

No. 722,799.

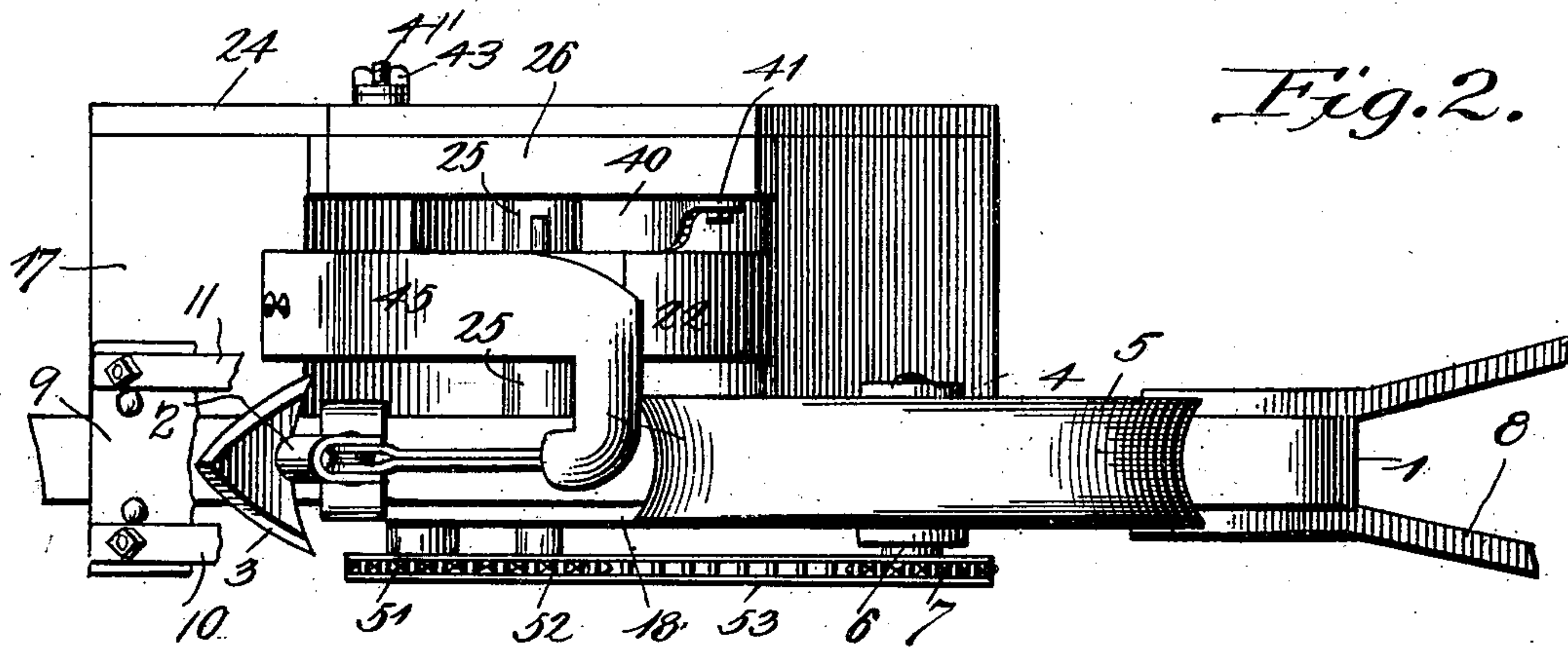
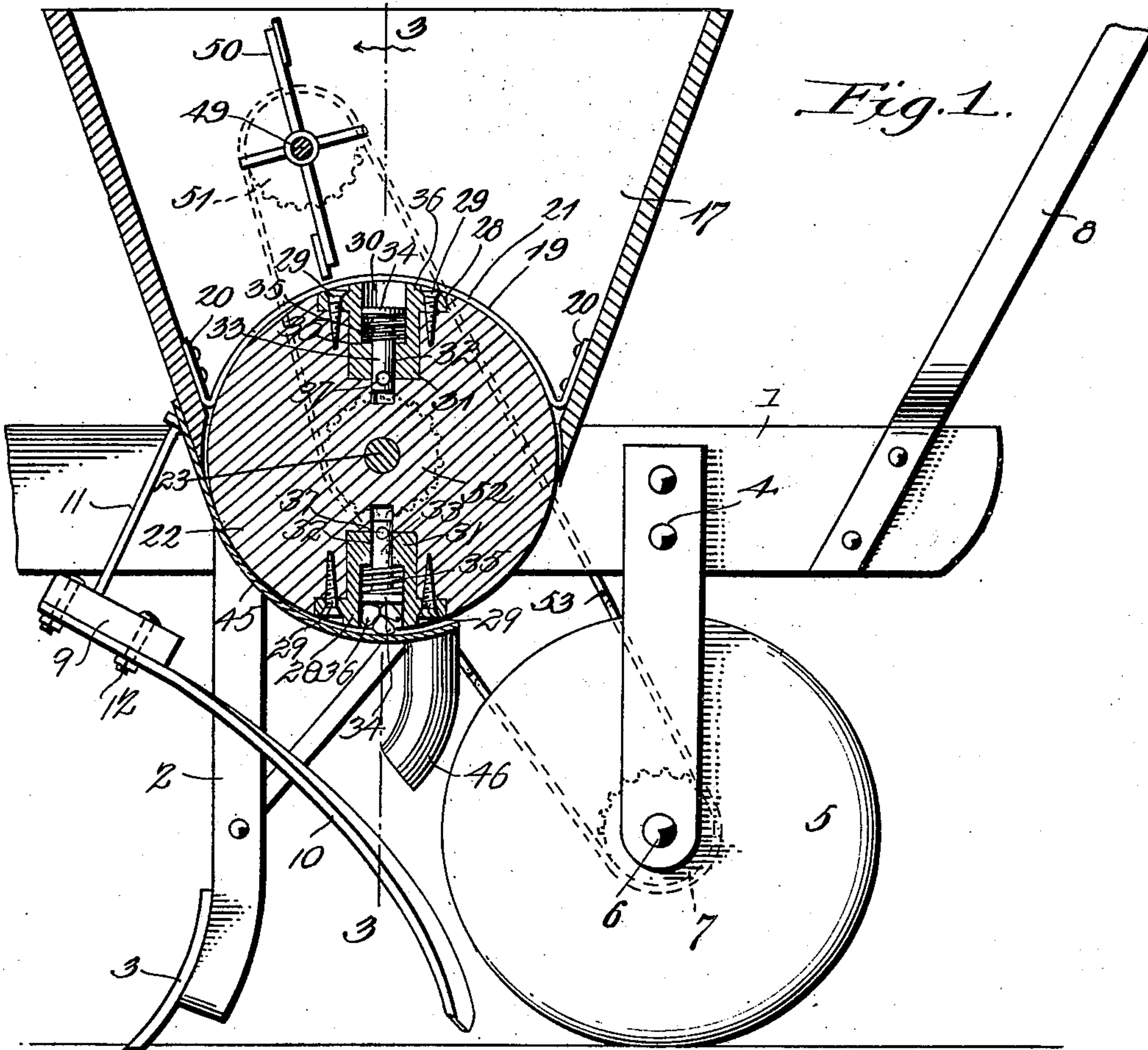
PATENTED MAR. 17, 1903.

L. L. BEVIS.
SEED PLANTER.

APPLICATION FILED OCT. 13, 1902.

NO MODEL.

2 SHEETS—SHEET 1.



Witnesses

E. K. Stewart.
Wm Bagger.

T. I. Bevis Inventor
by C. A. Snow & Co
Attorneys

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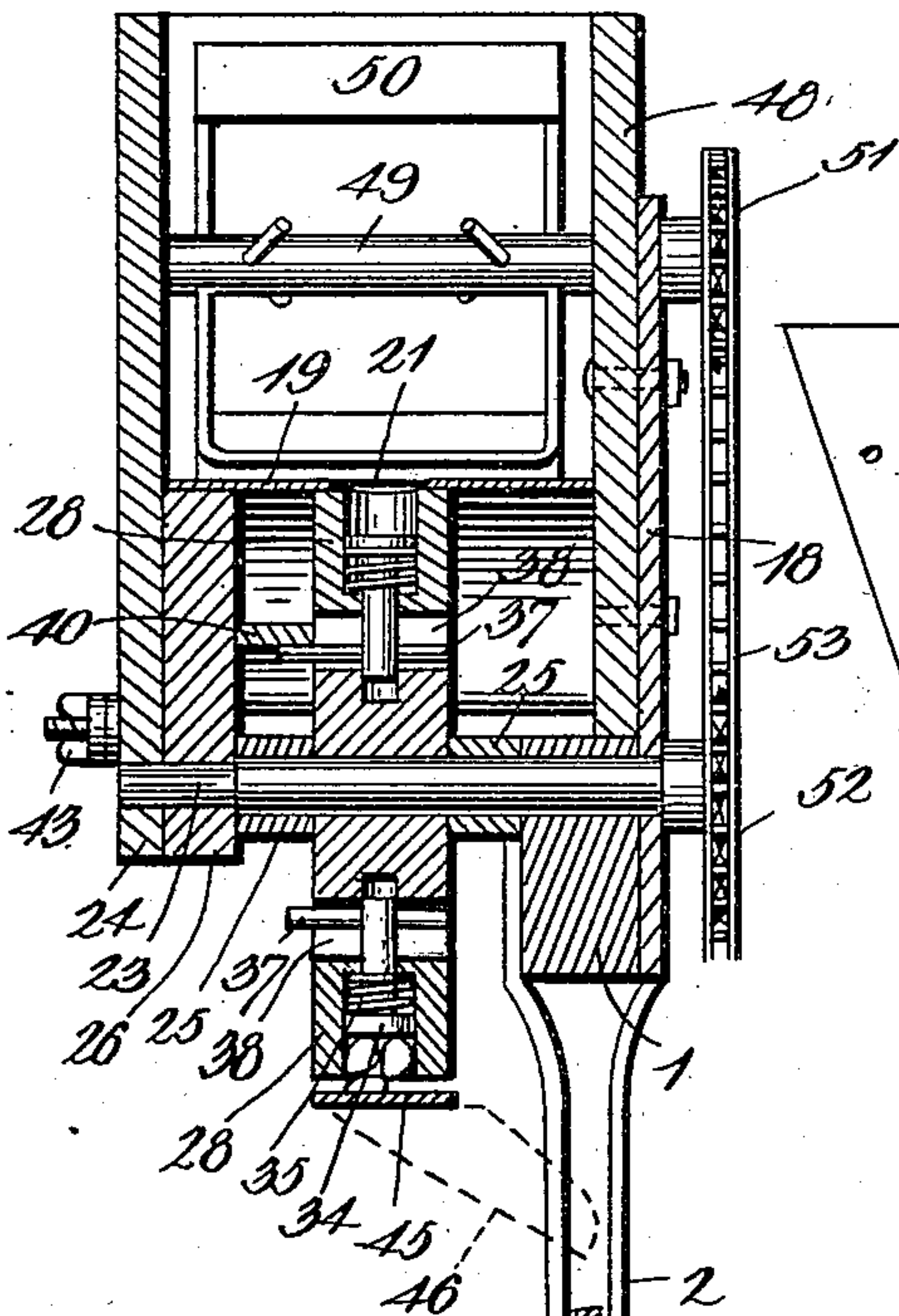


Fig. 3.

Fig. 4.

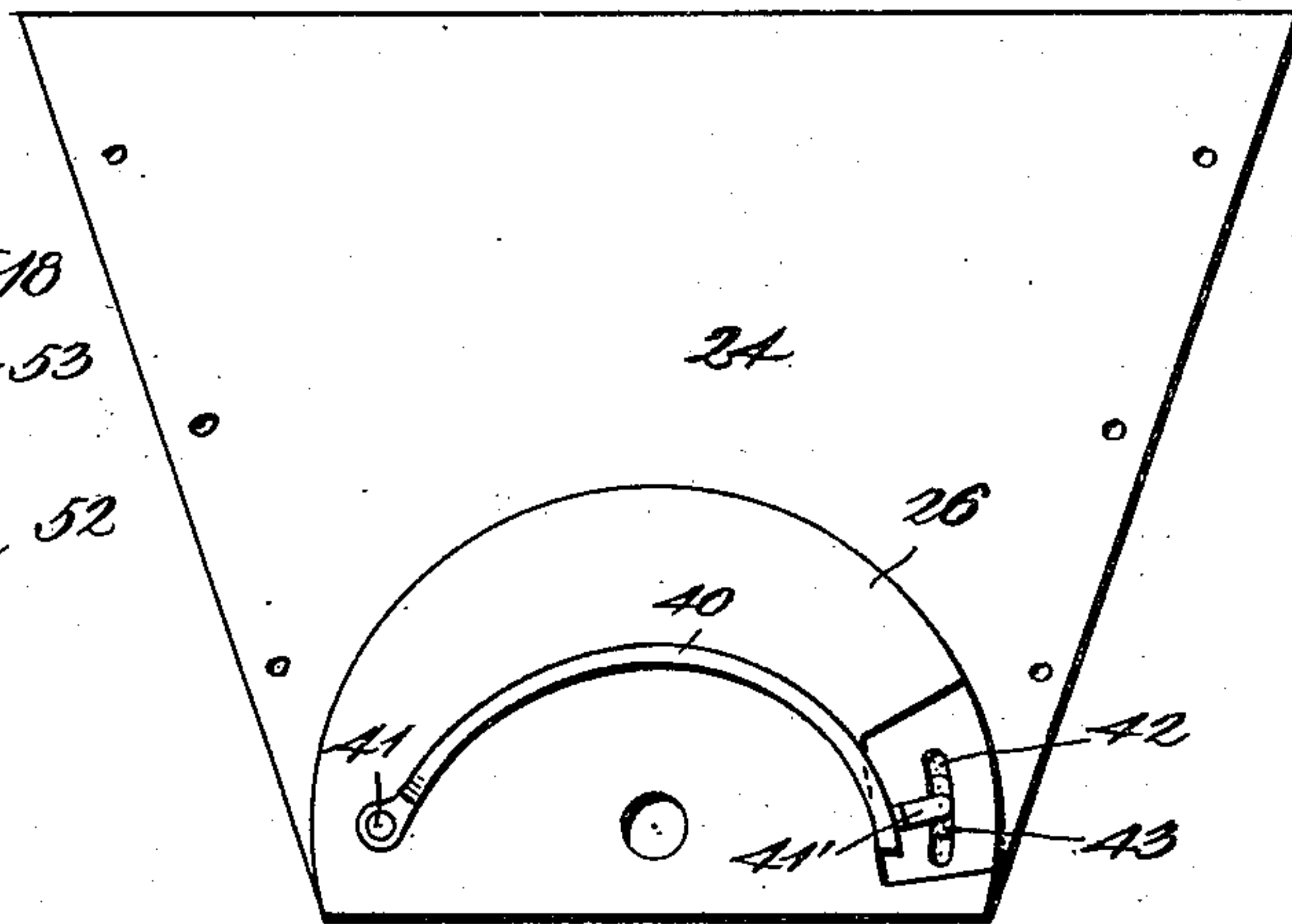


Fig. 5.

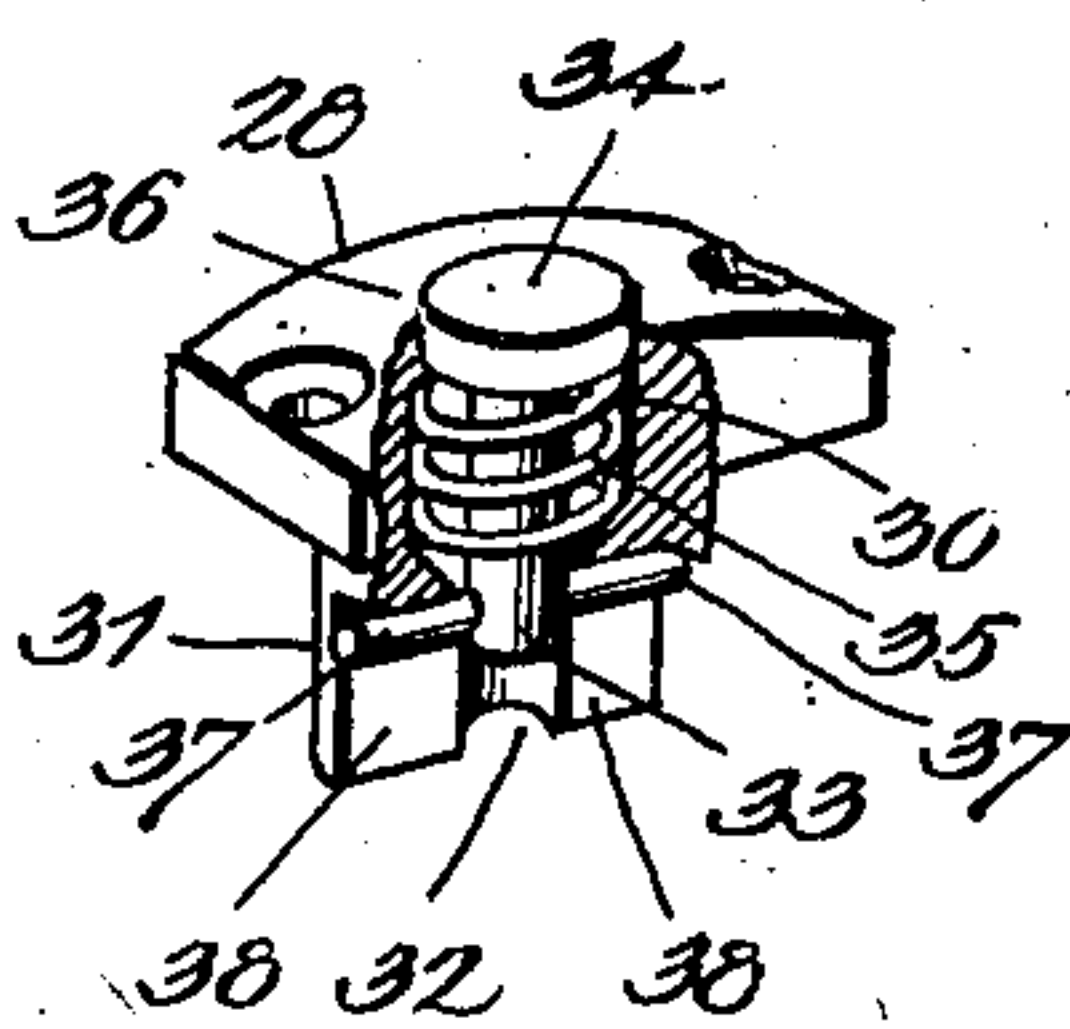
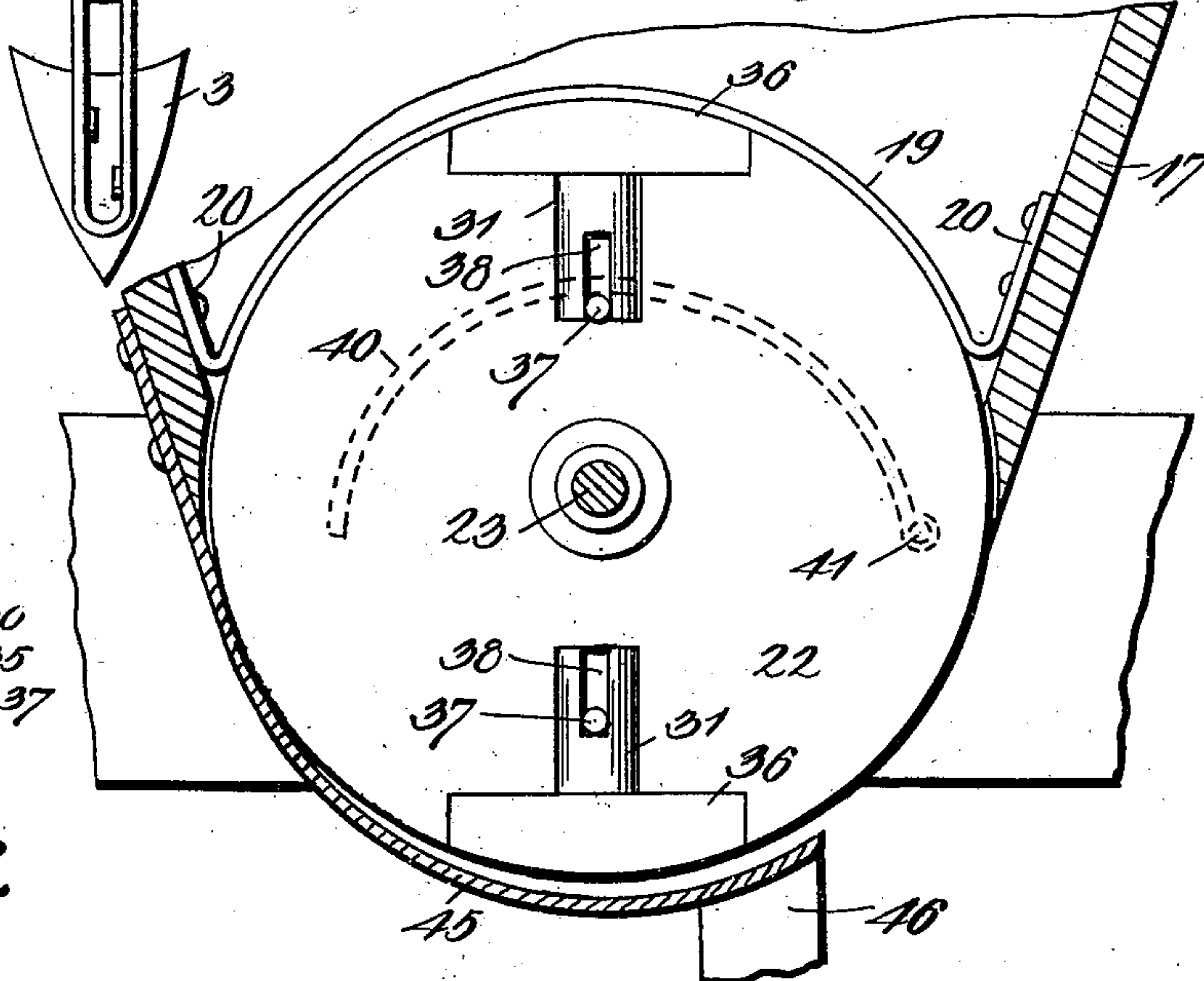


Fig. 6.

Witnesses

E. K. Stewart.
Wm. Bagger.

by

L. L. Bevis, Inventor
C. A. Snow & Co.
Attorneys

UNITED STATES PATENT OFFICE.

LUTHER L. BEVIS, OF FRANKLIN, GEORGIA.

SEED-PLANTER.

SPECIFICATION forming part of Letters Patent No. 722,799, dated March 17, 1903.

Application filed October 13, 1902. Serial No. 127,137. (No model.)

To all whom it may concern:

Be it known that I, LUTHER L. BEVIS, a citizen of the United States, residing at Franklin, in the county of Heard and State of Georgia, have invented a new and useful Seed-Planter, of which the following is a specification.

This invention relates to seed-planters, such as are used for planting corn, peas, cotton-seed, and various other seeds; and it has for its object to provide a device of this class which shall possess superior advantages in point of simplicity, durability, and general efficiency.

With these ends in view the invention consists in the improved construction, arrangement, and combination of the parts of the device which will be hereinafter fully described, and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a sectional elevation of a seed-planter constructed in accordance with the principles of the invention, the front end of the beam and the upper ends of the handles having been broken off. Fig. 2 is a bottom plan view of the device as shown in Fig. 1 with the coverers broken away. Fig. 3 is a vertical transverse sectional view taken on the line 3 3 in Fig. 1. Fig. 4 is a side elevation showing the inner side of one of the sides of the hopper carrying the means whereby the feed of the device is adjusted and regulated. Fig. 5 is a sectional view of the lower part of the hopper, showing in elevation the seed-disk, which has been exposed by the removal of the side shown in Fig. 4, said view being on a slightly-enlarged scale. Fig. 6 is an enlarged detail view of one of the seed-cups with parts broken away to expose the construction.

Corresponding parts in the several figures are indicated by similar numerals of reference.

1 designates a beam provided with an ordinary bifurcated standard 2, carrying at its lower end a furrow-opener 3. Near the rear end of the beam are provided brackets or hangers 4 4, between the lower ends of which is journaled a traction-wheel 5, the axle of which, 6, projects at one end and carries a sprocket-wheel 7. The beam 1 is provided at its rear end with handles 8 of ordinary construction, and to its under side at the front is secured a bracket 9, with which the upper

ends of the coverers 10 are connected. The bracket 9 may be secured to the under side of the beam 1 in a tilting or slanting position, as will be seen by reference to Fig. 1, and a clip 11, of suitable construction, may be used for securing it in its position, which is directly in front of the hopper. The coverers 10, which are secured to the under side of said beam by means of bolts 12 or in any other suitable manner, are extended slantingly in a downward and rearward direction, so as to engage the ground at the proper point in rear of the furrow-opener. The traction-wheel 5 is made with a broad concaved tread, so as to pack the soil compactly over the seed.

A hopper 17 is supported upon the beam 1 directly in rear of the standard 2, said hopper being securely connected with the beam by means of a vertical connecting-plate 18, which is suitably connected by bolts, screws, or otherwise with the sides of the hopper and of the beam, as clearly shown in Fig. 3 of the drawings. It is evident that the width of the hopper being considerably in excess of that of the beam the bulk of said hopper extends laterally beyond the side of the beam opposite to that to which it is secured by means of the connecting-plate 18. The bottom of the hopper is composed of a segmental upwardly-curved plate 19, the ends of which are bent upward, as at 20, and secured to the front and rear sides of the hopper. Said curved bottom plate has an approximately centrally-disposed longitudinal slot 21 extending throughout the length thereof. This slot is normally closed by means of the seed-disk 22, which is mounted upon a shaft 23, concentric with the segmentally-curved body, against which the said seed-disk fits snugly, but not so closely as to cause a degree of friction that would interfere with the free rotation of said seed-disk. The transverse shaft 23, upon which the seed-disk is mounted, is provided with bearings in the outer side 24 of the hopper, in the beam 1, and in the connecting-plate 18, as will be seen by reference to Fig. 3, washers 25 being interposed where necessary to space the parts. An additional bearing for the shaft 23 may be had in a plate 26, secured upon the inner side of the removable side piece 24 of the hopper, the purpose of which will be presently set forth. I would

have it understood, however, that the bearings for the shaft 23 might be differently arranged without departing materially from the spirit of my invention, it being simply required to so mount the said shaft as to support the seed-disk 22 in its proper position. The periphery of the seed-disk is provided with a plurality of seed-cups, of which any desired number may be used. In the accompanying drawings two have been shown, this being a sufficient number for a planter of average size. These seed-cups are composed of approximately T-shaped castings 28, let into the peripheral face of the seed-disk, where they may be secured by means of screws 29. The outer faces of the cross-bars of these T-shaped castings are curved to correspond with the periphery of the disk, and they are provided with sockets 30, extending into the shanks 31 of said castings. The outer ends of said shanks 31 are provided with longitudinal bores 32 for the passage of the stems 33 of plungers 34, between which and the inner ends of the sockets springs 35 are interposed, the tendency of said springs being to force the plungers normally in an outward direction until they lie flush with the curved edges of the cross-bars 36 of the castings 28, which are flush with the peripheral face of the disk. This movement, however, is limited by means of pins 37, extending transversely through the stems 33 of the plungers and engaging slots 38 in the shanks 31 of the castings constituting the seed-cups. These pins 37 are extended laterally, as will be clearly seen in Fig. 3 of the drawings, for a purpose which will be presently described.

It is obvious that means must be provided for the purpose of moving the plungers 34 inwardly into the sockets 30 against the tension of the springs 35 when the seed-cups are exposed below the longitudinal slot 21 in the bottom of the hopper in order that they may receive the seed which they are presently to discharge through the means provided for that purpose. To provide for such withdrawal of the plungers, I provide a curved plate or cam 40, which is pivotally connected at one of its ends, as at 41, with the inner side of the aforementioned plate 26, which is secured to the inner side of the element 24, which constitutes a detachable side of the hopper. The cam 40 is provided at its free end with an arm 41', which extends through a slot 42 in the side of the hopper, where it carries a tightening-nut 43, by means of which the cam-plate 40 may be secured at any desired adjustment within the limits of the slot 42. This cam-plate is projected into the path of the transverse pins 37, connected with the plungers of the seed-cups, which engage the under side of the said curved cam-plate, being thereby withdrawn to an extent which is capable of being regulated by properly adjusting the said cam-plate, which adjustment by the means described may be effected very swiftly from the outside of the

hopper and without removing or disturbing any parts connected therewith.

It will be seen that when the seed-disk revolves and the seed-cups are filled it becomes necessary to provide some means for retaining the seed in the cups until the point of discharge is reached. This is effected by means of a curved spring 45, the upper end of which is secured to the front side of the hopper, as clearly shown in Figs. 1 and 5. Said spring is curved so as to lie snugly against the peripheral face of the lower part of the seed-disk, but at the same time capable of yielding so as to exert no injurious degree of friction upon the seed contained in the cups with which it comes in contact. This spring carries at its free end a laterally-extending spout, which receives the contents of the seed-cups as the latter pass out of engagement with the spring 45. This spout, which is designated 46 and which may be of any suitable construction, is extended laterally, as shown, and serves to conduct the seed into the furrow, the location of said spout being a short distance in rear of the furrow-opener.

The sides 24 and 48 of the hopper 17 have bearings for a transverse shaft 49, carrying an agitator or stirring device 50. The shaft 49 is extended at one end and provided with a sprocket-wheel 51. Another sprocket-wheel 52 is mounted upon the extended end of the shaft 23, carrying the seed-disk. These sprockets 51 and 52 are connected by an endless chain 53 with the sprocket 7 upon the axle 6 of the traction-wheel 5, from which motion is thus transmitted to the operating parts of the device.

The operation of this invention and its advantages will be readily understood from the foregoing description, taken in connection with the drawings hereto annexed, by those skilled in the art to which it appertains.

The general construction of the device is extremely simple and effective. The seed received in the seed-cups will be projected from the same at exactly the right moment when the plungers pass into registry with the discharge-spout, the retaining-spring ceasing to exercise its influence at this precise moment. The means for regulating the feed is likewise simple and easily operated, said feed-regulating device exerting precisely the same influence upon the several plungers coacting with the seed-cups, so that the capacity of the latter will always be identical.

When desired, the agitating device may be removed from the seedbox and the sprocket-wheel upon the shaft of the seed-disk be connected directly with the sprocket 7 upon the axle of the traction-wheels.

Other modifications and changes may suggest themselves, and I therefore desire to state that I do not limit myself to the precise structural details herein shown and described, but reserve the right to any changes which may be made without departing from

the spirit and scope of my invention or sacrificing the utility thereof.

By arranging the hopper with relation to the beam of the device, as herein shown, with the bulk of the hopper extended on one side I am enabled to place the seed-disk and the discharge-hopper quite close to the ground, and the discharge-spout being open, as shown, the operator may readily watch the quantity of seed discharged at each operation and satisfy himself that the machine is working satisfactorily.

The arrangement of the cam-plate 40 with relation to the shaft supporting the seed-disk is obviously slightly eccentric in order that the transverse pins of the seed-cup plungers may more readily engage the said cam at the pivoted end of the latter.

Having thus described my invention, I claim and desire to secure by Letters Patent of the United States—

1. In a device of the class described, a hopper, an upwardly-curved segmental bottom having a longitudinal slot extending between the ends of the hopper, a concentrically-mounted seed-disk, seed-cups in the latter having spring-actuated plungers, pins extending transversely through the stems of said plungers, and an adjustably-disposed cam engaging said transverse pins to cause the plungers to recede against the tension of their actuating-springs when the seed-cups are exposed to the slot in the bottom of the hopper.

2. In a device of the class described, a hopper having an upwardly-curved segmental slotted bottom, a seed-disk mounted below said hopper, concentrically and in loose contact therewith, seed-cups let into the peripheral face of said disk and having sockets formed therein and provided with transverse slots, spring-actuated plungers mounted in said seed-cups and having stems, pins extending transversely through said stems and extended beyond the face of the disk and a cam mounted adjustably in the path of said pins and engaging the latter to cause them and their related parts to recede to an extent determined by the adjustment of said cam.

3. In a device of the class described, the combination of a seed-disk, the seed-cups, spring-actuated plungers having inwardly-extending stems, pins extending transversely through said stems and extended beyond the face of the disk, a segmental cam mounted pivotally and eccentrically with relation to the seed-disk and lying in the path of the transversely-extended pins of the plunger-stems, and means for adjusting and retaining the free end of said cam in different positions

to gage the extent to which the plungers may be caused to recede in the seed-cups.

4. A seed-cup for planters comprising an approximately T-shaped casting having a socket and a bore extending from the bottom of said socket through the shank, and vertical slots in the sides of said shank, a plunger disposed in the socket and having a stem extended into the bore, a spring interposed between the plunger and the bottom of the socket, and a pin extending transversely through the stem of the plunger and through the slots in the sides of the shank.

5. A seed-cup for planters comprising a socketed member having a bore extending therethrough, lateral slots communicating with said bore, a plunger having a perforated stem extended into the bore, a spring interposed between the plunger and the bottom of the socket, and a pin extending transversely through the stem of the plunger and the adjacent slots and forming a coupling member.

6. In a device of the class described, a spring attached at one end and supporting a discharge-spout at its free end.

7. In a seed-planter, a discharge-spout mounted upon the free end of a spring, the opposite end of which has a fixed point of attachment, said spout being disposed to receive the discharge from the seeding mechanism.

8. In a seed-planter, a hopper, a seed-disk within said hopper having peripherally-arranged seed-cups, and a spring attached to said hopper, curved segmentally in contact with the periphery of the seed-disk and having a discharge-spout at its free end.

9. In a seed-planter, a discharge-spout mounted upon a free end of a spring disposed in contact with the face of the seed-disk.

10. In a seed-planter, a revolving seed-disk having seed-cups provided with spring-actuated plungers normally forced in an outward direction by the tension of the springs, and said plungers being provided with laterally-extended members, in combination with plunger retracting and regulating means comprising an eccentrically-disposed cam pivotally mounted to engage the laterally-extended members of the plungers, and means for retaining the free end of said cam in adjusted position.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

LUTHER L. BEVIS.

Witnesses:

HAMP. H. LANE,
LU F. LANE.