

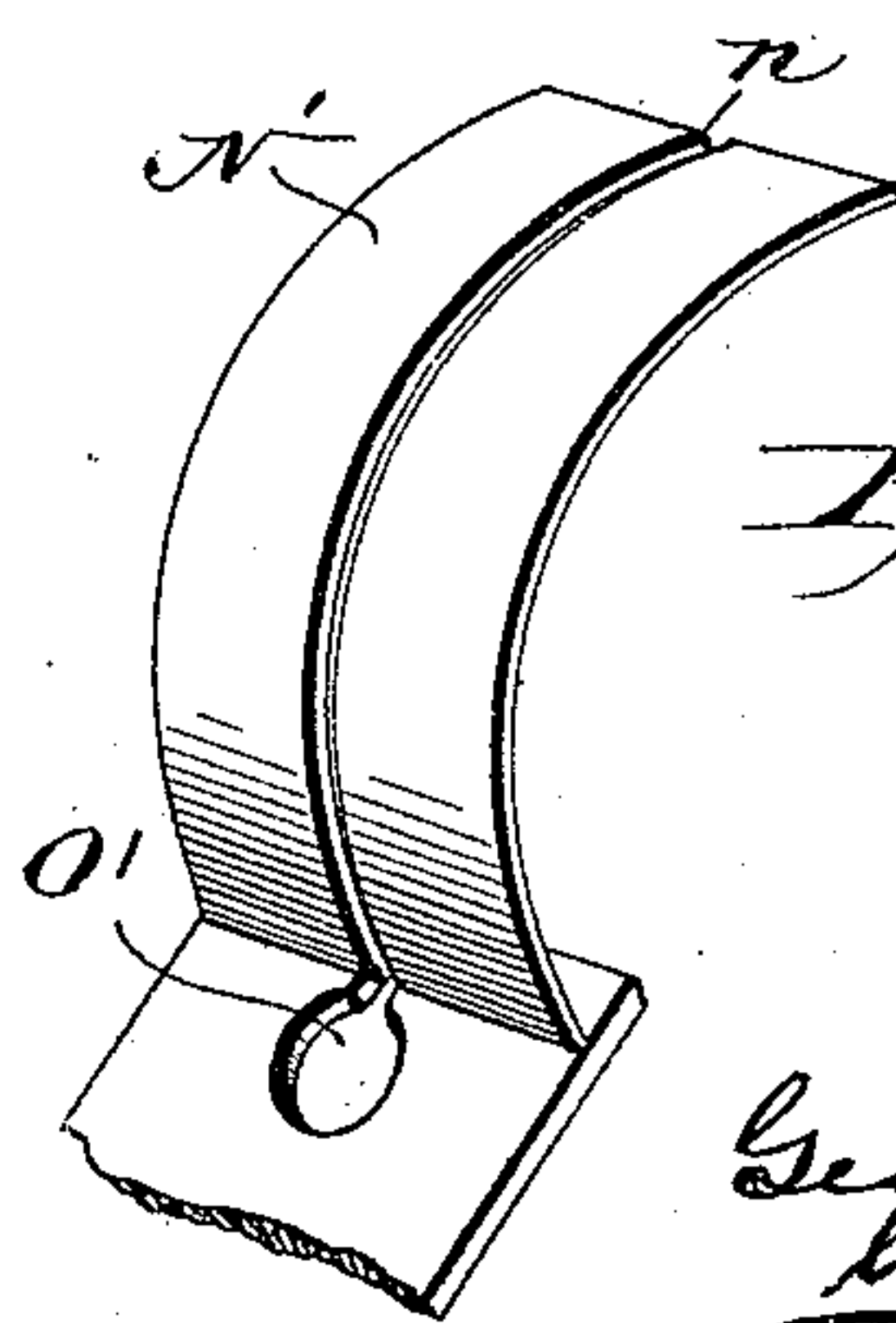
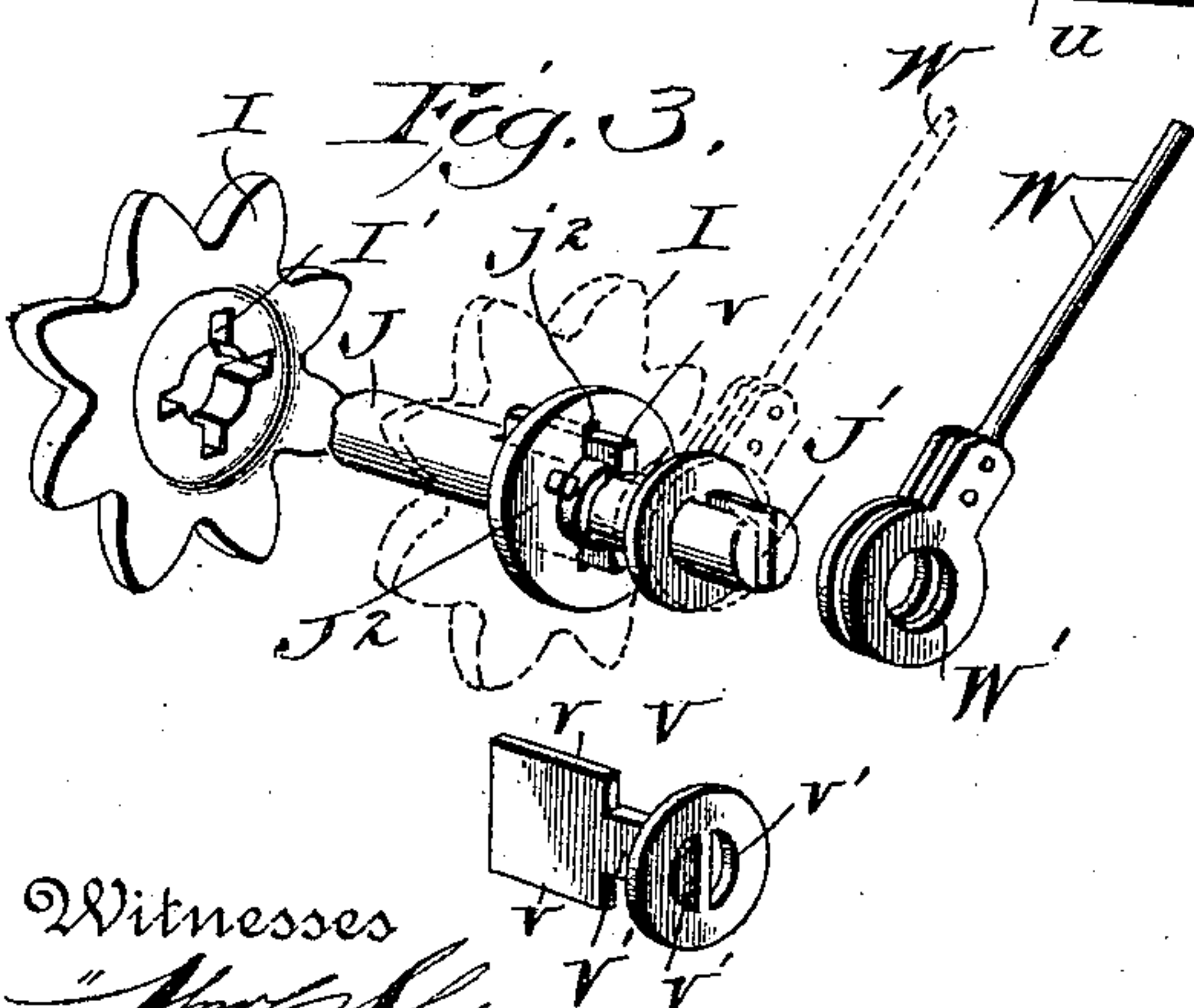
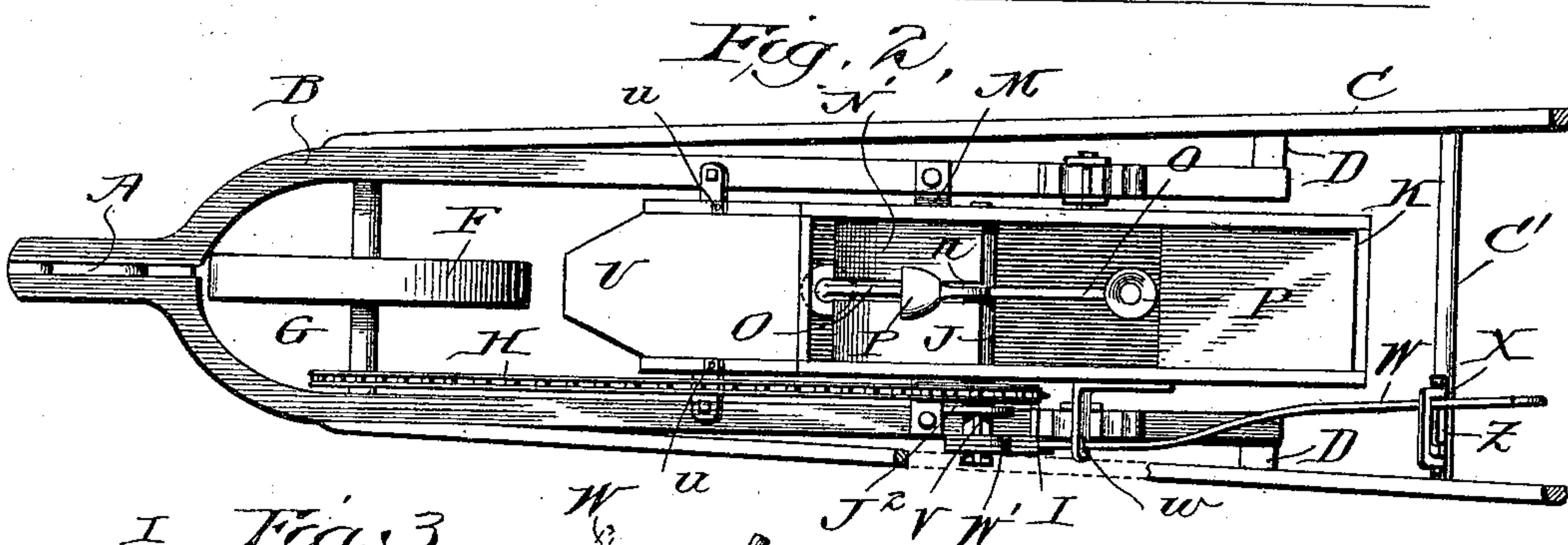
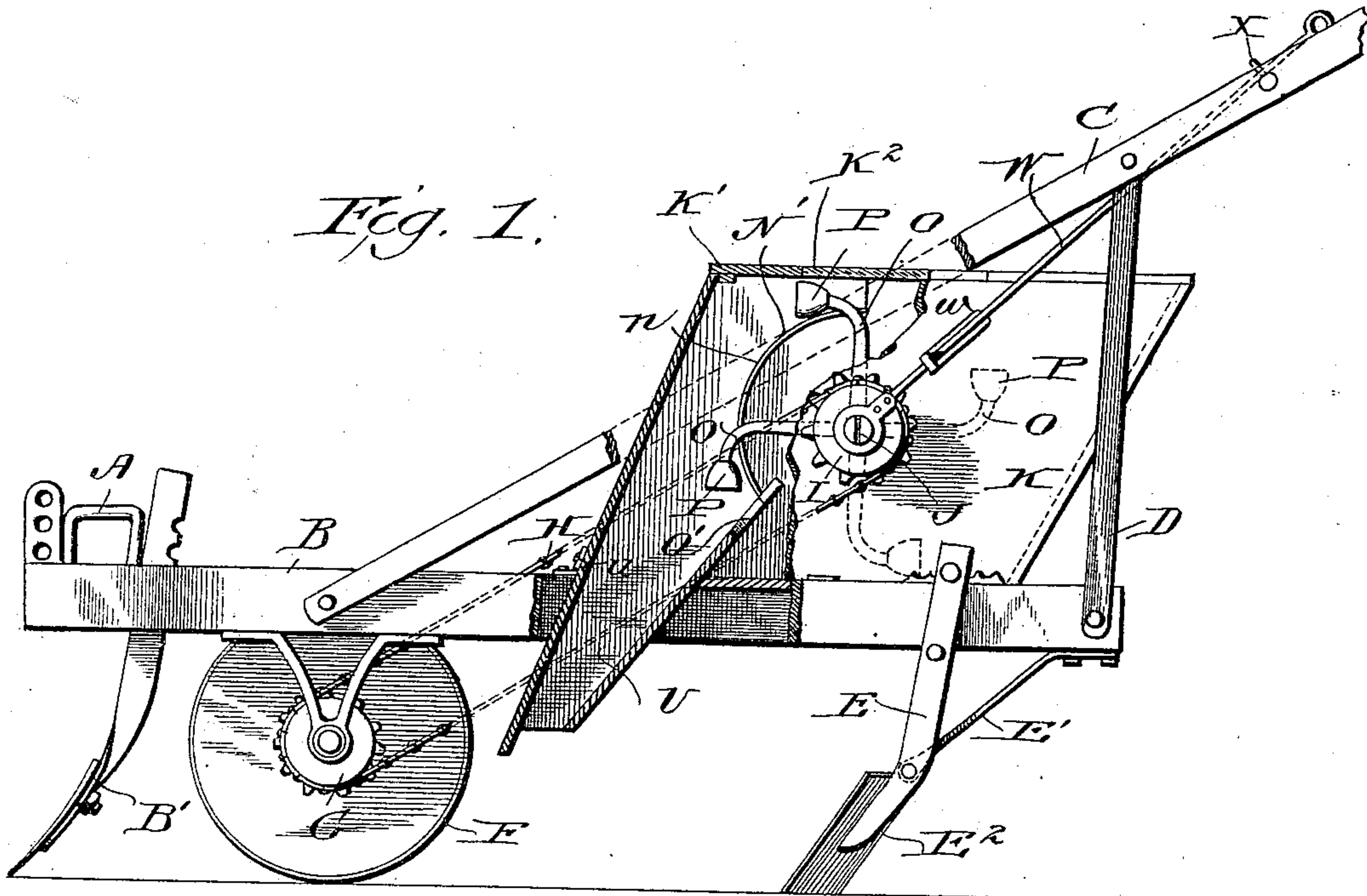
No. 616,298.

Patented Dec. 20, 1898.

G. R. DYKES.  
SEED DROPPER.

(Application filed Nov. 2, 1898.)

(No Model.)



Witnesses  
*Albert Spiden*  
Albert Spiden.

Inventor  
Geo R. Dykes  
by *W H Babcock*  
Attorney



# UNITED STATES PATENT OFFICE.

GEORGE RILEY DYKES, OF HAWKINSVILLE, GEORGIA.

## SEED-DROPPER.

SPECIFICATION forming part of Letters Patent No. 616,298, dated December 20, 1898.

Application filed November 2, 1898. Serial No. 695,291. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE RILEY DYKES, a citizen of the United States, residing at Hawkinsville, in the county of Pulaski and State of Georgia, have invented certain new and useful Improvements in Seed-Droppers; 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.

This invention is an improvement on Letters Patent No. 604,738, granted to me May 31, 1898. Its objects are to do away with the necessity for a supplementary cut-off device—for example, such as the tube T or the disk R and spring Q shown in the said patent—and to provide improved means for fastening the sprocket-wheel on its shaft or leaving it loose and idle at will.

To these ends the said invention consists in the construction and combination of parts hereinafter particularly set forth and claimed.

In the accompanying drawings, Figure 1 represents a side elevation of my machine embodying the said invention, partly broken away. Fig. 2 represents a plan view of the same. Fig. 3 represents a detail perspective view of the clutch mechanism, the parts being separated; and Fig. 4 represents a detail perspective view of the chute.

As in the said patent, A designates the draft-hook; B, the frame; B', the furrow-opening plowshare; C, the handles; C', the cross-bar; D, the handle-supporting bars; E<sup>2</sup>, the furrow-covers; E, their standards; E', their rear braces; M, the bracing-bar; K, the seed-box, and J the feed-cup shaft, which, unlike the corresponding shaft of the said patent, extends transversely through the lower part of the said box. The attachment of the seed-box to the frame is also a little different from that shown in the said patent. In other respects the construction and arrangement of the aforesaid parts is substantially the same in both cases. The feed-cups P, mounted on arms O of said shaft, operate as in said patent, discharging on the spout N', which has a central longitudinal slot *n* for the passage of said arms in succession and an opening O' for the passage of the cups when they have made three-fourths of their descent in rotation.

This spout is convex longitudinally, having a curve corresponding to the circular travel of the feed-cups. They discharge gradually on its surface and in contiguity therewith, so that the seed falls on the surface of the spout with no momentum due to gravity and in lines diverging in the least possible degree from the longitudinal direction of the said surface. This construction and arrangement of the parts will greatly reduce the risk of the seed spattering off or escaping sidewise. As a further preventative I raise the side edges of the said spout, preferably giving it a V shape in cross-section, as shown. The lower end of this spout overlaps and discharges into the upper end of the seed-dropping tube U, the curvature of said spout being so far continued around this quarter of the circle that before the feed-cups pass through it every grain of the seed will have left the said cups and entered the tube U. The hole O' is below the extreme forward position reached by the feed-cups in their rotation. This convex curvature of the spout, corresponding to the forward and downward travel of the feed-cups and extending beyond the point at which their discharge is complete, of course does away with all need for guarding the opening O' against the passage of seed through it after the cups. In other words, I thus dispense with the tube T of the said patent and with all substituted devices—for example, the disk R and spring Q. Nothing is required except the spout itself, having the construction shown and adapted to discharge without fail all the grain into the seed-dropping tube before the cups leave the said spout.

As in the said patent, a sprocket-wheel G on the axle of driving-wheel F rotates the sprocket-wheel I on the feed-cup shaft J through endless chain H. In my present improvement the latter sprocket-wheel is normally loose on its shaft, but is provided around its central opening with radial slots or recesses I', adapted to receive the radially-extended flanges *v* of a sliding key V. This key has two openings *v'* in its disk-form head, whereby it may slide on the longitudinally-slotted end of the said feed-cup shaft. The slot or central cleft J' of the said shaft receives the flat body V' of the said key, pre-



vents the latter from turning, and guides its flanges into two of the said slots of the sprocket-wheel I. A collar J<sup>2</sup> of the said shaft J is correspondingly provided with slots 5 J<sup>3</sup> for the passage of the said flanges to the said sprocket-wheel. This collar prevents the latter from moving too far outward along its shaft, while the side of the seedbox prevents the sprocket-wheel from moving too far inward, or any convenient stop may be employed. A lever W, having its pivotal point *w* on the outside of the seedbox, is used for shifting the said key outward and inward at will. Its upper end is within a guard X 15 on the cross-bar C' of the plow-handles C, while its lower end is formed with a collar W', which surrounds the cleft outer part of shaft J and the shank of key V between the flanges and head of the latter. When the 20 said lever is moved in one direction on its pivot, the key V is caused to lock the sprocket-wheel I on the shaft J, so that both turn together, operating the seed-depositing feed-cups. When the said lever is moved the 25 other way, the key is withdrawn by it from the sprocket-wheel, so that the latter is loose on its shaft and the feed-cups remain idle. A stop-block Z or some equivalent device on cross-bar C', within guard X, confines the said 30 lever in either one of the positions to which it may be moved, as above, thereby keeping the feed-cups operative or inoperative, as desired, until the said lever is shifted again.

The seed-dropping tube U is made detach- 35 able from the main body of the seedbox and fastened thereto by a screw or screws *u*. In the cover K' of the forward part of the seedbox, which may be united, as shown, to the said tube, I provide a glass window K<sup>2</sup>; but 40 the location of the window, the number and arrangement of the screws, and the line of division of the tube and box may be varied considerably.

Having thus described my invention, what 45 I claim as new, and desire to secure by Letters Patent, is—

1. In a seed-dropping machine, a spout which is longitudinally slotted, longitudinally convex and provided with an opening in its 50 lower part, in combination with a revolving series of feed-cups and their supporting-arms, which are allowed passage by the said slot and opening, means for driving and supplying the said series of cups, and a seed-dropping 55 tube, arranged to receive the entire charge of each cup from the said spout at a point above the said opening or before it in order of rotation, substantially as set forth.

2. In combination with a series of feed-cups 60 and means for revolving and supplying them, a spout which receives the seed from the said cups and conducts it toward an outlet, the said spout being curved approximately in the same circle with the line of travel of the said 65 cups and adapted to allow their passage along its upper face and through it, in order that the seed may be delivered on the said face

without any appreciable fall and in lines approximating its curvature substantially as set forth. 70

3. In combination with a series of feed-cups and means for driving and supplying them, a spout which is convex longitudinally, approximately V-shaped in cross-section, and adapted to receive the discharge of the said 75 cups, for conveying the seed to an outlet, while permitting the cups to travel over it and pass through it in their revolution substantially as set forth.

4. In combination with a revolving series 80 of cups and means for driving and supplying them, a curved spout which is arranged to receive the seed discharged from said cups and which has approximately the form of the upper forward quarter of a circle, in the 85 direction of rotation, the said spout being provided with a longitudinal slot and an opening for the passage of the cups through it substantially as set forth.

5. In combination with a series of feed-cups 90 and devices for supplying them with seed and receiving their discharge, the shaft on which they are mounted and which has one end centrally recessed or cloven, a sprocket-wheel mounted loosely on the said shaft and grooved 95 or slotted in its inner circumference, another sprocket-wheel and endless chain whereby the sprocket-wheel first mentioned is geared to the shaft of the driving-wheel, and a key adapted to slide longitudinally in the cleft of 100 the said shaft and provided with parts adapted to fit into the grooves or slots of the loose sprocket-wheel, for clutching the same to its shaft at will substantially as set forth.

6. A series of revolving feed-cups, in combination with the shaft which carries the said 105 cups and which is longitudinally recessed or cloven at one end and provided with a fixed slotted collar, a wheel which is normally loose on the said shaft and also slotted, gearing 110 from the said wheel to the driving-wheel of the machine, and a key sliding longitudinally on the cloven end of the shaft and adapted to engage the cleft or recess therein as well as the slots of the said collar and loose wheel, 115 thereby locking the latter substantially as set forth.

7. In a seed-dropper, the combination of a feed-cup-carrying shaft, having a cleft or slotted end and a slotted gear-wheel, loose on 120 said shaft, whereby the latter is driven, with a sliding key having a body adapted to move longitudinally in the slot or cleft of the said shaft, flanges adapted to fit into the slots of the said gear-wheel and a head having openings to receive the parts of the end of the shaft on each side of the middle slot or cleft, in order that the said key may slide over as well as through the said shaft to engage or release the said gear-wheel at will substan- 125 tially as set forth. 130

8. The key V having a flat shank or body V', two lateral flanges *v* and a disk-form head having two openings *v'*, in combination with



a shaft carrying feeding devices and provided with a slotted or cloven end, on and in which the said key slides longitudinally, an operating-lever having a collar adapted to surround  
5 the slotted end of the shaft and the key between the said head and the said flanges, a loose gear-wheel slotted for the engagement of the said flanges, to be locked thereby and mounted on the slotted or cloven part of the

said shaft, and gearing whereby the sprocket- 10 wheel and the said shaft are driven when thus locked together substantially as set forth.

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

GEORGE RILEY DYKES.

Witnesses:

J. B. MITCHELL,  
L. C. RYAN.