are likewise secured to the sill 8. This spring will therefore, be expanded when the lever is swung outwardly, to effect its disengagement from the teeth 38, and the swinging
 25 movement of the rear section 28 of the jointed longitudinal shaft.

It will be apparent from the foregoing, therefore, that the speed at which the operator shaft rotates, and in consequence, the
 30 duration of the intervals between successive discharges from the feed plates can be varied to suit the character of the ground over which the machine as a whole is traveling, by
 35 merely engaging the sliding pinion with the proper set of teeth formed on the master or axle-carried pinion, the movement of said sliding pinion being effected by means of the swinging lever, as above described.

40 The machine, as a whole, may be propelled in any desired manner, but is preferably provided with a pole or tongue (not shown), which is secured to the front beam.

Further description of the invention and
 45 its operation is deemed unnecessary in view of the foregoing.

What is claimed is:

1. In a corn planter, the combination, with a frame and an axle journaled therein,
 50 of an operator shaft disposed parallel with and in advance of the axle; a dropper mechanism operatively connected with said shaft; a pinion carried by said axle and provided with a plurality of concentric sets of teeth; a
 55 jointed shaft disposed longitudinally of the frame; a sliding pinion mounted on one end of said shaft; driving connections between the other end of said shaft and said operator shaft; and a single means for swinging the
 60 pinion section of said jointed shaft bodily with reference to the other section thereof, and for moving said sliding pinion on said pinion-section into mesh with one or another of the sets of teeth formed on the pinion carried by said axle.
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2. In a corn planter, the combination, with a frame and an operator shaft journaled therein, of a shaft disposed parallel with and in advance of the axle; a dropper mechanism operatively connected with said shaft; a
 70 pinion carried by said axle and provided with a plurality of concentric sets of teeth; a shaft disposed longitudinally of the frame and comprising front and rear sections having a universal joint connection therebetween; driving connections between the
 75 front section of said longitudinal shaft and said operator shaft; a sliding pinion carried by the rear section of said longitudinal shaft and adapted for mesh interchangeably with the sets of teeth formed on said first mentioned pinion; means for normally holding
 80 said sliding pinion in mesh with one or another of said sets of teeth; and a single means for swinging the rear section of said longitudinal shaft bodily with reference to the front section thereof, to release said sliding pinion from such engagement and for moving said sliding pinion into engagement with another of said sets of teeth.
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3. In a corn planter, the combination, with a frame and an axle journaled therein, of an operator shaft disposed parallel with and in advance of the axle; a dropper mechanism operatively connected with said shaft;
 95 a pinion carried by said axle and provided with a plurality of concentric sets of teeth; a shaft disposed longitudinally of the frame and comprising front and rear sections having a universal joint connection therebetween; driving connections between the
 100 front section of said longitudinal shaft and said operator shaft; a sliding pinion carried by the rear section of said longitudinal shaft and adapted for interchangeable engagement with the sets of teeth formed on said first mentioned pinion; a rack; a lever connected with said sliding pinion, for swinging
 105 said rear shaft-section bodily with reference to the front shaft-section and for moving said pinion into engagement with one or another of said sets of teeth; and a spring for normally holding said lever in engagement with said rack, to prevent the displacement of said sliding pinion.
 115

4. In a corn planter, the combination, with a frame and an axle journaled therein, of an operator shaft disposed parallel with and in advance of the axle; a dropper mechanism operatively connected with said shaft;
 120 a pinion carried by said axle and provided with a plurality of concentric sets of teeth; a shaft disposed longitudinally of the frame and comprising a relatively stationary front section and a swinging rear section having a
 125 universal joint connection with the first mentioned section; driving connections between said front section and said operator shaft; a sliding pinion carried by said rear shaft-section and adapted for engagement inter-
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changeably with said sets of teeth; a lever pivoted to the frame and connected with said sliding pinion, for swinging said rear shaft-section bodily with reference to said front shaft-section, and for moving said pinion into engagement with one or another of said sets of teeth; a rack mounted upon the frame adjacent said lever; and a spring connected at opposite ends with the frame and said lever, for normally holding the latter in engagement with said rack, to prevent displacement of said sliding pinion.

5. In a corn planter, the combination, with a frame and an axle journaled therein, of an operator shaft disposed parallel with and in advance of the axle; a dropper mechanism operatively connected with said shaft; a shaft disposed intermediate and parallel with said axle and operator shaft; driving connections between said shafts; a pinion carried by said axle and provided with a plurality of concentric sets of teeth; a pinion carried by said intermediate shaft; a shaft disposed longitudinally of the frame and comprising a relatively stationary front section and a swinging rear section having a uni-

versal joint connection with the first mentioned section; a pinion carried by the front section of said longitudinal shaft and meshing with the pinion on said intermediate shaft; a sliding pinion carried by the rear section of said longitudinal shaft and adapted for interchangeable engagement with the sets of teeth formed on said first-mentioned pinion; a lever pivoted to the frame and connected with said sliding pinion, for swinging the rear shaft-section bodily with reference to the front shaft-section and for moving said sliding pinion into engagement with one or another of said sets of teeth; a rack mounted upon the frame adjacent said lever; and a spring connected at opposite ends with the frame and with said lever, for normally holding the latter in engagement with said rack, to prevent displacement of said sliding gear.

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

EDGAR BLANEY.

Witnesses:

A. R. WALLACE,
GEO. B. SANFORD.