

No. 695,825.

Patented Mar. 18, 1902.

S. D. MURRAY.  
COTTON GIN FEEDER.

(Application filed June 27, 1901.)

(No Model.)

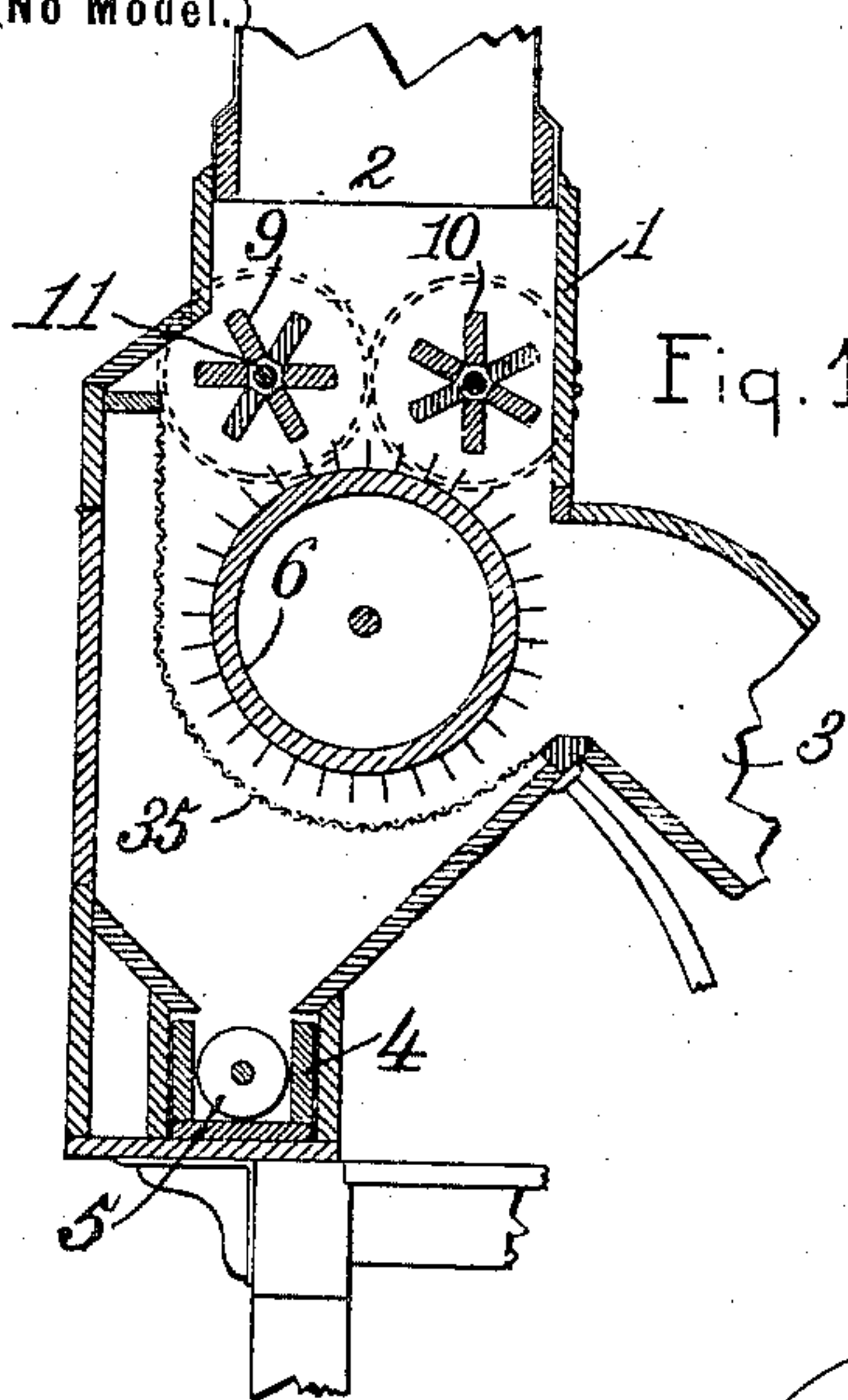


Fig. 1.

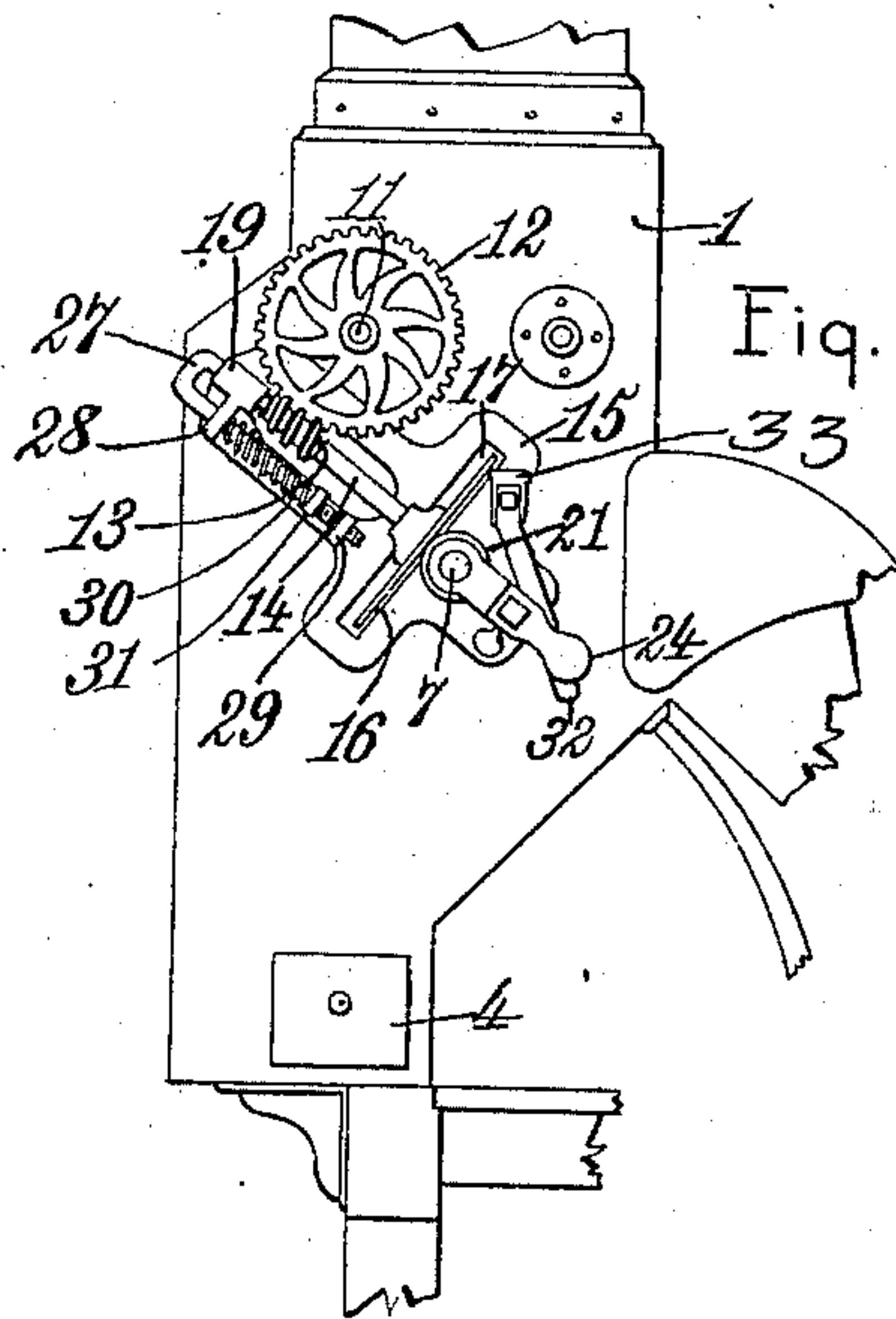


Fig. 2.

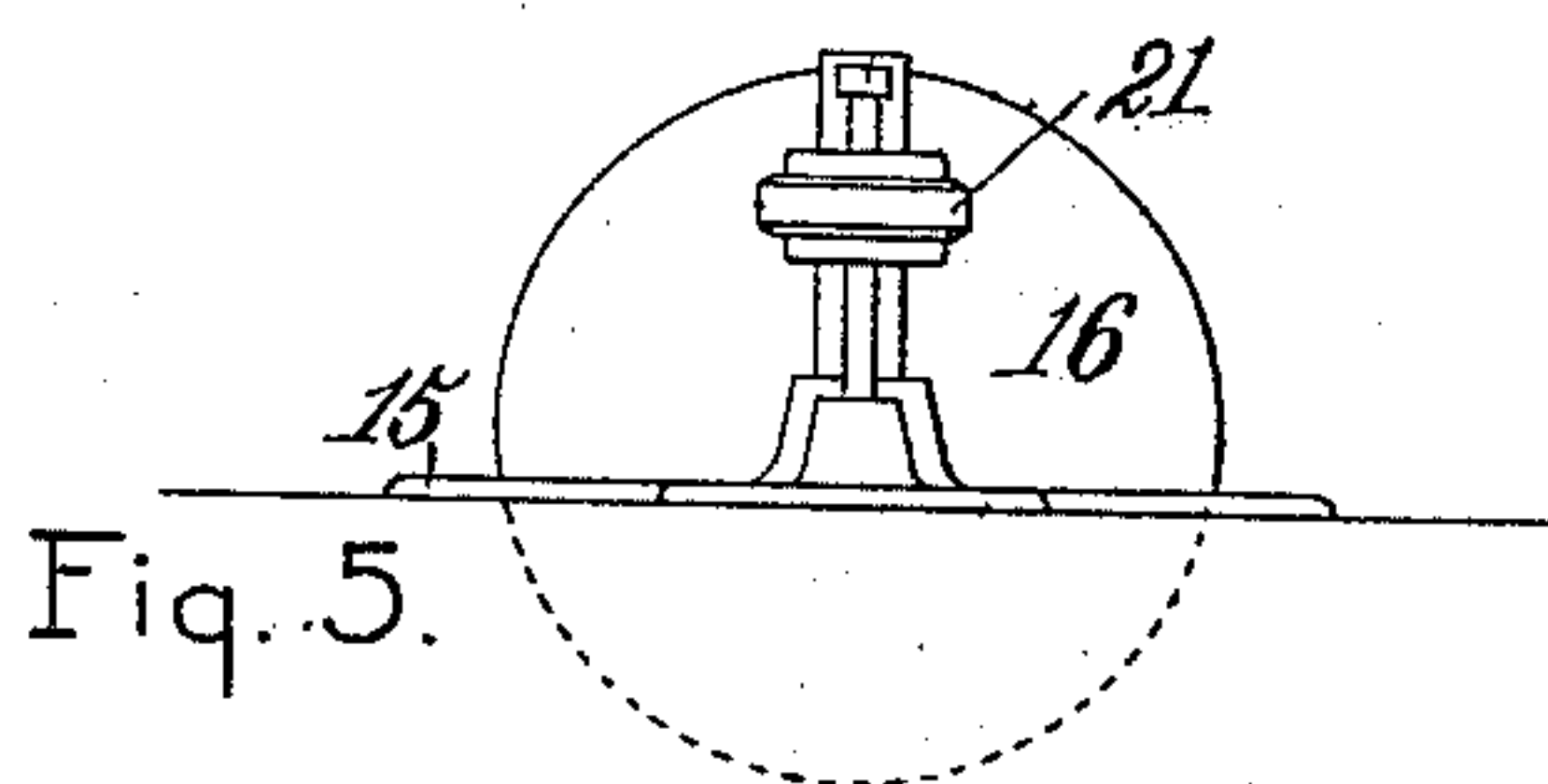


Fig. 5.

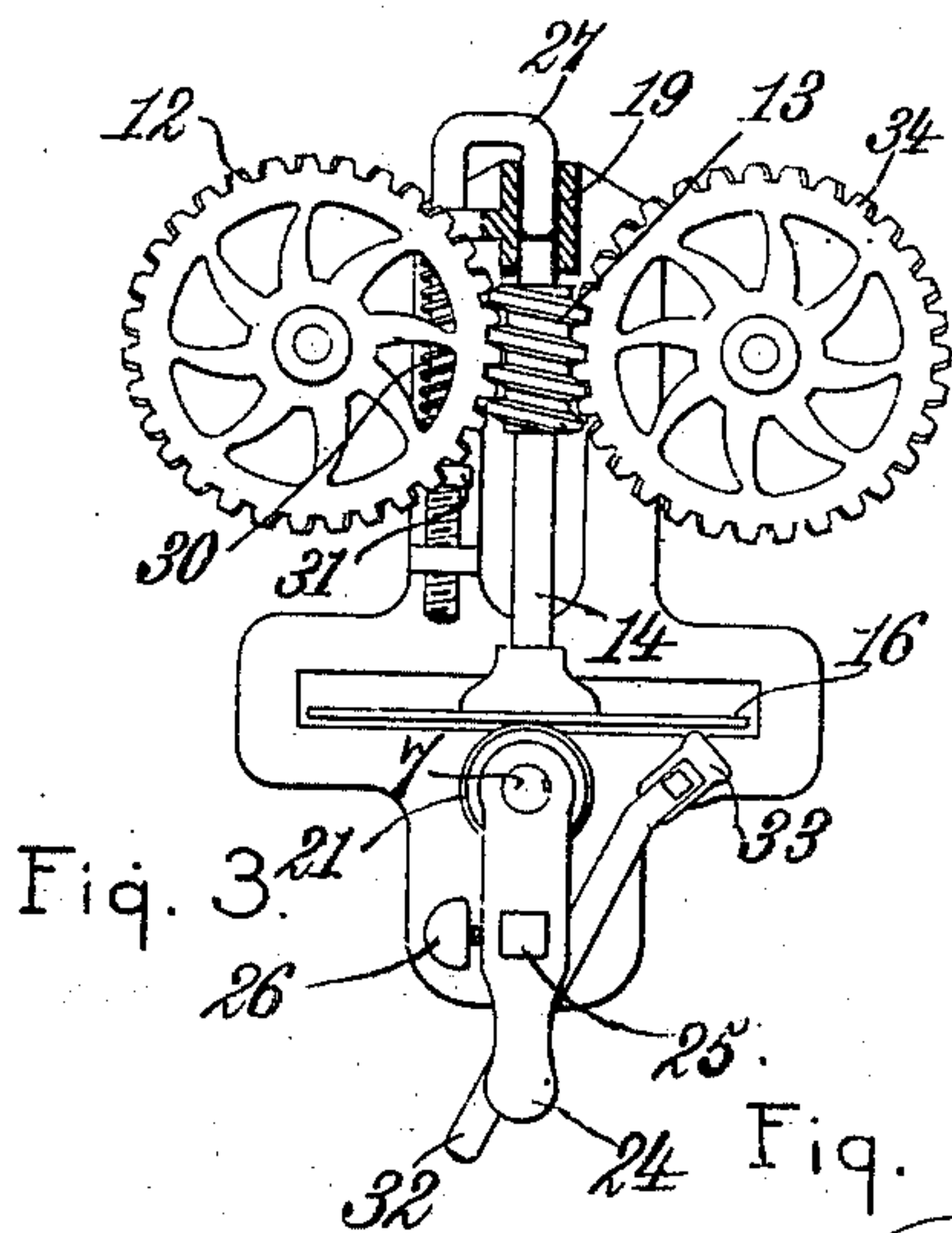


Fig. 3.

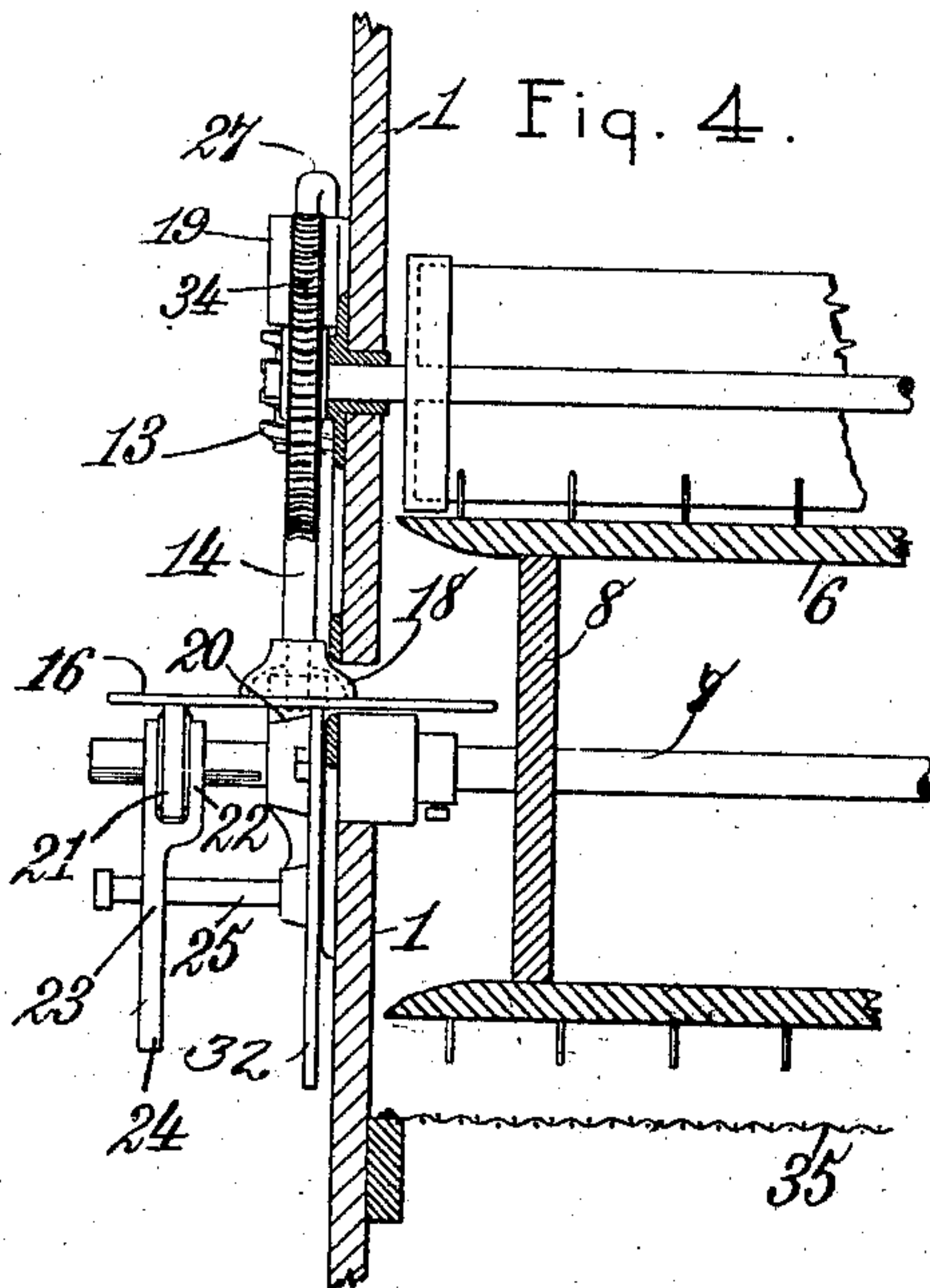


Fig. 4.

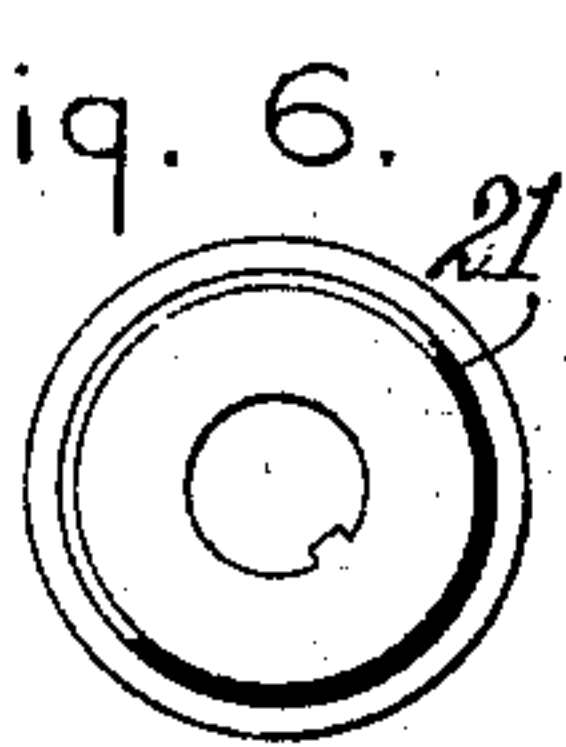


Fig. 6.

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# UNITED STATES PATENT OFFICE.

STEPHEN D. MURRAY, OF DALLAS, TEXAS.

## COTTON-GIN FEEDER.

SPECIFICATION forming part of Letters Patent No. 695,825, dated March 18, 1902.

Application filed June 27, 1901. Serial No. 66,299. (No model.)

*To all whom it may concern:*

Be it known that I, STEPHEN D. MURRAY, a citizen of the United States, residing at Dallas, in the county of Dallas and State of Texas, have invented new and useful Improvements in Cotton-Gin Feeders, of which the following is a specification.

My invention relates to cotton-gin feeders, the same residing particularly in the means for operating the feed-rolls thereof and in the means for controlling the movements of said rolls.

The details of the invention will hereinafter appear, and the novel features thereof will be set forth in the claims.

In the drawings forming part of this specification, Figure 1 is a vertical sectional view through the casing of the feeder. Fig. 2 is a side elevation of the same with my improvements applied. Fig. 3 is an elevation showing a slightly-modified construction. Fig. 4 is a sectional view of the same and of the feeder-casing to which my improved mechanism is applied. Fig. 5 is a detail bottom plan view of the rotary disk through which the feeding-rolls are operated. Fig. 6 is a detail elevation of the adjustable friction-wheel which coöperates with said disk and is connected with the shaft of the picker-roller.

Like reference-numerals indicate like parts in the different views.

The casing 1 of the feeder has leading into the upper end thereof a chute 2, through which the seed-cotton is delivered to the feeding mechanism. It also has leading from one side thereof a discharge-spout 3, which may communicate with a gin or other device where the cotton is to be delivered. In the bottom of the casing is a trough 4, having a rotary conveyer 5 therein, by means of which dust or other foreign matter removed from the cotton by the cleaning mechanism may be conveyed away from the machine.

Mounted in the casing 1 is a picker-roller 6, the central shaft or axle 7, on which the same is mounted, projecting out through one side of said casing. The head 8 of the roller 6 is located a short distance from the end of said roller, so as to form a recess or cavity in the end of said roller for a purpose which will presently appear.

Above the picker-roller 6 in the casing 1

are the feed-rollers 9 and 10, the same being of any suitable or preferred construction. The shafts of said rollers project beyond one side of the casing 1 and are intergeared with each other, so as to rotate in unison and in opposite directions. The shaft 11 of the roller 9 is also provided on the opposite side of the casing 1 with a worm-gear 12, with which a worm 13 on a longitudinally-movable shaft 14 meshes. The said shaft 14 is mounted in a plate or casting 15, secured to the side of the casing 1, and has secured thereto, at its lower end, a disk 16, which projects through a slot 17 in said plate or casting 15 and through a corresponding opening 18 in the side of the casing 1. The said disk extends into the side of the casing 1 and is located in the recess or cavity in the end of the picker-roller 6, which is formed by locating the head 8 of said roller at a short distance from one end. The shaft or spindle 14 has bearings at its upper end in a lug or boss 19 on the plate or casting 15 and also has bearings at its lower end upon a lug or boss 20 on said plate or casting. The said shaft is by this construction capable of both longitudinal and rotary movement. The disk 16 and the shaft or spindle 14, which is connected therewith, are rotated by the engagement with the under side of said disk of a friction-wheel 21. The said wheel is operated from the shaft 7 of the picker-roller 6, the same being connected with said shaft so that it is turned thereby, but is capable of longitudinal movement thereon. The specific means of connection between the friction-wheel 21 and the shaft 7 has been shown in the drawings as by way of a spline and feather. The wheel 21 is mounted between the branches of a fork 22 at the upper end of a frame 23, having a handle 24 upon its lower end. This frame is guided in its movements by the fixed guide-rod 25, which is secured to the plate or casting 15 and projects outwardly therefrom through an opening in said frame. The said frame may be adjusted and locked in any position to which it may be moved by means of a set-screw 26, which extends through said frame and acts upon the guide-rod 25. The disk 16 is normally held in contact with the friction-wheel 21 by the engagement of a spring-actuated presser-rod 27, whose curved upper end bears



against the upper end of the shaft or spindle 14. The said presser is longitudinally movable in bearings in the flanges 28 and 29 on the plate or casting 15 and is acted upon by a spring 30, which engages the flange 28 and a tension-adjusting nut 31 on said rod. By this construction it will be seen that the disk 16, to which the shaft or spindle 14 is connected, is normally held in spring-contact with the friction-wheel 21. When the picker-roller 6 is rotated, therefore, the motion of the same will be transmitted through the shaft or axle 7 to the friction-wheel 21 and thence through the disk 16 to the shaft or spindle 14. As said shaft or spindle is provided with the worm 13, which meshes with the worm-wheel 12 on the shaft of one of the feeding-rollers, and as said feeding-rollers are intergeared one with the other, the rotation of said shaft or spindle will cause a corresponding or feeding rotation of both the rollers 9 and 10. This will be continuous and regular and will cause the seed-cotton above said feeding-rollers to be delivered in regular quantities to the picker-roller 6. If it be desired to increase or decrease the speed of rotation of the feeding-rollers 9 and 10, and consequently increase or decrease the quantity of cotton which is delivered to the gin, it is merely necessary to loosen the set-screw 26 and move the frame 23, which carries the friction-wheel 21, outwardly or inwardly. When adjusted to the proper position, said frame, and consequently the friction-wheel 21, may be locked by means of said set-screw.

In order to throw the feeding-rollers 9 and 10 out of operation altogether, I provide a controlling-lever 32, which is fulcrumed to the plate or casting 15 at a point below the disk 16 and is adapted to engage the under side of said disk 16 and elevate the same, throwing it out of contact with the friction-wheel 21. This operating-lever is provided with a handle at its lower end and with a nose 33 at its upper end, which nose has a flat face, so that when it is thrown into operative relation with the disk 16 to hold the latter out of engagement with the friction-wheel 21 it will remain in said position. Of course as soon as the disk 16 is separated from the friction-wheel 21 the means of transmitting the motion of said friction-wheel to the shaft or spindle 14 is thrown out of operation and said shaft or spindle and the feeding-rollers 9 and 10, to which it transmits its motion, will immediately cease to turn. When it is desired to throw the feeding-rolls into operation, all that it is necessary to do is to throw the controlling-lever 32 back into the position shown in Figs. 2 and 3 of the drawings, when the presser-rod 27, acting upon the upper end of the shaft or spindle 14, will immediately force the disk 16 into contact with the friction-wheel 21.

The modified construction shown in Figs. 3 and 4 of the drawings is similar in all respects to that shown in Figs. 1 and 2 of the

drawings, except that the worm 13 on the shaft or spindle 14 operates directly upon both the worm-wheel 12 on the shaft of the feeding-roller 9 and upon a worm-wheel 34 on the shaft of the feeding-roller 10.

It should be stated, of course, that adjacent to the picker-roller 6 and between said roller and the trough 4 is located a concave screen 35 for separating the dust, dirt, and other foreign matter from the seed-cotton upon which said picker-roll operates. It should also be stated that by providing the recess or cavity in the end of the picker-roller 6 and the opening 18 in the side of the casing 1 the disk 16 may penetrate said casing to an appreciable extent without interfering with the working parts of the cleaner, and the shaft or spindle 14, carried by the plate or casting 15, with the other parts carried by said plate or casting, may be located in proximity to the outer surface of said casing. These are important features of construction, as without the provision of some means for locating the parts in close relation to the casing it would be impracticable to apply the device to a cotton-gin feeder.

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

1. In a cotton-gin feeder, the combination with the casing thereof having an opening in one side, feeding mechanism and a drive-shaft, of a disk extending through said opening and operatively connected with said feeding mechanism and connections between said drive-shaft and said disk.

2. In a cotton-gin feeder, the combination with the casing thereof having an opening in one side, a picker-roller within said casing having a cavity at the end thereof adjacent to said opening, and feeding mechanism, of a disk extending through said opening into the cavity in said roller and operatively connected with said feeding mechanism, and connections between the shaft of said roller and said disk.

3. In a cotton-gin feeder, the combination with the casing thereof having an opening in one side, a picker-roller within said casing having a cavity at the end thereof opposite said opening, and a pair of feeding-rollers above said picker-roller, of a plate or casting secured to the outside of said casing, a friction-wheel on the shaft of said picker-roller, a disk in contact with said friction-wheel projecting into said casing through said opening, a shaft or spindle secured to said disk and longitudinally movable in bearings in said plate or casting, operative connections between said shaft or spindle and said feeding-rollers, and means for throwing said disk out of contact with said friction-wheel.

4. In a cotton-gin feeder, the combination with the casing thereof having an opening in one side, a picker-roller within said casing having a cavity at the end thereof opposite said opening, and a pair of feeding-rollers



above said picker-roller, of a plate or casting secured to the outside of said casing, a friction-wheel longitudinally adjustable on and rotated by the shaft of said picker-roller, a disk in contact with said friction-wheel projecting into said casing through said opening, a shaft or spindle secured to said disk and longitudinally movable in bearings in said plate or casting, operative connections between said shaft or spindle and said feeding-rollers, and means for throwing said disk out of contact with said friction-wheel.

5. In a cotton-gin feeder, the combination with a picker-roller, and a pair of feeding-rollers above the same intergeared with each other, of a worm-wheel on the shaft of one of said feeding-rollers, a friction-wheel on the shaft of said picker-roller, a plate or casting secured to the side of the feeder-casing, a disk in contact with said friction-wheel and rotated thereby, a shaft or spindle secured to said disk, mounted in bearings in said plate or casting and capable of longitudinal and rotary movement, a worm on said shaft or spindle meshing with said worm-wheel, a spring-actuated presser-rod acting upon the upper end of said shaft or spindle for holding said disk normally in contact with said friction-wheel, and a controlling-lever fulcrumed on said plate or casting and adapted to engage the under side of said disk

for moving the same out of contact with said friction-wheel.

6. In a cotton-gin feeder, the combination with a picker-roller and a pair of feeding-rollers above the same intergeared with each other, of a worm-wheel secured to the shaft of one of said feeding-rollers, a plate or casting secured to the side of the feeder-casing, a guide-rod thereon, a frame having a yoke thereon adjustable on said guide-rod, a friction-wheel located between the branches of said yoke, longitudinally movable on, and rotated by, the shaft of said picker-roller, a disk in contact with said friction-wheel, a shaft or spindle secured to said disk, mounted in bearings in said plate or casting and capable of longitudinal and rotary movement, a worm on said shaft or spindle meshing with said worm-wheel, a spring for normally holding said disk in contact with said friction-wheel, and a controlling-lever acting upon the under side of said disk for moving the latter away from said friction-wheel.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

STEPHEN D. MURRAY.

Witnesses:

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GEO. W. REA.