

No. 629,749.

Patented July 25, 1899.

A. C. MAHAFFEY & J. O. WORK.  
CORN PLANTER.

(Application filed Apr. 17, 1899.)

(No Model.)

2 Sheets—Sheet 1.

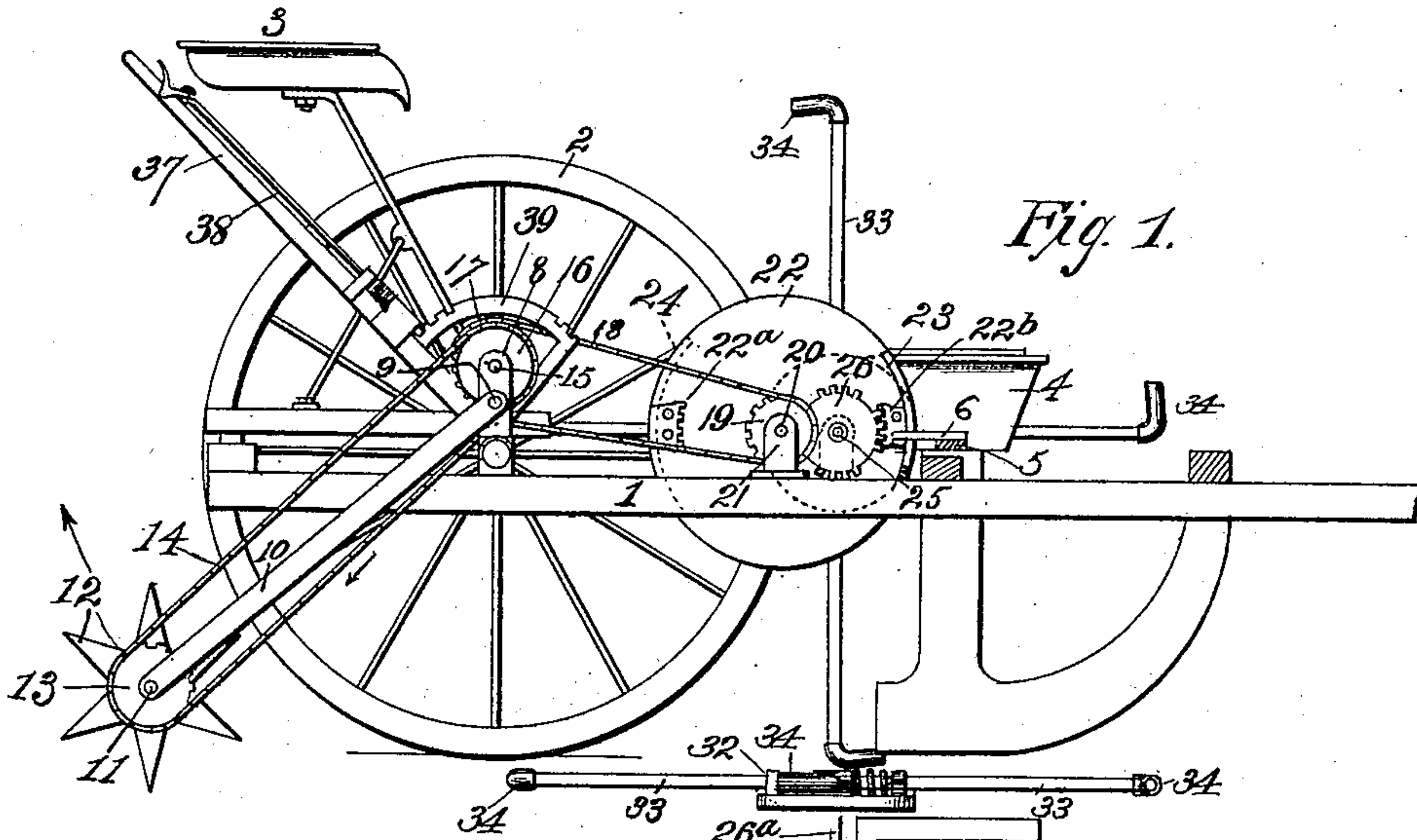
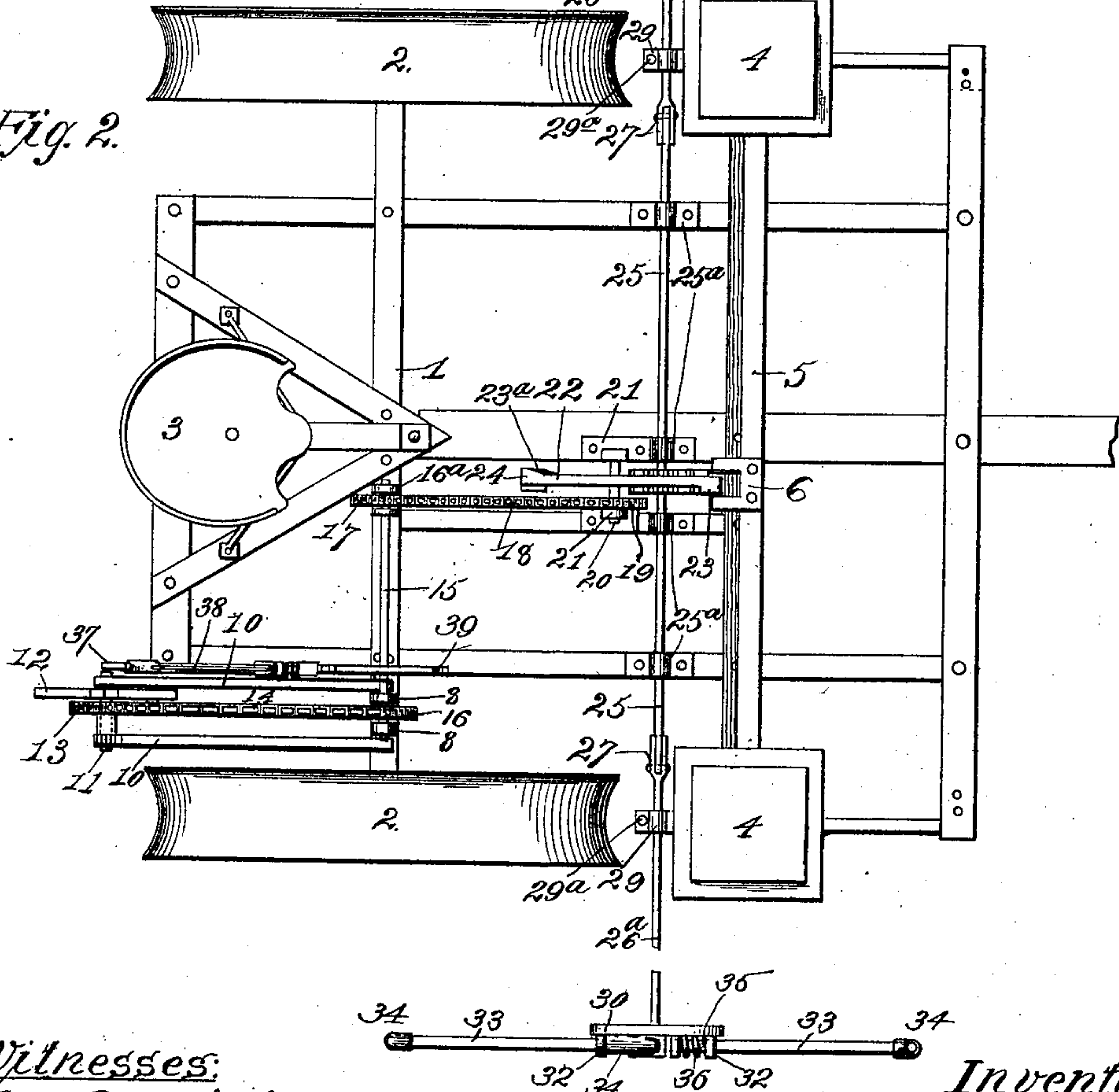


Fig. 1.

Fig. 2.



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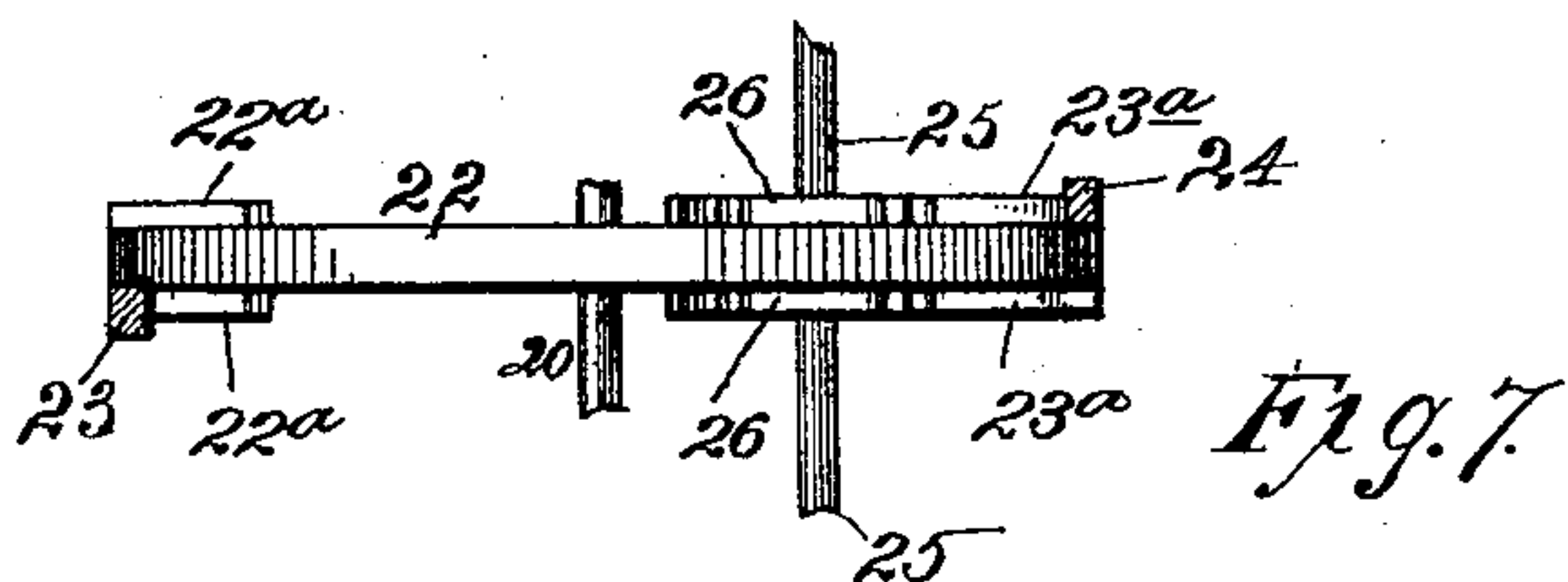
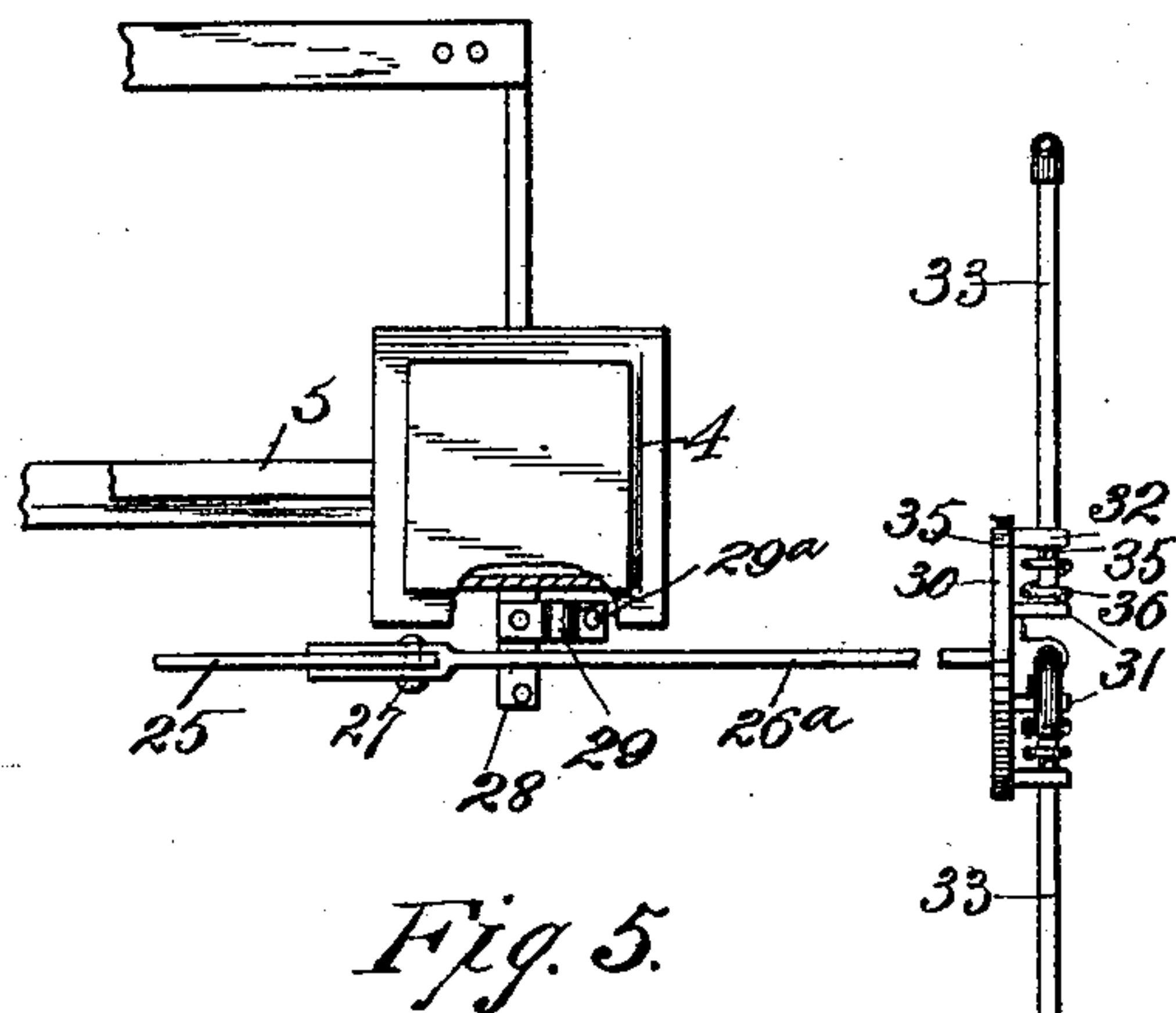
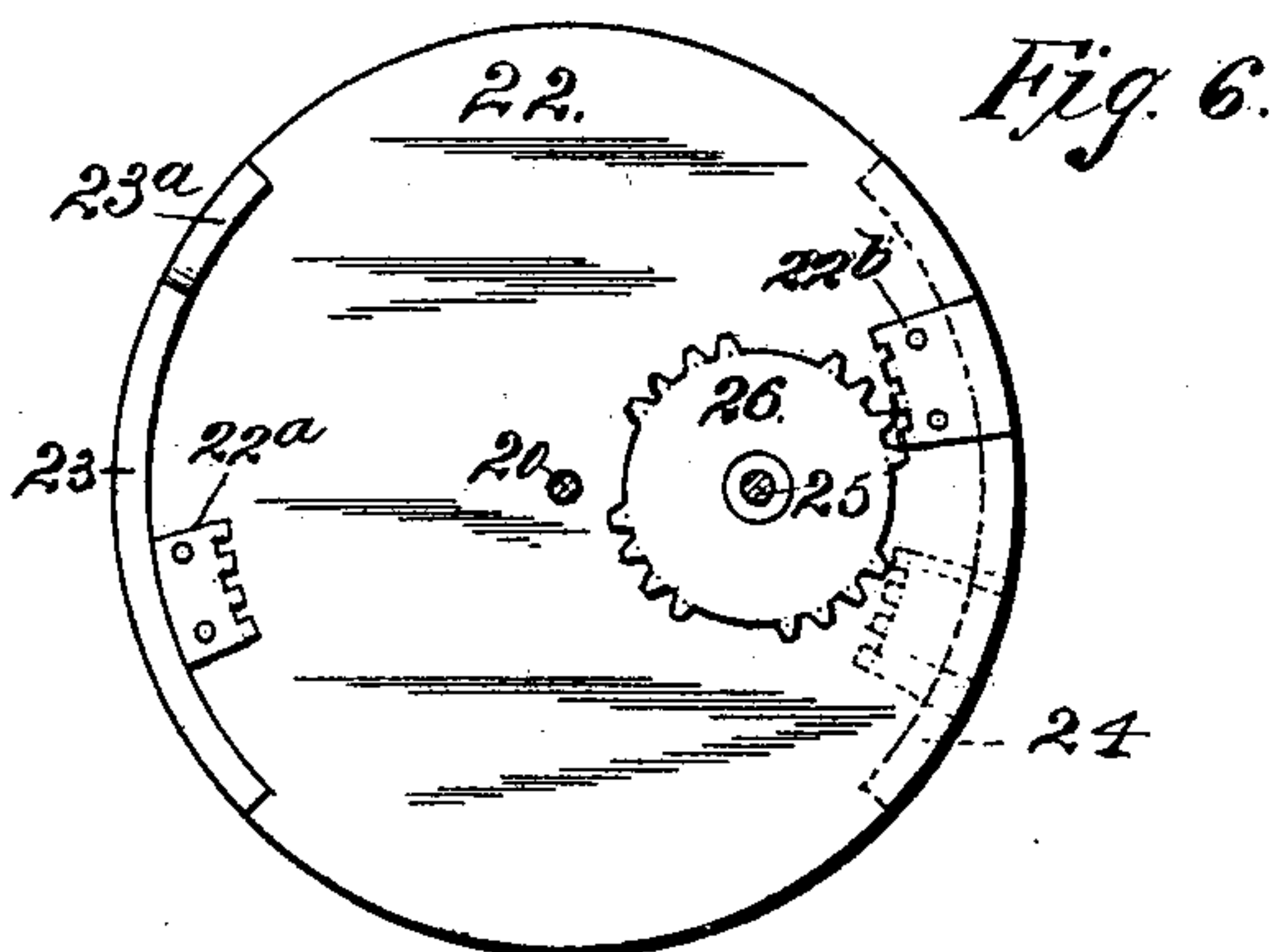
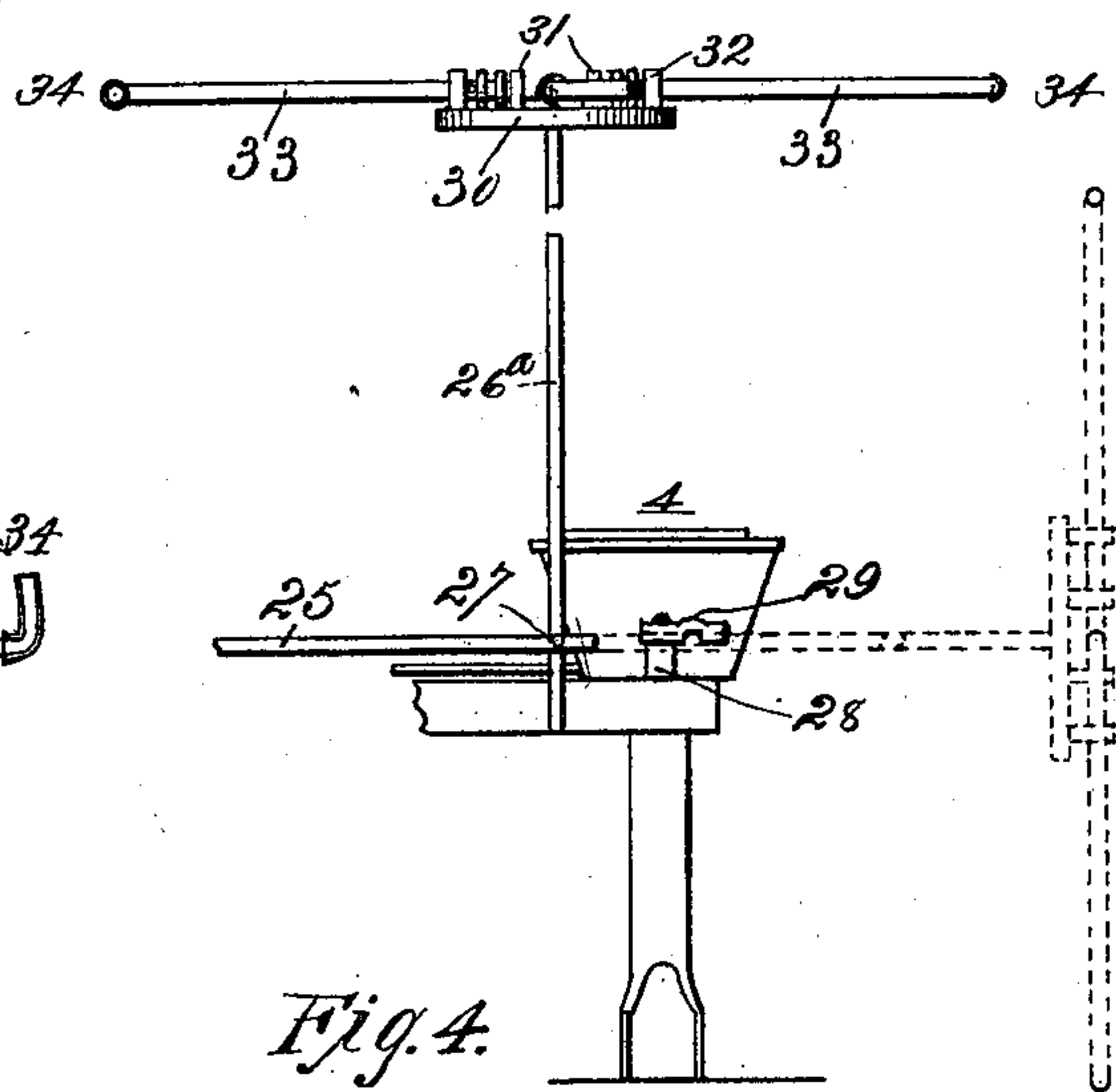
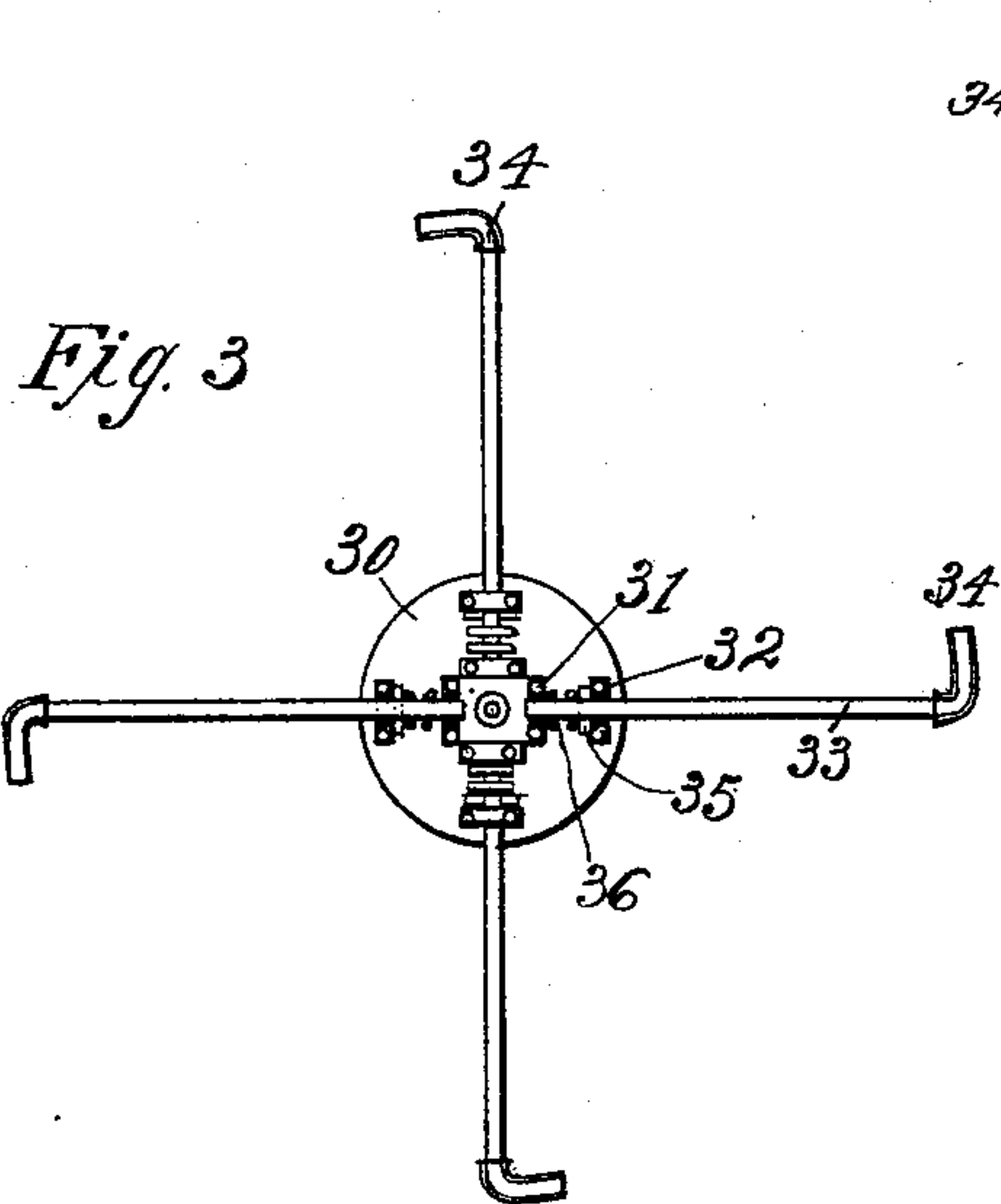
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# UNITED STATES PATENT OFFICE.

ALEXANDER C. MAHAFFEY AND JOHN O. WORK, OF SEWARD, NEBRASKA.

## CORN-PLANTER.

SPECIFICATION forming part of Letters Patent No. 629,749, dated July 25, 1899.

Application filed April 17, 1899. Serial No. 713,422. (No model.)

*To all whom it may concern:*

Be it known that we, ALEXANDER C. MAHAFFEY and JOHN O. WORK, of Seward, Seward county, Nebraska, have invented certain new and useful Improvements in Corn-Planters, of which the following is a specification.

Our invention relates to corn-planters; and our object is to produce a machine of this character by which corn may be dropped at the proper intervals without the use of a check-row attachment.

A further object is to produce a corn-planter which is positive and reliable in action and of simple, strong, and inexpensive construction.

To these ends the invention consists in certain novel and peculiar features of construction and combinations of parts, as hereinafter described and claimed, and in order that it may be fully understood reference is to be had to the accompanying drawings, in which—

Figure 1 represents a view partly in side elevation and partly in section. Fig. 2 represents a plan view of the machine. Fig. 3 is an end view of one of the rotary markers. Fig. 4 is a rear view of part of the machine with the corresponding or adjacent marker occupying its inoperative position. Fig. 5 is a plan view of the same with the marker occupying its operative position. Fig. 6 is an enlarged view of the gearing for imparting intermittent movement to the rotary markers and for operating the slide controlling the feed of the corn. Fig. 7 is a view of the same, partly in section.

In the said drawings, 1 designates the framework; 2, the wheels; 3, the seat; 4, the seed-hoppers, and 5 the slide controlling the usual opening in the bottom of each seed-hopper of the usual or any preferred construction and arrangement, and secured to and projecting rearward from said slide-bar is a forked or bifurcated bracket 6 for a purpose which hereinafter appears.

8 designates a pair of standards secured upon the frame or axle adjacent to the right-hand wheel 2, and 10 a pair of bars which are pivoted at their upper ends, as at 9, to the standards. Said bars extend downward and rearward at an angle of about forty-five degrees, and journaled in their lower ends is a shaft 11, upon which is keyed or otherwise

secured a star-wheel 12 to run upon the ground and impart movement to the shaft and a sprocket-wheel 13, the latter being connected by the chain 14 to the sprocket-wheel 16, keyed or otherwise secured upon shaft 15, journaled in standards 8. The inner end of said shaft is journaled in standards 16<sup>a</sup> and carries between them the sprocket-wheel 17, connected by sprocket-chain 18 with a sprocket-wheel 19, secured upon a short shaft 20, journaled in standards 21. Said shaft also carries a relatively large wheel or disk 22, provided at diametrically opposite points and at opposite sides with the segmental ears 23 24, the front ends of said ears being beveled, as shown at 23<sup>a</sup>. (See Fig. 6.) This wheel is of such diameter that it projects into the space between the arms of the bifurcated plate 6, secured to the slide-bar 5, the arrangement being such that with each revolution of the wheel or disk the slide is reciprocated back and forth, the engagement of the beveled end 23<sup>a</sup> of ear 23 with one arm of plate 6 forcing the slide in one direction and the engagement of the corresponding end of ear 24 with the opposite arm of the slide-plate forcing the slide-bar in the opposite direction back to its original position, so that the operations just described are repeated as long as the machine is in motion and the star-wheel is traveling upon the ground. Said wheel or disk is also provided or formed with two sets of diametrically opposite cog-segments 22<sup>a</sup> 22<sup>b</sup>, which cog-segments are adapted once in each revolution of the wheel or disk to engage a series of teeth of the mutilated gear-wheels 26, said gear-wheels being keyed or otherwise secured upon the inner ends of the shafts 25 and said shafts being journaled in bearing-standards 25<sup>a</sup>, secured to the framework.

The shafts 25 are provided with extensions 26<sup>a</sup>, which are pivoted, as at 27, to the outer ends of shafts 25 and are journaled in the bearing-boxes 28, being held reliably in said bearings by the pivoted bearing-caps 29, which normally are held in operative position by the screw-bolts 29<sup>a</sup>, but which may be thrown to inoperative position when desired, as shown in Figs. 4 and 5.

The outer end of each shaft extension 26<sup>a</sup> carries a disk 30, from which project out-



wardly the bearing-brackets 31 32, through which slidably extend the radial arms 33, provided with shoes 34 at their outer ends and with collars or cross-pins 35 at the inner sides of the bearing-lugs 32, spiral expansive springs 36 upon said rods and bearing at their opposite ends against the lugs 32 and said cross-pins tending to force the arms outwardly at all times, so that as the machine proceeds across the field and the shaft extensions 26<sup>a</sup> are rotating the shoes 34 successively leave a mark or impression upon the ground which serves as a guide for the driver when he recrosses.

To provide against injury to the arms or shoes, they are held advanced by means of the springs referred to, so that the latter may yield and permit the arms to accommodate themselves to the varying distances between their axes of movement and the surface of the ground, as will be readily understood.

In practice as the machine proceeds across the field the star-wheel in effect steps from one of its points to another, and thereby imparts rotary movement through the gearing described to the disk 22, and the latter, as explained, slides the bar 5 back and forth through the instrumentality of the bifurcated plate 6 and the ears or flanges 23 24, said ears or flanges being each equal in length to one-fourth the circumference of the wheel in order that each of the seedboxes shall be opened a sufficient length of time to deliver seed to the ground. The cog-segments carried by or formed with said wheel or disk are also so arranged that it requires one complete revolution of the wheel or disk to impart a half-revolution to the shafts 25, because the mutilated gear-wheels 26 of the latter are provided with just four series of teeth, one series being adapted for engagement with one set of the cog-segments, so as to be moved a quarter of a circle as the latter pass, and the following series with the opposite set of cog-segments, which also in passing impart a movement of forty-five degrees to said mutilated wheels. In other words, with each half-revolution of the wheel or disk 22 one of the marker-arms is caused to make an impression or mark in the ground, as hereinbefore referred to.

When it is desired to throw the markers out of gear, it can be accomplished by withdrawing the screw-bolts 29<sup>a</sup> and swinging the bearing-caps 29 to inoperative position, as hereinafter explained, (see Figs. 4 and 5,) and then the shaft extensions carrying the markers are thrown pivotally to inoperative position, as shown in Fig. 4.

When it is desired to throw the seed-dropping mechanism out of gear, the driver upon the seat 3 grasps the lever 37 and, retracting the dog 38 from engagement with the notched sector 39, throws said lever forward, and thereby swings the arms carrying the star-wheel in the direction indicated by the arrow, Fig. 1, because of the rigid connection of the

lever with one of the arms 10. The reengagement of the dog 38 with one of the more advanced notches of the sector 39 locks the star-wheel in its inoperative position above and out of contact with the ground. The machine is thrown to inoperative position, as described, when driving to and from the field.

While the description refers to this invention as a corn-planting machine, it is obvious that our improved mechanism may be applied as an attachment to any ordinary corn-planting machine.

The framework of the machine is of the ordinary type, and no claim to it is made except in combination with the new features.

From the above description it will be apparent that we have produced a corn-planter which embodies the features of advantage enumerated as desirable in the statement of invention, and it is to be understood that changes in the form, proportion, detail construction, or arrangement of the parts may be resorted to without departing from the spirit and scope of the invention.

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

1. A corn-planter, comprising seed-dropping mechanism, a pair of shafts carrying rotary markers at their outer ends, and gear-wheels at their inner ends, and a driven wheel adapted to intermittently engage and rotate the gear-wheels of said shafts, substantially as described.

2. A corn-planter, comprising seed-dropping mechanism, a pair of shafts carrying rotary markers at their outer ends, mutilated gear-wheels mounted upon the inner ends of said shafts, and a driven wheel provided at diametrically opposite points with cog-segments which alternately engage the mutilated gear-wheels and impart intermittent rotary movement to the same, substantially as described.

3. A corn-planter, comprising seed-dropping mechanism, a pair of shafts carrying rotary markers at their outer ends, mutilated gear-wheels mounted upon the inner ends of said shafts, a wheel provided with cog-segments for alternate engagement with said mutilated gear-wheels, a star-wheel geared to said wheel provided with the cog-segments and adapted to run upon the ground, and means to elevate said star-wheel, substantially as described.

4. In a corn-planter, a suitable framework, driven shafts provided with markers at their outer ends, and comprising inner members having only rotary movement, and outer members which are pivoted to the inner members, and bearing-boxes forming a journal for the outer members and comprising lower or stationary parts and upper or movable caps, substantially as described.

5. In a corn-planter, a rotary marker, comprising a shaft, a disk mounted thereon, radially-arranged boxes secured to the disk,



rods extending slidingly through said boxes  
and provided with shoes at their outer ends  
and with cross-pins between said boxes, and  
expansive springs encircling said rods and  
5 bearing at their opposite ends against said  
pins and the innermost boxes, substantially  
as described.

In testimony whereof we affix our signatures in the presence of two witnesses.

ALEXANDER C. MAHAFFEY.  
JOHN O. WORK.

Witnesses:

S. A. HEATON,  
JOHN HEDRICK.