

No. 629,730.

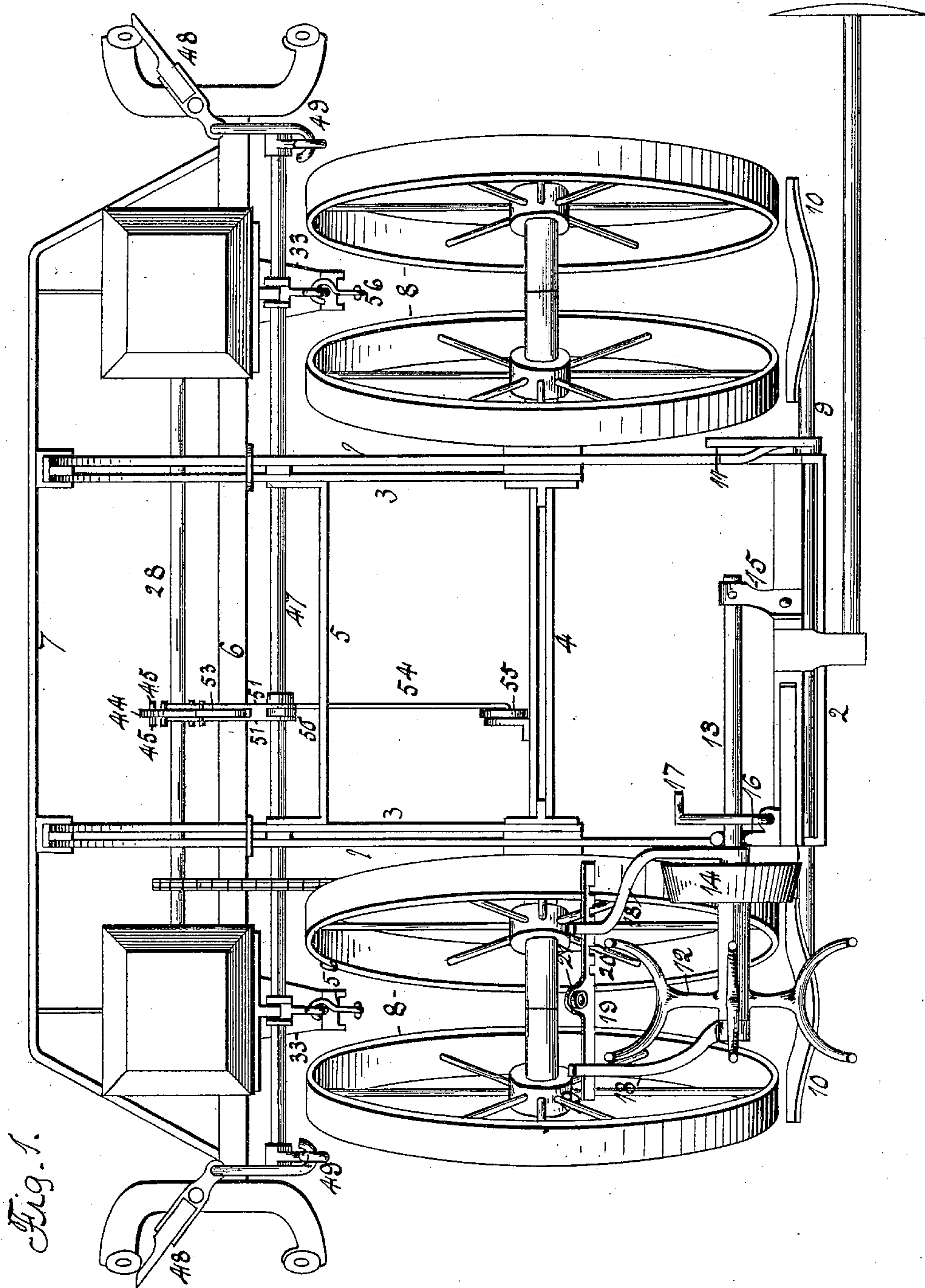
Patented July 25, 1899.

W. H. TRAPHAGEN.
CORN PLANTER.

(Application filed July 30, 1897.)

(No Model.)

3 Sheets—Sheet 1.



Witnesses:
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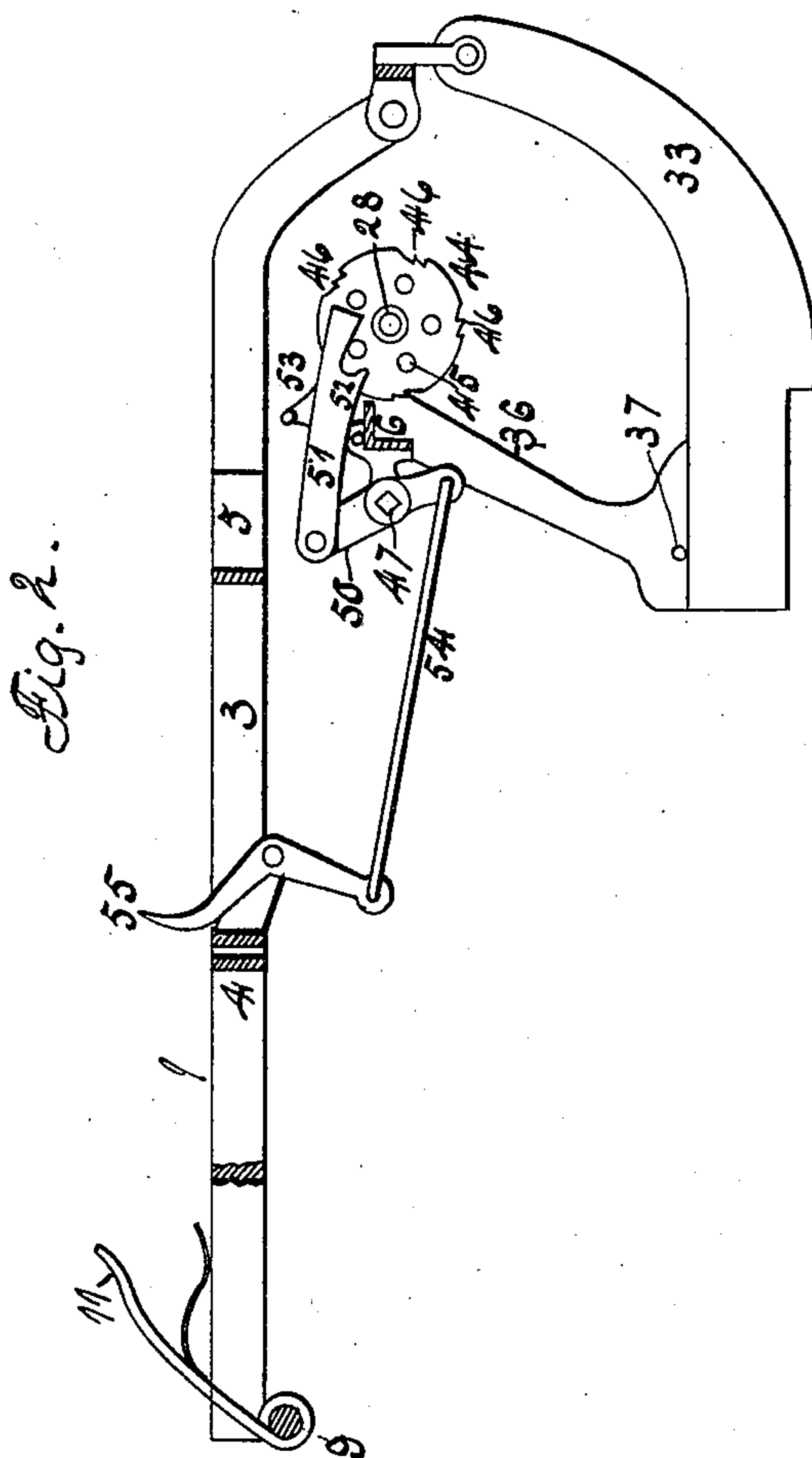
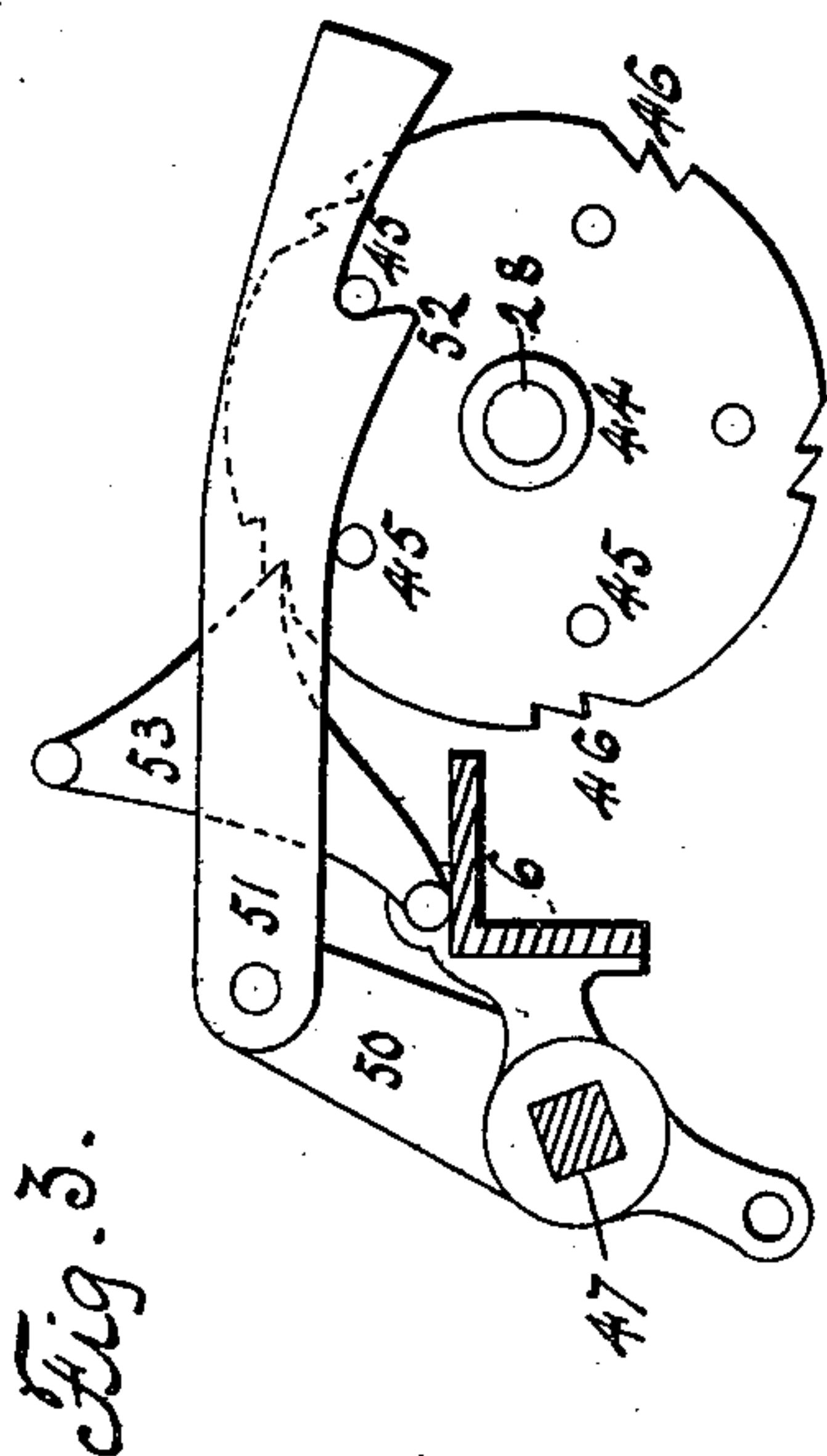
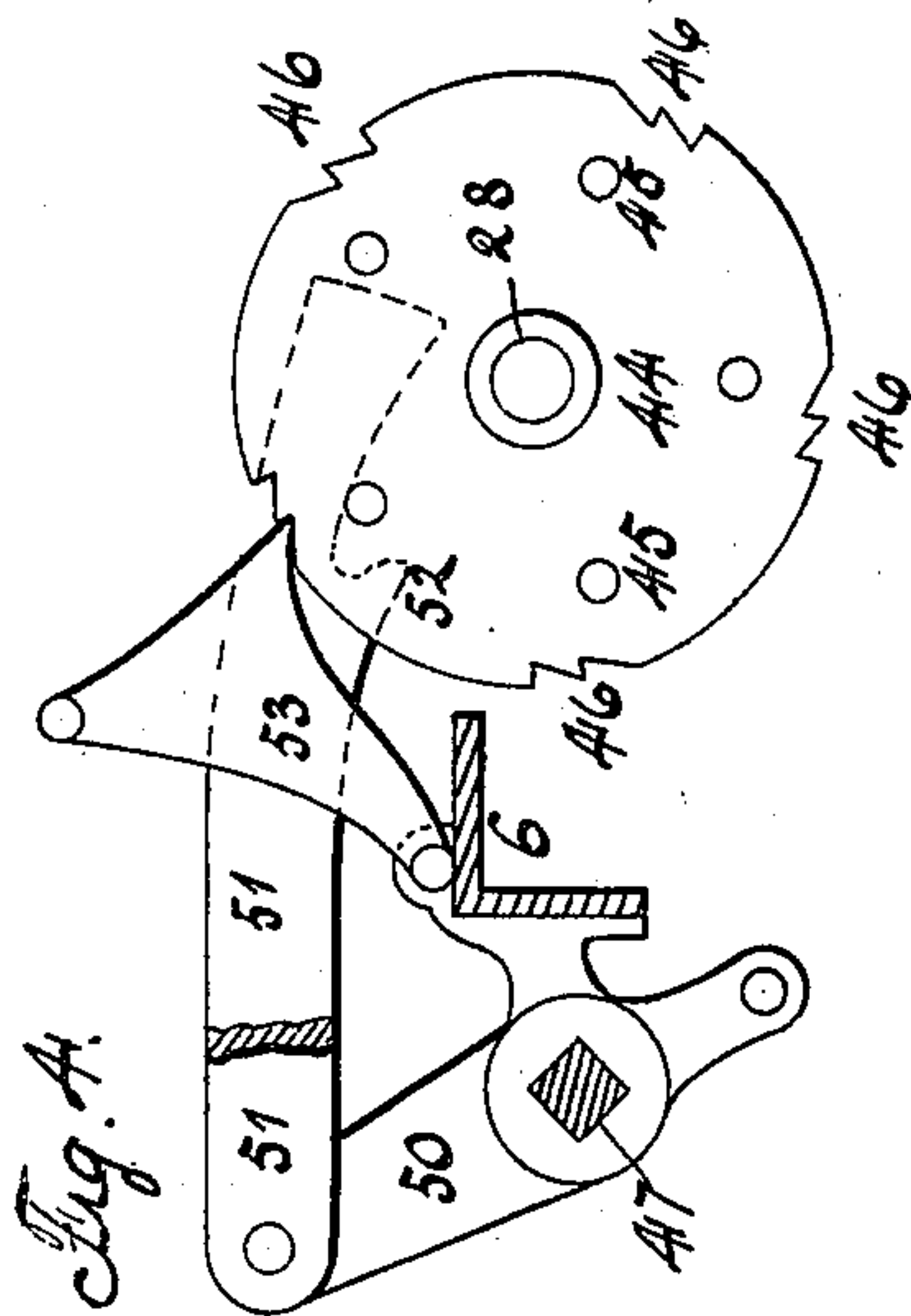
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3 Sheets—Sheet 3.

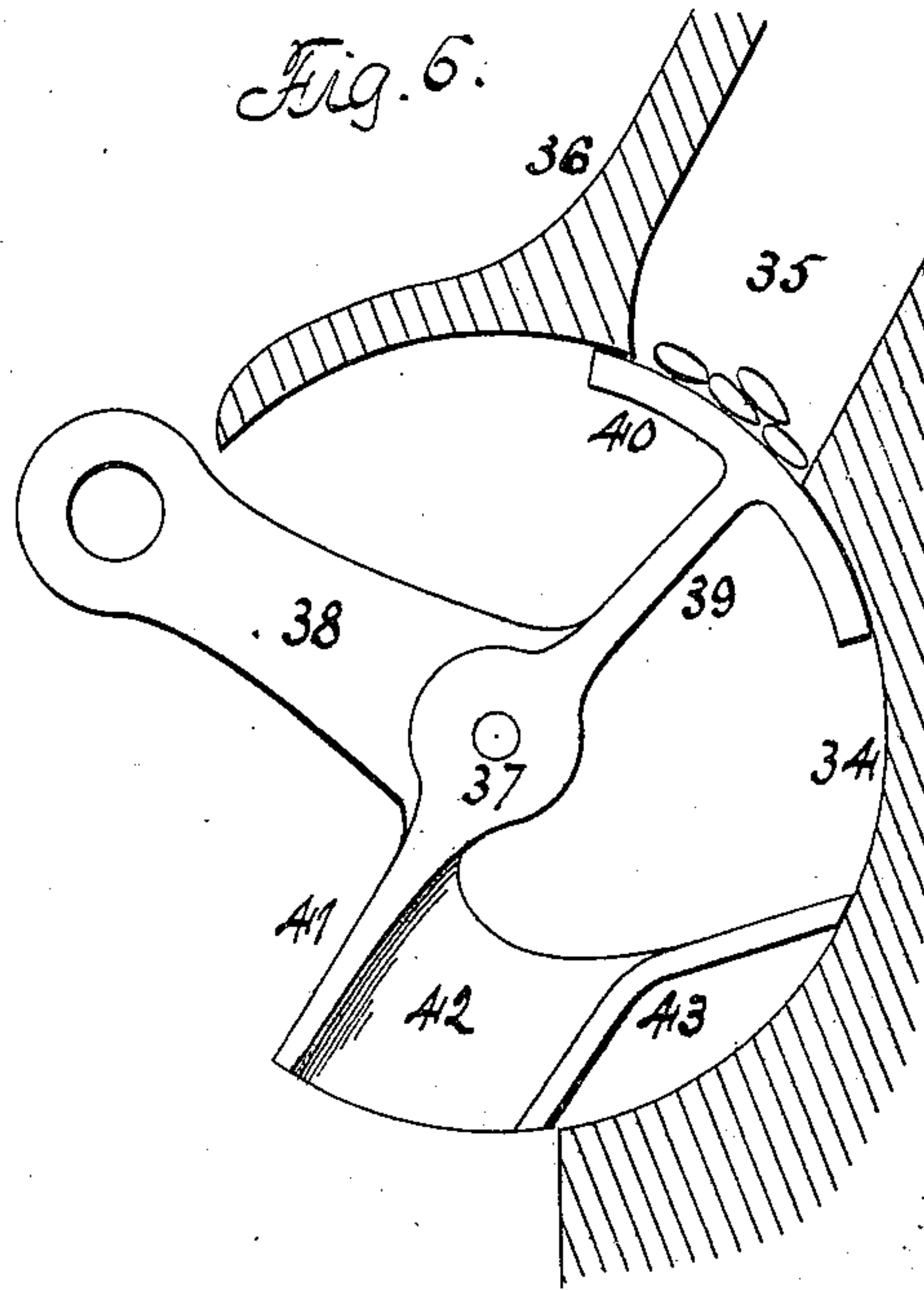
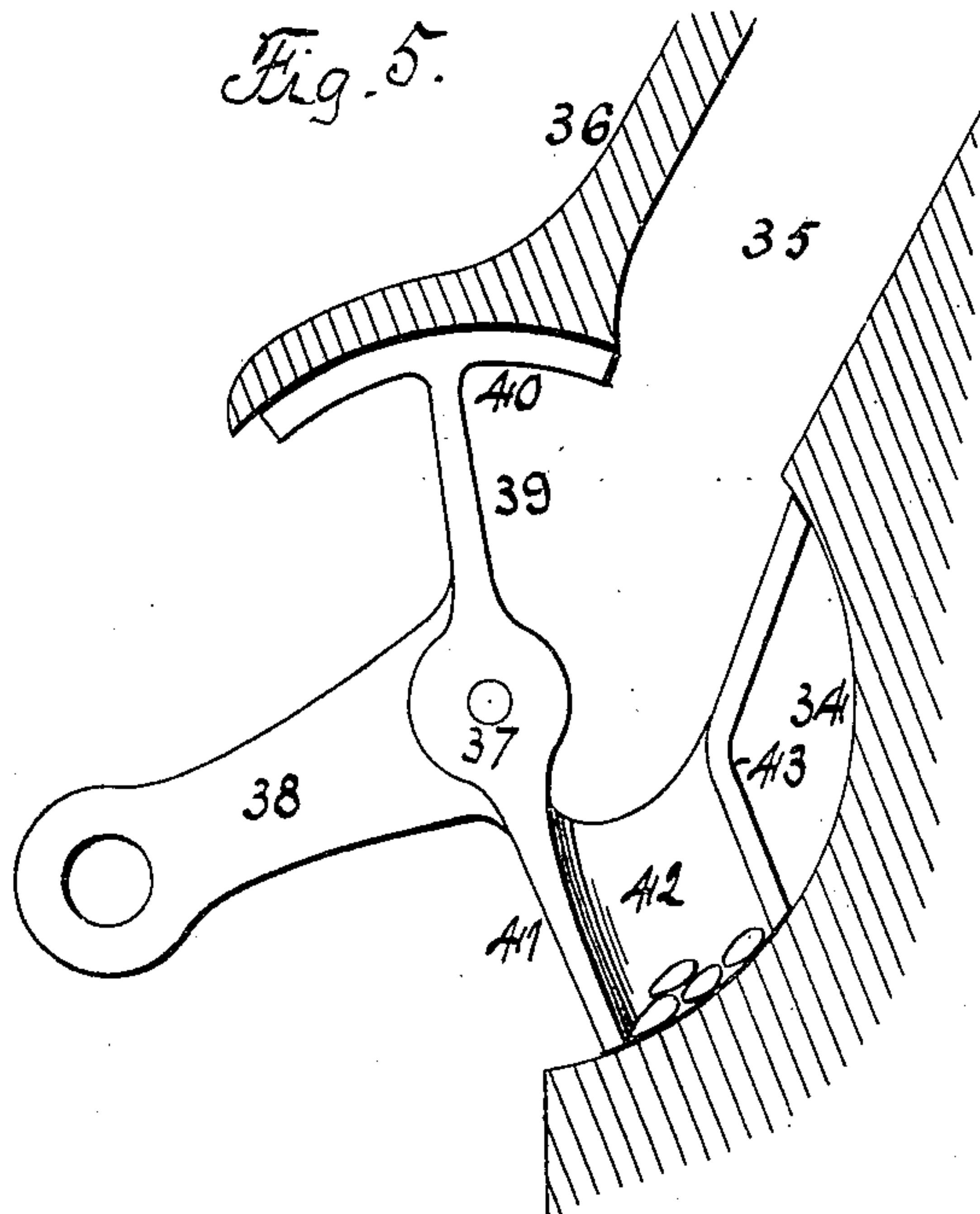


Fig. 7.

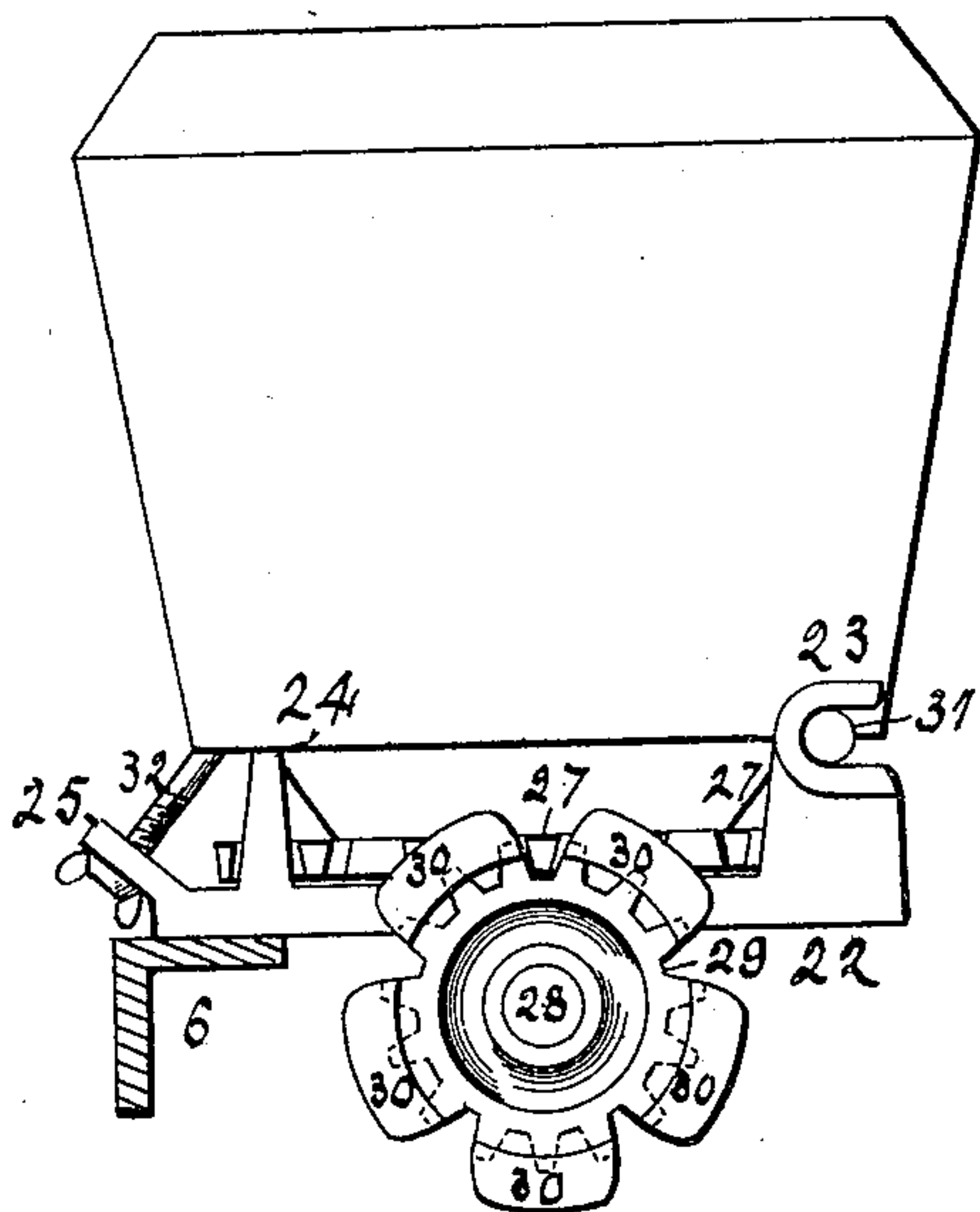
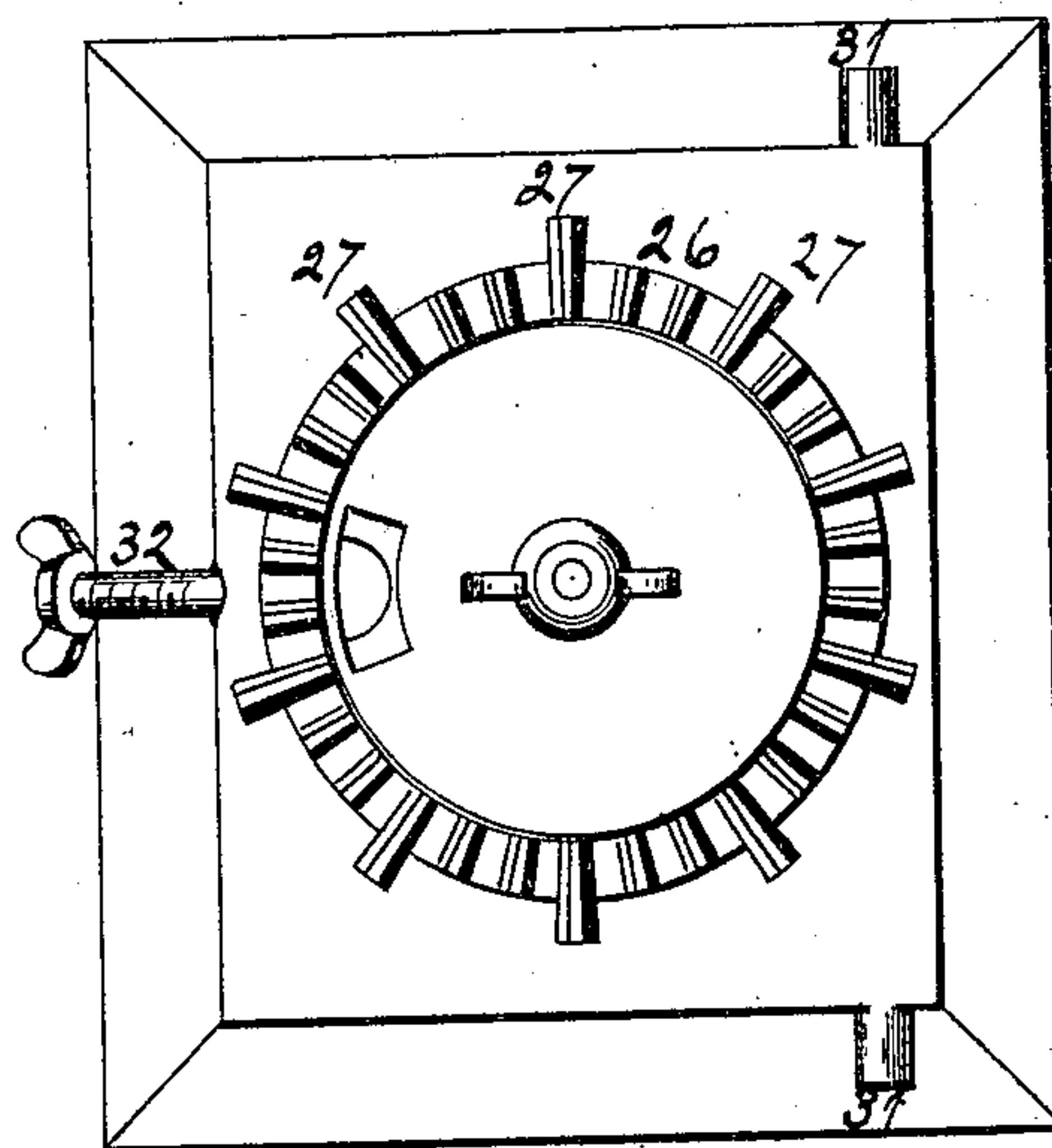


Fig. 8.



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UNITED STATES PATENT OFFICE.

WILLIAM H. TRAPHAGEN, OF ROCKFORD, ILLINOIS, ASSIGNOR TO THE
EMERSON MANUFACTURING COMPANY, OF SAME PLACE.

CORN-PLANTER.

SPECIFICATION forming part of Letters Patent No. 629,730, dated July 25, 1899.

Application filed July 30, 1897. Serial No. 646,565. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. TRAPHAGEN, a citizen of the United States, residing at Rockford, in the county of Winnebago and State of Illinois, have invented certain new and useful Improvements in Corn-Planters, of which the following is a specification.

This invention relates to improvements in corn-planters and the principal features are pointed out in the claims.

In the accompanying drawings, Figure 1 is a plan view of my improved planter. Fig. 2 is a vertical lengthwise section showing the mechanism for operating the seed-disks. Figs. 3 and 4 are enlarged views of the mechanism for operating the seed-disks. Figs. 5 and 6 are vertical sections through the heel of the runner, showing the force-valve. Fig. 7 is a side elevation of one of the seedboxes. Fig. 8 is an under face representation of the seedbox.

The main frame consists of the lengthwise bars 1, rear crosswise bar 2, and lengthwise bars 3, held separated by crosswise bars 4 and brace 5.

The runner-frame consists of the bar 6, to which is secured the forwardly-extending brace 7. The carrying-wheels 8 are connected to the lengthwise bars 1 and crosswise bars 4 of the main frame. A rod 9 is supported by the main frame, its ends supporting scrapers 10. A spring-actuated foot-lever 11 has a connection with the rod, and by depressing it the scrapers are brought in contact with the wheels. One scraper serves for two wheels. A check-wire reel 12 is supported to revolve freely upon the rod 13, and a friction-wheel 14, having a connection with the reel, runs in contact with one of the carrying-wheels. The rod 13 is supported in a bearing 15 at one end, and the contact of the friction-wheel with one of the carrying-wheels supporting its other end. A guide 16 serves to hold the rod in proper line, and a lever 17, pivoted to the main frame and operated by the attendant's foot, serves to increase the frictional contact between the friction and carrying wheels. A wire-guide for the wheel consists of two arms 18, secured to the rod 13, their free ends being lengthwise slotted, within which is placed a bar 19, provided with a se-

ries of notches 20 in its under face. This bar has a guide-eye 21. The check-line wire passes through the guide-eye onto the reel, and by shifting the guide-bar the wire can be fed properly onto the reel, the notches in the bar engaging its support holding it against lengthwise movement.

To the upper face of the bar 6 of the runner-frame are secured plates 22, serving as a support for the seedboxes. These plates have slotted ears 23, uprising studs 24, and a slotted lug 25. The seedboxes contain the seed-dropping mechanism, which is rotated by a beveled toothed wheel 26, having a series of long teeth 27. A shaft 28 is supported by the plates 22 in a manner to revolve and support toothed pinions 29, one for each seedbox, which mesh with the beveled toothed wheels 26. These pinions have a sectional flange 30, the spaces between the sections allowing the entrance of the long teeth of the beveled toothed wheel. It is necessary that this toothed wheel and pinion should properly register in order that the seed-plate be in proper position to drop its seed, which is made necessary by reason of the seedbox having a detachable connection with the plate by studs 31 entering the slotted ears 23 and a bolt 32 clamped in connection with the slotted lug 25. The reason the seedbox is made detachable is to change the seed-plates without removing the seed, and after the seedbox has been removed it cannot be secured in position until one of the long teeth enters the space between two of the sections of the flange of the pinion.

A runner 33 is provided for each seedbox, a vertical section of the lower portion being shown at Figs. 5 and 6. The lower portion of the runner is formed with a circular cavity 34, with which the opening 35 in the shank 36 of the runner connects, this opening forming the passages for the discharge of the corn from the seedbox. Within the circular cavity is located a valve having a pivotal connection with the runner at the point 37, and consists of the arm 38, having its end in eye form, an upper branch 39, having a receiving-plate 40, and a lower branch 41, having a web 42, supporting a curved plate 43. When the valve is in the position shown at Fig. 6, the

corn from the seedbox is received upon the plate 40. The valve is then moved into the position shown at Fig. 5, which will allow the kernels to drop into the receptacle formed by the lower portion of the valve and wall of the cavity, and upon the valve being returned to the position shown at Fig. 6 the kernels in the receptacle will be discharged into the ground and other kernels dropped from the seedbox upon the plate 40.

If the team drawing the planter be moved slowly, the valve will be moved slowly, which will deposit the kernels into the ground within the runner; but if the team move faster the planter will be carried beyond the place of deposit of the kernels, but the valve will be operated more quickly, which will throw the kernels rearward and deposit them at the proper place by reason of the wall 43 of the valve.

To the shaft 28 is secured a disk 44, having studs 45 extending from both sides and its periphery provided with notches 46, two opposite each stud. A rock-shaft 47 is supported by the runner-frame in any suitable manner and is oscillated by the check-wire engaging the forks 48 through the link connection 49. An arm 50 is connected to this rock-shaft, its upper end having two plates 51 pivoted thereto, their lower edge having a hooked projection 52. A dog 53 has a pivotal connection with the bar 6 of the runner-frame and is located between the bifurcated lever and adapted to enter the notches in the periphery of the disk 44. A rod 54 connects the arm 50 with a foot-lever 55. When the forks 48 are moved by the check-wire, the rock-shaft 47 will be oscillated, which will move the arm 50 and cause the plates 51 to move forward, bringing the projections in contact with the studs of the disk, imparting a partial rotary movement to the disk and through the shaft 28 to the seed-cell plate. The dog 53 will engage the second notch of one of the series holding the disk against backward rotation. Should from some cause the arms 51 fail to make a complete forward movement, the dog will engage the first notch of the series and the next movement of the plates will allow the dog to engage the second notch. The forward movement of the disk is arrested by the stud following the one in engagement with the projection of the plates coming in contact with the under face of the plates, as shown in Fig. 3. The disk can be operated by the foot-lever 55 when necessary.

The arm 38 of the valve is connected with the rock-shaft through the link 56.

I claim as my invention—

1. In a corn-planter, the combination of a seedbox, a beveled toothed wheel connected with the seed-cell plate having some of its teeth extended, and a driving-pinion having some of the spaces between the teeth closed at the base end of the teeth.

2. In a corn-planter, the combination of a seedbox, a beveled toothed wheel connected with the seed-cell plate having some of its teeth extended, and a driving-pinion having a segmental flange at the base end of the teeth of a larger diameter than the teeth.

3. In a corn-planter, the combination of a seedbox and its support having a detachable pintle-and-hook connection.

4. In a corn-planter, the combination of a seedbox and its support having a detachable pintle-and-hook connection, and means securing the box against displacement.

5. In a corn-planter, a seedbox, seed-dropping mechanism and means for operating the dropping mechanism, consisting of a single disk having a notched periphery and studs extending from both sides, a pivoted arm, two plates having a pivotal connection with the arm, one located on each side of the plate and provided with hooked projections adapted to engage the studs, and a dog adapted to enter the notches.

6. In a corn-planter, the combination of a runner and a pivoted valve, the valve located in a circular cavity in the runner having a wing portion adapted to receive the corn from the seedbox, and a portion below the pivot of the valve forming a walled receptacle in conjunction with the cavity of the runner within which corn is received from the wing portion.

7. In a corn-planter, the combination of a runner and a pivoted valve, the valve located in a circular cavity in the runner, having a wing portion adapted to receive the corn from the seedbox, a portion below the pivot of the valve forming a walled receptacle in conjunction with the cavity of the runner within which the corn is received from the wing portion, and a wall forming a part of the valve located below the wing portion adapted to forcibly discharge the corn from the receptacle.

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Witnesses:

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